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Currency Equivalents
March 2014

UA 1 = USD 1.547
UA 1 = EUR 1.120
UA 1 = CFAF 734.835

Fiscal Year
1 January - 31 December

ACRONYMS AND ABBREVIATIONS

AADT          Annual Average Daily Traffic
ABEDA         Arab Bank for Economic Development in Africa
ADF           African Development Fund
AFD           French Development Agency
AfDB          African Development Bank
AGER          Road Maintenance Agency
BDEAC         Development Bank of Central African States
CEN-SAD       Community of Sahelo-Saharan States
COJO          Bid Evaluation Board
CSP           Country Strategy Paper
DD            Detail Design
DGR           Directorate General for Roads
DGTS          Directorate General for Land Transport
ECCAS         Economic Community of Central African States
ESMP          Environmental and Social Management Plan
EU            European Union
FER           Road Maintenance Fund
GRADERT       Road Maintenance and Transport Stakeholders Group
INSEED        National Institute of Statistics and Economic and Demographic Studies
IsDB          Islamic Development Bank
KFAED         Kuwait Fund for Arab Economic Development
LTS           Long Term Strategy of the African Development Bank
MFPW          Multifunctional Platform for Women
MIT           Ministry of Infrastructure and Transport
NEPAD         New Partnership for Africa’s Development
NH            National Highway
OCMP          Public Contracts Control Body
OFID          OPEC Fund for International Development
PIA           Project Impact Area
REC           Regional Economic Community
TFPC          Technical and Financial Partners’ Committee
UA            Unit of Account
USD           United States Dollar
PROJECT INFORMATION

Client Information

Borrower : Republic Of Chad
Project Name : Kyabe - Singako Road Surfacing Project
Location : Moyen Chari and Salamat Regions
Executing Agency : Ministry Of Infrastructure and Transport (MIT)
ADB/WB Projects Monitoring and Coordination Unit (CSCP)

1. Financing Plan

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (in UA million)</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF Grant (Country allocation)</td>
<td>12.846</td>
<td>Grant</td>
</tr>
<tr>
<td>BDEAC</td>
<td>27.208</td>
<td>Loan</td>
</tr>
<tr>
<td>OPEC Fund</td>
<td>8.139</td>
<td>Loan</td>
</tr>
<tr>
<td>GOVERNMENT of CHAD</td>
<td>32.104</td>
<td>Investment Budget</td>
</tr>
<tr>
<td>TOTAL</td>
<td>80.298</td>
<td></td>
</tr>
</tbody>
</table>

2. Key ADF Financial Information

<table>
<thead>
<tr>
<th>Loan/Grant currency</th>
<th>Unit of Account (UA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest type</td>
<td>N/A</td>
</tr>
<tr>
<td>Interest rate margin</td>
<td>N/A</td>
</tr>
<tr>
<td>Service charge for ADF loans</td>
<td>N/A</td>
</tr>
<tr>
<td>Commitment fee for ADF loans</td>
<td>N/A</td>
</tr>
<tr>
<td>Other costs</td>
<td>N/A</td>
</tr>
<tr>
<td>Maturity of ADF loans</td>
<td>N/A</td>
</tr>
<tr>
<td>Grace period and repayment of ADF loans</td>
<td>N/A</td>
</tr>
<tr>
<td>FRR, NPV (baseline scenario)</td>
<td>N/A</td>
</tr>
<tr>
<td>ERR, NPV (baseline scenario)</td>
<td>15.5%, and NPV of CFAF 14.436 billion</td>
</tr>
</tbody>
</table>

3. Duration– Milestones (Expected)

<table>
<thead>
<tr>
<th>Activities</th>
<th>(Month, Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept Note Approval</td>
<td>January 2014</td>
</tr>
<tr>
<td>Project t Approval</td>
<td>June 2014</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>September 2014</td>
</tr>
<tr>
<td>Last Disbursement</td>
<td>June 2019</td>
</tr>
<tr>
<td>Completion</td>
<td>December 2018</td>
</tr>
<tr>
<td>Last Repayment</td>
<td>December 2064</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

1. **Project Overview:** This project concerns the Kyabé-Singako road section which is 72.3 km long and is one of the missing links of the Ndjamena-Moundou-Sarh-Kyabé-Am Timan corridor. This highway forms part of the priority structuring network which the Chadian government is committed to developing to ensure countrywide coverage and all-season accessibility, and it is a link in the Moundou-Sarh-Abeche loop that will connect the southwest to the main town of the centre-east through the rich farmlands of Moyen Chari and Salamat Regions of the south. The project addresses the issue of facilitation of the country’s inland transport system by bringing the territory out of isolation, but also envisages opening the country up to the rest of the Region through neighbouring Sudan. The project includes ancillary works, namely the construction/improvement of feeder roads, the rehabilitation of socio-economic infrastructure and the development of social infrastructure for women. The expected outcomes are: reduction of overall transport costs in this region with high agro-pastoral potential and improvement of the living conditions of its people through increased access to health and educational facilities and to the country’s key consumer centres.

2. The project implementation period is 4 years, for a total estimated cost of UA 80.298 million. The ADF contribution is UA 12.846 million. The other co-financiers are: Development Bank of Central African States (BDEAC): UA 27.208 million; OPEC Fund (OFID): UA 8.139 million; and Republic of Chad: UA 32.104 million. The main beneficiaries are the populations of the three Départements of south-western Chad. Given its regional scope, the project will more generally have positive impacts on the populations in the western parts of Sudan and the Central African Republic.

3. **Needs Assessment:** Development in the high-potential Regions of Moyen Chari and Salamat is constrained by difficulties of access in the wet season during which this area is virtually cut off from the rest of the country. Given the severe degradation of the road serving this area, coupled with its high volume of heavy vehicle traffic, all maintenance and reinforcement operations remain inadequate to ensure an acceptable and continuous service level. With all the maintenance thresholds having been exceeded, development and/or rehabilitation are not only urgent, but are the only possible alternatives. Additionally, as this road project is an extension of the Ndjamena-Moundou-Sarh-Kyabé-Am Timan corridor, its implementation will help maximize the benefits of Bank-financed investment on this corridor, notably the Koumra-Sahr section.

4. **Bank’s Value Added.** The Bank’s value added in the financing of this operation is based on its knowledge of Chad’s Moyen Chari and Salamat Regions and its involvement alongside the other partners in the implementation of the country’s foremost road corridor, namely Ndjamena-Moundou-Sarh-Kyabé-Am Timan. The Bank financed the construction of the Koumra-Sahr road, following in the footsteps of the European Union. With this new operation, the Bank will consolidate the gains of that project and pursue it, to achieve the overall development of the corridor as well as the objectives of the country’s infrastructure development strategy. Lastly, this project will support the provision of Multifunctional Platforms (MFP) for Women through technical assistance from UNDP.
5. **Knowledge Management:** The project will afford an opportunity to improve knowledge on national infrastructure. By establishing the baseline scenario for the key impact indicators prior to its start-up and conducting an impact assessment at its close, this operation will generate useful information on its outcomes and impacts. The study on the diversification of FER sources of income will serve as a reference for many other countries. This knowledge will be fed into the road database of the Ministry of Infrastructure and Transport (MIT). It will be disseminated through the Bank’s website, the annual reports, the completion report and ADF ex-post evaluation, and will also be used to update Chad’s NDP. This database will thus facilitate management of all the knowledge gained throughout the implementation of project activities.
## RESULTS-BASED LOGICAL FRAMEWORK OF THE PROJECT

**Country and Project Name:** Kyabe-Singako Road Surfacing Project in Chad  
**Project Goal:** To improve conditions of transport and movement of persons and goods particularly between Kyabe and Singako, and generally between Sarh and Abéché

<table>
<thead>
<tr>
<th>RESULTS CHAIN</th>
<th>PERFORMANCE INDICATORS</th>
<th>MEANS OF VERIFICATION</th>
<th>RISKS/MITIGATION MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IMPACT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Contribution to Chad’s economic growth through a quantitative and qualitative improvement of transport infrastructure in Moyen Chari Region | 1. Volume of intra-regional trade within the country  
- In 2013: 27%  
- In 2018: 33% | Source: INSEED Statistics; Ministry of Trade | Risks: (i) disruption of activities due to temporary deterioration of the security situation; (ii) resurgence of farmer / grazer conflicts; and (iii) non-compliance with axle load and gross weight requirements  
Mitigation measures: (i) sustained diplomatic efforts undertaken within the African Union (AU), the Arab League, the Community of Sahel-Saharan States (CEN-SAD), (ii) availability of transhumance corridors provided by the Ministry of Livestock; (iii) A programme of progressive installation of axle load checkpoints on the main roads implemented by the country in accordance with relevant regional guidelines. |
| **OUTCOMES**  |                        |                       |                          |
| **Outcome 1:** Overall service level improved on the Sarh-Singako road section | Total traffic on the Sarh/Singako section  
- In 2014: 88 veh/d  
- In 2018: 207 veh/d (a 135% increase) | Source: DGR, INSEED | Risks: (i) disruption of activities due to temporary deterioration of the security situation; (ii) resurgence of farmer / grazer conflicts; and (iii) non-compliance with axle load and gross weight requirements  
Mitigation measures: (i) sustained diplomatic efforts undertaken within the African Union (AU), the Arab League, the Community of Sahel-Saharan States (CEN-SAD), (ii) availability of transhumance corridors provided by the Ministry of Livestock; (iii) A programme of progressive installation of axle load checkpoints on the main roads implemented by the country in accordance with relevant regional guidelines. |
| **Outcome 2:** Mobility and living conditions of PA dwellers improved | Travel time of HV on the Kyabe-Singako section  
- In 2014: 6 hrs  
- In 2018: 1.2 h (an 80% reduction) | Source: INSEED, Ministry of Agriculture | |
| **Output 1:** Road sections developed and put into operation, and implementation of environmental measures | Average Vehicle Operating Cost (VOC) of heavy vehicles  
- In 2014: CFAF 1,838/km  
- In 2018: CFAF 728/km (a 49.7% reduction) | Source: DGR, INSEED | |
| **Output 2:** Ancillary works undertaken and commissioned | Rural access Index  
- In 2014: 5%  
- In 2018: 30% | Source: INSEED, Ministry of Agriculture | |
|               | Jobs created during works  
- In 2014: 0  
- In 2018: 25,000 staff/months, of which 25% for women | Source: DGR, INSEED | |
|               | Length of road asphalted between Kyabe and Singako and environmental actions undertaken  
- In 2014: 0 km and 0 measures  
- In 2018: 7.3 km; 1 ESMP prepared and followed | Source: DGR, Ministry of Environment | Risks: On the part of Chad, lack of timely availability of counterpart funds for implementation of the project.  
Mitigation Measures: Government’s undertaking to fully mobilize its counterpart for the works the country’ experience in implementing projects of the sector is also significant in this regard. |
|               | 1. Number of schools rehabilitated  
2. Number of boreholes drilled  
3. Number of health centres rehabilitated  
4. Feeder roads developed  
5. Number of MFPW constructed  
6. Livestock loading and unloading docks built  
7. carts distributed to women  
- In 2014: 1. Number = 0  
2. Number = 0  
3. Number = 0  
4. Length = 0 km  
5. Number = 0  
6. Number = 0  
7. Number = 0  
- In 2018: 1. 3 schools  
2. 10 boreholes  
3. 2 health outposts  
4. 61.6 km  
5. 12 units  
6. 3 units  
7. 100 units | Source: DGR; Ministry of Education; Ministry of Agriculture; Ministry of Livestock. | |
<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>RESOURCES (UA MILLION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Road Works and Environmental Measures</td>
<td>1. Road works: 62.131</td>
</tr>
<tr>
<td>2. Ancillary Works</td>
<td>3. Ancillary Works: 5.266</td>
</tr>
<tr>
<td>3. Studies</td>
<td>4. Studies: 0.861</td>
</tr>
<tr>
<td>4. Project Management</td>
<td>5. Project Management: 0.925</td>
</tr>
<tr>
<td><strong>Base Costs</strong></td>
<td><strong>Total Project Cost</strong>: 80.298</td>
</tr>
<tr>
<td>Physical Contingencies</td>
<td>6.918</td>
</tr>
<tr>
<td>Financial Contingencies</td>
<td>4.196</td>
</tr>
</tbody>
</table>

**Source of Financings**
- ADF: UA 12.846 million
- BDEAC: UA 27.208 million
- OPEC (OFID): UA 8.139 million
- GVT of Chad: UA 32.104 million

**Output 3**: DD and TD of Sahr-Lasido road available. Study on diversification of FER’s resources conducted and validated.

In 2013:
- DD: 0, CBD: 0

In 2018:
- DD: 1, CBD: 1
- In 2018: 1 Study Report validated

**Source**: DGR
SUMMARY OF PROJECT IMPLEMENTATION SCHEDULE
Management submits this Report and Recommendation concerning a proposed grant of UA 12.846 million to Chad for financing of the Kyabé-Singako Road Asphalting Project.

I. STRATEGIC THRUST AND RATIONALE

1.1 Project Linkages with Country Strategy and Objectives

1.1.1. Chad features among Africa’s most landlocked countries. Besides its distance from the sea, there is also internal isolation due to the poor state of structuring roads, giving rise to problems of mobility within the country, notably in the wet season.

1.1.2. Accordingly, transport infrastructure features among the priority action areas identified in the National Development Plan (NDP) adopted by the Chadian government in 2013, assigning the transport sector a leading role as prime mover for strong and sustained economic growth. The NDP 2013-2015 thus puts a premium on streamlining the management of the link-up corridors that are essential for access of products to international and domestic markets. Indeed, road network improvement has in recent years concerned both the country’s internal structuring network and external access ways and limited mobility of people and goods thus constitutes a major constraint on the country’s development.

1.1.3. As part of its strategy to combat poverty, the Government of Chad has resolutely embarked on a programme of road rehabilitation and general improvement of the transport sector’s performance. This political will is reflected in the 2012 National Transport Strategy and based on the following six objectives: (i) accelerate economic growth and enhance economic competitiveness by expanding networks for opening up to the outside world; (ii) enhance the growth and productivity potential of rural dwellers in a sustainable manner by improving their access to markets and socio-economic services; (iii) further enhance the institutional and human capacity of the administration for effective and efficient management of the sector; (iv) establish a transport infrastructure maintenance strategy by ensuring optimum preservation and safeguard of national road assets; (v) ensure safe transport operations and improve the organization of urban transport; and (vi) curb the environmental impact of transport activities. This project contributes to the implementation of the said strategy through the first two objectives.

1.1.4. Furthermore, the project is consistent with the Bank’s CSP 2010-2014 for Chad through Pillar 2 which is designed to develop basic infrastructure, as well as with the RISP 2011-2015 given that this Bank intervention will achieve one of strategic thrusts of the Consensual Transport Master Plan of the Economic Community of Central African States (ECCAS). Indeed, this road also forms part of Chad’s Sarh-Abeche corridor to Sudan. It does respond to the need for regional integration, with the Bank playing a lead role within the framework of the implementation of NEPAD. Lastly, this project addresses the issue of green growth by implementing a major economic development project while preserving the project impact area’s natural resources.
1.2. Rationale for Bank’s Involvement

1.2.1. The construction of the Kyabé-Singako road section will provide the missing link the Ndjamen-Moundou-Sarh-Kyabé-Singako-AmTiman-Abeche corridor. It constitutes a link in the Moundou-Sarh-Abeche loop that will connect the southwest to the main town of the centre east, running through the fertile farmlands of the Moyen Chari and Salamat Regions in the south. This project addresses the issue of facilitating inland transport, given the landlocked nature of the territory, but also opens the country up to the Region through neighboring Sudan.

1.2.2. The Sarh-Kyabé-Singako-Am Timan-Abeche road forms part of the priority structuring network that the Chadian government is committed to developing to ensure all-season countrywide coverage and accessibility and thus facilitate the conveyance of agricultural surpluses to the rest of the country, especially N’Djamena, and encourage project impact area dwellers to increase production and thereby contribute to improving the country’s food security.

1.2.3. The Moundou-Sarh section was rehabilitated between 2010 and 2013 with the contribution of the EU (Moundou-Doba-Koumra) and the Bank (Koumra-Sarh) respectively. Work is about to start on the Sarh-Kyabé section (102 km) thanks to further funding by the EU, which in 2010 contributed to the conduct of feasibility studies of the Sarh-Kyabé Singako highway, which is approximately 174 km long. Studies on the remaining sections (Singako-Am Timam-Abeche) of this corridor are currently being contracted out with a view to completing the paving of the Sarh-Abeche link.

1.2.4. The Bank is currently one of Chad’s foremost financial partners in the transport sector and its intervention policy in that sector targets the country’s major agricultural production areas. The Bank’s intervention on the Kyabe-Singako section, once again following the EU which is funding the Sarh-Kyabe section, is consistent with its policy of rehabilitation of national roads in the country’s south to access the key areas of agricultural and agro-pastoral production.

1.3. Donor Coordination

1.3.1. Donor interventions are coordinated through the Technical and Financial Partners’ Committee (TFPC), which is chaired by the Bank. It brings together all partners involved in Chads development, both in technical assistance and investment financing, and works with the Directorate General for International Cooperation of the Ministry of Planning and International Cooperation.

1.3.2. In the transport sector specifically, a thematic group has been established, meeting once every quarter under the chairmanship of the EU. The key donors in the sector are: the Bank, Arab Funds, EU, WB and BDEAC. Relations between partners are excellent and joint action is often undertaken. Despite the intervention of TFPs in the transport sector, the lead donor remains the State, which finances, from its own resources, more than half of ongoing projects.

1.3.3. During project identification, preparation and appraisal missions, the Bank team held discussions with the key TFPs in Chad. These discussions helped to harmonize views notably on project components and road maintenance funding. All the partners acknowledged the importance and value of this project, which is fully consistent with the actions of other partners. Under this project, there will be close coordination for joint supervision missions.
### Table 1.1
**Donor Coordination**

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Government (USD million)</th>
<th>Donors</th>
<th>Amount (USD million)</th>
<th>[%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existence of thematic working groups</td>
<td>Yes, the TFPC was established in 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existence of SWAP or global sector programme</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aid coordination level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sources:** MFBI, Chad, 2008 to 2013 Fiscal Table and economic and financial reports of Chad from 2008 to 2013, INSEED, MIT

### II. PROJECT DESCRIPTION

#### 2.1. Project Objectives and Components

2.1.1. At sector level, the project aims to open up Chad’s central and eastern regions for their economic and social development and contribute to poverty alleviation among the local populations.

2.1.2. Its specific objective is to improve the conditions of transport/movement of goods and people between Kyabe and Singako in particular and also between Sarh and Abeche, by developing all-season roads. In so doing, the project will facilitate the conveyance of agricultural and agro-pastoral produce from the rich regions of Moyen Chari and Salamat to consumer centres in Sarh, Moundou, Ndjamen and Abeche and vice versa for manufactured goods.

2.1.3. To achieve the objectives, project activities have been grouped into four components summarized in the table below:
### Table 2.1
**Project Components**

<table>
<thead>
<tr>
<th>No</th>
<th>Component Name</th>
<th>Cost (UA million)</th>
<th>Description</th>
</tr>
</thead>
</table>
| A  | ROAD WORKS          | 62.131            | A.1 - Construction between Kyabé and Singako of a 72.3 km paved road, with double-layer surface dressing and a width of 7m, with 1.5 m shoulders on either side;  
A.2 - Actions and measures to mitigate adverse environmental impacts;  
A.3 - Sensitization on environmental protection, road safety, prevention of AIDS, sexually transmitted diseases and malaria;  
A.4 - Control and supervision of road works. |
| B  | ANCILLARY WORKS     | 5.266             | B.1 – Construction/improvement approximately 61 km of feeder roads;  
B.2 - Construction of 12 Multifunctional platforms (MFPs) for women;  
B.3 - Rehabilitation of 3 schools;  
B.4 - Rehabilitation of 2 health centres;  
B.5 - Construction of 3 livestock loading platforms (ramps);  
B.6 - Drilling of 7 drinking water boreholes;  
B.7 - Supply of 100 carts to women's associations; |
| C  | STUDIES             | 0.861             | C.1 - Feasibility study of the Sarh-Lazio-CAR border road  
C.2 - Study on identifying sustainable sources of revenue to finance road maintenance |
| D  | PROJECT MANAGEMENT  | 0.925             | D.1 - Support to the AfDB /WB Road Projects Monitoring and Coordination Unit (CSCP-BAD/BM);  
D.2 - Monitoring and evaluation of socio-economic and environmental impacts;  
D.3 - Accounting and financial audit of the project;  
D.4 - Technical Audit of the project. |

#### 2.2. Technical Solutions Adopted for Road Works

2.2.1. Road works under this project consist in construction of a 72.3 kilometre surfaced road between the towns of Kyabé and Singako, with 7m wide a pavement and 1.5 m shoulders on either side. The roadway surface dressing will be double-layered, with a base course of crushed gravel 20 cm thick, a roadbase of cement-stabilized clayey or silty sand 25 cm thick, and selected sub-base materials 30 cm thick. The works also include: (i) construction of two truss bridges 30 and 50 meters long respectively over the Minia and Koko streams; (ii) the construction of rest areas; and (ii) construction of a weighing station to check overloading.

2.2.2. Alternative technical solutions were explored notably regarding the roadway structure (base course of cement-stabilized clayey or silty sand, base and sub-base courses of crushed gravel, etc.). After analysis, the aforementioned option was adopted, as it guarantees the sustainability of the facility from a technical perspective. Indeed, proper technical execution will guarantee the road’s longevity.
### Table 2.2

**Alternative Solutions Explored and Reasons for Rejection**

<table>
<thead>
<tr>
<th>Description</th>
<th>Alternative solution</th>
<th>Brief description</th>
<th>Reason for rejection</th>
</tr>
</thead>
</table>
| Kyabé-Singako section            | Base course of cement-enhanced clayey or silty sand | Structure using cement-treated clayey sand materials and designed to render usable soil not meeting the technical requirements for a sub-base | • Lack of selected natural materials in the project vicinity, hence greater transportation distance and higher costs.  
• For pavement design, crushed gravel is often specified as the base course, due to its good physicochemical characteristics. |
| Sub-base of crushed gravel       | Pavement structure with composite crushed gravel aggregate instead of clayey sand. |                                                                 | • High cost of works  
• Cement-enhanced clayey or silty sand is more suitable |

### 2.3 Project Type

The ADF grant will contribute to the construction and rehabilitation of the road and the economic and social infrastructure identified. The grant has been deemed the appropriate instrument for the Bank’s involvement in this investment project.

### 2.4 Project Cost and Financing Arrangements

2.4.1. The cost estimate (excluding taxes and duties) of the Kyabé-Singako road project is UA 80.298 million (CFAF 59.906 billion at the March 2014 rate of UA 1 = CFAF 734.84). The provision for physical contingencies is 10 % of the base cost of works and ancillary works. The provision for financial contingencies is equal to 5.6% of the base cost, plus physical contingencies. This cost has been calculated on the basis of the final DD (May 2011) and recent similar or ongoing contracts.

### Table 2.3

**Summary of Cost Estimate by Project Component**

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>CFAF billion</th>
<th>UA Million</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FE</td>
<td>LC</td>
</tr>
<tr>
<td>1. Road surfacing</td>
<td>35.830</td>
<td>9.827</td>
</tr>
<tr>
<td>2. Ancillary road works</td>
<td>2.006</td>
<td>1.863</td>
</tr>
<tr>
<td>3. Studies</td>
<td>0.453</td>
<td>0.180</td>
</tr>
<tr>
<td>3. Project Management</td>
<td>0.246</td>
<td>0.434</td>
</tr>
<tr>
<td>Base Cost</td>
<td>38.535</td>
<td>12.304</td>
</tr>
<tr>
<td>Physical Contingencies</td>
<td>3.853</td>
<td>1.230</td>
</tr>
<tr>
<td>Financial Contingencies</td>
<td>2.337</td>
<td>0.746</td>
</tr>
<tr>
<td>Total Cost ETCD</td>
<td>44.726</td>
<td>14.281</td>
</tr>
</tbody>
</table>
2.4.2. The project will be jointly financed by the ADF, BDEAC, the OPEC Fund and the Government. The ADF grant, of a total amount of UA 12.846 million, represents 16% of the total cost ETCD of the project. The Government’s contribution is UA 32.104 million or 39.98%. The financing plan (by source) of the project is shown in the following Table 2.5:

### Table 2.5
Summary of Project Cost by Source of Financing

<table>
<thead>
<tr>
<th>Source of financing</th>
<th>FE UA Million</th>
<th>LC UA Million</th>
<th>Total UA Million</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>9.241</td>
<td>3.606</td>
<td>12.846</td>
<td>16.00%</td>
</tr>
<tr>
<td>BDEAC</td>
<td>19.831</td>
<td>7.377</td>
<td>27.208</td>
<td>33.88%</td>
</tr>
<tr>
<td>OPEC</td>
<td>6.511</td>
<td>1.628</td>
<td>8.139</td>
<td>10.14%</td>
</tr>
<tr>
<td>CHAD</td>
<td>25.281</td>
<td>6.823</td>
<td>32.104</td>
<td>39.98%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>60.864</strong></td>
<td><strong>19.434</strong></td>
<td><strong>80.298</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

### Table 2.6
Summary of Component Financing by Source of Financing

<table>
<thead>
<tr>
<th>Components</th>
<th>ADF</th>
<th>BDEAC</th>
<th>State of Chad</th>
<th>OPEC</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Road Works</td>
<td>8 685 868</td>
<td>77 170</td>
<td>27 309 726</td>
<td>7 012 553</td>
<td>92 131 322</td>
</tr>
<tr>
<td>2 Ancillary works</td>
<td>1 257 963</td>
<td>3 793 107</td>
<td>214 465</td>
<td>4 07.0%</td>
<td>5 265 536</td>
</tr>
<tr>
<td>3 Studies</td>
<td>861 072</td>
<td>100%</td>
<td>136 084</td>
<td>15.00%</td>
<td>925 372</td>
</tr>
<tr>
<td>4 Project Management</td>
<td>263 323</td>
<td>525 965</td>
<td>136 084</td>
<td>15.00%</td>
<td>925 372</td>
</tr>
<tr>
<td>5 Total base cost</td>
<td>11 068 225</td>
<td>2 344 225</td>
<td>27 660 275</td>
<td>7 012 553</td>
<td>6 183 300</td>
</tr>
<tr>
<td>6 Physical contingencies</td>
<td>1 106 823</td>
<td>2 766 028</td>
<td>701 255</td>
<td>12.00%</td>
<td>6 918 330</td>
</tr>
<tr>
<td>7 Financial contingencies</td>
<td>671 346</td>
<td>1 677 740</td>
<td>425 348</td>
<td>12.00%</td>
<td>4 196 328</td>
</tr>
<tr>
<td>8 Total cost</td>
<td>12 846 393</td>
<td>32 104 043</td>
<td>8 139 156</td>
<td>10.14%</td>
<td>82 297 958</td>
</tr>
</tbody>
</table>
Table 2.7
Expenditure Schedule by Source of Financing

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>3.753</td>
<td>6.473</td>
<td>2.597</td>
<td>0.024</td>
<td>12.846</td>
</tr>
<tr>
<td>BDEAC</td>
<td>7.948</td>
<td>13.710</td>
<td>5.499</td>
<td>0.051</td>
<td>27.208</td>
</tr>
<tr>
<td>OPEC</td>
<td>2.378</td>
<td>4.101</td>
<td>1.645</td>
<td>0.015</td>
<td>8.139</td>
</tr>
<tr>
<td>Government of Chad</td>
<td>9.378</td>
<td>16.177</td>
<td>6.489</td>
<td>0.060</td>
<td>32.104</td>
</tr>
<tr>
<td>Total ETCD</td>
<td>23.456</td>
<td>40.463</td>
<td>16.230</td>
<td>0.15</td>
<td>80.298</td>
</tr>
<tr>
<td>% of Total Cost</td>
<td>29.21%</td>
<td>50.39%</td>
<td>20.21%</td>
<td>0.19%</td>
<td>100%</td>
</tr>
</tbody>
</table>

2.5. **Project Target Area and Beneficiaries**

2.5.1 Moyen-Chari Region is the expanded project area. The 72.3 km highway to be constructed between Kyabé and Singako is located in the Département of Lac Iro and traverses 16 communities of three cantons (Kyabé, Koskobo and Singako), which thus constitute the immediate project impact area. This highway forms part of the Sarh-Hellibongo-Kyabé-Singako road connecting Sarh to Abeche. It is an earth road that is hardly passable in the wet season. Some sections are in the state of a track (or trail) and are impassable during the rainy season. The population of the Département of Lac Iro is estimated at 173,822, with 50.60% women.

2.5.2. The project area’s economy is based mainly on agriculture and livestock (over 80% of the population). Cattle rearing is predominantly transhumant. Transhumant herds are concentrated in this area that is often witnesses conflicts between sedentary farmers and nomadic herders. The PIA is home to the largest livestock market in the area. It is located in Roro and is attended by traders from Nigeria, Cameroon, the Central African Republic and Sudan. But this market is cut off and particularly difficult to reach in the wet season, due to the poor state of access roads. That explains the rehabilitation of 61.6 km of access tracks under this project. The final choice of feeder roads to be developed was made jointly with the populations and the decentralized administrative services at the appraisal stage.

2.5.3. Awareness campaigns will be conducted with the support of local NGOs in the project area. Such campaigns will focus on issues such as HIV/AIDS, environmental protection and road safety. Also, IEC campaigns will be organized for women by the same NGOs. Specific topics will be agreed with leaders of women’s organizations in relation to their activities.

2.6. **Participatory Approach during Project Identification, Design and Implementation, including Active Private Sector Involvement**

2.6.1. The participatory approach was given special focus both during the DD studies and the environmental and social assessment for preparation and appraisal missions. The participatory sessions organized in Sahr, Kyabé and Singako (main administrative centres of the region) were massively attended by PIA dwellers. Over 500 people, including almost 60% women took part in the meetings organized. Local elected officials, religious, political and administrative authorities and the populations, including youth and women’s associations were consulted to better identify environmental and social issues, so as to achieve sustainable development objectives associated with the project. Working sessions were also held with representatives of other development partners in Chad. These were opportunities to share with them the findings of the different missions and seek synergies based on the activities and experiences. UNDP came to be involved in the implementation of specific activities for women, notably Multifunctional Platforms (MFP) for their economic empowerment.
2.6.2. Consultations with these stakeholders were mainly designed to: (i) present the road construction project; (ii) identify the direct beneficiaries and determine the knock-on effects to their advantage; (iii) determine, in consultation with NGOs, women's associations, village communities of the project area as well as other stakeholders, the ancillary works to be included in the project. The needs and expectations expressed and relating to this project concern mainly the rehabilitation of feeder roads and primary schools, construction of the Multifunctional Platform for Women’s empowerment, providing carts for transporting farm produce and providing agricultural processing equipment. The participatory approach will be continued throughout project implementation, notably at project activity coordination meetings, and in the monitoring and evaluation of the project’s socio-economic impact assessment and the monitoring of the implementation of environmental impact mitigation measures.

2.7. Bank Group Experience and Lessons Reflected in Project Design

2.7.1. Since 1968 when the Bank began its operations, it has participated in financing 9 transport sector operations (including multinational) in Chad, for a total amount of approximately UA 148 million, representing 24% of all Bank operations in the country. Bank-financed projects have contributed significantly towards improving mobility and access to basic services for the bulk of the country’s population, and fostering regional integration which is crucial to socio-economic development.

2.7.2. As at 31 March 2014, the Bank’s active portfolio in Chad, all operations included, comprised 17 projects for total net commitment of UA 166.669 million. The transport sector is prominent, representing 44 % of the public operations portfolio. The performance of transport sector projects is deemed satisfactory, judging from the progress recorded in road infrastructure works of ongoing programmes. The same applies to overall portfolio performance which has been satisfactory since 2009, with an at-risk project rate of 17.65 % in March 2014.

2.7.3. Over the past five years, the Bank has financed multinational projects with other donors: The Trans-Sahara Highway Project (TSH) is 16.4% ADF-funded (UAM 41.30), with 63.2% from other donors (IsDB, BDEAC, ABEDA, OFID, SDF, and KFAED) and 19.4% by the national counterpart contribution. The transport facilitation Programme on the Douala-Bangui and Douala-Ndjamena corridors is financed by the ADF, European Union and World Bank. In the transport sector, the only ongoing project is the Koumra-Sahr project whose completion is scheduled for 30/10/2015.

2.7.4. The performance of transport sector projects is satisfactory given the progress noted in road infrastructure works, but also due to the fact that all road programmes are coordinated by a single Bank-World Bank joint unit whose capacity is regularly enhanced.

2.7.5. The key constraints and generic problems affecting the implementation of transport projects include: (i) delays in goods, works and services procurement procedures; (ii) unrealistic project implementation schedules; (iii) cost overruns; (iv) poor quality of preliminary studies; (v) compensation funding; and (vi) the numerous loan conditionalities.

2.7.6. The design of this project reflects lessons from previous Bank interventions in general and particularly those in the road sub-sector, mainly through project completion reports. Indeed, the various problems encountered in completed or ongoing road projects in Chad, yielded a number of lessons for this project. Also, various suggestions were made to: (i) improve the Technical Requirements; (ii) improve the Terms of Reference of the Road Works
Control and Supervision Mission; (iii) improve the Terms of Reference for Consultants responsible for technical studies; (iv) adapt the system for monitoring related socio-economic infrastructure; and (v) adapt the monitoring mechanism of the Project Owner and Prime Contractor.

2.7.7. Other arrangements included under this project are: (i) limiting the number of Grant conditionalities and defining them explicitly to avoid extensive start-up delays; (ii) close monitoring of the budget of the national counterpart contribution; (iii) use of Advance Procurement Action (APA) to minimize procurement delays.

2.8. **Key Performance Indicators**

The key project performance indicators and expected outcomes identified are those featuring in the logical framework with deadlines. The core sector indicators (CSI) on which the project will focus are: (i) country’s intra-regional trade volume; (ii) overall traffic on the Sarh-Singako section; (iii) Heavy vehicle (HV) travel time on the Kyabe-Singako section; (iv) average vehicle operating costs (VOC) of heavy vehicles; (v) volume of production of cereals, legumes and tubers; (vi) rural access index representing the percentage of population living within 2 km of an all-season road; (vii) number of jobs in staff/months created during the project works.

2.8.2. MIT will be responsible for collecting and analyzing data, in conjunction with the National Institute of Statistics, Economic and Demographic Studies (INSEED) of Chad. INSEED will (i) establish the baseline scenario for the said indicators at project start-up; (ii) conduct an impact assessment at the close of the project; and (iii) continue with such assessment after the commissioning of the road under a framework contract with MIT.

2.8.3. Realizing these outputs on schedule requires efficient project implementation. Thus, besides these outcome indicators, implementation performance indicators have been established for the Bank’s institutional performance. These mainly relate to: (i) an effectiveness deadline; (ii) deadline for satisfaction of conditions precedent to first disbursement of funds; (iii) procurement deadlines; (iv) the average project progress indicator (PI); and (iv) the disbursement rate trend based on the expenditure schedule. These indicators will be monitored during supervision missions and in day-to-day project management.

III. **PROJECT FEASIBILITY**

3.1. **Economic and Financial Performance**

3.1.1 The planned construction works concern a road section of a total length of 72.3 km, which is a continuation of an ongoing EU-funded operation on another section of 102 km. To verify the economic performance of the project, the entire section was considered one homogeneous section of traffic. The economic evaluation was conducted using the HDM IV model on the basis of cost/benefit analysis of the “with” and “without” project situations, over a 20-year period and using a 12 % discount rate. To reflect the spectrum of the origins and destinations of vehicles using the two sections, the vehicle operating cost calculations were based on average input prices noted in the CEMAC zone. Based on the development levels adopted and expected traffic, the residual value of the investment at the end of that period is 33.7 %.
As the road is currently impassable, current traffic calculations were based on the annual average daily traffic (AADT) noted during the year 2010, applying an annual growth rate of 10% for light vehicles and 15% for heavy vehicles, in accordance with the rates noted on this section between 2005 and 2010. AADT is thus estimated in March 2014 at 88 vehicles/day, of which 17.2% are heavy vehicles. Average induced traffic was estimated at 48.5% of normal traffic given the level of VOC before and after the project. The annual growth rates used for normal traffic are 10% for LV and 8% for HV and 8.15% for all vehicle categories in terms of induced traffic. There will be no diverted traffic.

The economic benefits obtained by the community mainly concern: (i) reduced vehicle operating costs (VOC); (ii) road maintenance gains; (iii) residual value of road assets; (iv) increase in marketed agricultural production; (v) increased market value of processed agricultural products; and (vi) time saved.

An agricultural and pastoral surplus of 3% for agricultural production and 2% for the market value of agricultural products sold was taken into account, given the benefits arising from the opening up of the project area through the project and strong likelihood of increased agricultural production or livestock sale prices.

In the light of the foregoing, the assessment of the investment cost and economic returns provides an economic rate of return (ERR) of 15.5% and a Net Present Value (NPV) of CFAF 14.44 billion. The summary of the economic analysis is given in the table below. With a sensitivity test (10% increase in project cost and 10% decrease in benefits), the project’s ERR finally stands at 13.3%. The project is thus economically viable for the community. The detailed economic analysis of the project is given in the annexes.

<table>
<thead>
<tr>
<th>Economic Parameters Analysed</th>
<th>Values Obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Rate of Return (ERR)</td>
<td>15.5%</td>
</tr>
<tr>
<td>Net Present Value (NPV) in CFAF million</td>
<td>14 436.4</td>
</tr>
<tr>
<td>ERR Sensitivity Test (10% variation of costs and benefits)</td>
<td>13.3%</td>
</tr>
<tr>
<td>Residual Value of Investment after 20 years</td>
<td>33.7%</td>
</tr>
</tbody>
</table>

Environmental and Social Impact

Environment

The project is classified in category 2, given the scope of works and the limited negative environmental and social impacts that are manageable through the implementation of the recommended measures. An Environmental and Social Management Plan (ESMP) and an Abbreviated Resettlement Plan (ARP) were prepared in 2011 and updated in 2014 Plan. An environmental compliance certificate was issued by the Chadian Ministry of Environment in January 2014. Abstracts of the ESMP and ARP will be posted on the Bank’s website in May 2014, at least 30 days before the submission of the project to the Board of Directors of the Bank.

The main positive impacts expected are: (i) improved living conditions of project area dwellers; (ii) creation of jobs and income for local people; (iii) reduced risks of accidents for drivers (road safety); (iv) easier and more comfortable evacuation of patients to the Sarh Regional Hospital; (v) improved marketing of agro-forestry-pastoral and fisheries production; (vi) development of the trade and transport sectors; (vi) development of transport-related income-generating activities (catering, retail, etc...); (vii) better access to socio-economic infrastructure (markets, schools, churches, mosques...) in the operation phase.
3.2.3 The key environmental and social impacts of the project are: (i) loss of private property (houses, mosques, fruit trees, etc.) located on the road easement; (ii) risk of spread of STIs and HIV - AIDS and the risk of accidents during the road construction and operation phases; (iii) disruption of traffic during construction and of access to commercial and educational infrastructure; (iv) loss of natural vegetation due to the road easement, deviations and borrow sites.

3.2.4 However, these negative impacts are manageable through the application of the recommended measures which are mainly: (i) compensation for affected persons prior to project start-up; (ii) application of good environmental practices for the project site installation and preliminary works as defined in the environmental and social clauses for the contractor and its subcontractors; (iii) restoration of borrow sites and development of certain sites as waterholes in accordance with good practice; (iv) road safety measures (vertical and horizontal signage), guardrails, etc. already taken into account in the works; (v) planting of 9,900 street trees and full compensation involving local communities; (vi) regular provision of information to local residents, signposting, maintaining traffic flow during construction; (vi) sensitization on HIV/AIDS, environmental protection, road safety and securing men’s support for women's actions. Ancillary works and enhancement measures are also planned under the project. The total cost of ESMP measures stands at CFAF 776,584,940, including the ARP.

Expropriation

3.2.5 The road project will entail: (i) the destruction of 115 buildings composed of residential homes, various business facilities, warehouses, mosques, granaries, government residences, etc.) belonging to 84 persons; (ii) loss of fruit trees (mainly mango and orange) belonging to 81 persons. The buildings are mostly of terracotta with straw roofs. Based on the number of affected households (dwellings), the total number of people affected is 192. The cost of the resettlement plan is CFAF 56,209,940 as compensation for those affected. This amount is to be borne by the Government of Chad. Affected persons must be compensated prior to the commencement of works and this will be one of the grant conditions.

Climate Change

3.2.6. The main issues identified in the project area are: (i) flood risk, notably in low-lying areas and areas through which water flows; (ii) southward slippage of isohyets. These risks will be mitigated by: (i) appropriate design of hydraulic structures taking into account peak flow periods; (ii) protecting the road from water damage on the critical sites; (iii) improving water availability by providing boreholes and troughs. The key measures that contribute to mitigation include planting of nearly 10,000 compensation and street side trees.

3.2.7. Regarding the emission of greenhouse gases such as CO2, it is noted that the net contribution of this section will remain negligible, given that traffic is currently estimated at 29 vehicles per day. Even if traffic were to increase following the development of the road, its free flow should limit GHG emissions. Additionally, planting street trees and landscaping contribute towards mitigating such emissions.

Road Safety

3.2.8. This project includes a road safety awareness aspect. The main actions planned are: (i) organization of road safety information and sensitization campaigns; (ii) design, publication and dissemination of booklets on road safety for different target groups; (iii) identification of accident black spots on the Kyabé - Singako road and additional signage; and (iv) information and sensitization for law enforcement officers. Identified target groups are: clandestine (motorbike taxis) drivers, schools and literacy centres, administrative authorities and religious leaders etc.
Gender and specific activities for women

3.2.9. In 2011, Chad had a population of 10,015,591 including 5,155,754 women, or a women’s ratio estimated at 106.1 (INSEED, 2013). This rate shows that women are predominant, regardless of the place of residence. However, it also highlights the fact that women remain far from decision-making circles; a limited number of them are able to be self-employed and earn money (26%) or contract bank loans (only 19.7% are familiar with a credit establishment but just 11.8% have been able to obtain credit for business development). As regards banking services, only 5.5% actually have an account that they manage themselves. The situation is even more serious in rural areas.

3.2.10. Under this project, there are plans to carry out specific actions to enable women to improve their living conditions and achieve economic empowerment. These include: (i) providing Multifunctional platforms (MFP) for women; (ii) rehabilitation of social infrastructure (schools, health centres); (iii) drilling of boreholes to ensure access to drinking water; and (iv) providing intermediate transport means (100 carts) to women's groups involved in shea processing.

3.2.11. The establishment of MFPs will have a highly significant impact on women’s socio-economic status. An MFP is an energy complex for food processing whose ultimate goal is women’s economic empowerment. Given the socio-economic status of PA women, each MFP of this project will mainly comprise the following modules: (i) a building with processing equipment: millet mill, shea crusher, sheller, welding station, alternator, and engine, battery and phone charging station, peanut grinder and freezer; (ii) a second Multifunctional building comprising an office with office equipment and audiovisual materials, a literacy/training room, cooperative unit, and a storeroom; (iii) solar kit; (iv) latrines, (v) 5 carts and (vi) borehole with a mini-water tower. Each MFP is a compound of at least 900 m2, granted by local authorities, which will be fenced and surrounded by a green belt consisting of 200 feet of fast-growing species and shea plants. Each MFP may serve 20 to 30 women's organizations. Revenues from MFP activities will enable members to grant themselves revolving credit.

3.2.12. The idea is not only to establish these MFPs, but also to initiate a comprehensive capacity building process for PIA women in organizational matters, leadership, business techniques and management. Awareness campaigns specifically dedicated to women will also be conducted. Besides the capacity building programme for women to take charge of each MFP, outreach awareness campaigns will also target men and traditional authorities for their co-responsibility in the implementation of this activity. Lastly, it should be noted that, for the sustainability of these activities, the Regional Directorates/Ministry of Social Affairs and Women’s Advancement will participate in the process. The National Directorate for Women’s Advancement and Gender Mainstreaming was involved in the proceedings at project appraisal.

3.2.13. The monitoring mechanism put in place by all stakeholders will ensure sustainability. The project will use the UNDP’s direct implementation method (DIM). The Ministry of Infrastructure and Transport is one of the implementing partners and jointly responsible with UNDP for planning and general management of the programme activities, reporting, accounting, monitoring and evaluation, supervision of implementation partners as well as the management and audit of the use of project resources.
3.2.14. This MFP operation will be completed with technical assistance from UNDP which helped establish this concept, and has already produced three MFP generations in Chad. The lessons learned from this entire experience and the findings of the external assessments of the first 19 MFPs conducted in November 2013 have been taken into account for the MFPs to be provided under this project.

Social Impact

3.2.15. The latest poverty profile prepared for Chad (ECOSIT3, 2011) showed that average annual per capita expenditure in Chad amounted to CFAF 231,190 and ranges from CFAF 66,321 in the poorest households to CFAF 617,292 in the wealthiest households. But, poverty generally declined significantly between 2003 and 2011 from 55% to 46.7 %. However, it should be noted that inequality was more pronounced among the poor between 2003 and 2011. Indeed, the extent and severity of poverty worsened from 21.6 % to 26.3 % and 10.8 % to 15.9 % respectively. The situation is more serious in rural areas than in urban areas. This is the situation that prevails in the project area.

3.2.16. In general, the PIA is characterized by rather difficult living conditions due to the lack of basic socio-economic infrastructure and all-season roads. In fact, the three cantons of the Département of Lac Iro which constitute the immediate PIA make up an extremely isolated area and 90.8% of the population is rural. Children take more than 45 minutes to trek to the nearest school. It takes 120 minutes on average to trek to the nearest health centre, compared to 87 minutes for Chad as a whole. During the dry season, it often requires more than 30 minutes to reach the nearest drinking water source. The overall poverty incidence in Moyen-Chari Region is estimated at 61.4 %.

3.2.17. Under this project, there are plans to undertake ancillary works to help improve such living conditions. These include: (i) 61.6 km of feeder roads; (ii) 100 carts to be provided to women; (iii) two health centres; (iv) 3 schools; (v) 12 Multifunctional platforms for women; (vi) 8,000 (50 % women) sensitized on HIV/AIDS, environmental protection and road safety; (vii) three livestock loading platforms around the cattle market, and (viii) 10 boreholes for safe drinking water and 2 pastoral wells.

IV. IMPLEMENTATION

4.1 Implementation Arrangements

Executing Agency

4.1.1. The executing agency is the Ministry of Infrastructure and Transport (MIT). It will rely on the Project Monitoring and Coordination Unit (CSCP). This Unit created within MIT since 1989, is responsible for monitoring and coordinating all MIT transport sector projects. In addition, MIT also has the General Directorate of Roads (DGR) which is the prime contractor for all national road network construction and maintenance works. The CSCP is the unit responsible for monitoring and coordinating transport sector investments and policy reforms.

4.1.2. As such, it: (i) carries out administrative and financial monitoring of the implementation of investment programmes and measures adopted; (ii) coordinates actions to be taken with donors and national authorities; and (iii) ensures consistency of transport sector policy and strategy. It comprises a coordinator with an assistant, a procurement specialist, a monitoring and evaluation specialist, an accounting unit, and secretarial and support staff. The
CSCP has the capacity to manage this type of project. It has managed the previous Bank-financed transport projects in Chad, as well as many other projects funded by other donors. This unit will be supported by a counterpart engineer, a monitoring and evaluation expert and an environmentalist from DGR.

4.2  Procurement Arrangements

4.2.1. All goods, works and consulting services financed from the resources of the Bank will be procured in accordance with its Rules and Procedures for Procurement of Goods and Works (May 2008 edition, revised July 2012) or, as appropriate, Rules and Procedures for the Use of Consultancy Services (May 2008 Edition, revised July 2012) with the standard competitive bidding documents of the Bank. It has been agreed with the other co-financiers that these contracts will be performed in accordance with rules and procedures of the Bank using the appropriate standard documents of the Bank.

4.2.2. All procurements through National Competitive Bidding (NCB) will be in accordance with national legislation on public procurement using the country’s standard tender documents, subject to the amendments recommended by the Bank and specified in the financing agreements.

4.3  Financial Management and Disbursement Arrangements

4.3.1. Project Monitoring and Coordination Unit (CSCP) of the Ministry of Infrastructure and Transport is responsible for financial management. It is a unit of that Ministry and it interacts with departments of the Ministry to carry out its activities. It has a fiduciary team comprising a chief accountant, an accountant, an internal auditor and a procurement officer. The team has been in place for several years and is familiar with the Bank’s financial management procedures. The CSCP has given satisfactory results in implementing Bank-financed projects.

4.3.2. The financial management system in place at the CSCP was assessed in May 2013 during the appraisal mission for the Algeria - Niger - Chad Trans-Sahara Highway (TSH), in accordance with the methodology laid down by the Bank, stipulated by ORPF.0 in June 2010 in its kit on "financial management of projects financed by the African Development Bank". The appraisal also drew lessons from the implementation by the CSCP of two Bank-financed road projects.

4.3.3. The objective is to ensure that the resources made available to the project will be used effectively and efficiently and solely for the purposes for which they were granted. It was clear from this appraisal that the overall fiduciary risk is considered substantial, due mainly to the lack of an administrative, accounting and financial procedure manual and accounting software for financial management of the project. The proposed mitigation measures should ensure that the financial management arrangements put in place at the CSCP are adequate to provide timely, accurate and reliable information, project assets protection and enable conduct of the accounts audit on schedule.

4.3.4. The external audit of the project accounts will be conducted by an external auditor in accordance with TOR, subject to the clearance (no-objection) from the Bank. An external audit with a letter to management will be sent to donors within six months of the end of each fiscal year. The cost of the audit shall be borne by the project.
Disbursement Arrangements

4.3.5. The disbursement procedure to be used for Bank-financed project components is the direct payment method. The disbursements will be made under contracts signed between the Borrower and Suppliers.

4.3.6. Such disbursements from the Grant will be released in accordance with the list of goods and services and the rules and procedures of the Bank, as described in the disbursements manual. A disbursement letter will be reviewed during the negotiation and transmitted to the Government upon approval of the project by the Bank.

4.4 Monitoring

4.4.1. The implementation of various project components will be monitored by the General Directorate for Roads (DGR) through the Project Monitoring and Coordination Unit (CSCP). External supervision missions (donors and government) will also report on the performance of this project in terms of physical and financial outputs.

4.4.2. Regarding assessment of the level of achievement of its development objectives, a socio-economic impact monitoring and evaluation system will be put in place with the support of the National Institute of Statistics, Economic and Demographic Studies (INSEED) which has benefited from several capacity building programmes run by the Bank. A direct agreement will be signed with the Institute which has performed a similar task to the satisfaction of the Bank and the Government, as part of the implementation of the Koumra-Sarh road project and is also in charge of the monitoring and evaluation component of the Trans-Sahara Highway (TSH).

<table>
<thead>
<tr>
<th>Deadline</th>
<th>Milestone</th>
<th>Process</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4 – 2014</td>
<td>Project launch</td>
<td>Field Mission</td>
<td>Progress Reports</td>
</tr>
<tr>
<td>T4 – 2014</td>
<td>Project Review – Procurements, resettlement</td>
<td>Field Mission /supervision</td>
<td>Progress Reports / Checklist</td>
</tr>
<tr>
<td>T1&amp;T2&amp;T3&amp;T4-2015</td>
<td>Construction works</td>
<td>Field Mission /supervision</td>
<td>Progress Reports / Checklist</td>
</tr>
<tr>
<td>T1&amp;T2&amp;T3&amp;T4-2016-2017</td>
<td>Construction Works</td>
<td>Field Mission /supervision</td>
<td>Progress Reports / Checklist</td>
</tr>
<tr>
<td>T1&amp;T2-2018</td>
<td>Guarantee Period &amp; first year of operation</td>
<td>Field Mission</td>
<td>Project Completion Report</td>
</tr>
<tr>
<td>T1-2019</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.5 Governance

4.5.1. Like many African countries, Chad faces serious problems of institutional and human capacity. These problems are largely due to the fact that Ministries do not always have qualified personnel for public administration management and are ill-equipped to handle their tasks, especially procurement procedures.

4.5.2. As part of good governance promotion, Chad has over recent years undertaken, with the help of the Bank through the Governance Reform Support Project (GRSP I), institutional reforms to operationalize the decentralized management of public procurements, and strengthen their efficiency, transparency and control. The new procurement code, adopted in December 2003 by Decree No. 503/PR/PM/SGG/2003 defines procurement procedures broadly consistent with international standards in this area. This new regulatory framework comprises: (i) a public procurement control body (OCMP) under the authority of the General Secretariat of the Government (SGG); (ii) Bid Opening and Evaluation Boards (COJO) within
all priority ministries including Infrastructure; and (iii) authorities for approval and clearance of procurements according to the thresholds defined by decree. Each COJO works through sub-committees established by it, notably the Technical Bid Evaluation Sub-Committees (SCTE) or prequalification subcommittees (SCP) to manage the bid evaluation process. Clearance authority has been limited only to the following departments/ministries: the General Secretariat of the Government, the Ministry of Finance and Budget (MFB) and the Ministry of Planning and International Cooperation (external resources).

4.5.3. Concerning transport sector governance, major reforms have already been undertaken. They consisted of divestiture from production tasks with (i) the dissolution of the Directorate for public works equipment, and (ii) the application of axle load control measures in accordance with the measures in force within CEMAC. In August 2000, Chad set up a road maintenance fund that is functional as well as a road maintenance agency.

4.5.4. Reforms are ongoing through the transport sector project and the national transport strategy. With the support of donors, notably the Bank and the EU, these should contribute to strengthening private sector involvement and improving the services offered by different modes of transport. They centre on the following actions: (i) project owner capacity building through training/retraining programmes; (ii) capacity building for the national industry: technical consulting firms, small and medium road maintenance enterprises, transport companies; (iii) securing financing for road maintenance based on an optimized programme of work; and (iv) mastery of programme monitoring in terms of both contract award and implementation (v) reflection on the establishment of a pavement design catalogue.

4.6 Sustainability

4.6.1. In Chad, the sustainability of the project after completion will largely depend on the maintenance works to be undertaken and their financing. In that regard, the Government has developed, following a European Union-funded reform, a road maintenance strategy that streamlines programming of such maintenance and allows greater participation of decentralized services and the private sector. A second-generation road maintenance fund (FER) was established in August 2000, with management and financial autonomy.

4.6.2. The financial resources of the Fund are derived mainly from: (i) charges on fuel (unleaded and diesel), granted by the State; (ii) road chartering charges on all cargo vehicles with a payload of more than one tonne; (iii) proceeds of the axle fee applicable to foreign road vehicles of a payload of over 10 tonnes; (iv) road user charges consisting of tolls on bridges, ferries and paved roads, (v) and State subsidies. FER resources have been on a steady increase for several years now, rising from CFAF 8.315 billion in 2008 to nearly CFAF 18 billion in 2013, or a more than 100% increase over a 5-year period. For the 2013-2014 season, the budget estimate is CFAF 20.2 billion and approximately CFAF 23 billion for the 2014 -2015 season.

4.6.3. To further enhance road maintenance efficiency, a Road Maintenance Agency (AGER), was established in April 2012 with the support of financial partners. It is a semi-public enterprise with management autonomy, having as shareholders the Confederation of Construction and Public Works Enterprises, the Chamber of Commerce and the Chadian government. It is responsible for the implementation of road maintenance programmes through delegated project owner agreements (management of the procurement process, supervision of works and road maintenance programming) on the basis of a performance contract concluded with the Ministry of Infrastructure and Transport. The DGR has thus refocused on the tasks of planning, budgeting and execution of new works. Maintenance contracts are primarily awarded to SME sector.
4.6.4. To enable these SMEs to effectively perform their tasks, the reform has entailed the setting up of GRADERT (Group of Road Maintenance and Transport Actors), which is an Economic Interest Group supported by financial partners and responsible for capacity building of SMEs in charge of maintenance.

4.6.5. The current performances of FER which is able to cover all the maintenance needs of the priority road network, those of AGER and hence of the entire institutional framework defined above, are likely to ensure the sustainability of investments in Chad’s road sector and hence in this project. Under this project, a study will be conducted on potential sources of diversification of financial resources of FER and GRADERT to ensure the sustainability of their actions.

4.6.6. Lastly, the project’s sustainability also depends largely on the quality of the work to be carried out and operating conditions; a weighing station is envisaged, to control axle loads on the section.

4.7 Risk Management

4.7.1. In general, the project is located in a very sensitive area that lies within 100 km from the Central African Republic border. The construction of this section may result in a massive presence of herders in the immediate PIA, thereby jeopardizing the expected agriculture development benefits.

4.7.2. Risks that may impede the achievement of the outcomes include: (i) the risk of resurgence of farmer/grazer conflicts if preventive measures are not taken; (ii) non-fulfillment of commitments regarding axle load and gross laden weight control. The mitigation measures are: (i) the availability of transhumance corridors provided by the Ministry of Livestock; (ii) the second risk is mitigated by a programme of progressive installation of stations for monitoring axle load on the country’s main roads, in accordance with the relevant regional guidelines.

4.7.3. Risks that may impede the achievement of the outcomes include: on the part of Chad, lack of timely availability of co-financing resources for the implementation of the project.

The mitigation measures are: the Government’s undertaking to mobilize its counterpart for the works in a timely manner; the existing political will and the country’s experience in implementing the sector projects are also significant in this regard.

4.8 Knowledge Building

4.8.1. The project will afford an opportunity to improve knowledge on national infrastructure. Establishing the baseline for key impact indicators prior to project start-up as well as the impact assessment at its close will generate useful information on the outcomes and impacts of this project. The study on the diversification of the FER’s sources of income will serve as a reference for many other countries. This knowledge will be fed into the road database of the Ministry of Infrastructure and Transportation (MIT).

4.8.2. It will be disseminated through the Bank’s website, the annual reports, the completion report and the ADF the ex-post evaluation and will also be used to update Chad’s NDP. This database will thus facilitate the management of all the knowledge gained throughout the implementation of project activities.
V. LEGAL FRAMEWORK

5.1. Legal instrument

The project will be financed through an ADF Grant awarded to the Republic of Chad.

5.2. Conditions for Bank’s Intervention

The legal instrument of the project is a grant Protocol Agreement for an amount of UA 12.846 million.

Conditions Precedent to Effectiveness

A. Conditions precedent to effectiveness of the grant

The ADF grant shall become effective subject to the signing of the grant protocol agreement by the donee.

B. Conditions precedent to first disbursement of the grant

The first disbursement shall be authorized upon effectiveness of the grant protocol agreement.

C. Other grant conditions

(i) Before the start of road works, provide evidence of compensation of persons affected by the works in accordance with the relevant policies and guidelines of the Fund, the Environmental and Social Management Plan (ESMP) and Abbreviated Resettlement Plan (ARP);

(ii) Provide to the Fund, with effect from the date of first disbursement and no more than one month following each quarter, quarterly reports on the implementation of the ESMP, including, as appropriate, shortcomings and corrective actions taken or to be taken.

D. Undertakings

The Government undertakes to, to the satisfaction of the Fund:

(i) refrain from commencing construction work on any road section without the affected persons in such areas having received full compensation;

(ii) implement the Project, the Environmental and Social Management Plan (ESMP) and the Abridged Resettlement Plan (ARP) and also enforce their implementation by its contracting parties, in accordance with the national law and with the recommendations, requirements and procedures contained in the ESMP, the CRP and the relevant rules and procedures of the Fund.

VI. RECOMMENDATION

Management recommends that the Board approve the award of the proposed grant of UA 12.846 million to the Government of Chad for the purpose and under the terms and conditions set forth in this report.
### Chad

#### COMPARATIVE SOCIO-ECONOMIC INDICATORS

<table>
<thead>
<tr>
<th>Year</th>
<th>Chad</th>
<th>Africa</th>
<th>Developing Countries</th>
<th>Developed Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

#### Basic Indicators
- **Area (‘000 Km²)**: 1.284 (2011), 3.032 (2012)
- **Population Density (per Km²)**: 12.4 (2012)
- **GNI per Capita (US $)**: 45.2 (2012)
- **Gender-Related Development Index Value**:
  - 2007-2011: 0.380
  - 2008-2012: 0.184
- **Population Growth Rate (%)**: 3.0 (2012)

#### Demographic Indicators
- **Population Growth Rate (%)**: 3.0 (2012)
- **Population Growth Rate - Total (%)**: 3.0 (2012)
- **Population Growth Rate - Rural (%)**: 3.0 (2012)
- **Population Growth Rate - Urban (%)**: 3.0 (2012)
- **Population above 15 years (%)**: 45.6 (2012)
- **Population above 65 years (%)**: 2.5 (2012)
- **Dependency Ratio (%)**: 11.7 (2011)

#### Health & Nutrition Indicators
- **Life Expectancy at Birth (years)**: 50.7 (2012)
- **Life Expectancy at Birth - Female (years)**: 50.7 (2012)
- **Life Expectancy at Birth - Female (years)**: 50.7 (2012)
- **Child Mortality Rate (per 1,000)**: 157.0 (2012)
- **Total Fertility Rate (per woman)**: 6.4 (2012)
- **Women Using Contraception (%)**: 6.4 (2012)

#### Education Indicators
- **Primary School - Total (%)**: 100.8 (2009-2012)
- **Secondary School - Total (%)**: 25.4 (2009-2012)
- **Primary School Female Teaching Staff (%)**: 35.4 (2011)
- **Secondary School Female Teaching Staff (%)**: 45.6 (2011)
- **Percentage of GDP Spent on Education**:
  - 2008-2010: 2.8

#### Environmental Indicators
- **Land Use (Agricultural Land as % of Total Land Area)**: 3.9 (2011)
- **Annual Rate of Deforestation (%)**:
  - 2006-2010: 4.2
  - 2010-2011: 4.5

### Sources
- AfDB Statistics Department Databases; World Bank: World Development Indicators; last update: October 2013
- UNAIDS; UNSD; WHO; UNICEF, WRI, UNDP; Country Reports.
- n.a.: Not Applicable; …: Data Not Available.
# Bank Portfolio in Chad at 31 March 2014

## Agriculture Sector

<table>
<thead>
<tr>
<th>No.</th>
<th>Project Name</th>
<th>Approval Date</th>
<th>ADF Commitment (UC)</th>
<th>Amount Disbursed (UC)</th>
<th>% Disbursed</th>
<th>Closure Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Natural resources management and development Project (PGRN) LOAN</td>
<td>04/27/2005</td>
<td>4,270,000</td>
<td>3,417,606.86</td>
<td>80.04</td>
<td>03/31/2014</td>
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<tr>
<td></td>
<td>Natural resources management and development Project (PGRN) GRANT</td>
<td>04/27/2005</td>
<td>2,000,000</td>
<td>1,463,519.91</td>
<td>73.18</td>
<td>03/31/2014</td>
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<td>2</td>
<td>Natural resources management and development Project (PGRN) ADDITIONAL LOAN</td>
<td>01/31/2011</td>
<td>9,570,000</td>
<td>0.00</td>
<td>0.00</td>
<td>10/31/2014</td>
</tr>
<tr>
<td>3</td>
<td>Lake Chad Basin Sustainable Development Programme / MULTINATIONAL GRANT</td>
<td>12/11/2008</td>
<td>30,000,000</td>
<td>9,422,144.5</td>
<td>31.41</td>
<td>12/31/2015</td>
</tr>
<tr>
<td>4</td>
<td>Cotton Sector Support Project /MULTINATIONAL GRANT</td>
<td>11/29/2006</td>
<td>5,000,000</td>
<td>2,451,657.72</td>
<td>49.03</td>
<td>12/30/2014</td>
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<tr>
<td>5</td>
<td>Rural Infrastructure Support Project LOAN</td>
<td>06/07/2011</td>
<td>5,200,000</td>
<td>363,827.70</td>
<td>7.00</td>
<td>12/31/2016</td>
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<tr>
<td>6</td>
<td>Rural Infrastructure Support Project GRANT</td>
<td>06/07/2011</td>
<td>5,200,000</td>
<td>639,662.16</td>
<td>12.30</td>
<td>12/31/2016</td>
</tr>
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</table>

**Total Agriculture Sector:**

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<tr>
<td></td>
<td>61,490,000</td>
<td>17,758,419</td>
<td>28.88</td>
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</table>

## Transport Sector

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<th>No.</th>
<th>Project Name</th>
<th>Approval Date</th>
<th>ADF Commitment (UC)</th>
<th>Amount Disbursed (UC)</th>
<th>% Disbursed</th>
<th>Closure Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Algeria/Niger/Chad multi Road Project LOAN</td>
<td>12/11/2013</td>
<td>20,900,000</td>
<td>0</td>
<td>0.00</td>
<td>12/31/2018</td>
</tr>
<tr>
<td>9</td>
<td>Algeria/Niger/Chad multi Road Project GRANT</td>
<td>12/11/2013</td>
<td>20,400,000</td>
<td>0</td>
<td>0.00</td>
<td>12/31/2018</td>
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<tr>
<td>9</td>
<td>Koumra - Sahr road asphalting project GRANT</td>
<td>06/02/2009</td>
<td>31,610,000</td>
<td>27,922,898.89</td>
<td>88.34</td>
<td>12/31/2015</td>
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**Total Transport Sector:**

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<tr>
<td></td>
<td>20,294,996</td>
<td>1,594,107</td>
<td>7.85</td>
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## Energy Sector

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<tr>
<th>No.</th>
<th>Project Name</th>
<th>Approval Date</th>
<th>ADF Commitment (UC)</th>
<th>Amount Disbursed (UC)</th>
<th>% Disbursed</th>
<th>Closure Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Chad Cameroon Interconnexion Study</td>
<td>10/07/2013</td>
<td>1,250,000</td>
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<td>0.00</td>
<td>07/31/2015</td>
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</table>

**Total Energy Sector:**

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<tbody>
<tr>
<td></td>
<td>1,250,000</td>
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</table>

## Institutional Support and Capacity Building

<table>
<thead>
<tr>
<th>No.</th>
<th>Project Name</th>
<th>Approval Date</th>
<th>ADF Commitment (UC)</th>
<th>Amount Disbursed (UC)</th>
<th>% Disbursed</th>
<th>Closure Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>PNSA Roundtable</td>
<td>11/29/2011</td>
<td>139,326</td>
<td>133,092.02</td>
<td>95.53</td>
<td>03/31/2014</td>
</tr>
<tr>
<td>12</td>
<td>STATISTICS</td>
<td>11/22/2011</td>
<td>1,000,000</td>
<td>681,321.5</td>
<td>68.13</td>
<td>12/31/2014</td>
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<tr>
<td>13</td>
<td>Capacity building in public finance</td>
<td>11/01/2012</td>
<td>1,445,001</td>
<td>517,130.20</td>
<td>35.79</td>
<td>10/31/2014</td>
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<tr>
<td>14</td>
<td>Capacity building in extractive industries and oil</td>
<td>11/01/2012</td>
<td>1,350,000</td>
<td>412,361.64</td>
<td>30.55</td>
<td>10/31/2014</td>
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<tr>
<td>15</td>
<td>Improvement of Business climate (PACADET) LOAN</td>
<td>12/3/2013</td>
<td>3,970,000</td>
<td>0.00</td>
<td>0.00</td>
<td>12/31/2018</td>
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<tr>
<td>15</td>
<td>Improvement of Business climate (PACADET) GRANT</td>
<td>12/3/2013</td>
<td>1,920,000</td>
<td>0.00</td>
<td>0.00</td>
<td>12/31/2018</td>
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<tr>
<td>16</td>
<td>NDP Implementation support Project</td>
<td>6/27/2013</td>
<td>500,000</td>
<td>0.00</td>
<td>0.00</td>
<td>12/31/2015</td>
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<tr>
<td>17</td>
<td>HIPCI Completion Point Attainment Support Project</td>
<td>3/05/2014</td>
<td>1,540,000</td>
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<td>0.00</td>
<td>12/31/2015</td>
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**Sub-Total Institutional Support and Capacity Building:**

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<tbody>
<tr>
<td></td>
<td>11,861,321</td>
<td>1,743,905</td>
<td>14.87</td>
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**Grand Total:**

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<tbody>
<tr>
<td></td>
<td>166,669,323</td>
<td>49,019,331</td>
<td>29.24</td>
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</tbody>
</table>
## ANNEX III

**Key Related Projects Financed by the Bank and other Development Partners of Chad**

<table>
<thead>
<tr>
<th>N°</th>
<th>Project Description</th>
<th>Financing Source</th>
<th>Cost (CFAF million ETCDT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sarh/Kyabe road asphalting project</td>
<td>EDF</td>
<td>55.229</td>
</tr>
<tr>
<td>2</td>
<td>Koumra/Sarh road asphalting project</td>
<td>ADF</td>
<td>56.170</td>
</tr>
<tr>
<td>3</td>
<td>Massakory/Ngouri road asphalting project</td>
<td>IsDB</td>
<td>55.393</td>
</tr>
<tr>
<td>4</td>
<td>Trans-Sahara Highway Multinational Project (Algeria/Niger/Chad)</td>
<td>ADF</td>
<td>41.3</td>
</tr>
<tr>
<td>5</td>
<td>Trans-Sahara Highway Multinational Project (Algeria/Niger/Chad)</td>
<td>ABEDA</td>
<td>6.63</td>
</tr>
<tr>
<td>6</td>
<td>Trans-Sahara Highway Multinational Project (Algeria/Niger/Chad)</td>
<td>BDEAC</td>
<td>33.02</td>
</tr>
<tr>
<td>7</td>
<td>Trans-Sahara Highway Multinational Project (Algeria/Niger/Chad)</td>
<td>OFID</td>
<td>7.95</td>
</tr>
<tr>
<td>8</td>
<td>Trans-Sahara Highway Multinational Project (Algeria/Niger/Chad)</td>
<td>SDF</td>
<td>16.57</td>
</tr>
</tbody>
</table>
ANNEX IV
MAPS OF THE PROJECT AREA
These two maps were prepared by staff of the African Development Bank for use exclusively by readers of the report to which it is attached. The names used and the borders shown do not imply on the part of the ADB Bank Group and its members any judgement concerning the legal status of a territory nor any approval or acceptence of these borders.