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Report No. 36599 - DJ

**PROJECT PAPER**

**FOR A**

**PROPOSED ADDITIONAL FINANCING GRANT**

**IN THE AMOUNT OF SDR 1.4 MILLION**

**(US\$ 2.0 MILLION EQUIVALENT)**

**TO THE REPUBLIC OF DJIBOUTI**

**FOR A FLOOD EMERGENCY REHABILITATION PROJECT**

January 9, 2007

**Sustainable Development  
Middle East and North Africa Region**

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**THE REPUBLIC OF DJIBOUTI**  
**FLOOD EMERGENCY REHABILITATION PROJECT**

**CURRENCY EQUIVALENTS**

Exchange Rate Effective: September 15, 2006

Currency Unit = FDJ (Franc Djiboutien)

FDJ 1 = US\$0.00563

US\$1.00 = FDj 177.77

**WEIGHTS AND MEASURES**

Metric System

**FISCAL YEAR**

January 1 - December 31

**ABBREVIATIONS AND ACRONYMS**

ADETIP	Agence Djiboutienne d'Exécution des Travaux Publics
AfDB	African Development Bank
CQ	Consultant's Qualifications
DAI	Direction de l'Assainissement et des Infrastructures, MoH
DE	Direction de l'Équipement, Ministère des Travaux Publics
EDD	Electricité de Djibouti
FERP	Flood Emergency Rehabilitation Project
GDP	Gross Domestic Product
IAs	Implementing Agencies
ICB	International Competitive Bidding
IDA	International Development Association
MoA	Ministry of Agriculture, Livestock and Sea
MoC	Ministry of Communications
MoE	Ministry of Education
MoF	Ministry of Finance
MoH	Ministry of Housing, Urbanism, Environment and Territorial Planning
MoI	Ministry of Interior and Decentralization
MoTE	Ministry of Transport and Equipment
NCB	National Competitive Bidding
ONED	Office National des Eaux de Djibouti
PCR	Project Completion Report
PIUs	Project Implementation Units
PPAR	Project Performance Audit Report
SDR	Special Drawing Rights

Vice President:	Daniela Gressani
Country Director:	Emmanuel Mbi
Sector Director/Manager:	Inger Andersen/ Hedi Larbi
Task Team Leader:	Anthony G. Bigio

**THE REPUBLIC OF DJIBOUTI  
FLOOD EMERGENCY REHABILITATION PROJECT**

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**THE REPUBLIC OF DJIBOUTI  
FLOOD EMERGENCY REHABILITATION PROJECT**

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**PROJECT PAPER DATA SHEET**

Date: September 15, 2006 Country: Djibouti Project Name: Flood Emergency Rehabilitation Project (Supplemental) Project ID: P101454	Team Leader: Anthony G. Bigio Sector Director: Inger Andersen Sector Manager: Hedi Larbi Country Director: Emmanuel Mbi Environmental Category: B				
Borrower: Republic of Djibouti Responsible agency: ADETIP (Agence Djiboutienne d'Exécution des Travaux d'Intérêt Public)					
Revised estimated disbursements (Bank FY/US\$m)					
FY	05	06	07	08	09
Annual	0.85	2.15	2.0	2.5	0.96
Cumulative		3.00	5.0	7.5	8.46
Current closing date: September 30, 2007 (as per standing Financing Agreement) Revised closing date: September 30, 2008 (as per proposed Grant)					
Does the restructured or scaled-up project require any exceptions from Bank policies? Have these been approved by Bank management? Is approval for any policy exception sought from the Board?				<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> No	
Does the scaled-up or restructured project trigger any new safeguard policies? O.P. 4.12 Involuntary Resettlement					
For Additional Financing					
<input type="checkbox"/> Loan <input type="checkbox"/> Credit <input checked="" type="checkbox"/> Grant For Loans/Credits/Grants: Total Bank financing (US\$m.): 2.0					
Financing Plan (US\$m.)					
Source	Local	Foreign	Total		
Borrower					
IBRD/IDA		2.0	2.0		
Others					
Total		2.0	2.0		

**THE REPUBLIC OF DJIBOUTI**  
**FLOOD EMERGENCY REHABILITATION PROJECT**

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**I. Introduction**

1. This Project Paper seeks the approval of the Executive Directors to provide an additional grant of SDR 1,400,000 (US\$ 2.0 million equivalent) to the Republic of Djibouti for the Flood Emergency Rehabilitation Project (FERP), P089968, Credit 3977-DJI and Grant H-123-DJI.
2. The proposed additional grant would help finance the costs overruns associated with the reconstruction of the Ambouli Dike (the main infrastructure to protect the city of Djibouti from further floods) and of some of the roads damaged by the floods, and the related project management fees of the implementing agency.
3. Because of the emergency nature of the FERP, the technical design and specifications of the dike were prepared after appraisal, and the updated estimated cost for its reconstruction has increased significantly. Estimates for the road rehabilitation works have also increased, mainly because of the increasing oil prices, which contribute significantly to the construction costs. About half of the roads damaged by the floods and included in the Project's original scope of work would not be rehabilitated under the project because of estimated cost overruns.

**II. Background and Rationale for Additional Financing in the amount of US\$2.0m**

4. Djibouti's natural environment is prone to catastrophic events, ranging from recurring floods due to the proximity to the Ethiopian highlands and the lack of watershed management, to periodic draughts that exacerbate the permanent water scarcity. Major flooding in particular has a cyclical nature, with an average recurrence of ten years. As the capital city of Djibouti is built around the estuary delta of the Oued Ambouli and much of it on reclaimed land, it is particularly vulnerable to such recurring episodes.
5. After the latest, devastating floods of April 11-13, 2004 hit the city, the World Bank fielded an urgent identification-appraisal mission in June 2004 which took stock of the damages and through consultations with the various public departments agreed on the key objectives for an emergency rehabilitation operation. This was rapidly prepared and approved by the Board of Directors on September 2, 2004. The Djibouti Flood Emergency Rehabilitation Project (FERP) Financial Agreement was signed on October 2, 2004 for a total amount of US\$ 6.46m equivalent, with a credit component of US\$ 3.23m equivalent, and a grant component of US\$ 3.23m equivalent. The project became effective on January 25, 2005, although its implementation by Government and ADETIP already started in November 2004.
6. The development objective of the FERP is to carry out the rehabilitation and recovery of the economic and social assets damaged by the April 2004 floods. The FERP project also aims to improve living conditions in the resettlement zone to which government is

7. relocating the families whose housing in the flood-prone area have been destroyed, through delivery of basic infrastructure services. Finally, the FERP plans to build the capacity for long-term disaster prevention and management, and support employment generation for the low-income population, especially from the affected areas, through reliance, where feasible, on labor intensive works.

8. The rationale for the additional financing is related to the critical importance of the Ambouli Dike for the protection against future floods of the city as a whole, of human lives, and of social and economic assets, and of the road network within the city for the good functioning of local economic activities. The project comprises the following four components, of which the first and the last would benefit from the additional financing:

- (i) Rehabilitation of economic and social infrastructure, as follows:
  - a) Rehabilitation of flood protection structures: including 1) rebuilding the destroyed flood protection dike protecting the Ambouli quarter; and 2) rehabilitating/widening stretches of the Oued riverbed near Ambouli quarter that have been narrowed as a result of sedimentation and encroachments;
  - b) Rehabilitation of roads and drainage infrastructure: including 1) reconstruction and repairs to the segments of the inner-city roads that were destroyed or partially damaged as a result of the floods; 2) reconstruction and repairs to the segments of the regional/inter-city highways that were destroyed or partially damaged as a result of the floods; and 3) repairing and cleaning up the storm-water drainage channels that were damaged and/or clogged in the aftermath of the floods;
  - c) Rehabilitation of schools: including replacement of damaged furniture, equipment and teaching material damaged by the floods;
  - d) Rehabilitation of health centers: including 1) repair of physical damages to buildings; and 2) replacement of damaged furniture and medical equipment; and
  - e) Rehabilitation of water supply infrastructure: including 1) purchase of spare parts and products needed to replace damaged critical components of the water production and distribution systems, and 2) purchase of spare parts and products needed to provide urgent O&M activities, such as the chlorination of water, the repair of leaks, etc.
- (ii) Delivery of basic infrastructure services to the resettlement zone in PK12: including: 1) providing basic access to potable water through the delivery of several appropriately located public standpipes; 2) the construction of pit latrines for the houses of the resettled population to improve sanitary conditions.
- (iii) Technical assistance and consultancy services for disaster prevention and management in the short and long-term: including a) consultancy services for the supervision of rehabilitation activities, and b) training and capacity building of the

“Disaster Management Unit,” a newly established yet poorly equipped department under the Ministry of Interior whose mandate encompasses the important tasks of preventive and curative disaster management efforts.

- (iv) Project management and implementation assistance: Implementing agency ADETIP will be remunerated for project management.

9. As of September 2006, the implementation of the FERP is progressing satisfactorily and the project is progressing towards its stated development objectives, and the full amount of the Grant component has been already disbursed. The good performance of the project so far is a sound basis to assume that the additional financing would be invested effectively to achieve the project’s stated goals.

10. Many reconstruction activities have already been completed (schools, health care centers), and all supplies and equipment for the water infrastructure have been delivered. The two damaged bridges on the inter-city highways and the storm-water drainage channels have been repaired, while the reconstruction of three inner-city roads is on-going. Efforts by Government to provide compensation and accommodation to the victims of the April 2004 floods are on-going, with construction of housing units and of community facilities (under separate financing) in the resettlement area of PK12 and the construction of pit latrines and of standpipes under the project.

11. The studies for the creation of a national disaster management department have been carried out, and support for its organization is on-going. Socio-economic, resettlement, environmental and engineering studies have been also carried out for the reconstruction of the Ambouli Dike, the main infrastructure to be rehabilitated under the project.

12. Procurement of goods and services and financial management have been monitored closely by the project team, via the periodic and regular supervision of related activities by specialized team members. Procurement has been consistently rated as Satisfactory, and International Competitive Bidding, as stipulated in the project’s procurement plan, would apply to all works to be carried out under the Additional Financing. Financial Management has been rated as Moderately Satisfactory, primarily on account of delays in the submission of financial quarterly reports to IDA certified by the Auditor. Credit covenants have been so far complied with, and as stipulated in the Financial Agreement, an accountant who is fully dedicated to the project has been hired by the implementing agency. The 2005 audit report by the independent Auditor certified the financial statements of the project with no reserves.

### **III. Proposed Changes**

13. The project’s development objective, design and scope would remain substantially unchanged. The reconstruction of the Ambouli Dike had been included in the project description and financing as of appraisal, as well as the rehabilitation of the urban roads that would require additional financing.

14. The Government has approved an integrated watershed management scheme for the entire Oued Ambouli that is based on : a) the reconstruction and core strengthening of the Ambouli Dike for a total length of approximately 2.2 kilometers as the main infrastructure to protect the city against future floods; b) the construction of a multi-purpose dam upstream from the city in the site of Nagad and of a spill-over canal on the Oued Douda; c) the management of the upstream Ambouli watershed via multiple small rural water retention dikes; and d) the installation of a flood alert system.

15. Given the fact that the design and construction of the multi-purpose dam, to be financed by the European Commission, might take a few years to be completed, the Government has expressed the request to IDA in November 2005 for the Ambouli Dike to be designed and rebuilt so as to withhold a possible water flow of up to 1,500 cubic meters per second. This would protect the city against flood levels that have historically occurred every eighty years, and thus the reconstruction of the Ambouli Dike would fully meet the project's development objectives.

16. Feasibility studies have shown that the widening or dredging of the Ambouli Oued riverbed would have negative social impacts on the livelihoods of the populations employed in the vegetable gardens located in the river bed itself, and negative environmental impacts on this unique green zone in the midst of an otherwise very dry and barren city. Consequently, this sub-component of the project has been dropped, with the exception of the dredging around the main bridge at the down-stream end of the Dike, to ensure an appropriate flow of water through all of its openings in the eventuality of a flood. On the other hand, the detailed engineering design of the dike reconstruction foresees the construction of solid core reinforcements, or "spikes", to increase the resistance of the structure to flood water pressure, which will be integrated in the main body of the dike.

17. The three roads to be still rehabilitated under the project are the Airport Road, that connects the city to this important international transport facility, and two other roads located in the industrial part of the city, critical to the movement of goods and the provision of services.

18. On account of the additional financing proposed, which corresponds to about 30 percent of the original project financing, and in view of the complexity of the infrastructure works to be still carried out, the project closing date would be revised from September 30, 2007 to September 30, 2008.

#### **IV. Consistency with CAS**

19. The flood Emergency Rehabilitation Project is part of the CAS-supported operations that are aligned with the PRSP pillar of human resource development and poverty alleviation, and is explicitly mentioned in the CAS approved on March 1, 2005 under C3 "providing support to the poor victims of the flood". Reconstructing the key social and

20. economic infrastructure of the capital city damaged by the April 2004 floods as well as improving the country's preparedness for disaster prevention and management, are considered part of the Government's efforts aimed at human resource development and poverty alleviation. Therefore the proposed Additional Financing is fully consistent with the CAS.

## V. Economic Analysis of Financing Gap

21. At appraisal, the costs for the reconstruction of the Ambouli Dike had been calculated by the IDA mission in consultation with the responsible departments of the Ministry of Public Works, on the basis of average construction costs current in Djibouti in 2004. The figures of US\$ 750,000 and of US\$ 400,000 had been established for the reconstruction of the Ambouli dike and for the widening and dredging of the river-bed, respectively, for a total of US\$ 1,150,000 for these two sub-components.

22. The detailed engineering design of the works for the reconstruction of the dike, completed in June 2006, sets instead the cost at US\$ 2,050,000 for the dike itself, and at US\$ 450,000 for the "spikes", for a total of US\$ 2,500,000. These higher construction costs also take into account the higher dike levels requested by Government in November 2005. There is no allocation for the dredging of the river-bed, which has been dropped. The financing gap on this sub-component is therefore of US\$ 1,350,000.

23. The original appraisal estimate for the rehabilitation of the seven urban roads was approximately of US\$ 1,750,000. A first contract for the rehabilitation of three roads has been awarded for an amount of US\$ 1,800,000. A fourth road has been financed by the European Commission, and thus excluded from the project's scope of work. For the three more roads to be rehabilitated under the project, based on the construction costs resulting from the ICB tender, the estimate is of US\$ 600,000, and the cost overrun for the full implementation of this sub-component is therefore of US\$ 650,000.

24. These cost overrun estimates include the project management fees to be paid to ADETIP, the implementing agency, in the order of 6 percent of commitments, as per the Memorandum of Understanding signed between the Government and ADETIP in August 2004, and reflected in the Project Agreement between ADETIP and the International Development Association, signed on October 2, 2004.

Project sub-components	Appraisal estimate	Current estimate	Financing gap
<b>Reconstruction Ambouli Dike</b>			
• Main body of dike	750,000	2,050,000	
• Riverbed dredging	400,000		
• Reinforcement spikes		450,000	
<i>Sub-total</i>	1,150,000	2,500,000	1,350,000
<b>Reconstruction of urban roads</b>			

• First set of roads	950,000	1,800,000	
• Bvd. de Gaulle	430,000		
• Second set of roads	370,000	600,000	
<i>Sub-total</i>	1,750,000	2,400,000	650,000
<b>TOTAL FINANCING GAP</b>			<b>US\$ 2,000,000</b>

25. A request for additional financing to compensate for these gaps was submitted by the Government in November 2005, for an amount of US\$ 1.5m. The subsequent preparation of the detailed engineering studies has further increased the estimate of the dike reconstruction costs. The overall cost overrun and financing gap have now been established at US\$ 2.0m, which is the amount of the requested Additional Financing.

26. Given the emergency nature of the project, no economic analysis had been carried out at appraisal of the FERP, or of its individual components. However, it should be noted that the additional financing being considered is less than 20 percent of the estimated damages incurred on account of the April 2004 floods as calculated by the Government (over \$ 10m). Given the 10-year cyclical recurrence of the floods in the absence of a flood protection structure, it is estimated that the value of the additional financing is equal to the economic losses that would be incurred in the city over a period of two years.

## **VI. Expected Outcomes**

27. The work to be carried out with the additional financing would enable the project to fully meet its development objectives. In view of the ability of the future Ambouli Dike to protect the city against flooding for many decades, the protection of the city's social and economic assets would be assured. The rehabilitation of the three roads would complete the rehabilitation of the social and economic infrastructure that had been evaluated as critical to the well-being of the city at appraisal. The same indicators as established at appraisal would be used to measure the outcomes of the project.

## **VII. Benefits and Risks**

28. The benefits of the additional financing of the project would be the ones of enabling it to complete the full reconstruction of the Ambouli Dike, thus providing appropriate protection against future floods, and of the urban roads critical for the life of the city. Given the emergency nature of the operation, which was processed under OP 8.50 (Emergency Recovery Assistance) and the need of a rapid intervention, an Environmental Assessment as well as the determination of the applicability of OP 4.12 (Involuntary Resettlement) were not undertaken prior to Board presentation. In accordance with OP 4.01 section 13 on emergency recovery projects, a waiver to this effect was approved on July 2, 2004 by the Managing Director. An ISDS with the description of the potential environmental and social impacts, to be eventually identified and addressed during project implementation, was filed in July 2004 prior to Board presentation.

29. As the flood Emergency Rehabilitation Project is primarily geared towards the rehabilitation of existing social and economic infrastructure, its negative environmental and social impacts are considered by definition minimal. Some general project risks and mitigation measures had been identified during appraisal of the FERP, and have been described in the related MOP. There are no envisaged negative environmental impacts related to the rehabilitation of the roads.

30. Specific environmental and social risks and mitigation measures related to the reconstruction of the Ambouli Dike have on the other hand been detailed in an Environmental Management Plan and in a Resettlement Action Plan submitted by the Borrower to IDA in July 2006. These documents have been reviewed for compliance with O.P. 4.01 on Environmental Assessment and with O.P 4.12 on Involuntary Resettlement, and have been considered fully satisfactory by the Regional Safeguards Team in July and September 2006. The most significant risks and mitigation measures are the following:

- a) The relocation of the households living on the river-bank: 127 households have been found to be living within the area of the dike with no title or land occupancy permits. They will be moved to the PK12 neighborhood as per the Resettlement Action Plan submitted by the Government to IDA. The document has been reviewed for its full compliance with O.P. 4.12 on Involuntary Resettlement and approved by the MNA Social Safeguards Team which found the document to be of very high quality.
- b) The possible impact of the floods on the opposite (left) river-bank: given that the right bank will be fully protected against a possible flood by the dike, waters would further invade the left bank, which is largely uninhabited. As mitigation measures, dredging will take place in proximity of the openings of the concrete bridge downstream from the dike, and a flood alarm system will be put in place, under separate financing.
- c) The possible floods during the reconstruction of the Ambouli Dike: the critical time of the year for flash-floods in Djibouti is the month of April. As the reconstruction of the dike will be taking place over the full course of calendar 2007, a provisional alert system will be put in place and operated by the Contractor so as to be able to alert the population in the eventuality of a flash-flood while the construction of the dike is on-going.
- d) The lack of maintenance over time which could weaken the Dike: water erosion and the impact of vehicles, cattle and people could weaken the surface of the dike and its resistance to water erosion. As mitigation measures, the dike design includes a stone surface layer; specific passage-ways have been included for vehicle, animal and human transit; and periodic maintenance will be carried out by responsible Government departments, which have committed to this function.

**VIII. Project Team**

Task Team Leader	Anthony G. Bigio, Sr. Urban Specialist, MNSIF
Hydraulics Engineer	Edouard Motte, Consultant, MNSIF
Social Safeguards	Yvette Djachechi, Sr. Social Development Spec., AFTS3
Legal	Kishor Uprety, Sr. Counsel, LEGMS
Procurement	Abdulgabbar Al Qattab, Procurement Specialist, MNAPR
Disbursement	Hassine Hedda, Finance Analyst, LOAG2
Financial Management	Mohamed Mehdi, Consultant, MNAFM
Team Assistance	Natasha Hafez, Team Assistant, MNSIF

