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The World Bank

Report No: ICR2276

IMPLEMENTATION COMPLETION AND RESULTS REPORT  
(IBRD-76650, IBRD-79890)

ON A

SERIES OF PROGRAMMATIC LOANS

IN THE AMOUNT OF EURO 200 MILLION  
(US\$271.3 MILLION EQUIVALENT)

TO THE

KINGDOM OF MOROCCO

FOR THE

MUNICIPAL SOLID WASTE SECTOR DEVELOPMENT POLICY LOANS (I AND II)

JUNE 25, 2012

Sustainable Development Department  
Middle East and North Africa Region

CURRENCY EQUIVALENTS  
(Exchange Rate Effective December 31, 2011)

Currency Unit = Moroccan Dirham (MAD)  
MAD 1.00 = US\$0.1163  
US\$1.00 = MAD 8.598

FISCAL YEAR  
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AFD	<i>Agence Française de Développement</i> (French Development Agency)
CAS	Country Assistance Strategy
CDM	Clean Development Mechanism
CF	Carbon Finance
CN-PNDM	<i>Commission Nationale PNDM</i> (National Commission for the National Municipal Solid Waste Management Program)
EIA	Environmental Impact Assessment
FEC	<i>Fonds d'Équipement Communal</i> (LG Investment Fund)
GDP	Gross Domestic Product
GIZ	<i>Gesellschaft für Internationale Zusammenarbeit</i> (German Technical Cooperation)
KfW	<i>Kreditanstalt für Wiederaufbau</i> (German Development Investment Bank)
LG	Local Government
M&E	Monitoring and Evaluation
MAD	Moroccan Dirham
MAEG	Ministry of Economic and General Affairs
METAP	Mediterranean Environmental Technical Assistance Program
MoE	Ministry of Environment
MoF	Ministry of Finance
MoI	Ministry of Interior
MoU	Memorandum of Understanding
MSW	Municipal Solid Waste
n.a.	not applicable
PNDM	<i>Programme National de Gestion des Déchets Ménagers et Assimilés</i> (National Municipal Solid Waste Management Program)
PPIAF	Public-Private Infrastructure Advisory Facility
PSP	Private Sector Participation
SWE	Secretariat of State in charge of Water and Environment
SWM	Solid Waste Management

Vice President:	Inger Andersen
Country Director:	Neil Simon Gray
Sector Manager:	Franck Bousquet
Task Team Leader:	Jaafar Sadok Friaa
ICR Team Leader:	Jaafar Sadok Friaa

**KINGDOM OF MOROCCO  
MUNICIPAL SOLID WASTE SECTOR DEVELOPMENT  
POLICY LOANS (I AND II)**

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<b>A. Basic Information</b>			
<b>Program 1</b>			
Country	Morocco	Program Name	Solid Waste Sector DPL
Program ID	P104937	L/C/TF Number(s)	IBRD-76650
ICR Date	06/18/2012	ICR Type	Core ICR
Lending Instrument	DPL	Borrower	KINGDOM OF MOROCCO
Original Total Commitment	USD 132.70M	Disbursed Amount	USD 147.71M
<b>Implementing Agencies</b> Ministry of Finance			
<b>Cofinanciers and Other External Partners</b> No cofinanciers			
<b>Program 2</b>			
Country	Morocco	Program Name	MA-Solid Waste Sector DPL2
Program ID	P119781	L/C/TF Number(s)	IBRD-79890
ICR Date	06/18/2012	ICR Type	Core ICR
Lending Instrument	DPL	Borrower	KINGDOM OF MOROCCO
Original Total Commitment	USD 138.60M	Disbursed Amount	USD 141.48M
<b>Implementing Agencies</b> Ministry of Finance			
<b>Cofinanciers and Other External Partners</b> No cofinanciers			

<b>B. Key Dates</b>				
<b>Solid Waste Sector DPL - P104937</b>				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	01/24/2008	Effectiveness:	08/18/2009	08/18/2009
Appraisal:	01/12/2009	Restructuring(s):		
Approval:	03/19/2009	Mid-term Review:		
		Closing:	12/31/2009	12/31/2009

MA-Solid Waste Sector DPL2 - P119781				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	05/06/2010	Effectiveness:	05/27/2011	05/18/2011
Appraisal:	10/21/2010	Restructuring(s):		
Approval:	12/20/2010	Mid-term Review:		
		Closing:	12/31/2011	12/31/2011

### C. Ratings Summary

#### C.1 Performance Rating by ICR

##### Overall Program Rating

Outcomes	Satisfactory
Risk to Development Outcome	Moderate
Bank Performance	Satisfactory
Borrower Performance	Satisfactory

#### C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)

##### Overall Program Rating

Bank	Ratings	Borrower	Ratings
Quality at Entry	Satisfactory	Government:	Satisfactory
Quality of Supervision:	Satisfactory	Implementing Agency/Agencies:	Satisfactory
Overall Bank Performance	Satisfactory	Overall Borrower Performance	Satisfactory

#### C.3 Quality at Entry and Implementation Performance Indicators

##### Solid Waste Sector DPL - P104937

Implementation Performance	Indicators	QAG Assessments (if any)	Rating:
Potential Problem Program at any time (Yes/No):	No	Quality at Entry (QEA)	None
Problem Program at any time (Yes/No):	No	Quality of Supervision (QSA)	None
DO rating before Closing/Inactive status	Satisfactory		

<b>MA-Solid Waste Sector DPL2 - P119781</b>			
<b>Implementation Performance</b>	<b>Indicators</b>	<b>QAG Assessments (if any)</b>	<b>Rating:</b>
Potential Problem Program at any time (Yes/No):	No	Quality at Entry (QEA)	None
Problem Program at any time (Yes/No):	No	Quality of Supervision (QSA)	None
DO rating before Closing/Inactive status	Satisfactory		

<b>D. Sector and Theme Codes</b>		
<b>Solid Waste Sector DPL - P104937</b>		
	<b>Original</b>	<b>Actual</b>
<b>Sector Code (as % of total Bank financing)</b>		
Public administration- Water, sanitation and flood protection	25	25
Solid waste management	75	75
<b>Theme Code (as % of total Bank financing)</b>		
Environmental policies and institutions	12	12
Other social development	13	13
Other urban development	44	44
Pollution management and environmental health	31	31

<b>MA-Solid Waste Sector DPL2 - P119781</b>		
	<b>Original</b>	<b>Actual</b>
<b>Sector Code (as % of total Bank financing)</b>		
Solid waste management	100	100
<b>Theme Code (as % of total Bank financing)</b>		
Urban services and housing for the poor	100	100

<b>E. Bank Staff</b>		
<b>Solid Waste Sector DPL - P104937</b>		
<b>Positions</b>	<b>At ICR</b>	<b>At Approval</b>
Vice President:	Inger Andersen	Daniela Gressani
Country Director:	Neil Simon Gray	Mats Karlsson
Sector Manager:	Franck Bousquet	Anna Bjerde
Task Team Leader:	Jaafar Sadok Friaa	Jaafar Sadok Friaa
ICR Team Leader:	Jaafar Sadok Friaa	n.a.
ICR Primary Author:	Christian Eghoff	n.a.

<b>Solid Waste Sector DPL - P104937</b>		
<b>Positions</b>	<b>At ICR</b>	<b>At Approval</b>
Vice President:	Inger Andersen	Shamshad Akhtar
Country Director:	Neil Simon Gray	Neil Simon Gray
Sector Manager:	Franck Bousquet	Anna Bjerde
Task Team Leader:	Jaafar Sadok Friaa	Jaafar Sadok Friaa
ICR Team Leader:	Jaafar Sadok Friaa	n.a.
ICR Primary Author:	Christian Eghoff	n.a.

## **F. Results Framework Analysis**

### **Program Development Objectives (from Program Document)**

The development objective of the DPL program was to support the GoM in implementing its program of reforms aimed at improving the financial, environmental and social performance of the municipal solid waste sector in Morocco. The first DPL (DPL1) supported the key foundations of the Government's reform program, to establish an enabling environment for an integrated and affordable municipal solid waste system. The second DPL (DPL2) supported capitalizing on the momentum gained during the first operation while deepening the reforms at the regional and municipal levels.

### **Revised Program Development Objectives (as approved by original approving authority)**

The PDO was not revised. The indicators were, however adjusted between DPL1 and DPL2 (see below).

#### **(a) PDO Indicator(s)**

The indicators for the DPL program were set out in the program document for DPL1, but some adjustments were made and targets values for most indicators only fixed in the program document for DPL2. No distinction was made in the program documents between PDO indicators and intermediate indicators



Solid Waste Sector DPL - P104937				
Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
<b>Indicator 1 :</b>	Annual costed workplans and progress reports are reviewed and adopted by the CN-PNDM.			
Value (quantitative or Qualitative)	0	Not provided for DPL1	n.a.	See results under DPL2, Indicator 1
Date achieved	01/01/2009	12/31/2011	n.a.	12/31/2011
Comments (incl. % achievement)	% The indicator remained unchanged between DPL1 and DPL2. Targets were set in the program document for DLP2.			
<b>Indicator 2 :</b>	Total government financial support under the PNDM allocated based on the adopted eligibility criteria.			
Value (quantitative or Qualitative)	0%	100%	n.a.	See results under DPL2, Indicator 2
Date achieved	01/01/2009	12/31/2011	n.a.	12/31/2011
Comments (incl. % achievement)	The indicator was slightly rephrased in the program document for DLP2.			
<b>Indicator 3 :</b>	Solid waste infrastructure supported through the PNDM is consistent with national regulations, based on reviews of projects (to be verified by project sampling).			
Value (quantitative or Qualitative)	n.a.	Not provided for DPL1	n.a.	See results under DPL2, Indicator 3
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator remained unchanged between DPL1 and DPL2. Targets were only set for DLP2.			
<b>Indicator 4 :</b>	Percentage of tenders launched from 2010 onwards for projects supported by the PNDM based on the revised model bidding documents.			
Value (quantitative or Qualitative)	0	100%	n.a.	See results under DPL2, Indicator 4
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator was revised in the program document for DPL2 to focus more on the actual private sector participation.			

<b>Indicator 5 :</b>	Level of public and user willingness to pay for better solid waste management (to be determined through opinion surveys).			
Value (quantitative or Qualitative)	Not provided	Not provided for DPL1	n.a.	See DPL2, Indicator 5
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator was replaced with a perception survey in the program document for DPL2.			
<b>Indicator 6 :</b>	Increase in the revenues generated from the municipal services tax in municipalities supported by the PNDM.			
Value (quantitative or Qualitative)	Not provided	Not provided for DPL1	n.a.	See DPL2, Indicator 6
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator remained unchanged between DPL1 and DPL2. Targets were set in the program document for DLP2.			
<b>Indicator 7 :</b>	Additional revenue generated through the CDM mechanism and other new instruments.			
Value (quantitative or Qualitative)	0	Not provided for DPL1	n.a.	n.a.
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator was dropped in the program document for DPL2, since the development and submission for registration of the CDM program of activity took longer than foreseen, hence the implementation of the CF program and mobilization of carbon revenues have been delayed. FEC capacity and expertise is now in place and the CF program was appraised with a potential to generate revenue from 2 million tons of CO2 equivalent by 2020.			
<b>Indicator 8 :</b>	Reduction in the average cost of solid waste services by the private sector.			
Value (quantitative or Qualitative)	Not provided	Reduction of 10-15%	n.a.	n.a.
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator was dropped in the program document for DPL2, as cost reduction would take longer than the DPL program to materialize in a measurable way.			
<b>Indicator 9 :</b>	Number of local governments benefitting from capacity-building Activities.			
Value (quantitative or Qualitative)	0	230	n.a.	See DPL2, Indicator 8
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator and targets remained unchanged throughout the DPL program.			

<b>Indicator 10 :</b>	Number of contract monitoring and supervision units in place at local/regional level.			
Value (quantitative or Qualitative)	0	8	n.a.	n.a. (dropped)
Date achieved	12/31/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator was dropped for DPL2, as it was largely covered by DPL1 Indicator 8 (DPL2 Indicator 4).			
<b>Indicator 11 :</b>	Number of EIAs related to solid waste investments reviewed and approved by national and/or regional EIA committees.			
Value (quantitative or Qualitative)	Not provided	Not provided	n.a.	See DPL2, Indicator 9
Date achieved	12/31/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator remained unchanged for the DPL program. Baseline and targets were fixed in the program document for DPL2.			
<b>Indicator 12 :</b>	Percentage of collected waste disposed in sanitary landfills by 2011			
Value (quantitative or Qualitative)	10%	30%	n.a.	See DPL2, Indicator 10
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator and target remained unchanged between DPL1 and DPL2.			
<b>Indicator 13 :</b>	Number of open dumpsites closed/rehabilitated by 2011.			
Value (quantitative or Qualitative)	4	8	12	See DPL2, Indicator 11
Date achieved	01/01/2009	12/31/2011	11/22/2010	12/31/2011
Comments (incl. % achievement)	The indicator remained unchanged between DPL1 and DPL2 but the target was revised upwards for DPL2.			
<b>Indicator 14 :</b>	Number of waste-pickers benefiting from social inclusion initiatives			
Value (quantitative or Qualitative)	0	100 to 150	n.a.	See DPL2, Indicator 12
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator and target remained unchanged between DPL1 and DPL2.			

MA-Solid Waste Sector DPL2 - P119781				
Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
<b>Indicator 1 :</b>	Annual costed workplans and progress reports are reviewed and adopted by the CN-PNDM.			
Value (quantitative or Qualitative)	0	6 progress reports and 3 annual programs	n.a.	6 progress reports and 4 annual programs.
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Target achieved. The indicator remained unchanged between DPL1 and DPL2. % Targets were only set for DLP2. The annual programs for 2009-2012 have been approved; the indicator only targeted 2009-2011.			
<b>Indicator 2 :</b>	Percentage of total government financial support under the PNDM allocated based on the adopted eligibility criteria.			
Value (quantitative or Qualitative)	0%	100%	n.a.	80%
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Target not fully achieved. The indicator remained unchanged between DPL1 and DPL2. Targets were only set for DLP2. The underperformance of the indicator is largely attributed to the lack of understanding and implementation of procedures. This shortcoming was mitigated by the adoption of a procedures manual and the recruitment of experts to the Project Management Unit, following which review showed that all financial support to landfills conformed to procedures and one case of collection did not conform fully.			
<b>Indicator 3 :</b>	Solid waste infrastructure supported through the PNDM is consistent with national regulations, based on reviews of projects (to be verified by project sampling in Q3 FY12).			
Value (quantitative or Qualitative)	n.a.	100%	n.a.	100%
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Fully achieved. A sampling of projects was carried out showing that national technical and environmental regulations are adhered to in the bidding documents.			
<b>Indicator 4 :</b>	Increased competition in tenders for MSWM, as measured by the increase in number of received bids between 2008 and 2011, reported at bid opening records.			
Value (quantitative or Qualitative)	4-5 bids	Significant improvement in terms of bidder participation	n.a.	2-6 bids
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The target was not reached, since the spread in the number of bids per tender was larger and the median the same, thus there was no significant improvement. The indicator replaced DPL1 Indicator 4.			

<b>Indicator 5 :</b>	Change in the perception by the urban population of MSWM as a priority area of intervention, as measured by sample survey.			
Value (quantitative or Qualitative)	Not provided	Not provided	n.a.	Not available
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Data is not currently available for this indicator, but the ongoing independent evaluation of Phase I of the PNDM should provide data.			
<b>Indicator 6 :</b>	Increase in the revenues generated from the municipal services tax in municipalities supported by the PNDM.			
Value (quantitative or Qualitative)	MAD 1.4 M	MAD 3.0 M	n.a.	MAD 2.58 M
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The achievement of this indicator is below expectation for the target year 2011. There was a steady increase of TSC revenues by 62 percent between 2008 and 2009 and by 18 percent between 2009 and 2010. However a decrease by 5 percent was observed between 2010 and 2011 due to 2011 political economic context characterized by less effort and results in term of local fiscal recovery.			
<b>Indicator 7 :</b>	Number of thematic conventions signed between local governments and the State targeting the upgrade of MSWM.			
Value (quantitative or Qualitative)	0	10	n.a.	11
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	New indicator for DPL2. More thematic conventions were signed than expected, setting out the priorities for reform as well as the accompanying technical and financial support to LGs			
<b>Indicator 8 :</b>	Number of local governments benefitting from capacity-building Activities.			
Value (quantitative or Qualitative)	0	230	n.a.	333
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Target surpassed due to strong implication on of the MoI and GIZ. Training covered environmental impact assessment and landfill case studies, collection, cleaning, and landfill construction and Provincial SWM Master Plans. Corresponds to DPL1 Indicator 9.			
<b>Indicator 9 :</b>	Number of EIAs related to solid waste investments reviewed and approved by regional or national EIA committees			
Value (quantitative or Qualitative)	17	25	n.a.	25
Date achieved	12/31/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Target achieved. The committees often approved the EIAs after the first review, but a substantial part (10) were rejected at the first review and only			

achievement)	approved after subsequent improvement and review, showing that the EIA committees were playing their role of quality control. Corresponds to DPL1 Indicator 11.			
<b>Indicator 10 :</b>	Percentage of collected waste disposed in sanitary landfills by 2011			
Value (quantitative or Qualitative)	10%	30%		30%
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	The indicator was achieved, and with a potential to take the disposal to 64 percent based on already ongoing works. Corresponds to DPL1 Indicator 12.			
<b>Indicator 11 :</b>	Number of open dumpsites closed/rehabilitated by 2012.			
Value (quantitative or Qualitative)	4	12		21
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Target surpassed. Of the 21 dumpsites, 11 have been closed while 10 have been upgraded to continue operation. Corresponds to DPL1 Indicator 13; target was revised upwards from 8 to 12 between DPL1 and DPL2.			
<b>Indicator 12 :</b>	Number of waste-pickers benefiting from social inclusion initiatives			
Value (quantitative or Qualitative)	0	100 to 150		154
Date achieved	01/01/2009	12/31/2011		12/31/2011
Comments (incl. % achievement)	Target surpassed. All waste-pickers on the improved waste sorting station on the Oum Azza landfill (covering Rabat, Salé and Temara) have seen their conditions of work improve substantially. Corresponds to DPL1 Indicator 14.			

**(b) Intermediate Outcome Indicator(s)**

Solid Waste Sector DPL - P104937				
Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years

Solid Waste Sector DPL - P104937				
Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years

**G. Ratings of Program Performance in ISRs**

Solid Waste Sector DPL - P104937				
No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)

1	06/12/2009	Satisfactory	Satisfactory	0.00
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<b>MA-Solid Waste Sector DPL2 - P119781</b>				
<b>No.</b>	<b>Date ISR Archived</b>	<b>DO</b>	<b>IP</b>	<b>Actual Disbursements (USD millions)</b>
1	02/21/2011	Satisfactory	Satisfactory	0.00

**H. Restructuring (if any)**

No restructurings took place.





## **1. Program Context, Development Objectives and Design**

### **1.1 Context at Appraisal**

#### **Sector context**

**1. At the time of appraisal, Moroccan cities hosted about 60% of the total country population and were characterized by rapid growth<sup>1</sup>, and further suffered from several forms of environmental degradation.** Since independence, Morocco's municipal solid waste (MSW) services had been defined only in terms of "cleanliness", with the main focus on waste collection and limited attention and resource allocation to waste disposal. This had led to significant negative economic, environmental and social impacts. However, an understanding of Solid Waste Management (SWM) as comprising environmental, social and economic aspects was emerging, based on improved analytical foundation. A report prepared under the Mediterranean Environment Technical Assistance Program (METAP) had estimated costs of overall environmental degradation in Morocco at over 3.7 percent of GDP (2003), and the cost of sub-standard SWM practices alone was estimated at 0.5 percent of GDP, well beyond its regional peers<sup>2</sup>.

**2. The solid waste sector faced issues on virtually all fronts, due to its historic neglect,** including: (i) a weak legal and institutional framework, constraining effective governance of the sector; (ii) poor cost effectiveness of services, with doubtful long-term financial sustainability; (iii) the urgent need for integrated and modernized MSW management systems, to mitigate negative economic, environmental, and social impacts of the existing systems; and (iv) missed opportunities available under international climate change mechanisms i.e. the Clean Development Mechanism (CDM), while supporting the global effort in climate change mitigation.

**3. Due to its impacts on the quality of life, public health, environmental and natural resources, and vital economic activities such as tourism, SWM was established as a top priority by the government.** Government initiated the development and reform of the sector through the enactment, in December 2006, of the first Solid Waste Law (Law 28-00), establishing the fundamental principles and key rules to govern the sector and forming the foundation for sector policy. The law had two key objectives: to establish integrated and affordable SWM systems and to mitigate negative impacts of the sector on public health and the environment. More specifically, the law (i) established the institutional framework for SWM; (ii) required the development of solid waste master plans at the national, regional, and municipal level; (iii) established cost recovery principles, including the "polluter pays" principle and user fees (redevances); (iv) introduced sanitary landfills as the standard for final waste disposal and requiring regulations establishing landfill norms and standards; (v) introduced regulations for

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<sup>1</sup>Out of a total population of 30 million, 18 million lived in urban areas, with the urban population growing at 2.85 percent per year.

<sup>2</sup>Regional benchmark includes 0.2% of GDP in Egypt, 0.1% in Algeria, Lebanon, Syria and Tunisia.

hazardous waste management; and (vi) established a system to monitor compliance with the law.

**4. The government also prepared and approved a national municipal solid waste management program (Programme National de Déchets Ménagers et Assimilés – PNDM).** The PNDM resulted from strong inter-sectoral collaboration and dialogue between the key ministries concerned. The PNDM was adopted by the newly appointed government in its program announced in October 2007, as a 15-year, 3-phase program with a total estimated cost of US\$4.3 billion<sup>3</sup>. Effectively launched in 2008, it set out objectives for the modernization of SWM, in particular expanding and professionalizing collection services, modernizing disposal practices and promoting recycling activities. The reform program overlaying the PNDM targeted three areas of reform: (i) enhancing the governance of the sector through additional legal, regulatory, and institutional measures designed to establish a clear framework for the sector, eliminating overlap and/or gaps in the policy-making, regulatory, and operational structure; (ii) improving the sustainability of the sector through the introduction of financial mechanisms and incentives for municipalities designed to support the sustainability of investments and services; and (iii) mainstreaming social and environmental considerations into the planning, implementation, and operations of MSW services and investments. The PNDM included specific targets for the municipal waste sector, including: collection coverage increasing from 70 percent to 90 percent by 2021; 100 percent use of sanitary landfills in urban areas by 2021; the closure and/or rehabilitation of 300 open dumps; and sorting of 20 percent of recyclable materials.

#### **Macroeconomic context**

**5. At the time of appraisal of DPL1, Morocco featured sound macroeconomic fundamentals.** The economy was characterized by macroeconomic stability, solid growth, low inflation and declining unemployment, a strong external position, and sound fiscal balances. The economy had been undergoing a structural shift featuring faster growth in nonagricultural output and strong growth was estimated for 2008, with the global economic downturn only having a moderate impact in Morocco. Inflation was expected to edge up to 3.9 percent in 2008, while unemployment would be around 9.7 percent. The current account was expected to run a small temporary deficit in 2008 and the government produced a fiscal surplus for the second year in a row. Revenues were buoyant and total government debt was projected to slightly decline.

**6. The medium term outlook had Morocco expected to preserve macroeconomic stability and moderate to high growth,** but the Moroccan economy remained vulnerable to adverse domestic and external shocks. Despite the world recession, the external position was expected to remain sustainable in 2009 owing to gains in the terms

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<sup>3</sup>The total cost breaks down to 33 percent for investment, 62 percent for operation, and 5 percent for technical assistance. Local governments would support the brother part of cost (73 percent), while new user fees, landfill charges and other fees and taxes foreseen by Law 28-00 would contribute 12 percent of cost. The government would finance about 9 percent of the PNDM, with the rest to come from donor support and carbon finance.

of trade, regardless of a fall in workers' remittances and tourism receipts. The fiscal stance should also remain sustainable. A comprehensive public debt sustainability analysis showed that the fiscal framework was robust to downside risk in the medium term and that budgetary financing needs should remain restrained in the short run.

**7. At the time of appraisal of DPL2, and despite the global economic crisis, growth performance in Morocco had been good.** Data for the first half of 2010 showed that the economy was recovering from the moderate effects of the global economic slowdown. The government had implemented a stimulus package to support the income of the population and help the most affected sectors. Public finances continued to be well managed despite the impact of the global crisis on the budget. Data on budget execution over the first 9 months of 2010 showed that the annualized budget deficit was contained to around 3.4 percent of GDP. Sound fiscal management helped further reduce the government's debt. The government and the Central Bank showed continued commitment to fight inflation. The external position remained solid and monetary and exchange rate policies remained appropriate.

**8. Morocco was in a better position to maneuver with less damage through the moderate effects of the global crisis,** while being in a position to benefit from the recovery of the world economy, due to sound macroeconomic and fiscal policies, as well as efforts to improve sector productivity and competitiveness. Growth prospects in the medium term were positive and sound macroeconomic policies would help contain inflation at low levels. After a temporary higher estimated deficit in 2010, the fiscal stance was projected to remain sound over the medium term, with fiscal deficits around the targeted threshold of 3 percent of GDP. The financing needs stemming from the higher budget deficit in 2010 and declining deficits over the medium term would be easily financed through domestic market as well as from increased drawings on external loans.

**9. The government's debt strategy was to diversify financing sources and take on a greater proportion of external financing.** A comprehensive public debt sustainability analysis showed that the fiscal framework was robust to downside risk in the medium term. The external position was expected to remain sustainable over the medium term. Balance of payments financing requirements did not constitute a serious concern given the sound economic fundamentals, the country's low external debt stock, and the ample foreign reserves. In sum, Morocco's macroeconomic framework remained adequate and sustainable in the medium term. The government's commitment to maintain momentum of reform effort supported robust prospects of investment, growth, and employment.

#### **Rationale for Bank intervention**

**10. The Bank had been supporting the government with technical assistance over a number of years, and was well positioned to accompany the government in its sector reform program.** Engagement between the Bank and Morocco on SWM had steadily strengthened and deepened since 2002 through dialogue and technical assistance, in large part through METAP. In parallel with the preparation of the DPL series, the Bank provided the sector with technical support and advisory services for the implementation

of the PNDM, including support for (i) the identification of priority areas for technical and financial support to municipalities as well as eligibility criteria; (ii) the design of an appropriate system to channel this support to municipalities committed to reform of the sector; (iii) the development of a private sector participation (PSP) strategy in the solid waste sector; and (iv) the development of a CDM programmatic project in the municipal SWM area. Continued Bank support was deemed necessary to help the government in the process of promoting an enabling environment for the solid waste sector, particularly towards improving its financial, environmental and social performance. The support was a natural extension of the preceding policy dialogue and advisory role of the Bank, and would reinforce the government's manifested reform willingness.

**11. The MSW Sector Development Policy Loan was requested by the government to support the implementation of policy reforms and programs in the solid waste sector.** An overall agreement was reached with the government on the scope of the reforms supported under the proposed operation. The DPL program consisting of two single tranche operations of Euro 100 million each was developed under the umbrella – and in support – of the government's reform program in order to ensure full ownership of the process, actions and outcomes. It was the first DPL operation Bank-wide in the solid waste sector and the first Bank operation in this sector in Morocco.

**12. The government requested support from the Bank in the light of recent policy developments in this sector, which the Bank responded favorably to, although the solid waste sector was not specifically identified in the 2005 Country Assistance Strategy (CAS).** It was becoming increasingly clear that managing municipal waste under a “business-as-usual” approach would not only negatively affect quality of life, public health, and environmental and natural resources but would also jeopardize the development of many sectors, particularly tourism. Further, the DPL would contribute to achieving the CAS's first strategic objective of improving competitiveness and business climate by stimulating partnerships between the private sector and LGs and by increasing Morocco's competitiveness as a tourist destination. It would also contribute to the second strategic objective of increasing access to basic services by poor and marginalized groups, as these improved services would cover the urban poor and support social inclusion of informal waste workers. In addition, the DPL program would contribute to the cross-cutting CAS objective of improving public governance.

**13. In terms of macro-economy, the projected disbursements of the Municipal Solid Waste Sector DPL would help meet the government's objective of diversifying financing sources as well as provide financing on more favorable terms.** This, in turn, would support the government's strategy of fiscal consolidation. During the above CAS period, the Bank would cover a total financing gap of US\$300 million to US\$350 million per year over the projection period. The lending approach was consistent with the CAS recommendation on the use of policy lending instruments under a results-framework approach.

## **1.2 Original Program Development Objectives and Key Indicators** *(as approved)*

**14. The development objective of the DPL program was to support the government in implementing its program of reforms aimed at improving the financial, environmental and social performance of the MSW sector in Morocco.** The first DPL (DPL1) was to support the key foundations of the government's reform program, to establish an enabling environment for an integrated and affordable municipal solid waste system. The second DPL (DPL2) would capitalize on the momentum gained during the first operation while deepening the reforms at the regional and municipal levels.

**15. The specific benefits expected from the implementation of the reform program and from the 15 year-PNDM supported by this DPL program were:** (i) improved environmental and social conditions which would result from the progressive elimination of the existing uncontrolled dumpsites and construction of sanitary landfills; (ii) enhanced access to waste collection services for the urban poor; (iii) reduced cost of waste landfilling resulting from more cost-effective planning regulations and standards; (iv) more efficient use of resources allocated to the solid waste sector and better targeted public subsidies to the sector; and (v) growth and job creation resulting from the creation of small and medium enterprises, the promotion of recycling and integrating informal actors such as waste pickers.

## **1.3 Revised PDO and Key Indicators, and Reasons/Justification**

**16. The PDO was not revised, but some of the indicators were adjusted from DPL1 to DPL2.** The indicators for the DPL program were presented in the program document for DPL1 and were slightly revised for DPL2 in line with the evolving context and lessons learned under DPL1, and baselines and targets were set for most indicators in the program document for DPL2. See Datasheet for details.

## **1.4 Original Policy Areas Supported by the Program** *(as approved)*

**17. The policy areas supported by the program corresponded to the overlying program for the PNDM and built on the momentum gained through the introduction of the Law 28-00 and PNDM:** (i) sector governance, (ii) sustainability, and (iii) social and environmental considerations.

### **Policy Area 1: Governance**

**18. Improving governance of the sector through additional legal, regulatory, and institutional measures designed to establish a clear framework for the sector, and eliminating overlap and/or gaps in the policy-making, regulatory, and operational structure.** Reform measures in this area were intended to address fragmentation and legacies that affect policymaking and effective implementation. Policy actions aimed at (i) policy planning and coordination in the sector through the establishment of the National Commission (*Commission Nationale – CN*) as a policy and strategic planning coordination body for the PNDM; (ii) defining the eligibility and allocation criteria for government subsidies to support municipal SWM operations and investments in an equitable, transparent, and cost-effective manner; (iii) strengthening the regulatory framework through the enactment of executive regulations for SWM planning and for standard and norms for disposal facilities; (iv) improving competition, transparency, and

accountability of SWM PSP schemes by improving the quality of standard bidding and contracting procedures and strengthening the capacity of respective LGs; and (v) developing appropriate communications and public awareness programs. Responsibility for the implementation of these reforms rested primarily with the Ministry of Interior (MoI, as LG oversight Ministry) and the Ministry of Environment (MoE, former SWE), with the CN-PNDM serving as the main coordination entity.

## **Policy Area 2: Sustainability**

**19. Improving the sustainability of the sector through the introduction of financial mechanisms and incentives for municipalities to improve their SWM systems.** The government recognized that sustainability of the municipal solid waste sector was critical. Sustainability factors include: (i) short, medium, and long-term financial sustainability; and (ii) improved municipal capacity to plan and manage SWM services; including regular monitoring and evaluation of sector performance. Policy actions included: (i) government subsidies to support the PNDM; (ii) supporting the municipalities to mobilize additional financial resources under the Clean Development Mechanism (CDM); (iii) completion of a feasibility study on long-term financial sustainability; (iv) strengthening the legal framework to promote inter-municipal cooperation; and (v) implementation of a national capacity-building program in SWM.

## **Policy Area 3: Social and Environmental Considerations**

**20. Mainstreaming social and environmental considerations into the planning, implementation, and operations of solid waste services and investments.** The government was committed to promoting environmentally and socially sound disposal facilities. Given the existing situation in terms of final disposal and the huge potential social and environmental impacts, the primary focus of this aspect of the reform program was to: (i) support the implementation of environmentally and socially sound disposal facilities; and (ii) improve the social and working conditions of waste-pickers, whose livelihoods would be affected by closure of existing dumpsites. Policy actions included: (i) enactment of EIA-related decrees toward effective implementation of the EIA Law; (ii) operationalizing the EIA system; (iii) preparation and implementation of a multi-year plan (Phase I of the PNDM) focusing on municipal waste disposal; and (iv) preparation and implementation of a program to improve social performance of solid waste management.

### **1.5 Revised Policy Areas (if applicable)**

21. The policy areas remained unchanged for the duration of the DPL program.

### **1.6 Other significant changes**

22. One indicative trigger for DPL2 was not completed (namely signature of a circular on user fees for municipal waste) and did not figure in the final policy matrix for DPL2. This change is discussed in section 2.2. There were no other significant changes.

## 2. Key Factors Affecting Implementation and Outcomes

### 2.1 Program Performance (supported by a table derived from a policy matrix)

23. Both DPL1 and DPL2 were single-tranche operations, which disbursed on effectiveness. The strong government commitment to the reform program and measures supported by the DPL programmatic series, combined with the timely completion of the specific measures negotiated as prior actions have resulted in disbursement of the two operations in the program as foreseen or earlier.

Tranche #	Amount	Expected Release Date	Actual Release Date	Release
Tranche 1 (DPL1)	Euro 100M (US\$147.71M actually disbursed)	08/18/2009	08/18/2009	(1) Regular
Tranche 2 (DPL2)	Euro 100M (US\$141.48M actually disbursed)	05/27/2011	05/18/2011	(1) Regular

Table 1: Tranches and release dates

24. The tables below present the prior actions by operation, all of which were completed. The causal link to outcomes is discussed in section 3.2. One indicative trigger for DPL2 was not completed. This is discussed in section 2.2, but did not affect the overall program outcome. Progress towards the implementation of the operations was determined through regular missions and ongoing dialogue.

DPL1	
Prior Action	Status
<i>Policy Area 1: Governance</i>	
Issuance of a circular by the Secretary of State in charge of Water and Environment establishing the National Commission of the National Municipal Solid Waste Management Program (CN-PNDM).	Completed
Adoption by the CN-PNDM of eligibility criteria for the allocation of financial support to municipalities under the PNDM.	Completed
Publication in the Bulletin official of the decree related to classification of waste and submission to and approval by the Ministry of Interior and the Secretariat of State in charge of Water and Environment (SWE) of the two draft decrees related to (i) procedures for the elaboration of a provincial or prefectural master plan for MSW; and (ii) administrative procedures and technical standards for MSW landfilling.	Completed
<i>Policy Area 2: Sustainability</i>	
Appropriate funding has been made available to the PNDM for 2008, and the 2009 budget law includes appropriate budget allocations in support of the PNDM.	Completed
Appointment by the Minister of Interior of a coordinating entity in charge of the development of a national Clean Development Mechanism Program to facilitate municipalities' access to the carbon market.	Completed
Launch of a fully funded capacity development program in the municipal solid waste sector targeting municipalities.	Completed
<i>Policy Area 3: Environmental and social considerations</i>	
Publication in the Bulletin official of the decrees related to (i) the responsibilities and operations of the national EIA committee and regional EIA committees, and (ii) procedures for EIA-related public consultations.	Completed
Adoption by the CN-PNDM of principles for the inclusion of social considerations in the framework of the PNDM.	Completed

<b>DPL2</b>	
<b>Prior Action</b>	<b>Status</b>
<i>Policy Area 1: Governance</i>	
The CN-PNDM has met at least twice a year in the calendar year 2009 and the calendar year 2010 to coordinate, review and evaluate the implementation of the National Municipal Solid Waste Management Program.	Completed
Two regional commissions for the review and validation of provincial and prefectural municipal solid waste master plans have been established and are operational.	Completed
The CN-PNDM has reviewed and approved the three sets of model bidding and contracting documents and the Minister of the Interior has issued a circular to dispatch them and require their use.	Completed
The 2010 action plan for the PNDM provides for adequate funding of the execution and mainstreaming of a communication and public awareness program.	Completed
<i>Policy Area 2: Sustainability</i>	
The capacity development program on municipal solid waste management has been continuing in the calendar years 2009 and 2010 and has been mainstreamed into a fully funded government training program.	Completed
<i>Policy Area 3: Environmental and social considerations</i>	
Three regional EIA committees have been established and are operational.	Completed
Three partnership agreements (“conventions de partenariat”) have been signed between the central and local governments to improve solid waste practices.	Completed
The 2010 action plan for the PNDM provides for adequate funding for extension of social inclusion programs to disposal investments supported by the PNDM.	Completed

**Table 2: Prior actions by operation and policy area, with status**

## **2.2 Major Factors Affecting Implementation**

**25. Strong government commitment and ownership throughout program preparation and implementation was the primary success factor.** The DPL program built on home-grown reforms, stemming from the recognition of the magnitude and bearing of sector problems on a range of wider economic, social, and environmental issues. The enactment of Law 28-00 and its operationalization through the PNDM was further built on a sound analytical basis, to which the Bank had contributed strongly, and which made it possible for the Bank to accompany the government in a series of programmatic DPLs, without using sector investment lending as a first step to gain sector knowledge. In addition, the Ministry of Finance (MoF) and MoI have provided stable and strong leadership and oversight from the outset of the DPL program and ensured the active participation and coordination between all ministries and agencies involved in the program. On this basis, the Bank was able to act as catalyst for enhanced inter-ministerial collaboration, providing more visibility to the program and helping to turn the willingness to advance sector reforms into concrete actions and results on the ground. Key government and Bank staff saw the DPL program through from preparation of the first DPL in the series to completion of the last, which allowed for a continuity of leadership and vision through the entire program.

**26. A link was made from the national to the local level through signing of conventions/MoUs between the government and LGs and strong coordination with donor interventions directly targeting LGs.** The MoUs clearly set out the priorities for reform as well as the accompanying technical and financial support to LGs, enabling the Bank to accompany the program of reform all the way to the local level, where reforms are concretely implemented to improve services. Other donors, especially GIZ, supported



measures that complemented the DPL program through SWM capacity building directly to LGs (see Annex 4 for details on support from other donors).

**27. Issues regarding subsidy allocation criteria popped up along the way, but could be largely resolved by clarifying the criteria in a procedures manual.** At the outset of the program, the allocation criteria for funding were not clear enough to allow the MoI to allocate financial support based on objective criteria. The development of a procedures manual assured that the criteria were shared by everyone<sup>4</sup>. The combination of upstream technical review of funding proposals by additional experts hired to the Program Management Unit (PMU), hosted by the Directorate of Water and Sanitation in MoI (responsible for oversight of LGs activities), this assured equal treatment of all LGs.

**28. The design was robust, incorporating mutually reinforcing, but not interdependent, elements of sector financing, for which the synergies are continuing to be developed.** The DPL program focused on state and LG budgets, carbon finance, SWM fees, and eco-taxes. Some of these elements took longer than expected to take off, but the sound analysis of LG finances feeding into program design allowed sufficient flexibility in implementation that this did not affect the success of the program.

**29. One indicative trigger for DPL2 was not completed, but this did not affect the overall program outcome,** namely signature of a circular by the Minister of Interior on the application of Article 23 of Law 28-00 on user fees for municipal waste. This was largely due to delays in finalizing a donor-funded study to identify tools and actions for mobilizing new revenue sources needed to meet this objective. The government remained fully committed to continue working towards the objective of long-term financial sustainability of the sector. Additional analytical work is being finalized and adopted, and in particular will assess options for introducing distinct user fees established under the solid waste Law 28-00, which would complement general LG revenues.

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

**30. The design, under DPL1, of the M&E system for the DPL program, was focused on a mix of outcome and output-related indicators, covering the three policy areas of the DPL program and centered on the program's matrix of actions and performance indicators.** The DPL M&E system was closely aligned to key outcomes expected from the PNDM. A shortcoming was the lack of baseline and targets for a number of indicators defined for DPL1, but the indicators were refined during preparation of the DPL2 and relevant targets set or adjusted. The PMU would be responsible for collecting data to track progress towards indicator targets, but the MoE, as Chair of the CN-PNDM, would also follow progress regularly.

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<sup>4</sup>PNDM support eligibility criteria related to land ownership, feasibility study, EIA, inter-communal aspects, and social action plans were also published on the Environmental Department website. A maximum of 30 percent of each investment could be contributed by the government through the PNDM.

## **Implementation**

**31. Implementation was based on supervision missions by the Bank and allowed monitoring of the program's implementation.** The CN-PNDM met regularly to approve the PNDM annual work programs and follow up on implementation, but delegated actual management of the reforms supported by the DPL program to the relevant ministries: the MoF, MoI and MoE. The government was active and focused on the areas critical to the DPL program's prior actions. A substantial review was carried out in July 2010 to assess the implementation of measures supported by DPL1&2.

**32. During implementation of the PNDM, it became apparent that the PMU did not have sufficient capacity to assure regular monitoring of indicators for the DPL program, which were a subset of indicators for the PNDM.** This was due to inherited institutional weaknesses at implementing coordination arrangements among government agencies. To mitigate this shortcoming, two experts were hired to assist the PMU in following up on PNDM implementation and processes requests for financial support. Towards the end of PNDM Phase I, this facilitated a more regular follow up on the indicators, i.e. through production of quarterly monitoring reports for the PNDM and better definition and methodology for data collection, including for the indicators in the DPL policy matrix. The government commissioned an independent external evaluation of the PNDM Phase I, which would help identify areas for improvement, both in terms of program implementation and in terms of M&E.

## **Utilization**

**33. The use of indicators for the DPL program suffered from the shortcomings described above, but PNDM M&E is being improved.** As a result of the delayed clarification of the M&E framework for the PNDM, results for a number of indicators for the DPL program were only available during the ICR mission, showing underutilization of indicators to manage the PNDM for results. Room for improvement remains, both in terms of M&E implementation and utilization for the PNDM, supported by the DPL program, but with the improvements in PMU capacity and launch of a system of quarterly reporting by LGs to the PMU, the government has improved the M&E system and should be able to use indicators more consistently to monitor outputs and outcomes of the PNDM.

### **2.4 Expected Next Phase/Follow-up Operation (if any):**

**34. The next phase will consist in a new series of programmatic DPLs, requested by the government, to consolidate results and take the program to full implementation.** The DPL program has supported first generation reforms, coinciding with Phase I of the PNDM, and has contributed to substantiating the reform program, providing the necessary institutional and regulatory conditions for improved sector outcomes. The government has requested the support of the Bank for moving to Phase II of the PNDM, and a new series of programmatic DPLs (DPL3&4) is under preparation to support this transition to full program implementation and roll-out. Continued Bank support is justified by the need for further investment in more complex reforms and actions that build upon the foundations laid down by DPL1&2 and the other achievements of PNDM Phase I, as implemented by the government and supported by the Bank and other donors.

The Bank also continues to accompany the government in developing carbon assets in this sector, and a Carbon Fund Emission Reduction Purchase Agreement has been appraised and is ready to be negotiated between the Carbon Partnership Facility (managed by the Bank) and the *Fonds d'équipement communal* (FEC) (LG Investment Fund), which is the primary provider of investment funds to LGs.

### **3. Assessment of Outcomes**

#### **3.1 Relevance of Objectives, Design and Implementation**

**35. The objectives, design, and implementation of this operation were relevant to Morocco's development priorities and the Bank's priorities as expressed in the 2005 CAS, and remain relevant today.** The objective was highly relevant to supporting the first phase of the PNDM, and aimed to generate enough momentum for the program to be fully initiated, in line with PNDM Phase I objectives. The continued relevance of the objectives is demonstrated by the government's request to accompany the next phase of the PNDM with another series of two programmatic DPLs. The DPL program should be seen as an upstream boost to the new spirit of openness and collaboration, which is reflected in the ongoing constitutional reforms including the regionalization and decentralization agenda; the two DPLs helped substantiate the spirit of collaboration between the MoF, line ministries and public agencies, and the role of the Bank in this process, providing visibility to the program and acting as an outside catalyst for concrete actions, remains highly relevant at the time of this ICR.

**36. Strong analytical base combined with incorporation of lessons learned in the design allowed the DPL program to remain relevant throughout implementation.** Previous sector DPLs (water and energy) in Morocco had run into problems due to underestimation of the complexity and capacity requirements to carry out the targeted sector reforms in a timely manner, in spite of multi-year programmatic economic and sector work carried out as foundation of the water DPL. The SWM DPL program was, however, founded on significant analytical, policy and legal framework progress that had already been made in the sector<sup>5</sup>. In addition, the triggers for DPL2 were identified based on their contribution to sustaining advances across all parts of the sector reform program as well as the government's strong commitment for implementation of these triggers as part of the overall reform program. The design was further coordinated with other donor's support to capacity building activities (especially GIZ and KFW in SWM, AFD in broader aspects of municipal finances), a central element to support the success of the program in the initial phase, which the Bank could not support through the DPL instrument. Finally, the DPL program anticipated the potential risks and identified reasonably appropriate mitigating measures.

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<sup>5</sup>Analytical foundation in the form of sector work included among others: The Poverty and Social Impact Analysis (1&2, Assessment of Environmental Impact Assessment System, Municipal Solid Waste Financing Note, Morocco Solid Waste Recycling Sector Study, METAP Cost Assessment of Environmental Degradation, and PPIAF PSP study).

**37. Environmental and social dimensions of the program were explicitly incorporated in the DPL design**, taking advantage of a growing awareness by the government that these aspects mattered and also consistent with the Bank environmental strategy that called for mainstreaming environmental and social aspects in development projects. The success in integrating these dimensions in a DPL have established a precedent that will certainly be important in shaping similar operations in the future both in Morocco and Bank-wide.

38. The design was adjusted slightly during implementation with the removal of the indicative trigger on a decree on user fees, which proved to be a less important part of the program in the initial phase, as the LGs did in fact generate sufficient revenues to pay for the service provision by the private sector. The design of the DPL program proved robust enough to accommodate changes along the way without compromising the achievement of overall objectives.

### **3.2 Achievement of Program Development Objectives**

Rating: Satisfactory

#### **Overall outcomes of the SWM DPL program**

**39. The SWM DPL program contributed to significant achievements in all three policy areas, and also contributed substantially to inter-ministerial coordination, laying the groundwork and providing better knowledge of the needs associated with decentralization.** The CN-PNDM was set in place as a prior action to DPL1 and proved highly effective in coordinating the program. It was largely due to the CN that synergies were developed between ministries in charge of financial, environmental, and decentralization issues, with the Bank playing a catalyzing role in this process. The overall governance of the sector was clearly strengthened; sustainability was improved through increased collection of the municipal services tax, from MAD 1.4 million to MAD 2.6 million, falling slightly short of the MAD 3 million target. It should be recognized that more needs to be done to assure capacity to move to full implementation of the program in smaller LGs. Social and environmental considerations are now at the forefront of the government's reflections on bringing the program to full implementation. The social accountability aspect of service delivery is being strengthened further through the implementation of citizen report cards, an activity flowing directly from the DPL program.

**40. The incentives created by the financial support from the government to LGs for investment and operation assured a leap forward for the sector.** The engagement of the World Bank lent credibility to the process, especially in terms of clear eligibility criteria, and helped concretize the program and incentivized the government to provide US\$212 million for the PNDM Phase I, as an incentive for LGs to invest at least US\$1.3 billion in improved SWM. In line with PNDM financing objectives, LGs provided the brother part of investments, with the government contribution serving as an incentive. Financial support was allocated by the government to LGs on a regressive basis over 3 to 4 years for collection and cleaning, with good leverage – US\$52 million for total private sector contract values of US\$487 million. For landfill construction, LGs received a one-

off contribution of US\$65 million for investments totaling US\$253. A substantial part of total government contribution also went to landfill rehabilitation, with most of the cost covered (US\$47 million contribution out of a total cost to LGs of US\$72 million). Limited support was provided to landfill operation, US\$19 million subsidies for a total contract volume of US\$450. The rest of the government PNDM contributions were allocated to elaborating SWM master plans, technical assistance, social measures, and awareness-raising through awareness days on the PNDM to the benefit of all stakeholders.

**41. The primary indicator, which can be used to capture the performance of the program as a whole, is the percentage of municipal solid waste collected and disposed in sanitary landfills.** With outset in the actions supported by the DPL program, the PNDM succeeded in taking this indicator from 10 percent in 2008 to 30 percent at the end of 2011, reaching the target of 30 percent in advance of the PNDM target date of end-2012. This is a very substantial achievement by any standards, but even more so in the light of the social and environmental considerations incorporated into site selection, improved technical standards, and the transparency of allocation of government financial support to the PNDM, through the adopted allocation criteria, which have been published on government websites. The DPL program's prior actions supporting clear eligibility criteria for the allocation of financial support and appropriate funding for the PNDM in the budget law provided incentives to close open dumpsites, with 21 dumpsites closed or rehabilitated, largely surpassing the target of 12 dumpsites. The construction of 12 new landfills, with financial contribution by the government through the PNDM as an incentive, also contributed to the result. Further, increased sector investments has contributed to improving the quality of service provision, with private sector operators now providing collection services in 95 LGs, based on clear specifications, representing 66 percent of the urban population (against 40 percent in 2006). This represents about 5 million people in urban areas provided with improved and regular solid waste collection as a result of the PNDM. The total collection rate is around 75 percent (private and public providers together), against a PNDM baseline of 70 percent and a target of 90 percent in 2021. In comparison, based on government investments of about US\$850 million since 2001, Algeria has reached a collection rate of 85 percent in urban areas, but only 15 percent of collected waste is landfilled and private sector participation is quasi-absent (against US\$212 for the Moroccan government for the PNDM Phase I).

**42. Also, the consistency of SWM infrastructure supported through the PNDM with national environmental regulations is a substantial achievement,** given the novelty of following clear environmental regulations, introduced by the Law 28-00 and its decrees. The setting in place of regional EIA committees throughout the Kingdom was an important contribution to this outcome, as they played an active role in critically reviewing EIAs for all the SWM infrastructure supported under the PNDM and rejected the EIAs that did not live up to required standards. Public EIA hearings also contributed to participation and transparency. A total of 25 EIAs were reviewed as targeted; further, a review carried out during the ICR mission showed that all bidding documents (100 percent) are consistent with national technical and environmental regulations, as targeted.

**43. On the social side, the program has promoted the early and systematic consideration of social concerns in PSP contracts and PNDM eligibility criteria.** Morocco offers today the first experience in the region in term of waste-pickers inclusion through partnership between LGs, private operators, and NGOs. As a result, a formal waste-pickers cooperative was established and enters in partnership agreement with the private operator offering better work environment and enhanced revenues for 154 people, as targeted. Experiences from this pilot are ready to be scaled up; the development of a financially viable waste recycling sector could potentially benefit 20,000 people, and is being pursued by the government, supported by the Bank.

**44. Some shortcomings in the achievement of indicators for the DPL program should also be noted in terms of allocation of financial support, private sector participation to tenders, and resource mobilization.** Regarding allocation of financial support, the PNDM experienced some problems during the initial implementation phase, but the shortcomings were corrected through the adoption of a procedures manual and hiring of additional experts to the PMU. The DPL Indicator 2 result of 80 percent hides 100 percent conformity with allocations for landfills in 2011. Private sector participation to tenders did not improve significantly, as expected, although the maximum number of bidders increased from five to six. The lack of performance can be explained mainly by the relative novelty of the improved standard contracts and the longer time than expected for the private sector to latch on to the better possibilities for participation in the sector. Another factor explaining the low participation is the scarcity of private sector operators, since the same bidders tend to recur in many of the tenders. To fully achieve the targeted results, the DPL program could have focused more on accompanying market development, which is currently around US\$175 million per year, an increase over US\$100 in 2007, but not significant enough.

**45. The DPL program has accompanied a transformation of the sector, as laid out in the PNDM, which has moved from a concept of cleanliness in the cities to broader considerations of social, environmental and economic sustainability aspects of SWM.** Over the course of four years, the basic elements to implement the Law 28-00 have been set in place, seven decrees were adopted, and valuable experiences have been gained under Phase I of the PNDM, which will allow a full roll-out of the program to small and medium-size LGs, in line with the objective of the DPL program. The prior actions of both DPL operations related to training programs supported the training of officials from 333 LGs, against 230 targeted. The MoI implemented a large part of the training on technical aspects, but especially the GIZ also contributed to training on environmental aspects. The basic capacities are starting to emerge in the sector, with the national program having laid the groundwork and the program is starting to generate demand at the LG level, based on clear financial incentives and improved regulatory environment.

#### **Outcomes by operation**

**46. DPL1: Overall, the DPL1 was successful in meeting its objectives of establishing an enabling environment for an integrated and affordable municipal solid waste system, despite a few shortcomings, discussed below.** The overall macro-economic

framework was satisfactory. All conditions, triggers and targets identified in the policy matrix and prior actions for the DPL1 were met without modifications.

*Policy Area 1: Governance*

47. The issuance of the circular to establish the CN-PNDM was key to the success of the overall program, and to the synergies generated among ministries and with LGs. The CN was headed by the MoE and included representatives from the MoI, MoF, MAEG, and of the FEC. The CN-PNDM approved the annual work programs of the PNDM, as basis for the work of the PMU hosted by the Directorate of Water and Sanitation in MoI. Regular progress reports were elaborated by the PMU and adopted by the CN-PNDM. One of the first activities of the CN-PNDM was to adopt the eligibility criteria for the allocation of financial support to the municipalities under the PNDM, a prerequisite to getting the program up and running. The publication of the decree related to classification of waste, and the approval of draft decrees related to procedures for the elaboration of provincial master plans for MSW and procedures and technical standards for MSW landfilling was also essential elements to enable the government to provide financial support for activities in LGs.

*Policy Area 2: Sustainability*

48. This policy area was supported by the actions related to the allocation of appropriate funding for the PNDM in the budget law for 2009, assuring that activities could be launched upon inception of the program. The appointment of the FEC as coordinating mechanism for the CDM proved useful, but it was too optimistic to set an indicator for generation of revenue from this activity, since the Carbon Finance (CF) stemming from this activity would only be available once the program was up and running, necessitating substantial investments in landfills. In terms of incentive for LGs to get involved in the program and potential revenue generation, the CDM did however prove extremely useful, with an agreement close to being reached between the FEC and the Carbon Partnership Facility, managed by the World Bank (see also Annex 4 for a fuller presentation of the CDM). The last activity supported under this policy area was the launch of a fully funded capacity development program targeted at officials at all levels of administration (central government agencies, regions, provinces, LGs). This activity was carried out by the government with support from several donors (especially GIZ, KFW, AFD), and ran throughout the implementation of Phase I of the PNDM, greatly benefiting the DPL program. Training covered overall environmental considerations, environmental impact assessment, SW collection and transfer, landfilling, SWM financing, and SWM master plans at provincial level. Training was provided by a wide array of service providers, including MoI, FEC, and private training institutes.

*Policy Area 3: Social and environmental considerations*

49. This policy area was probably the most neglected prior to the DPL program, and, as for the two other policy areas, the activities were well targeted towards the most pressing needs in order to get the PNDM up and running. Publication of the decree related to the operation of national and regional EIA committees, along with the decree on procedures for EIA-related public consultations, were essential to set in place a regulatory framework, in keeping with the PNDM objective of mainstreaming social and environmental considerations into the planning, implementation, and operation of MSW

services and investments. The adoption of the principles for the inclusion of social considerations in the framework of the PNDM was a further step in this direction.

**50. DPL2:** Overall, DPL2 was successful in meeting its objectives of capitalizing on the momentum gained during the first operation while deepening the reforms at the regional and municipal levels, although at the end of the DPL program, some shortcomings are noted in terms of LG capacity to take the program to full implementation.

*Policy Area 1: Governance*

51. Building on the actions supported under DPL1, the second DPL supported the continuing operation of the CN-PNDM, including the review and approval of model bidding documents, a prerequisite to increased private sector participation, competitiveness, and efficiency of service delivery. The establishment of regional commissions for MSW master plans provided the foundation for inter-communal planning of SWM infrastructure, necessary to achieve economies of scale as the PNDM is rolled out to medium and small LGs, although the actual elaboration of master plans is behind schedule, with only five provincial plans adopted so far. However, 18 more are under development. The communications and awareness program helped push for increased acceptance of the new initiatives by the public, including regarding the necessity for LGs to provide adequate funding for SWM activities given the new environmental and social standards.

*Policy Area 2: Sustainability*

52. After the groundwork for financial sustainability had been set in place under DPL1, sustainability hinged largely on continued improved capacity development to assure that the enlarging group of actors necessary to implement the program at the local level was capable of contributing to the expected results. Support to capacity building continued from key donors. During DPL2, the FEC continued to work on rendering the CDM useful to the LGs, based on the activity supported by DPL1.

*Policy Area 3: Social and environmental considerations*

53. The establishment of regional EIA committees under DPL2 was based on the finalization, under DPL1, of the regulation for national and regional EIA committees, along with the decree on procedures for EIA-related public consultations. The partnership agreements signed between the central and local governments to improve solid waste services assured that concrete activities were implemented, and contributed to achieving the indicator relating to the closure of open dumpsites and the ultimate goal of disposing MSW in sanitary landfills.

**3.3 Justification of Overall Outcome Rating** *(combining relevance, achievement of PDOs)*

**Rating: Satisfactory**

54. The high continued relevance of objectives, design and implementation, and Bank support to the SWM sector through the DPL instrument, combined with achievement of the main indicators but with moderate shortcomings on a number of secondary expected outcomes justifies a rating of satisfactory.



### **3.4 Overarching Themes, Other Outcomes and Impacts**

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

55. The modernization of the MSW collection services was implemented mostly through private sector participation and benefits today to about 66 percent of the urban population. The related private sector contracts are based on common standards for service delivery (quality and coverage) in low, medium and high income urban neighborhoods. Hence, poor communities previously un-served and/or suffering from low quality services now have equal access to decent MSW collection services. In addition, the closure of dumpsites contributed to environmental improvement of the nearby areas often inhabited by low income households. The impact on waste pickers is described above, section 3.2.

#### **(b) Institutional Change/Strengthening**

56. Institutional change and strengthening was an integral part of the DPL program. The impacts are described in section 3.2.

#### **(c) Other Unintended Outcomes and Impacts** (*positive or negative*)

57. The upgrading of the EIA system generates benefits beyond the sector to cover all investment projects requiring an EIA.

### **3.5 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops**

58. Not applicable.

## **4. Assessment of Risk to Development Outcome**

Ratings: Moderate

**59. Commitments to the reform and implementation capacity risks.** The quality of the Bank-client dialogue during the first programmatic series (DPL1&2) and dialogue on DPL3&4 indicate that reform commitment remains robust. Technical capacity is largely adequate at the central level and to some extent at the LG level and in the private sector as the ultimate implementers of the reform program, but the institutional capacity to coordinate and assure multi-sector coordination and efficiency of resource allocation remains weak. Progress has been made on the systematization of procedures for the allocation of financial support to municipalities, but the capacity of municipalities to manage investments and service outsourcing (and in particular the capacity of medium-sized and smaller municipalities), and the central government's monitoring arrangements remain areas of risk.

60. This potential risk is mitigated by government's continued strong commitment to: (i) scale up and mainstream the solid waste capacity building activities within the government program to support decentralization at municipal level and to implement regionalization of government support structures; (ii) continue to fund the reform program, through the indicative allocation of MAD 200 million (US\$23 million) annually to the program for the duration of the government mandate (until 2017); and (iii) continue to mobilize appropriate human resources to support the management of the program at national and local levels.

**61. Social acceptance risk, namely the risk that the reforms will be unacceptable to the general public and to waste pickers.** While pilot projects implemented so far for the re-employment of waste pickers are proving successful and the public profile of the solid waste reforms has been fairly low, resistance from local populations has been noted in several concrete cases, especially in relation to site selection for landfills. There also remains a risk of adverse reaction to the future introduction of new sources of municipal revenue. This potential risk is mitigated through the government's decision to create LG budget annexes specifying line items for SWM, increasing transparency of resource allocation, and the mandatory requirement for operators to cover social aspects in future contracts.

**62. The possibility of municipalities resisting the solid waste reforms remains real but is mitigated by the continued allocation of targeted financial support.** Analysis of LG budgets indicate that funds are in principle available to pay private sector operators, but that the political economy of budget management at the LG level often leads to late payment of invoices and accumulation of arrears. Some concerns remain that the incremental cost of the required investments may prove too high for some municipalities, especially as the program is rolled out to medium-size and small LGs. The magnitude of this potential risk is being partly addressed through a recently completed KFW-funded study on institutional and financial aspects, coupled with additional analysis of institutional options, and the government is fully committed to tailor its financial support to small and poor local governments if needed. In the longer term, the progressive shift of financial responsibility from government budgets to municipal taxpayers may weaken municipalities' commitment to improved solid waste management practices. This potential risk is mitigated by the government's strong commitment to proceed with the envisaged municipal finance reforms, including the foreseen implementation of eco-taxes and a SWM fee for large producers. Inter-municipal cooperation and regionalization of solid waste disposal facilities will also help especially small municipalities to take advantage of the significant economies of scale in waste management, but coordinated planning of these investments needs to be strengthened.

**63. The rapid increase in funding for the sector, stemming from political prioritization, carries the risk of shortcomings and wastage in the implementation of works.** While the technical capacity is largely present, the institutional complexity of the sector could lead to sub-optimal investment planning, especially as the program is rolled out to medium and small municipalities, running the risk of a high level of wastage in the initial phase of the PNDM, potentially locking in resources in sub-standard infrastructure for many years to come. While DLP 1&2 contributed to increased private sector participation in the sector, pushing for cost reduction, the market should be further developed as should capacity to assure a fully optimal procurement process, effectively implement works and supervise construction. The ongoing independent evaluation of phase I of the PNDM will draw important lessons that will serve as basis for the implementation of PNDM Phase II and preparation of DPL3&4, and thus facilitate the mitigation of these risks.

**64. The public-private partnership approach developed under the series remains fragile**, but this risk is being mitigated through measures introduced under DPL1&2 and only having effect now (such as standardized contracts), and targeted support to budget and project management at the LG level.

65. Overall, it is not very likely that any single risk stemming from the institutional complexity of the sector, combined with financial, economic, and social risks will materialize. Further, mitigation measures are in place going forward and the government remains fully committed to the program, including through funding allocation, justifying an overall risk rating of moderate.

## **5. Assessment of Bank and Borrower Performance**

### **5.1 Bank Performance**

#### **(a) Bank Performance in Ensuring Quality at Entry**

Ratings: DPL1: Satisfactory. DPL2: Satisfactory

**66. DPL1:** The Bank's performance is rated satisfactory. The design choice of a series of single tranche DPLs governed by a medium term program with triggers for the second operation has allowed for flexibility in achieving programmatic objectives. This design reinforces the hand of the reformers in the government. Throughout preparation and implementation the Bank played a catalytic role in gathering ideas and people, as well as transferring knowledge and solving problems and contentious issues. The design of the DPL program benefited greatly from the base of analytical work done in a highly participatory way.

**67. DPL2:** Overall, Bank performance was satisfactory during loan preparation and appraisal. An active policy dialogue permitted satisfactory completion of triggers, while effectively staging DPL2 as the instrument to operationalize tools initiated during DPL1. The design of the program benefited from the analytical base and close supervision of DPL1. The Bank team also accompanied the government through flexible adjustments in the program which helped ensure its successful implementation.

#### **(b) Quality of Supervision**

Ratings: Satisfactory

68. The DPL program implementation has been supervised thoroughly by a well composed Bank task team. Six missions were carried out during implementation, with detailed supervision reports. The findings were discussed with government and corrective measures taken when needed. Further, the various members of the project team, with expertise in different areas, followed the progress in the different components in detail. A detailed progress report was elaborated in July 2010 to evaluate implementation of measures supported by the program. Only minor shortcoming is the missed opportunity for the Bank to accompany the government to strengthen the PNDM results framework early on by leveraging DPL outcome indicators. The careful supervision helped to build what is generally considered an excellent relation between the client and the Bank, as confirmed by government counterpart during the ICR mission and in the government ICR

(see Annex 4). Bank missions maintained contact with all project stakeholders, including other donors, thus removing potential roadblocks to project implementation.

**(c) Justification of Rating for Overall Bank Performance**

Ratings: Satisfactory

69. The DPL program was a well-designed and implemented operation, with few shortcomings, none of which were substantial. As Bank performance for both quality at entry and supervision are rated satisfactory, overall Bank performance is rated satisfactory.

**5.2 Borrower Performance**

**(a) Government Performance**

Ratings: Satisfactory

70. The government has committed fully to the program and to achieving the development objectives, and has made substantial efforts to implement prior actions and follow up on shortcomings in implementation, including hiring two experts to assure adequate monitoring of the PNDM. The enabling environment included supportive macro, sectoral, and institutional policies appropriate to country circumstances. Stakeholders and civil society were consulted extensively at the beginning of the program development, and mechanisms were set in place for inclusion of persons affected by SWM activities resulting from the program. Most implementation issues were resolved on a timely basis and the relationships and coordination with the Bank and other donors were excellent throughout. The SWM DPL program provides a comprehensive framework for continued sector improvement and transition to the next series of operations.

71. The government's performance also had some shortcomings with regard to M&E arrangements, including the utilization of M&E data in decision-making and resource allocation for the PNDM supported by the DPL program. This is not because of the government's unwillingness to perform well in these areas, but simply because M&E is a relatively new concept in the sector and needs time to be fully appropriated, as testified by the recent setting in place of quarterly reporting for the PNDM. Nonetheless, government performance overall is rated satisfactory in light of the satisfactory ratings on most aspects of program preparation and implementation.

**(b) Implementing Agency or Agencies Performance**

Ratings: Satisfactory

72. The implementing agency is indistinguishable from the government for this DPL program. Policy actions were implemented by several ministries under the supervision of the CN-PDNM. The PMU in MoI was the implementing agency for the PNDM, but is not evaluated in connection with the reform program supported by the Bank.

### **(c) Justification of Rating for Overall Borrower Performance**

Ratings: Satisfactory

73. The rating corresponds to the rating for government performance, as there was no separate implementing agency.

### **6. Lessons Learned**

74. The following lessons have been learned from the implementation of DLP1&2, and are being incorporated into the next series of programmatic DPLs (DPL3&4) as relevant.

**75. The experience of the programmatic series of two Municipal Solid Waste Sector DPLs has been very positive and confirms the usefulness of the DLP instrument under the right set of circumstances.** Contributing factors included a long history of Bank-client dialogue on sector policies and strong analytical foundation, which allowed the Bank to accompany the government in a well-designed and phased program of home-grown sector reform in a complex sector. The programmatic series was centered on a simple policy matrix to substantiate the program of reforms as an emerging political priority, with shared ownership of the reforms by the Ministries of Interior, Finance and Environment. Investment lending could not have provided the same leverage on reforms, due to the DPL nature as entry point to policy dialogue and the visibility accorded to the reform program from the engagement of the Bank. The government was fully committed to the program and took advantage of the analysis, planning framework, implementation support and convening power offered by a DPL program whilst maintaining full leadership and ownership of the reforms themselves, which was also essential factors contributing to the success of the DPL program.

**76. Regular program monitoring should build on a functional and fully integrated national system.** The PNDM is now completing the initiation phase and moving to full implementation. The programmatic series has shown that DPLs should pay specific attention to M&E issues in an emerging sector to correct any systematic under-performance early on. While the government was able to provide information on the results of the programmatic series in the context of this ICR, based on the results indicators in the policy matrix, the monitoring of DPL program outcomes, based on the underlying sector program (PNDM), should be strengthened for subsequent phases to assure that real-time information is available to correct implementation backlogs and/or lack of results. DPL3&4 aim to introduce a number of measures to allow the government to learn from implementation, including an in-depth evaluation of PNDM phase I.

**77. A policy reform program needs to be accompanied by adequate tools and procedures to avoid reverse salients during implementation.** DPL2 recognized this shortcoming of DPL1 and supported the government in strengthening the PMU in the Directorate of Water and Sanitation in MoI through the hiring of two experts, as well as the preparation of an operational manual for the PNDM to assure precision in the use of the allocation of investment support from the center to the municipalities, and to strengthen investment appraisals, financing, and contracting mechanisms adopted under

DPL1. Coordination with other donors is also important to accompany roll-out of reforms, as showed by the impact of the capacity building under DLP1&2, although not enough compared to the needs. DPL3&4 focus on project management in LGs to mitigate this capacity shortcoming and supporting regionalization of government support structures.

**78. Sector reform can be coupled successfully with overall decentralization and improvements to local government finance.** DPL1&2 were able to lay the foundations for decentralized service delivery in the cities of Morocco through working at the LG finances level, allowing the program to focus on service delivery overall and also lay the foundations for improved local government budget management to reduce arrears with private sector service providers. However, room for improvement remains in this area, and as the PNDM is rolled out increasing attention will have to be paid to operating costs, which will constitute a significant part of the budgets of smaller LGs. This is leading DPL3&4 to continue to place increased focus on LG budget management and transparency as key factors to enhancing private sector confidence and willingness to engage in the sector. DLP3&4 also capitalize on lessons learned regarding local government finances and the overall financial sustainability of the SWM sector by looking at eco-taxes and SWM fees for large waste producers as a means to assure adequate funding.

**79. Continued coordination among ministries, national entities and municipalities is needed for sustained successful results.** One of the major impacts of the DPL program is to mainstream coordinated planning to support the MSW reform program. This is a major milestone in the way the government conducts business, not only in the solid waste sector but in other reform areas. The Bank was able to act as catalyst for enhanced inter-ministerial collaboration and accompany the government in a new spirit of openness in which the ministries were looking for partnerships but did not yet have the habit of working together on cross-sectoral issues.

**80. Municipalities' financial and technical capacity to implement the policy reform has also come increasingly under the spotlight.** Municipalities are benefiting from intense capacity-building support provided by the Ministry of Interior as well as the AFD (in municipal finance), GIZ and KFW (in SWM). As the focus of the solid waste management reforms shifts from the initiation stage, focused on large and well-resourced cities to medium sized and smaller LGs, the planning and management of capacity-building activities will become increasingly important. The institutions at regional and local level remain below capacity compared to what is needed to take the program into the next phase, including carrying out inter-communal planning, and DPL3&4 place focus on the overall coherence of sector reform with regionalization of support structures.

**81. Quality of service delivery and involvement of the private sector increased under the DPL program, but more should be done to increase cost-effectiveness and assure funding in the longer term.** While private sector participation as services providers in the MSW sector increased substantially, the capacity building and standard specifications supported by the DPL series have shown their limit in terms of improving cost-effectiveness, and more has to be done in terms of market development. For now, the

major cities have the funds necessary to contract out services, based on revenues from the municipal service tax, but as coverage rates and service standards continue to increase, new sources of funds targeted to MSW should be developed, also by looking at investments by the private sector.

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

### **(a) Borrower/Implementing agencies**

82. The quasi-final version of the ICR was translated into French and shared with the borrower through the MAEG, which communicated it to the relevant ministries. After the review, the MAEG confirmed not having any specific comments on the ICR.

### **(b) Cofinanciers**

83. The project had no cofinanciers.

### **(c) Other partners and stakeholders**

84. The ICR was shared with GIZ for comments. GIZ confirmed their continued support of the SWM sector, were appreciative for the mention of GIZ contributions, and confirmed that they do not have any further comments on the ICR.

## Annex 1. Bank Lending and Implementation Support/Supervision Processes

### (a) Task Team members

<b>Solid Waste Sector DPL - P104937</b>			
<b>Names</b>	<b>Title</b>	<b>Unit</b>	<b>Responsibility/ Specialty</b>
<b>Lending</b>			
Jaafar Sadok Friaa	Senior Environmental Specialist	MNSSD	TTL
Elisabeth Sherwood	Financial Specialist	MNSSD	
Paul Noumba Um	Lead Economist	MNSSD	
Hocine Chalal	Lead Environmental Specialist	MNACS	
Alexander Kremer	Senior Economist	MNSSD	
Rafika Chaouali	Lead Financial Management Specialist	MNACS	
Stefano Paternostro	Lead Country Economist	MNAED	
Khalid Elmessaoui	Senior Economist	MNAED	
Sandra Cointereau	Senior Advisor	FEEU	
Sherif Arif	Lead Environmental Specialist	MNSSD	Consultant
Luc Alain Vervisch	Municipal Finance specialist		Consultant
Andrea Liverani	Social Development Specialist	MNSSD	
Agnes Brigitt Biscaglia	Carbon Finance Specialist	ENVCF	
Sylvie Pittman	Program Assistant	MNSSD	
Laila Moudden	Program Assistant	MNCO1	
<b>Supervision</b>			
Jaafar Sadok Friaa	Senior Environmental Specialist	MNSSD	TTL
Elisabeth Sherwood	Financial Specialist	MNSSD	
Hocine Chalal	Lead Environmental Specialist	MNACS	
Alexander Kremer	Senior Economist		
Andrea Liverani	Social Development Specialist	MNSSD	
Agnes Brigitt Biscaglia	Carbon Finance Specialist	ENVCF	
Sylvie Pittman	Program Assistant	MNSSD	
Sherif Arif	Lead Environmental Specialist	MNSSD	Consultant
<b>ICR</b>			
Jaafar Sadok Friaa	Lead Urban Specialist	MNSSD	TTL
Renaud Peaubelle	Infrastructure Specialist	MNSSD	
Sylvie Pittman	Program Assistant	MNSSD	
Christian Vang Eghoff	Consultant, Urban Development	MNSSD	ICR Primary Author
Alexander Bakalian	Program Coordinator	AFTUW	Peer Reviewer
Jean-Charles Crochet	Senior Transport Economist	AFTTR	Peer Reviewer
Daniel Hoornweg	Lead Urban Specialist	FEUUR	Peer Reviewer

### (a) Task Team members

<b>P119781 - MA-Solid Waste Sector DPL2</b>			
<b>Names</b>	<b>Title</b>	<b>Unit</b>	<b>Responsibility/ Specialty</b>
<b>Lending</b>			
Mokhtar Abdallaoui-Maan	Junior Professional Associate	MNSSD	
Anas Abou El Mikias	Sr. Financial Management Specialist	MNAFM	



Sherif Kamel F. Arif	Consultant	GEF	
Veronique Bishop	Senior Financial Officer	CFPMI	
Wolfgang M. T. Chadab	Senior Finance Officer	CTRLA	
Hocine Chalal	Lead Environmental Specialist	AFTEN	
Sandra Cointreau	Consultant	SASDU	
Jean-Charles De Daruvar	Senior Counsel	LEGEM	
Dominique M. Dietrich	Language Program Assistant	MNSSD	
David C. Freese	Senior Finance Officer	CTRFC	
Alexander Kremer	Country Manager	ECCKG	
Andrea Liverani	Senior Social Development Specialist	MNSSO	
Jose R. Lopez Calix	Lead Country Economist	SASEP	
Pierre Prosper Messali	Senior Financial Management Specialist	MNAFM	
Alaleh Motamedi	Senior Procurement Specialist	OPCPR	
Kanthan Shankar	Manager, Portfolio and Operations	EACNF	
Horacio Cristian Terraza	Sr. Environmental Specialist	LCSEN	
Jaafar Sadok Friaa	Lead Environmental Specialist	MNSSD	TTL
<b>Supervision</b>			
Sherif Kamel F. Arif	Consultant	GEF	
Hocine Chalal	Lead Environmental Specialist	AFTEN	
Rafika Chaouali	Lead Financial Management Specialist	OPCOS	
Jean-Charles De Daruvar	Senior Counsel	LEGEM	
Alexander Kremer	Country Manager	ECCKG	
Andrea Liverani	Senior Social Development Specialist	MNSSO	
Paul Nounba Um	Sector Manager	AFTFW	
Elisabeth Sherwood	Senior Financial Specialist	AFTUW	
Jaafar Sadok Friaa	Lead Environmental Specialist	MNSSD	TTL
Renaud Peubelle	Infrastructure Specialist	MNSSD	
<b>ICR</b>			
Jaafar Sadok Friaa	Lead Urban Specialist	MNSSD	TTL
Renaud Peubelle	Infrastructure Specialist	MNSSD	
Sylvie Pittman	Program Assistant	MNSSD	
Christian Vang Eghoff	Consultant, Urban Development	MNSSD	ICR Primary Author
Alexander Bakalian	Program Coordinator	AFTUW	Peer Reviewer
Jean-Charles Crochet	Senior Transport Economist	AFTTR	Peer Reviewer
Daniel Hoornweg	Lead Urban Specialist	FEUUR	Peer Reviewer

**(b) Staff Time and Cost**

<b>Solid Waste Sector DPL - P104937</b>		
<b>Stage</b>	<b>Staff Time and Cost (Bank Budget Only)</b>	
	<b>No. of staff weeks</b>	<b>US\$ Thousands (including travel and consultant costs)</b>
<b>Lending</b>		
FY07	Not available	11.45
FY08	Not available	212.66
<b>Total:</b>	Not available	224.11
<b>Supervision</b>	0	0.00
<b>Total:</b>	0	0.00

**(b) Staff Time and Cost**

<b>P119781 - MA-Solid Waste Sector DPL2</b>		
<b>Stage</b>	<b>Staff Time and Cost (Bank Budget Only)</b>	
	<b>No. of staff weeks</b>	<b>Thousands (including travel and consultant costs)</b>
<b>Lending</b>		
FY09-12	Not available	326.9
<b>Total:</b>	Not available	326.9
<b>Supervision</b>	0	0.00
<b>Total:</b>	0	0.00

## **Annex 2. Beneficiary Survey Results**

1. No beneficiary survey was carried out. However, an external evaluation of Phase I of the PNDM is ongoing but the results were not available at the time of ICR deadline.

### **Annex 3. Stakeholder Workshop Report and Results**

1. Not applicable.

## **Annex 4. Summary of Borrower's ICR and/or Comments on Draft ICR**

1. The following is a summary of the government contribution to the ICR (in French, 60 pages including annexes), prepared by the Bank Task Team, and with focus on the aspects that complement the main text with additional details on the overall PNDM, supported by DPL1&2, contributions from other donors, and the carbon finance program implemented by the FEC. The government had no particular comments on the Bank ICR, which was translated and shared for comments.

### **Kingdom of Morocco Completion report for the Morocco Household Waste Sector Support Program (May 2012)**

2. The PNDM was supported by the World Bank in its first phase which lasted from 2008 to 2012 through two Solid Waste Sector DPLs. The program aims to support Morocco in the implementation of PNDM through improved financial, environmental and social performance and good governance in the household waste sector.

#### **I. Context, objectives and design**

##### Context of the PNDM

3. Morocco has in recent years implemented a proactive policy management in terms of sustainable development and environmental protection. Since the establishment in 1992 of a ministerial department responsible for the environment, many initiatives have emerged, including relating to professional collection services, cleaning and disposal of household waste. Similarly, the international awareness for better environmental management and conservation is increasingly reflected in Morocco. Political will is expressed at the highest level of state including through the launch of the National Human Development Initiative, the fight against poverty, social development and the Environment and Sustainable Development Charter.

##### *Present situation*

4. Morocco had a population of about 30 million people in 2004 with a natural growth rate of 1.4 percent and 55 percent of the population lived in urban areas. The average production of household waste in urban areas reached about 0.76 kg/capita/day, corresponding to 5.2 million tons, and 1.6 million tons were generated in rural areas (0.3 kg/capita/day). Solid waste management is undoubtedly one of the major environmental problems facing Morocco. Thus, inadequate collection and uncontrolled disposal of waste and the proliferation of uncontrolled landfills and dumps in public lands or waterways contribute to the spread of diseases, landscape degradation and water contamination surface and groundwater. A national program for managing household waste has been developed to improve the environment and the living environment of urban populations.

### *Institutional framework*

5. The sector management shortcomings recognized for some time were mainly due to institutional, legal, managerial and financial constraints, including inadequate legal and institutional framework that limits the efficacy of sector governance, leads to low cost-effectiveness of services and uncertain long-term financial viability of the sector. There was an urgent need for integrated systems and implementation of modernized household waste management to mitigate the economic, environmental and social impacts of existing systems.

### *Government strategy*

6. To remedy these shortcomings, the government has undertaken in recent years a series of actions towards sector reform, including:

- The publication in December 2006 of Law 28-00 on waste management. This law reflects a clear political will to upgrade household waste management in particular.
- Declaration of October 2007 in which the Government placed the issue of solid waste management, and in particular the treatment of household waste, among the priorities of government including support to LGs and assuring environmental protection and sustainable development. This political will was reflected in the establishment, in the Budget Law 2007, of a special fund account entitled '*National Fund for Protection and Enhancement of the Environment*', including specific support to the PNDM.
- In parallel, at the LG level, sustained action was carried out for the improvement and professionalization of waste collection services. Most large and medium cities, including the cities of Rabat, Casablanca, and Tangier, have initiated projects to achieve full professional collection services. In 2007, thanks to the efforts already made, the rate of professionalization had reached 40 percent of the urban population as part of outsourcing contracts to private operators.
- The development, in 2007, jointly by the Ministry of Interior and the Department of the Environment, of the PNDM. This is a program to upgrade the management of household waste by 2020. The total program cost is about MAD 37 billion over 15 years and covering the full collection and disposal chain.

### *Donor support*

7. Morocco has received support from the World Bank for PNDM phase I (2008-2012) through:

- Technical support for framing and operationalizing the PNDM, including review of development objectives and components of PNDM, definition of priorities for technical and financial support and the definition of eligibility criteria and allocation of financial support, development of procedures for implementation and monitoring of PNDM (i.e. organization of technical coordination), ensuring the rational use of financial resources by the PNDM and approval of annual programs of State intervention.
- Support to the development and implementation of a programmatic Clean Development Mechanism (CDM) in the solid waste sector. The Bank has made

available to the Moroccan authorities and especially the FEC, its experience and expertise in carbon finance development through a programmatic approach.

- Two loans (DPL1&2) to support policy development in the waste sector, to ensure improved governance of the household waste sector, promote and support solid waste service management, and improve the management of environmental and social dimensions.
- Piloting a study on poverty and social impacts of the reform of municipal solid waste sector in Morocco (PSIA I).
- The Bank also mobilized a PPIAF grant for financing the study on a strategy of private sector participation in solid waste management in Morocco.

8. Other donors have contributed to the implementation of the PNDM, including:

- German International Cooperation Agency (GIZ) initiated in collaboration with LGs and government departments concerned an important environmental protection and management program (PGPE). The program represents a continuity of the German Technical Cooperation in management and environmental protection in Morocco, supported by the PNDM:
  - Capacity building in SWM.
  - Support for the establishment of integrated and sustainable hazardous waste management.
  - Improving waste management in the Northern Region (Tangier).
  - Support for environmental upgrading of industry, environmental capacity building, and technology transfer at the Prefecture of Mohammedia.
- KFW supports Morocco in:
  - Developing a strategy and management plan for hazardous and special wastes.
  - Piloting analytical work on the identification of options for improving the financial sustainability of the household waste sector.
- JICA supports the commune of Tiznit to upgrade the household waste sector through:
  - Capacity building of LG staff.
  - Implementation of pilot actions.
  - Equipping the municipality with waste management hardware.
- UNDP undertook a series of projects and programs in Morocco in the SWM sector:
  - Assistance to waste pickers.
  - Piloting a PSIA II for the sector.
  - Strengthening of the program 'Partnership with Associations Active in the Field of Environment and Sustainable Development'.

#### Development objective and key indicators of the PNDM

##### *Objective of the PNDM*

9. The PNDM aims to support urban municipalities to:

- Ensure the collection and cleaning of household waste in urban centers and reach a collection rate of 90 percent by 2020 and 100 percent by 2030.
- Establish landfills for the benefit of all urban centers by 2020.
- Rehabilitate and close all existing spontaneous dumpsites by 2020.
- Professionalize the industry both for LGs managing in-house for those who opted for managed services through a public-private partnership.
- Organize and develop the "sorting - recycling - recovery" sector, with pilot screening, reaching a recycling rate of 20 percent by 2020.
- Generalize master plans for household waste management for all prefectures and provinces of the Kingdom.
- Awareness-raising and training of stakeholders on the issue of household waste.

*Objectives of the program supported by the World Bank*

10. The PDO of the DPL program was to support the government in implementing the first phase of the reform program for the household waste sector through improving sector governance, financial, environmental and social performance. Both operations were well implemented, through three components:

1. Improving governance in the sector by means of appropriate legal, regulatory and institutional measures designed to provide a clear framework for the sector.
2. Improving the sustainability of household waste management services by introducing financial mechanisms and incentives for municipalities to support the viability of investments and services.
3. Integration of environmental and social dimensions in planning, execution and implementation of services and investments in the household waste sector.

11. DPL1 supported the main tenets of the reform program, which established the blueprint for the integrated management of waste. The second operation (DPL2) of the reform program was to capitalize on knowledge of the first operation, deepening reforms at central and municipal level.

12. In terms of sector **governance**, actions focused on:

- Promoting consistency and transparency of government actions in the solid waste sector by setting up the CN-PNDM to ensure monitoring and evaluation of the program, definition and adoption by the CN-PNDM of eligibility criteria for the allocation of financial support to local authorities as part of PNDM, establishment of a management unit for PNDM within the Directorate of Water and Sanitation in the Ministry of Interior, and the publication, via the website for improved private sector participation in solid waste sector, of the revised model bidding documents and contracts (adopted by the CN-PNDM) from 2010.
- Ensuring the implementation of Law 28-00 through the national policy on solid waste via the publication of decrees relating to the modalities for preparing Provincial or Prefectural master plans for SWM and administrative procedures and technical requirements for landfills, the establishment and operationalization of



Provincial or Prefectural Commissions charged with examining and validation master plans.

- Improving transparency, competitiveness and accountability for improved private sector participation in solid waste sector, using the revised model bidding documents and contracts (adopted by the CN-PNDM) from 2010.
- Changing public behavior and improving decision making across local government for solid waste services through the development in 2011 of a national communication and public awareness campaign and mobilizing the necessary funding under the PNDM.

13. In terms of **financial sustainability** of SWM services, actions focused on:

- Strengthening the financial capacity of local authorities to meet the financial requirements of the modernized systems of integrated solid waste management. The government committed to allocating a substantial budget to PNDM in the Budget Law, launching a study on the financial sustainability of household waste services, and developing a national CDM in the household waste sector.
- Strengthening the technical capacity of LGs for improved household waste management.

14. Regarding improvement of **environmental and social performance**, government is committed to:

- Upgrading and operationalization of the EIA system at the national and regional levels and publishing in the Official Bulletin the two decrees on the allocation and operation of the National and Regional EIA Committees, and methods for organizing and holding public hearings on projects subject to EIA, the establishment and operationalization of at least three regional EIA committees, and developing a manual of procedures for evaluation and approval of EIAs by the National and Regional Committees.
- Improving the environmental performance of the solid waste sector, with the launch of the project to install at least three new landfills and closing of at least three uncontrolled landfills.
- Improving social performance of the SW sector, through the adoption by the CN-PNDM of a multiannual program for social integration of waste pickers and launch of a first pilot (including a census of waste pickers, and recovery actions for improving working conditions and hygiene), the expansion of social integration program of recovery to all projects supported by the PNDM, and the inclusion of social clauses in the revised model bidding documents and contracts.

## **II. Design and implementation of the PNDM**

### Performance evaluation of the sector reform support program

#### *Implementation of the support program*

15. As part of the sector governance component, the CN-PNDM was established, followed by the definition and adoption by the Commission of the eligibility criteria for allocating financial support to local authorities, the establishment of a PNDM Project Management Unit (PMU) and publication, via the Department of Environment and local government websites, of the eligibility criteria for allocation of financial support as part of PNDM.

16. On the regulatory front, the program saw the publication of regulations implementing Law 28-00 namely the decree on the procedure for preparation of the provincial or prefectural master plan for managing household waste, the Decree on administrative procedures and technical requirements for landfills, as well as the establishment and operationalization of Provincial or Prefectural Commissions examining and validating master plans and the signing of the Joint Ministerial Decision on terms of reference of provincial and prefectural master plans for the management of household waste. Also, a draft joint order of the Ministry of Interior and the Department of Environment defining the characteristics of the geological barrier forming the base layer of the landfill site is being developed. In addition, the CN-PNDM adopted the revised model bidding documents and contracts, and the development of a circular by the Ministry of the Interior instructing local authorities to use these Documents from 2010, and the publication of such documents through the website of local authorities.

17. A national program of communication and public awareness in the waste sector was validated by the CN-PNDM in June 2011.

18. In terms of promoting sustainability of household waste management services, annual appropriations are allocated LGs by the State through the PNDM to strengthen their financial capabilities to meet the costs of management of household waste services. A study on the institutional and financial framework conditions for the management of household waste is being developed to clarify ways of sustaining sources of funding.

19. In addition a program of activities for a national programmatic CDM project is being implemented by the FEC. In order for LGs to reap the financial and environmental benefits of the CDM, the FEC concluded in 2009 a partnership agreement with the World Bank. The FEC thus becomes one of the first signatories to the agreement to participate in the Carbon Partnership Facility of the World Bank, which guarantees long-term marketing of Carbon Emission Reductions on the international carbon market. To this end, the FEC has set up a support mechanism for LGs. This mechanism, developed in partnership with the World Bank according to a programmatic approach and consistent with the PNDM, aims to make the LGs benefit from financial and environmental benefits of landfill biogas capture projects and its promotion of renewable energy. By integrating this system, the LGs will benefit from technical expertise, financial and legal advice, and

other benefits of the program approach, including reduced lead times of CDM projects and the economy of scale in projects and marketing of carbon credits. This system is operational and can accommodate projects of LGs having expressed a desire to develop CDM projects in the solid waste sector. Under this program, Morocco has received a donation of the Carbon Asset Development Facility, amounting to US\$520,000, dedicated exclusively to cover certain costs relating to the expertise required for preparing CDM projects to benefit local communities, including the development of feasibility studies, project documents, and plans for monitoring the production of carbon credits and support the validation and verification of CDM projects.

20. The technical capacity of local authorities is also an important link to sector reform. Thus, a capacity building program is underway and will continue throughout the implementation of PNDM.

21. Regarding improvement of environmental and social performance, should be mentioned the publication of the two decrees on the allocation and operation of the National and Regional EIA Committees, and methods for organizing and holding public hearings on projects subject to EIA. Regional Committees are also established and trained across all regions. A manual of procedures for EIA evaluation and approval by the National and Regional Committees is prepared and circulated.

22. Approaches for improving the social performance of the solid waste sector are being developed through the completed PSIA study, with the final report validated by the CN-PNDM. A multiannual program for social integration of waste pickers will be developed and adopted by the CN-PNDM. A pilot including a census of waste pickers and actions to improve hygiene and work conditions is already being implemented in Oum Azza and others are planned in Casablanca and Agadir. Also, the social aspect is built into all projects supported by the PNDM and related clauses are incorporated in the revised model bidding documents and contracts. Currently, a waste sorting center is established and operational at Oum Azza (Rabat), benefiting scavengers previously operating at the Akreuch landfill. These waste pickers are organized in a cooperative.

#### *Achievements*

23. Since the inception of PNDM in 2008, the "Collection and Cleansing" activity has benefited from support allocated to municipalities to support them with certain ongoing contracts and also stimulate further improvements in SWM, ensuring an improved collection rate in urban areas. The support allocated to LGs from 2008 to end December 2011 for collection and cleaning aggregates to MAD 451 million. Since 2010, LGs use revised model bidding documents and contracts for delegated management of household waste management in the private sector. The support provided has enabled the following improvements, in terms of collecting and cleaning:

- Improving the coverage of the "professionalized" collection in urban areas from 40 percent in 2007 to 66 percent (in terms of population) through 81 operations involving 95 municipalities.

- The annual cost of professional collection has increased from MAD 804 million in 2007 to MAD 1.5 billion in 2011.
- Improving the tonnage collected from 2.1 to 3,890,000 t / year, or a collection rate of about 75 percent of municipal waste.
- Also, environmental performance of the solid waste sector improved through disposal in controlled landfills; bringing today to 30 percent the amount of waste landfilled in a professional manner, a number that should reach about 64 percent with the completion of landfill sites already under construction.

24. The cumulative support granted to municipalities under the PNDM for the realization of landfills and transfer stations amounted to MAD 439 million. This support involved twelve (12) landfills and three transfer stations. Thus, seven landfills have been constructed after the start of PNDM, which has helped increase the tonnage landfilled from 10 percent to 30 percent of the total tonnage produced in urban areas in 2011.

25. In terms of prefectural or provincial master plans for household waste, MAD 93 million has been allocated to local authorities to reach 62 provinces since the start of PNDM. Five master plans have already been developed including the master plan for household waste for Tetouan, supported by the GIZ, and four others developed through a partnership between the Ministry of Interior, the Department of the Environment and regional development agencies. Currently 18 master plans are being developed.

26. The 2011 PNDM action plan foresaw the widespread use of master plans for all other provinces or prefectures, since Law 28-00 on waste management stipulates in Article No. 12 that "Within five (5) years starting the date of publication of this Act, the territory of each prefecture or province must be covered by a prefectural or provincial master plan for the management of household waste." This law was published in the Official Bulletin. No. 5480 of 7 December 2006, which mandates the implementation of provincial or prefectural master plans by the end of 2012.

27. Within the framework of accompanying measures for the success of the PNDM, an envelope of MAD 3 million has been earmarked for the implementation of an outreach and communication program and an envelope of MAD 7.9 million has been earmarked for technical assistance to the PMU and local authorities. Technical assistance to the PMU has been implemented in an effective manner since March 2011.

28. A training program was also implemented, aiming to improve the skills of the participants (LG staff, trainers, etc.) on environmental issues in general and in terms of household and similar waste in particular. During 2011, seven training sessions on household waste master plans and integrated household waste management have been organized for the benefit of 203 officials (top and middle) within 131 municipalities and 36 provinces / prefectures.

29. Further, to improve the social performance of the solid waste industry, the expansion of social integration program of waste pickers has been expanded to all projects supported by the PNDM and the clauses on social aspects were included in the

agreements relating to the implementation of PNDM and the revised model bidding documents and contracts. Thus, these clauses were included in contracts for the discharges of Agadir and Casablanca. The waste pickers of the former discharge of Akreuch, being rehabilitated in Oum Azza, Rabat were organized into a cooperative called "Attawafouk" and integrated into the new sorting center in operation since June 2011. The number beneficiaries is 154.

30. Regarding the CDM program of activities the validation process of the program was launched in September 2010, including the specific projects of the landfills of Oum Azza and Oujda. The validation process of documentation of the program of activities and the specific Oum Azza project is in the final phase and submission by the validator of these documents to the Executive Board for CDM registration is imminent.

31. For other LGs potentially eligible for the CDM, the FEC has compiled a portfolio of potential projects and has begun a campaign of awareness and information on support available to LGs for the preparation of CDM projects and the marketing of carbon credits. Thus, the cities of Moulay Abdelah (El Jadida landfill), Agadir and Rabat (Akreuch landfill) have expressed their desire to benefit from the support of the FEC for the preparation of CDM projects. In response, the FEC, after signing partnership agreements, has begun preparations for the launch of studies on CDM projects on LG landfills. The terms of reference to launch a tender for the selection of an expert CDM consultant was developed and validated, a notice of call for expressions of interest has been issued.

#### Main factors influencing implementation

32. Implementation of the program has experienced a very significant success. Accomplishments have far exceeded the predefined objectives of the program during the identification and project preparation. This success can be explained by:

- The strong will of decision makers to upgrade management of the household waste sector.
- The appropriate institutional framework, particularly the role of the CN-PNDM in monitoring and evaluating the program, the role of the PMU in the daily management of the program and particularly the implication of LGs in upgrading sector performance and the implementation of the decrees to operationalize Law 28-00.
- Technical assistance from the World Bank to define eligibility criteria for government support to LGs, the clear vision of public-private partnerships and use of revised model bidding documents and contracts, incorporating a social clause based on the PSIA study.
- The adoption of a participatory approach with the organization of awareness days on the PNDM to the benefit of all stakeholders.
- Project monitoring by the relevant missions of the World Bank. The project team got involved in an effective manner to help overcome the constraints of the program. The example of the proposed recruitment of experts to strengthen the PMU can be mentioned.

33. Identified risks are the same for both operations:

- The commitment vis-à-vis the reform and implementation capabilities. This risk has been mitigated at the LG level by setting in place capacity building program in the area of household waste management and adequate financial support for sector management at local and national level.
- The inclusion and particularly the social acceptance of reforms by the public and collectors. Integration of the social clause in standard contracts and communication is also very important to support stakeholders' adherence to the reforms.
- The risk that the LGs resist reforms was mitigated by financial support of the state to LGs.

34. The constraints identified for both operations include:

- Skill shortages in the field of waste management at municipal level.
- Choice of landfill sites.
- The cumbersome procedures for the signing of agreements (conventions adopted by the municipal councils).

#### Monitoring and evaluation of the project

35. Indicators were defined to monitor the performance of program implementation. As part of improving governance, indicators focused on:

- The annual action plan and progress reports of PNDM examined and validated by CN-PNDM. Since 2009 annual action plans were reviewed and approved by the CN-PNDM, and progress reports were also adopted by the commission (16 meetings of the CN-PNDM took place during the period 2009-2011).
- The percentage of funding from the state to local governments in accordance with the eligibility criteria adopted should not exceed 30 percent of the cost for each project. For 2008-2011, state support for collection and cleaning reached a 69 percent, and 65.7 percent for the construction and rehabilitation of landfills. Since the adoption of a procedures manual and the arrival of the technical assistants to the PMU in March 2011, the allocation criteria have been respected for all financial support to landfills and for 80 of financial support overall.
- In terms of increased competition in bidding for SWM, the average number of offers by tender is 3.6 (2 to 6) for the collection, and 5.8 (from 3 to 10) for landfills.<sup>6</sup>
- The number of thematic conventions signed between the State and local governments to upgrade their SWM systems reached 11 in 2011.

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<sup>6</sup>Note: The ICR does not include the bids for landfill construction for the evaluation of DPL2 Indicator 4, as there were no tenders for landfill construction prior to the PNDM and hence no comparator baseline.

36. Several indicators on improving household waste management services were monitored, including:

- The number of beneficiaries of local government capacity building: 656 senior and middle managers have benefited from training on the environment in general and in terms of household waste in particular from the period 2008 to 2011. In 2011, 203 managers from 131 municipalities and 36 provinces/prefectures have received training on integrated waste management plans and SWM. The total number of trainings dispensed to LGs reached 333.

37. Regarding the third axis of the support program for the waste sector social and environmental considerations the indicators are:

- The number of environmental impact studies for SWM-related investments evaluated by the National or Regional EIA Committees will reach 25 by 2012. Currently 25 sector-related EIAs have been examined by the National and Regional Committees.
- 30 percent of collected waste was to be deposited in controlled landfills by 2012; this rate is already achieved in 2011 and should reach 64 percent with the completion of landfills under construction.
- 12 open dumpsites should be closed or rehabilitated by 2012. 21 spontaneous dumps have already been rehabilitated in 2011.
- 100-150 waste collectors should enjoy social inclusion initiatives. 154 people on the Akrech landfill which is being rehabilitated (Oum Azza, Rabat) have benefited from social inclusion. 250 collectors operate in the landfill of Casablanca (a sorting platform was constructed for them), 20 waste pickers operate at the Guelmim landfill, and 132 waste pickers operate in the discharge of Agadir (a sorting center is being developed).

38. Verification of indicators was by the CN-PNDM was based on review and validation of relevant documents. In terms of physical projects (landfill construction, rehabilitation and closing of dumps), monitoring was conducted through ministry field supervision. The monitoring results are limited and it is recommended to set up a reporting system to assure permanent feedback from the local level to the PMU. Such a reporting system has now been introduced and data sheets will now be filled out on quarterly basis by the concerned municipalities to inform on the progress of projects. The first data sheets reached the PMU in March 2012. An Excel database was established by the consultants recruited to the PMU. This reporting system will be strengthened, if necessary, and complemented by field visits.

#### Next phase

39. The importance of reforming the SWM sector and the progress made to date has been well appreciated by the Moroccan authorities. Thus, the government requested the continued support of the World Bank to the PNDM for a second phase (2012-2016). This third operation is under preparation. The areas covered by this operation include sector

governance, the long-term sustainability of the sector, control and environmental supervision and development of recycling processes.

### **III. Evaluation of project results**

#### Relevance of objectives, design and implementation

40. The objectives and concept of the household waste sector support program are considered highly relevant to the overall program and the current context in which sustainable development is confirmed as a priority in the new government's program. The high overall relevance of the objectives confirms that the design of the program reflected a correct diagnosis of a development priority which is still relevant.

#### *Rationale for rating overall result*

41. Given the objectives and results achieved during the first phase of the household waste sector support program, the project can be noted satisfactory despite some shortcomings related to delays in the completion of SWM master plans, and the question of institutional and financial sustainability of the sector.

### **IV. Critical analysis of the performance of the Bank and Borrower**

42. The launch of the preparation of the household waste sector support program with the World Bank was based on several consultations and a fruitful dialogue between the departments involved and the Bank. Thus the objectives and program thrusts were already determined at the launch of the program, which facilitated the preparation and execution of the project. Implementation was marked by regular follow-up by the Bank through monitoring and supervision missions, which helped to overcome the constraints in achieving certain activities of the World Bank supported program.

43. As for the Moroccan authorities, the project was well implemented as testified by satisfactory achievements and through regular monitoring by CN-PNDM and the PMU, and especially the coordination of the program with line departments (MoI and MoE).

### **V. Key lessons learned from the design and implementation of the support project**

44. The experience of the household waste sector DPL has been very positive. The success factors include improved sector governance and the creation of synergy between the various stakeholders, the fruitful dialogue between the Bank and the Moroccan authorities, the articulation of the main pillars of the reform (institutional and financial framework), support for local authorities in terms of finances and capacity building, and advocacy/communication around the program.

45. Despite the results achieved during the PNDM Phase I, achievements were not produced at the rate required to fully meet objectives. Minor deficiencies were recorded in the implementation of the program, its objectives, or its relevance:



- Significant delays are accumulated mainly in the implementation of SWM master plans.
- The delay in the study of financial sustainability of solid waste services is also noted. The choice of modality and province for a pilot initiative to test the results of this phase is not yet determined.
- Public access to information on SWM and poor communication on the quality and content of the service have contributed to the limited transparency in sector and service management. This could limit awareness of the program reform efforts.
- The construction of new landfills could potentially cause adverse effects on the environment, making imperative the establishment of a mechanism for environmental control to ensure compliance with norms and standards for environmental protection.
- The target for the rate of recycling and recovery by the PNDM is to reach 20 percent by 2016 with piloting of separation at source. However, the framework to achieve this purpose has not yet been established.
- The assessments carried out highlight three main problems affecting the institutional sustainability of the sector: the project management capacity, the deficiencies in the public-private partnership, and lack of institutional framework for the full SWM chain.

46. These actions will continue through the third operation with a clearer focus on social aspects as part of a pillar focusing on the development of recycling and the professionalization of SWM in line with the advancing regionalization. Also, the actions that have experienced difficulties or delays in their implementation will be taken into account. The new sector reform DPL will also draw lessons regarding the actions related to communication and information about the program, the implementation of the study on financial sustainability of waste services that will be retained, and the issue of environmental control.

47. Moreover, the implementation of new institutional forms are needed to professionalize the management of the sector in line with the new territorial organization and advanced regionalization embodied in the constitutional reform, which could also influence the planning and implementation of the PNDM.

## **Annex 5. Comments of Cofinanciers and Other Partners/Stakeholders**

1. The GIZ received the ICR for comments. The email received in return confirmed the continuation of GIZ contributions to the SWM sector until at least 2015, and hence a continued strong cooperation. The response confirmed that the GIZ has no problems with the ICR, but simply wished to thank the Bank for the mention of the work of GIZ in the SWM sector in Morocco.

## **Annex 6. List of Supporting Documents**

1. The following documents are available in the project file:

- Program Documents DPL1 (including Letter of Development Policy) and DPL2
- Project mission aide-memoires
- Progress Report July 2010
- Loan Agreements DPL1 and 2
- Prior action documentation DPL1 and 2
- PNDM program report including indicator documentation
- KFW-funded study on framework conditions for SWM
- Law 28-00
- PNDM PSIA study
- Workshop report on social consultation on SWM sector reform (December 2009)
- Private sector participation study (three volumes on diagnostic, scenarios and model bidding documents and contracts)
- METAP study
- Government ICR

**MAP**

