

# PROJECT COMPLETION REPORT (PCR)

## A. PROJECT DATA AND KEY DATES

### I. BASIC INFORMATION

<b>Project Number:</b> P-UG-DB0-014	<b>Project Name:</b> UGANDA - ROAD MAINTENANCE & UPGRADING PROJECT	<b>Country (ies):</b> Republic of Uganda	<b>Month and Year of Disb. Rate:</b> June 2006	<b>Date PCR sent to:</b> PCR@afdb.org
<b>Lending Instrument(s)</b> African Development Bank (ADF) Loan		<b>Sector:</b> Transport	<b>Environmental Classification:</b> Category II	
<b>Original Commitment:</b> UA 15.0 million	<b>Amount Cancelled</b> - UA6.40 million	<b>Amount Disbursed:</b> UA8.60 million	<b>Percent Disbursed:</b> 57.33	
<b>Borrower:</b> Government of the Republic of Uganda Ministry of Finance, Planning and Economic Development				
<b>Executing Agency(ies)</b> [List the main Ministries, Project Implementation Units, Agencies and civil society organizations responsible for implementing project activities.]: <b>The Ministry of Works and Transport was the Executing Agency and the Implementing Agency was the Road Agency Formation Unit (RAFU). A Civil Engineer from the RAFU was designated to monitor the activities during implementation.</b>				
<b>Co-financers and other External Partners</b> [List all other sources and amounts of financing, technical assistance or other resources used in this project]: <b>The Government of the Republic of Uganda</b>				

### II. KEY DATES

<b>Project Concept Approved by Ops. Com.</b> Not Applicable	<b>Note</b> Com: Not Applicable	<b>Appraisal Report Approved by Ops. Com:</b> Not Applicable	<b>Board Approval:</b> 13 September 2000
<b>Restructuring(s)</b>			

	<b>Original Date</b>	<b>Actual Date</b>	<b>Difference in months [Actual-Original]</b>
<b>EFFECTIVENESS</b>	30-Jun-01	21-Dec-01	6
<b>MID-TERM REVIEW</b>	N/A	N/A	N/A
<b>CLOSING</b>	31-Dec-04	30-Jun-06	18

### III. RATINGS SUMMARY

CRITERIA	SUB-CRITERIA	RATING
PROJECT OUTCOME	Achievement of Outputs	4
	Achievement of Outcomes	4
	Timeliness	2
	<b>OVERALL PROJECT OUTCOME</b>	<b>3</b>
BANK PERFORMANCE	Design and Readiness	3
	Supervision	3
		<b>3</b>
BORROWER PERFORMANCE	Design and Readiness	3
	Implementation	3
	<b>OVERALL BORROWER PERFORMANCE</b>	<b>3</b>

### IV. RESPONSIBLE BANK STAFF

POSITIONS	AT APPROVAL	AT COMPLETION
Regional Director	N/A	D. Gaye
Sector Director	A.D. Mtegha	G. Mbesherubusa
Task Manager	A. Babalola	A. Babalola
PCR Team Leader		D. Gebremedhin
PCR Team Members		D. Isooba

## B. PROJECT CONTEXT

**Summarize the rationale for Bank assistance. State:**

- what development challenge the project concerns,
- the borrower's overall strategy for addressing it,
- Bank activities in this country (ies) and sector over the past year and how they performed, and
- ongoing Bank and other externally financed activities that complement, overlap with or relate to this project.

**Please cite relevant sources. Comment on the strength and coherence of the rationale.**

**[250 words maximum. Any additional narrative about the project's origins and history, if needed, must be place in Annex 5: Project Narrative]**

- The Government of Uganda (GOU) prepared a sector investment programme in 1996, a 10 - Year Road Sector Development Programme (RSDP) covering the period 1996/97 to 2005/6 for the classified road network, which was endorsed by Development Partners (DP) including the Bank Group to promote economic growth, poverty reduction, improve access to rural and economically productive areas, market integration, improve the managerial and operational efficiency of road administration and to develop the domestic construction industry. The Roads Maintenance and Upgrading Project, which is to improve the level of service and efficiency of the road network in Central Uganda is consistent with the Government's defined transport sector goal.
- The Bank Group's current strategy for Uganda draws on the Uganda Joint Assistance Strategy (UJAS). The UJAS was developed by Development Partners (DPs) and the Government to articulate a harmonized response to the country's Poverty Eradication Action Plan (PEAP) and its successor the 5-year National Development Plan (NDP) as well as other development aspirations. The Bank Group's specific support is tied to two pillars of the PEAP: (i) enhancing production, competitiveness and incomes, and (ii) human development (Source: Uganda Country Strategy Paper 2011-2014 Concept Note).
- Since commencement of operations in Uganda in 1968 and as at 31 December 2009, the Bank Group had approved loans and grants for 88 operations for a net total amount of UA 1.086 billion, 88%. In the road sub-sector, the Bank Group commenced operations in 1975 and to date, has financed twelve projects and fourteen studies for a total amount of about UA 292.69 million, of which UA 12.25 million has been in grants. Nine projects and eight studies have been completed satisfactorily. Three projects, RSSP1 (Kabale–Kisoro–Bunagana/Kyanika -100.3km) and RSSP 2, (Fort Portal-Bundibugyo-Lamia – 103km) are under construction and RSSP3 (Nyakahita-Ibanda-Kamwenge – 143km) is in the bidding process. These interventions have led to opening up of isolated and inaccessible areas to markets.

## C. PROJECT OBJECTIVES AND LOGICAL FRAMEWORK

<b>1. State the Project Development Objective(s) (as set out in the appraisal report)</b>				
The objective of the project is to reduce transport costs by minimizing the road maintenance and vehicle operating costs in five districts of Central Uganda and to contribute to poverty reduction.				
<b>2. Describe the <u>major</u> project components and indicate how each will contribute to achieving the Project Development Objectives.</b>				
The project had four components (i) Regravelling of 10 No. Roads (214.2 km) in Central Uganda: works involve spot improvement and total regravelling up to a thickness of 200 mm;(ii) Resealing of 6 No. Roads (55.1 km) in Central Uganda: works involve spot patching and resealing with Double Bituminous Surface Treatment (DBST); (iii) Construction works for the upgrading of gravel surfaced road to bitumen standards with 6.0 m wide carriageway and 2.0 m shoulders on both side between the two towns of Gayaza and Kalagi (20 km): works involve 2% lime- stabilized 150 mm thick layer of subbase, 150 mm crushed stone base course and DBST; (iv) Consultancy services for the supervision of the construction works and for project audit.				
<b>RELEVANT</b>	a) Relevant to the country's development priorities	The project was relevant to the country's sector goal of improving the efficiency of the transport sector in order to support economic growth and poverty reduction.		4
<b>ACHIEVABLE</b>	b) Objectives could in principle be achieved with the project inputs and in the expected timeframe	The objectives have been fully achieved at cost effective prices as evidenced by the quality of the completed works. But the upgrading was completed with a slippage of 18 months due to the upgrading works contractor slow start of works, poor mobilization of equipment, poor state of equipment, poor cash flow, and inclement weather conditions.		2
<b>CONSISTENT</b>	c) Consistent with the Bank's country or regional strategy	The project was consistent with the Bank Group's intervention strategy in the transport sector of Uganda as the project is included in the 10-Year Road Sector Development Program (RSDP) covering the period 1996/67 to 2005/07 for the classified road network. The Donor Agencies including the Bank Group endorsed the program (RSDP) in Paris in 1996.		4
	d) Consistent with the Bank's corporate priorities	The project was consistent with the Bank's corporate priorities of transport development and sustainable economic growth.		4
<b>4. Lay out the log. frame. If a log. frame does not exist, complete the table below, indicating the overall project development objective, the <u>major</u> components (minimum of two) of the project, the <u>major</u> activities (minimum of two) of each component and their expected outputs, outcomes, and indicators for measuring the achievement of outcomes. Please add additional rows for components, activities, outputs or outcomes if needed.</b>				
<b>COMPONENTS</b>	<b>ACTIVITIES</b>	<b>OUTPUTS</b>	<b>EXPECTED OUTCOMES</b>	<b>INDICATORS TO BE MEASURED</b>
A - Regravelling of 214.2 km B - Resealing of	Activity 1 - A - Regravelling of 10 No. trunk roads for a total length	A- 8 No. trunk roads (180.8km) regavelled. B- 6 No.trunk	A - Average vehicle operating costs reduced by about 14% in the year 2003 when the road is	Vehicle operating cost savings, travel time savings and road roughness.

55.1 km C - Upgrading of 20 km	of 214.2 km. B- Resealing of 6 No.trunk roads for a total length of 55.1 km. C- Upgrading of 20 km of bituminous road between Gayaza and Kalagi.	roads (55.1 km) resealed. C- A two lane bituminous road with 6.0 m wide carriageway and two 2.0m shoulders from Gayaza to Kalagi (20 km) constructed.	opened compared to base line. B - Reduction in average travel time on main roads up to 30% by 2003 compared to baseline. C - IRI reduced from 5.6m/km to less than 3.0 m/km for paved and 16 m/km to 8 m/km for gravel during the service life of the project roads.	
Consultancy Services for Supervision of Works and audit	Supervision of the regravelling, resealing and upgrading of Gayaza - Kalagi Road	Monthly, quarterly, final construction, project completion and audit reports	Good quality of works in conformity with the project specifications and expected time.	Project activities undertaken within the agreed timeframe in conformity with the project design.

**5. For each dimension of the log. frame, provide a brief assessment (up to two sentences) of the extent to which the log. frame achieved the following. Insert a working score, using the scoring scale provided in Appendix 1. If no log. frame exists, score this section as a 1 (one).**

LOG. FRAME DIMENSIONS		ASSESSMENT	WORKING SCORE
<b>LOGICAL</b>	a) Presents a logical causal chain for achieving the project development objectives	The Appraisal Report presents a project matrix in a logical framework approach that captures the project development objectives.	3
<b>MEASURABLE</b>	b) Expresses objectives and outcomes in a way that is measurable and quantifiable	The project matrix expresses the objectives and outcomes in a measurable and quantifiable way.	3
<b>THOROUGH</b>	c) States the risks and key assumptions	Partially. Some project implementation related risk (slippage of 18 months) was not captured.	2

## OUTPUTS AND OUTCOMES

### I. ACHIEVEMENT OF OUTPUTS

**In the table below, assess the achievement of expected vs. actual outputs for each major activity. Import the expected outputs from the log. frame in Section C. Score the extent to which the expected outputs were achieved. Weight the scores by the activities' approximate share of project costs. The overall output score will be auto-calculated as the sum of the weighted scores. Override the auto-calculated score, if desired, and provide justification.**

MAJOR ACTIVITIES		Working Score	Share of Project Costs (as stated in Appraisal Report)	Weighted Score
Expected Outputs	Actual Outputs			
A- 10 No. trunk roads	A- 8 No. trunk roads (180.8	4	94.09	3.7636

(214.2 km) regravelled. B- 6 No.trunk roads (55.1 km) resealed. C- A two lane bituminous road with 6.0 m wide carriageway and two 2.0m shoulders from Gayaza to Kalagi (20 km) constructed.	km) regravelled. B- 6 No.trunk roads (55.1 km) resealed. C- A two lane bituminous road with 6.0 m wide carriageway and two 2.0m shoulders from Gayaza to Kalagi (20 km) constructed.			
2. Undertaking quality supervision on regravelling, resealing and upgrading of the 20-km from Gayaza to Kalagi in accordance to the design.	Quality supervision of the road project.	4	5.73	0.2292
3. Produce and submit the required audit reports	The auditing of the project was undertaken by the Auditor General and the final project audit report was submitted. GOU had not replied to the Banks comment on the Audit Report.	3	0.18	0.0054
<b>OVERAL OUTPUT SCORE</b> [Score is calculated as the sum of weighted scores]				4

**Check here to override the calculated score**

<b>Provide justification for over-riding the auto-calculated score</b>	
Insert the new score or re-enter the autocalculated score	4

## II. ACHIEVEMENT OF OUTCOMES

**1. Using available monitoring data, assess the achievement of expected outcomes. Import the expected outcomes from the log. frame in Section C. Score the extent to which the expected outcomes were achieved. The overall outcome score will be auto-calculated as an average of the working scores. Override the auto-calculated score, if desired, and provide justification.**

OUTCOMES		Working Score
Expected	Actual	
Average vehicle operating	Average vehicle operating costs reduced by about 40% in the	

4

costs reduced by about 14% in the year 2003 when the road is opened compared to base line.	year 2006 when compared to base line.	
Reduction in average travel time on main roads up to 30% by 2003 compared to baseline.	Reduction in an average travel time on the paved project road by about 66% in 2006 compared to baseline.	4
IRI reduced from 5.6 m/km to less than 3.0 m/km for paved and 16 m/km to 8 m/km for gravel during service life of the project roads.	IRI reduced from 8.0 m/km to 3.0 m/km for the paved project road and from 20.0m/km to 8.0m/km for gravel road in 2006 when compared to the base line.	
<b>OVERALL OUTCOME SCORE</b> [Score is calculated as an average of the working scores]		4

**Check here to override the calculated score**

<b>Provide justification for over-riding the auto-calculated score</b>	
Insert the new score or re-enter the autocalculated score	4

<b>2. Additional outcomes. Comment on the project's additional outcomes not captured in the log frame, including cross-cutting issues (e.g., gender).</b>
Both the maintenance of regravelling and resealing works involved extensive labor-based works that provided a valuable source of direct employment for local and migrant laborers. The generated direct employment for the local people was estimated by UNRA at 3000, with an estimated wage income of USD1.35million. According to UNRA, about 180 (6%) local women were recruited and this contributed to improvement of their family incomes. Traditionally women are responsible for the cultivation of food crops and farming is the predominant activity in the project zone of influence. Since the project road has improved access to the supply of farm inputs and facilitates the evacuation of produce, women farmers have benefited and their living conditions have been enhanced. The reduction in transport burden of women by improvement in access to the collection of water, fuel wood, taking children to schools, hospital and other cultural and social activities have benefited women. There were also indirect employment opportunities for local businesses, including women, in the supply of food, goods and other services for the labor force, during construction, thus providing a substantial boost to the local economy. The project has created employment opportunity for about 254 people from the local area in the routine maintenance of the project road.
<b>3. Risks to sustained achievement of outcomes. State the factors that affect, or could affect, the long-run or sustained achievement of project outcomes. Indicate if any new activity or institutional change is recommended to help sustain outcomes. The analysis should draw upon the sensitivity analysis in Annex 3</b>
Risks to Project Goals (achievement/outcomes). <ul style="list-style-type: none"> <li>• GOU has established a road fund to cover the maintenance requirements for all public roads and the fund has become operational as of January 2010. The dedicated Road Fund based on road user charges is expected to guarantee a regular and steady flow of funds for maintenance. The Executive Director of the Uganda Road Fund has commenced work in November 2009 and the recruitment of the 21 staff of the Fund</li> </ul>

is ongoing. In addition to the establishment of the Road Fund, the establishment of UNRA and the transfer of maintenance, axle load control and other activities from MOWT to UNRA as of July 2008 have strengthened the institutional aspect of road maintenance and the sub-sector performance. For sustained achievement of the project outcome, implementation of the entire scope of road users charges to road maintenance and strict axle load control measures need to be in place.

- The Road Maintenance Division, under the Directorate of Operations of UNRA is directly responsible for maintaining the classified national road network. The upgraded road is maintained in accordance with the GOU maintenance program by the Central region of UNRA (districts of Mpigi and Kampala). Routine maintenance is handled by force account and labor-based petty contractors on the basis of unit cost / km/month work rates. Labor-based contractors are assigned for 6 to 10 km to carry out off-carriage activities like drainage maintenance, grass-cutting, cleaning of culverts, blading, spot repairs, gabion repairs and removing of any obstructions.
- UNRA allocates about USD2,900 per km per year for routine maintenance of paved roads in good and fair condition and USD2,600 per km for unpaved roads. GOU has been carrying out routine maintenance on a fairly regular basis on all the project roads. The first periodic maintenance for upgraded and resealed roads will be due around 2012. Government would have to consider allocation of funds for the periodic maintenance. The periodic maintenance for the regravelled road was due in 2009. Government has already regravelled Mpigi-Kanoni and Kayunga-Baale roads and the study for upgrading Kayunga-Baale road is included under RSSP3. Government has plans to upgrade the remaining roads in the future. In the meantime, the timeliness and adequacy of maintenance of these gravel roads will ensure their sustainability

## E. PROJECT DESIGN AND READINESS FOR IMPLEMENTATION

**1. State the extent to which the Bank and the Borrower ensured the project was commensurate with the borrower's capacity to implement by designing the project appropriately and by putting in place the necessary implementation arrangements. Consider both design aspects (inputs) and actual outcomes. Design aspects include: extent to which project design took account lessons learned from previous PCRs in the sector or the country (please cite key PCRs); whether the project was informed by robust analytical work (please cite key documents); how well Bank and Borrower assessed the capacity of the implementing agencies and Project Implementation Unit; and provisions made for technical assistance. Project outcomes include the extent to which the project was completed on time and activities were implemented as designed.**

**[200 words maximum. Any additional narrative about implementation should be included at Annex 5: Project Narrative]**

. At appraisal, the Executing Agency was the Ministry of Works, Housing and Communications (MOWHC). The Project Implementation Unit was the Road Agency Formation Unit (RAFU). RAFU's duties and responsibilities included the planning, design, construction supervision, maintenance management, operation, development and management of the road links under the Road Sector Development Program, including the financial and technical monitoring of program activities, and management of policy studies. RAFU was transformed into a fully fledged Road Authority in 2008 and the restructuring has not affected the project implementation. The institutional restructuring coupled with the changes in the road funding is expected to improve the sub-sector performance in delivering sustainable road transport service to the socio-economic development of the country.

The implementation and design benefited from lessons learnt from previous Bank interventions in the sector including the then recently completed Iganga-Mbale road project which had similar design characteristics. At appraisal, it had been established that the MOWHC had capacity problems for execution and monitoring of projects. However the Bank supported the project on the basis that another donor-sponsored institutional change program was underway to complement the Bank's efforts. RAFU with a capacity to implement the

project, reinforced by 2 technical assistance teams was designated as the PIU. A Project Coordinator whose qualifications and experience were acceptable to the Fund for the proposed project was designated from within RAFU.

The actual project implementation resulted into a slippage of 18 months and the final project cost was also 34.67% lower than the appraisal estimate mainly due to lower than estimated tender prices for the works and partly due to the decrease in the re-graveled road from 214.2 to 180.8km (Refer Annex 5).

**2. For each dimension of project design and readiness for implementation, provide a brief assessment (up to two sentences). Insert a working score, using the scoring scale provided in Appendix 1.**

PROJECT DESIGN AND READINESS FOR IMPLEMENTATION DIMENSIONS		ASSESSMENT	WORKING SCORE
<b>REALISM</b>	a) Project complexity is matched with country capacity and political commitment.	There was no complexity in the project and the executive agency handled the project. A Project Coordinator, approved by the Bank, was designated. Political commitment was ensured through setting a number of conditions that the government fulfilled precedent to entry into force for the loan agreement and conditions prior to first disbursement of the loan as well as a Government counter-part contribution to the financing.	3.5
<b>RISK ASSESSMENT AND MITIGATION</b>	b) Project design includes adequate risk analysis.	The project design included risk analysis based on lessons learned from previous projects and mitigation measures which included assumption that all procurement actions would be on schedule; processing of invoices would not be delayed; GOU would make timely release of counterpart funds required; and supervision of works by the Bank, consultants and RAFU would be effective. Despite mitigating against such risks, there was a risk of delays in works by the upgrading contractor and inclement weather resulting in extension of overall project time. Furthermore, there was a risk of delays in disbursements by the Bank due to the relocation of Bank's headquarters.	3
<b>USE OF COUNTRY SYSTEMS</b>	c) Project procurement, financial management, monitoring and/or other systems are based on those already in use by government and/or other partners.	All procurement, financial management, and monitoring systems used by the project were in line with government procedures as well as with Bank rules and procedures. Bank's rule was used. No separate PIU was created, but the already set up GoU's Road Agency Formation Unit was designated as the PIU.	4

For the following dimensions, provide separate working scores for Bank performance and Borrower performance:			WORKING SCORE	
			Bank	Borrower
<b>CLARITY</b>	d) Responsibilities for project implementation are clearly defined.	Responsibility for project implementation was clearly defined at Appraisal as provided in Bank's Rules and Procedures on procurement.	4	4
<b>PROCUREMENT READINESS</b>	e) Necessary implementation documents (e.g. specifications, design, procurement documents) are ready at appraisal.	The necessary implementation documents in respect of road designs, specifications and EIA were ready at appraisal. Procurement rules and procedures as well as bidding documents were in place at the appropriate time.	4	4
<b>MONITORING READINESS</b>	f) Monitoring indicators and monitoring plan are agreed upon.	Monitoring indicators and monitoring plans were agreed upon.	3.5	2
<b>BASELINE DATA</b>	h) Baseline data are available or are being collected.	At appraisal, the designs were complete and the required data were available, prior to commencement of the project. But baseline data for follow up of project impact are not available. Government did not fulfill its obligation of timely supplying some of the required information like axle load control figures and bi-annual traffic counts.	2	2

## F. IMPLEMENTATION

<p><b>1. State the major characteristics of project implementation with reference to: adherence to schedules, quality of construction or other work, performance of consultants, effectiveness of Bank supervision, and effectiveness of Borrower oversight. Assess how well the Bank and the Borrower ensured compliance with safeguards. Briefly list what was accomplished at the time of project closing.</b></p> <p><b>[200 words maximum. [Any additional narrative about implementation should be included at Annex 5: Project Narrative.]</b></p> <ul style="list-style-type: none"> <li>• The road works were executed by the three selected contractors under unit price contracts and were supervised by two firms of civil engineering consultants. The physical works for each Lot were to be implemented over a period of 18 months commencing in July 2001 and ending in December 2003, followed by a 12 months defect liability period. The consultancy services for the supervision of works were to commence in April 2001 and terminate in December 2004. The project completion date was reviewed twice to 30 December 2005 and 30 June 2006. The factors / reasons that contributed to the delay in project completion were the slow start of works by the upgrading contractor, poor mobilization of equipment, poor state of equipment; poor cash flow of the upgrading contractor; and inclement weather conditions and abnormal rainfall.</li> <li>• The project was substantially completed in June 2006, with a slippage of 18 months on the completion time due to factors indicated above. With respect to the contract execution, there was a slippage of 24 months</li> </ul>
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<p>relative to the appraisal estimate. The general quality of the finished upgraded work, pavement surface and ride quality, safety features and furniture and drainage were found to be very good and in accordance to the design. The performance of the Consultants and the Contractors was satisfactory.</p> <ul style="list-style-type: none"> <li>• The Bank performed eight (8) field missions of project supervision. The supervision mission teams, the Government, the Consultants and the Contractors worked in co-ordination. The field missions were effective in solving project related issues on time. Compliance has been carried out through the supervision missions and disbursement audits. Technical compliances have been duly executed by the consultants through the quarterly progress reports in accordance with the Bank's requirements. The project roads were completed in June 2006 and the project work is considered as having accomplished the operational requirements.</li> </ul>				
<p><b>2. Comment on the <u>role of other partners</u> (e.g. donors, NGOs, contractors, etc.). Assess the effectiveness of co-financing arrangements and of donor coordination, if applicable.</b></p>				
<p>Other donors and NGOs did not participate in the project. The performance of all the Contractors was satisfactory as evidenced by quality of the completed works albeit the slow progress on the upgrading works due to Contractor's failure to provide adequate financial resources and the additional instructed works.</p>				
<p><b>3. <u>Harmonization</u>. State whether the Bank made explicit efforts to harmonize instruments, systems and/or approaches.</b></p>				
<p><b>4. Compliance with Bank rules was ensured.</b></p>				
<p><b>For each dimension of project implementation, assess the extent to which the project achieved the following. Provide a brief assessment (up to two sentences) and insert a working score, using the scoring scale provided in Appendix 1.</b></p>				
PROJECT IMPLEMENTATION DIMENSIONS		ASSESSMENT		WORKING SCORE
TIMELINESS	a) Project was completed on time. Draw directly from Section A on Project Data and Key Data. Calculate the ratio of planned time from approval to closing. Score "4" if the ratio is 1.0, score "1" if the ratio is 2.0, score "0" if ratio is greater than 2.0 (i.e. project completion took more than twice as long as planned)].	Difference in months between original closing date and actual closing date or date of 98% disb. Rate.	The initial project implementation period was 18 months, commencing in July 2001 and ending in December 2003, followed by 12 months defect liability period. The actual project implementation had given rise to a slippage of 18 months on the completion time . The project was finally completed in June 2006.	2
		18		

<b>BANK PERFORMAN CE</b>	b) Bank complied with:		
	Environmental Safeguards	Since the project roads essentially followed the existing alignments, the disturbance to the surrounding habitat was minimal and did not pass through any area that has been designated as environmentally sensitive such as natural parks, game reserves, wild life corridors, archaeological sites and habitat of any endanger species. At Appraisal, on 30 April 1999, the upgraded project road was classified to be Category 2. The restoration of all the borrow pits and quarries were being closely monitored for compliance by RAFU Environmental and Monitoring Unit and eventually certified by the National Environmental Management Authority, (NEMA). All the borrow pits and quarries are reinstated.	4
	Fiduciary Requirements	The Bank ensured that its fiduciary rules and procedures were adhered to through project implementation in granting its "No Objections" to Government's requests.	4
	Project Covenants	All project covenants were fulfilled.	3
	c) Bank provided quality supervision in the form of skills mix provided and practicality of solutions	The Bank performed eight (8) supervision missions during the project implementation period. The skills mix comprising an engineer and investment officer for the mission was adequate.	3
The Bank provided quality management oversight	The Bank has processed disbursements in line with the loan agreements and Government's requests. The Bank's role on overall management of the project is commendable on the basis of proper execution of the project road. The skills mix comprising an engineer and investment officer for the mission was adequate.	3	

<b>BORROWER PERFORMANCE</b>	e) Borrower complied with:		
	Environmental Safeguards	The project roads followed the existing alignments and did not pass through any area that has been designated as environmentally sensitive such as natural parks, game reserves, wild life corridors, archaeological sites and habitat of any endanger species. Thus the disturbance to the surrounding habitat was minimal. At Appraisal, on 30 April 1999, the upgraded project road was classified to be Category 2. The restoration of all the borrow pits and quarries were being closely monitored for compliance by RAFU Environmental and Monitoring Unit and eventually certified by the National Environmental Management Authority, (NEMA). • As a result of general road widening and minor re-alignment on about 6 km of Gayaza-Kalagi road, there were loss of agricultural land and residential houses.	4
	Fiduciary Requirements	Government mostly followed the fiduciary requirements of the Bank and its own rules and procedures through out project implementation.	4
	Project Covenants	All covenants were fulfilled by Government. UNRA has clearly marked the road reserve boundaries, however, it has been noted that there are still some encroachment on the road reserve by some people that were compensated and had not vacated their houses and plantations.	3
	f) Borrower was responsive to Bank supervision findings and recommendations	The Government generally agreed to the Bank's supervision missions findings and recommendations.	4
g) Borrower collected and used monitoring information for decision making	Generally, the Borrower used monitoring information for decision making. Nevertheless, GOU has not submitted Annual Axle Load Control and Bi-Annual Regular Traffic Count Reports to the Bank on regular basis.	2	

## G. COMPLETION

**Briefly describe the PCR Process. Describe the Borrower's and co-financers' involvement in producing the document. Highlight any discrepancies concerning the assessments made in this PCR. Describe the team composition and confirm whether an in-sight visit was undertaken. Mention any major collaboration from other development partners. State the extent of field office involvement in producing the report.**

**[100 words maximum]**

The GOU submitted the Borrowers PCR in March 2007. The Bank did not undertake the PCR Mission till March 2010. There is no discrepancy between the Borrower PCR and this report. Further information was collected and the content was reviewed as appropriate and included in this report. Pertinent Government agencies (Ministry of Finance Planning & Economic Development, National Environment Management

Authority, Road Fund, Uganda National Roads Authority, Mpigi and Kayunga District administrations) were consulted. There was no co-financier in the project. The Bank PCR team was composed of Messers D. Gebremedhin, Transport Economist and D. M. Isooba, Infrastructure Specialist, Uganda Field Office. The Uganda Field Office was fully involved and participated in producing this report. A joint site visit was conducted by the PCR team and UNRA.

## H. LESSONS LEARNED

**Summarize key lessons for the Bank and the Borrower suggested by the project's outcomes**

**[250 words maximum. Any additional narrative about lessons learned, if needed, must be placed in Annex 5: Project Narrative]**

- (i) The Borrower's performance in the project execution was satisfactory. However, GOU need to submit the agreed baseline data (Annual Axle Load Control and Bi-Annual Regular Traffic Count Reports) on regular basis;
- (ii) In order to utilize the loan amount fully, it is important that complete roads section are considered at appraisal and have a reasonable project cost estimate for loan preparation;
- (iii) Inadequate designs caused problems in the execution of the works contracts on all the three lots and it is essential to ensure that all designs produced by Consultants are satisfactory;
- (iv) In order to avoid delay in project commencement and unnecessary costs, land appropriation should be handled expeditiously;
- (v) To ensure effective acquisition of the road reserve, compensated property should be removed and the road reserve boundary clearly demarcated to avoid future encroachment;
- (vi) For future paved road rehabilitation works, adequate provisions for surfacing of shoulders, lining of side drains and installation of cross and access pipe culverts be incorporated in order to protect the integrity of the road structure;
- (vii) Good record keeping is necessary for project evaluation purposes;
- (viii) The Bank should encourage growth of the local construction industry by encouraging local contractor participation. Appropriate procurement methods should always be made for services, goods and works. For example, regravelling works should have been better suited for NCB instead of ICB;
- (ix) The project should have developed instruments to strategically address specific gender needs and perspectives to insure full participation and benefit from both women and men. Such activities would include disaggregated data collection, capacity building and training program with gender sensitive training materials, and having in place a monitoring system with gender sensitive indicators;
- (x) Bank needs to be more flexible in the use of loan savings to use on activities that were not foreseen at appraisal.
- (xi) Bank to prepare PCR timely according to the Bank guideline; and
- (xii) Evolve an appropriate solution or/ and introduce stringent measures to arrest vandalism to protect the investment.

## I. PROJECT RATINGS SUMMARY

All working scores are auto-generated by the computer from the relevant section in the PCR.

CRITERIA	SUB-CRITERIA	WORKING SCORE
PROJECT	Achievement of outputs	4

<b>OUTCOME</b>	Achievement of outcomes	4
	Timeliness	2
	<b>OVERALL PROJECT OUTCOME SCORE</b>	<b>3</b>
<b>BANK PERFORMANCE</b>	<b>Design and Readiness</b>	
	Project Objectives are relevant to country development priorities.	4
	Project Objectives could in principle be achieved with the project inputs and in the expected time frame.	2
	Project Objectives are consistent with the Bank's country or regional strategy	4
	Project Objectives are consistent with the Bank's corporate priorities	4
	The log frame presents a logical causal chain for achieving the project development objectives.	3
	The log frame expresses objectives and outcomes in a way that is measurable and quantifiable.	3
	The log frame states the risks and key assumptions.	2
	Project complexity is matched with country capacity and political commitment.	3.5
	Project design includes adequate risk analysis.	3
	Project procurement, financial management, monitoring and/or other systems are based on those already in use by government and/or other partners.	4
	Responsibilities for project implementation are clearly defined.	4
	Necessary implementation documents (e.g. specifications, design, procurement documents) are ready at appraisal.	4
	Monitoring indicators and monitoring plan are agreed upon.	3.5
	Baseline data are available or are being collected.	2
	<b>PROJECT DESIGN AND READINESS SUB-SCORE</b>	<b>3</b>
	<b>Supervision:</b>	
	Bank complied with:	
	Environmental Safeguards	4
	Fiduciary Requirements	4
	Project Covenants	3
	Bank provided quality supervision in the form of skills mix provided and practicality of solutions.	3
	Bank provided quality management oversight.	3
<b>SUPERVISION SUB-SCORE</b>	<b>3</b>	
<b>OVERALL BANK PERFORMANCE SCORE</b>	<b>3</b>	
<b>BORROWER PERFORMANCE</b>	<b>Design and Readiness</b>	
	Responsibilities for project implementation are clearly defined.	4
	Necessary implementation documents (e.g. specifications, design, procurement documents) are ready at appraisal.	4
	Monitoring indicators and monitoring plan are agreed upon and baseline data are available or are being collected	2
	<b>PROJECT DESIGN AND READINESS SCORE</b>	<b>3</b>
	<b>Implementation</b>	
	Borrower complied with:	
	Environmental Safeguards	4
	Fiduciary Requirements	4
	Project Covenants	3
	Borrower was responsive to Bank supervision findings and recommendations.	4
Borrower collected and used of monitoring information for decision-making.	2	

	<b>IMPLEMENTATION SUB-SCORE</b>	<b>3</b>
	<b>OVERALL BORROWER PERFORMANCE SCORE</b>	<b>3</b>

## J. PROCESSING

<b>STEP</b>	<b>SIGNATURE AND COMMENTS</b>	<b>DATE</b>
<b>Sector Manager Clearance</b>		
<b>Regional Director Clearance</b>		
<b>Sector Director Approval</b>		

## APPENDIX 1

### Scale for Working Scores and Ratings

SCORE	EXPLANATION
4	<b>Very Good-</b> Fully achieved with no shortcomings
3	<b>Good-</b> Mostly achieved despite a few shortcomings
2	<b>Fair-</b> Partially achieved. Shortcomings and achievements are roughly balanced
1	<b>Poor-</b> Very limited achievement with extensive shortcomings
NA	Non Applicable

**Note: The formulas round up or down for decimal points. Only entire numbers are computed.**

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### **Annex 1 - Project Costs and Financing**

#### **Project Costs**

The total cost of the project at Appraisal was UA16.76 million (UGX34.93 billion) of which UA15.0 million (UGX31.20billion) was ADF's contribution, while UA1.76 million (UGX3.67billion) was Government of Uganda (GOU) counterpart funding. The cost estimate of the civil works, inclusive of both physical and price contingency, was UA15.77 million while an amount of UA0.96 million or 6% of base cost and UA0.03million were also provided for supervision consultancy and audit services, respectively as presented in the Table below.

The Project was executed under three components/lots namely, regravelling; resealing and upgrading works. The contract for the civil works of regravelling was awarded for a contract amount of UA3.30 million (UGX6.889 billion) on 30 May 2002. The Contractor commenced work on 1 August 2002. At completion, 29 February 2004, the actual contract price for the civil works became UA3.15million, which translates to 4.5% cost underrun relative to the initial contract price. The supervision consultancy for regravelling works was awarded on 30 May 2002

for a contract amount of USD602,143.75 (UA0.44million), but final completion cost stood at UA0.49million at project completion of 29 February 2005. As a result of the approved time extension of one month due to bad weather, the physical works was completed by the end of February 2005, with cost overrun of 11.4%.

The resealing works contract was signed on 30 May 2002 for an amount of UGX7.918 billion (UA3.8million). The contractor commenced work on 15 July 2002. At completion on 31 July 2004, the final value of executed work was UA3.56million, which turns to be 6.3% cost underrun relative to the initial contract price.

The upgrading work was executed at contact amount of UGX6.268 billion (UA3.0million). The contract was signed on 30 May 2002 and actual work commenced on 18 December 2002 with a start-up delay of about 3 months, after the land/property appropriation process of the right-of-way of the road project had been completed. The final value of the executed work was UA2.99million and the contractor completed the project on 22 February 2006 (due to the unsatisfactory progress of works, claims and adverse weather conditions).

The supervision consultancy for resealing & upgrading works was awarded on 30 May 2002 at original contract sum of USD504,125.00 (UA0.37million). At completion, on 16 December 2006, the final cost was UA0.76 million, which translates to 105% cost overrun relative to initial contract price. This was due to the additional design consultancy services that were required for land appropriation prior to the commencement of the upgrading works and additional supervision services that arose out of the extension of the works contracts.

The total actual project completion cost (net of taxes) of the entire project civil works and consultancy services, as at 31 December 2006, was at UA10.95million (UGX27.9billion). This is 34.67% (UA5.81million) lower than the appraisal cost estimate of UA 16.76 million. The ADF has disbursed cumulatively a sum of UA 8.6million (UGX21.91billion), which represents 78.5% of the total project cost and this stands to be 57.33% of the loan of UA15.00 million. The Government has contributed in tandem UA2.35 million (UGX5.98 billion) to the implementation.

**Summary of Project Costs at Appraisal and Actual (UA Million, net of taxes)**

<b>Component</b>	<b>Appraisal (UA million)</b>	<b>Tender Prices (UA million)</b>	<b>Final Costs (UA million)</b>	<b>Percentage of Appraisal Costs</b>
<b><u>Civil Works</u></b>				
Regravelling Works	8.50	3.30	3.15	37.06
Resealing works	3.40	3.80	3.56	104.71
Upgrading works	3.87	3.00	2.99	77.26
<b><u>Supervision and Audit</u></b>				
Regravelling works	0.52	0.44	0.49	94.23
Resealing & Upgrading	0.44	0.37	0.76	172.73
Auditing	0.03	0.00	0.00	0.00
<b>TOTAL</b>	<b>16.76</b>	<b>10.91</b>	<b>10.95</b>	<b>65.33</b>

**Project Financing Plan**

The project was co-financed by ADF and GOU and there were no other cofinanciers. The appraisal financing plan of the project was estimated at UA16.76 million (including physical and price contingencies). The ADF loan of UA15.00 million would cover 89.5% of the total cost and GOU would contribute the remaining 10.5%, equivalent to UA 1.76 million, as counterpart funding. ADF financing was to cover the entire foreign exchange cost and 67.5% of the local cost, while GOU to finance 32.5% of the local cost amounting to UA 1.76 million. At project completion, the actual contribution of ADF was UA 8.6million (78.54%), while GOU provided UA2.35million representing 21.46% as counterpart contribution. The GOU contribution increased from UA1.76 to UA2.35million. Overall total project cost was UA10.95million (UGX27.9billion), which is 34.67% lower than the appraisal estimate of UA 16.76million.

**Financing Plan – Appraisal versus Actual (UA million)**

Source of Finance	Appraisal				Actual				Difference		
	FE	LC	Total	% age	FE	LC	Total	% age	FE	LC	Total
ADF	11.34	3.66	15.00	89.50	8.05	0.55	8.60	78.54	3.29	3.11	6.40
GOU	0.00	1.76	1.76	10.50	0.00	2.35	2.35	21.46	0.00	(0.59)	(0.59)
Total	11.34	5.42	16.76	100.00	8.05	2.90	10.95	100.00	3.29	2.52	5.81

The loan was disbursed against two categories of expenditure viz: civil works and consultancy services using the direct payment method against standard documentation. The original deadline for loan disbursement was 31 December 2004, however, due to the extension of the original intended completion dates for resealing & upgrading works, the loan disbursement deadline was initially extended to 31 December 2005 and subsequently to the 30 June 2006.

**Annex 2 - Bank Inputs**

List the key team members, and their specialties, during preparation and supervision. Provide a consolidated list of Preparation, Supervision and Completion Missions in chronological order. Provide the date and ratings of the last supervision report.

<b>List of Bank Mission Members and their Specializations</b>				
	<b>Mission Type</b>	<b>Date</b>	<b>Composition</b>	<b>Remark</b>
1	Identification		ADB Team	
2	Project Appraisal	March 2000	A. Babalola (Transport Engineer, Task Manager), M. O. Ajjo (Transport Economist) and Ms. J. E. Ofoori	

			(Social Expert Consultant)	
3	Launching	17/11 - 8/12/2001		
4	Technical Supervision	25/05 - 08/06/2002	A. Babalola ( Transport Engineer, Task Manager)	
5	Technical Supervision	7/12 - 21/12/2002	A. Babalola (Transport Engineer, Task Manager)	
6	Technical Supervision	12/07 - 26/07/2003	A. Babalola ( Transport Engineer, Task Manager)	
7	Technical Supervision	30/11 - 13/12/2003	A. Babalola ( Transport Engineer, Task Manager)	
8	Technical Supervision	10/04 - 22/04/2004	A. Babalola ( Transport Engineer, Task Manager)	
9	Technical Supervision	28/11 - 04/12/2004	A. Babalola ( Transport Engineer, Task Manager)	
10	Technical Supervision	18/06 - 26/06/2005	A. Babalola ( Transport Engineer, Task Manager)	
11	Technical Supervision	14/05 - 24/05/2006	A. Babalola (Transport Engineer & Task Manager) & D. Rutabingwa (Investment Officer UGFO)	
12	Project Completion Report	22/02 - 5/03/2010	D. Gebremedhin, Transport Economist (Task Manager) and D. Isooba (Infrastructure Specialist UGFO)Transport Engineer)	Combined the PCR with Launching of Road Sector Support Project 3.

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Provide the date and ratings of the last supervision report

The last date of the supervision mission was from 14 to 24 May 2006 and the last supervision average was 2.15 as shown below.

### PROJECT PERFORMANCE

INDICATORS	RATINGS				
	Preceding report				This report
	30.11.2003	10.04.2004	28.11.2004	18.06.2005	14.05.2006
<b>A. PROJECT IMPLEMENTATION</b>					
Compliance with loan conditions precedent to entry into force	2	2	2	2	2
Compliance with General Conditions	2	2	2	2	2
Compliance with Other Conditions	2	2	2	2	2
<b>B. PROCUREMENT PERFORMANCE</b>					
Procurement of Consultancy Services	2	2	2	2	2
Procurement of Goods and Works	2	2	2	2	2
<b>C. FINANCIAL PERFORMANCE</b>					
Availability of Foreign Exchange	3	3	3	3	3
Availability of Local Currency	3	3	3	3	3
Disbursement Flows	2	1	2	2	2
Cost Management	2	2	2	2	2

Performance of Co-Financiers					
<b>D. ACTIVITIES AND WORKS</b>					
Adherence to implementation schedule	2	2	2	2	2
Performance of Consultants or Technical Assistance	2	2	2	2	2
Performance of Contractors	1	1	1	2	2
Performance of Project Management	2	2	2	2	2
<b>E. IMPACT ON DEVELOPMENT</b>					
Likelihood of achieving development Objectives	2	2	2	3	3
Likelihood that benefits will be realized and sustained beyo	2	2	2	3	3
Likely contribution of the project towards an increase in	2	2	2	3	3
Current Rate of Return					
<b>F. OVERALL PROJECT ASSESMENT</b>					
Current Supervision Average	2.06	2	2.06	2.31	2.31
Current Trend over time					2.15

**RATINGS:** 3 = *Highly Satisfactory*, 2 = *Satisfactory*, 1 = *Unsatisfactory*, 0 = *Highly Unsatisfactory*, ' ' = *Non applicable*

### STATUS

**Implementation Progress (IP)** = 2.15

**Development Objectives (DO)** = 3.00

**OVERALL STATUS :** NON PROBLEMATIC PROJECT / NON POTENTIALY PROBLEMATIC PROJECT /

### JUSTIFICATION OF RATINGS

### **Annex 3 - Economic Benefits and Costs**

#### **Traffic levels**

At appraisal, for the unpaved road links, the 1999 base traffic levels ranged from 88 to 510 Average annual Daily Traffic (AADT), while for the paved roads links from 1,033 to 6,914 AADT. In projecting future traffic levels, a medium term growth rate of 6.5% and 7.5% per annum were considered for urban and sub-urban roads respectively. During the Project Completion Report (PCR), using traffic counts conducted by UNRA in December 2008, it has been established that traffic volumes of the unpaved road links have generally increased from 382 to 6181 AADT, the paved road links from 2708 to 27964, higher than the traffic projections at project appraisal.

At Appraisal, a weighted average traffic of 200 and a diverted traffic of 260 vehicles per day were considered in 1999 for the Gayaza –Kalagi road upgrading. Traffic growth rate of 10% per annum has been assumed for the first 10 years after which 5%, for the remaining 5 years service life of the road. The 2008 traffic count of UNRA on the project shows an AADT of 1455. This traffic data when compared with the 2008 appraisal forecast of 811 shows an increase of 79%. For the PCR economic analysis, a traffic growth rate of 5% was considered.

The traffic of 1999 and 2008 by road links for the paved, unpaved and upgrading road links are shown in the Table below.

#### **Regravelling, Resealing and Upgrading Roads Traffic (1999 and 2008)**

	Regravelling Roads	km	Traffic	
			1999	2008
1	Kirinya-Bukasa	5.5	408	6181
2	Mpigi Kasanja- Buwaya	20.0	88	607
3	Mpigi- Kanoni	59.0	263	803
4	Mitala Maria- Bulu	20.2	264	382

5	Luwero-Kiwoko	14.0	178	1002
6	Njeru-Nyenga	4.0	510	2952
7	Lugazi-Buikwe	10.5	287	1339
8	Kayunga-Baale	47.6	289	893
	Resealing Roads			
1	Gaba Road Junction - Cape Town Villa	1.9	1455	2945
2	Gaba Road- Tank Hill	2.6	4593	6960
3	Kibuye- Makindye	2.0	6914	16682
4	Jinja Road- Polytechnic	1.0	2664	27964
5	Luzira-Butabika	2.0	1649	3025
6	Nansana Busunju	45.6	1033	2708
	Upgrading			
1	Gayaza - Kalagi	20.0	460	1455

Source: Uganda National Roads Authority (UNRA) and ADF PCR Mission, March 2010

### **Economic Performance**

Regravelling and Resealing - The incremental benefit-cost ratio and Economic Internal Rate of Return (EIRR) had been used at appraisal for the regravelling and reseal maintenance interventions as the criterion for decision to invest. The life cycle for regravelling works was 5 years and for resealing road links 8 years. For the periodic maintenance road links, no residual value has been taken into account in the economic cost benefit analysis. The economic capital cost for periodic maintenance of unpaved roads was estimated as US\$ 9.49 million at appraisal. Using discount rate of 12%, given the network approach to maintenance rather than individual links, the overall result indicated an incremental benefit cost ratio of 1.18 and an EIRR of 22.79%. The PCR evaluation followed the same methodology and, the aggregate incremental benefit-cost ratio is estimated at 0.64 with an EIRR of 45.0%.

The periodic maintenance of paved road was estimated at US\$ 4.60 million. At appraisal, the aggregate incremental benefit-cost ratio was calculated as 1.74 and an EIRR of 21.29%. The

PCR evaluation followed the same methodology and, the aggregate incremental benefit-cost ratio is estimated at 1.93 with an EIRR of 40.9%.

Upgrading Road (Gayaza–Kalagi) – At Appraisal, the methodology used for the economic evaluation of the project road was conducted on a net incremental benefit basis by comparing "with project" and "without project" scenarios. The World Bank HDM-III model was used to calculate the maintenance costs and VOC predicted over the life cycle of the project road for the "with project" and "without project" scenarios. The pavement deterioration and VOC relationships under the HDM-III model predict future performance and resource consumption for the "with project" and "without project" alternatives. Maintenance strategies physically applicable under the alternatives were included in the comparative analysis.

The EIRR was the main economic indicator used for the Gayaza-Kalagi Road Upgrading at 12% discount rate. Financial prices were converted to economic prices by a factor of 0.83. The service life used for the project road was 15 years and a residual value of 10% of the initial investment.

During the PCR, the same assumptions were taken. The project capital cost was estimated to be UA3.37million for the upgrading road works and supervision. The viability of the project has been assessed using the HDM-IV Model and the result of the comparison of quantifiable project benefits and costs showed an EIRR of 25.9%, higher than the appraisal estimate of 15.4%, which is above the opportunity cost of capital in Uganda. The main reasons for such an increase are due to the 22.8% decrease in the capital expenditure of the construction cost and the increase in traffic by 79%, when compared with the appraisal estimates. The comparison of the EIRR for the Appraisal and the PCR are summarized in the following table.

Intervention	Appraisal EIRR (%)	PCR EIRR (%)
Regravelling	22.79	45.0
Resealing	21.29	40.9
Upgrading	15.4	25.9

Source: Uganda National Roads Authority (UNRA) and ADF PCR Mission, March 2010

All the interventions give a return above the opportunity cost of capital in Uganda of 12% and consequently the investment on the road was worthwhile. It follows, therefore, that the Net Present Value (NPV) are positive offering positive results at 12% discount rate, the rate taken to be the opportunity cost of capital. It is concluded that investment in the project roads were viable and appropriate.

The project roads have facilitated linkages between agricultural production and marketing centers and distribution of agricultural inputs and extension services in the project zone of influence. Furthermore, the project has facilitated access to government administration, to schools, clinics and hospitals. Renewals and development of new houses in the trading centers and villages along the project roads, especially the upgraded roads were observed. Both the upgrading and the maintenance (regravelling and resealing) works involved extensive labor-based works that provided a valuable source of direct employment for local and migrant laborers. The generated direct employment for the local people was estimated by Uganda National Roads Authority (UNRA) at 3000, with an estimated wage income of USD1.35million. According to UNRA, about 180 (6%) local women were recruited and this contributed to improvement of their family incomes. The project has also created employment opportunity for about 254 people from the local areas in the routine maintenance of the project roads.

In the case of the upgraded road project, the availability of transport services (mini buses) was reported to be very low before the intervention. After the upgrading of Gayaza –Kalagi road, the services have improved and transport fare has reduced by 50%, from UGX3000 toUGX1500.

### **Sensitivity Analysis**

At Appraisal, the economic performance of the investment was subjected to sensitivity tests in terms of increased construction costs and lower traffic levels than the projected. For the Gayaza–Kalagi road, the effect of increasing the cost factors by 10% resulted in a drop of EIRR to 13.9%. When traffic levels are reduced by 10%, the EIRR dropped to 13.23%. In both tests, the project was viable.

The following table shows the sensitivity analysis for the upgraded project at appraisal and PCR.

#### **Sensitivity Analysis (% EIRR)**

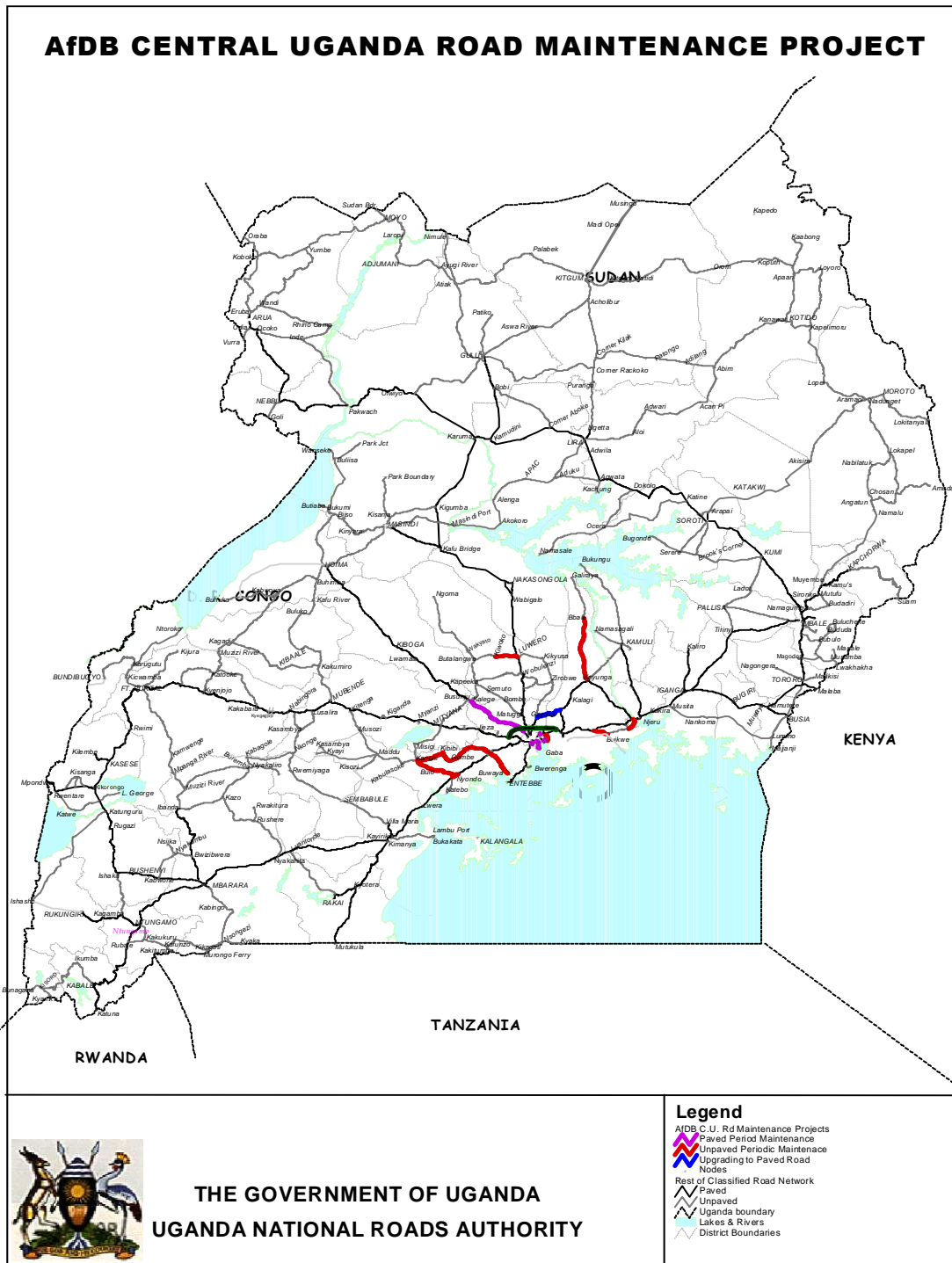
Variable	Appraisal	PCR
Base case		
10% cost increase		

10% benefit reduction		
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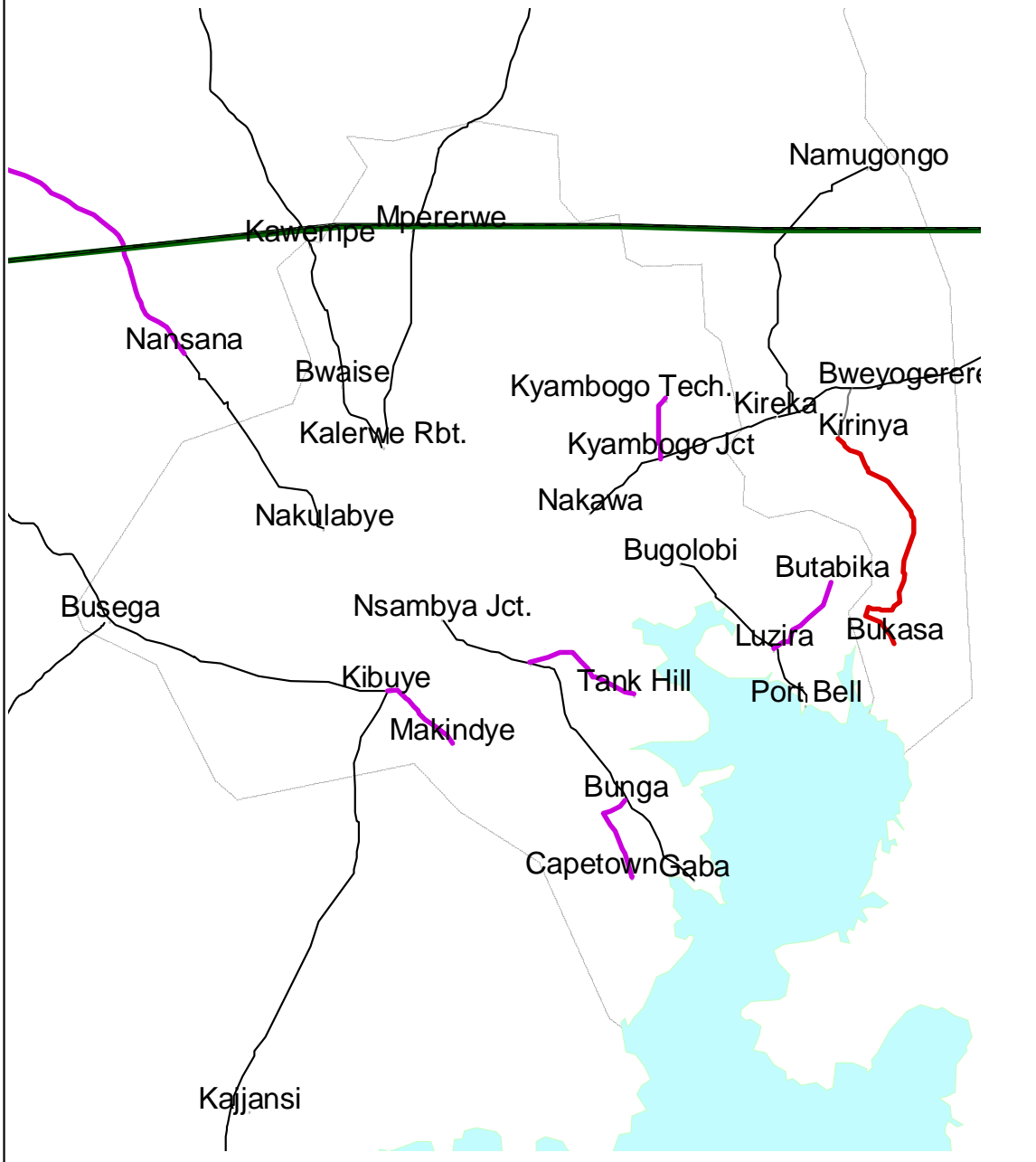
The HDM-4 run for the Upgrading of Gayaza–Kalagi road is shown below.

<b>H D M - 4 Economic Analysis Summary</b>										
Study Name: <b>Gayaza - Kalagi (with NMT)</b>										
HIGHWAY DEVELOPMENT & MANAGEMENT										
Run Date: <b>03-03-2010</b>										
This report shows total economic benefits using the following:										
Currency: US Dollar (millions).										
Discount rate: 12.00%.										
Analysis Mode: Analysis-by-Project										
<b>Alternative: With Project:Upgrade gravel road vs Alternative: Without project:Maintain gravel road</b>										
		<b>Increase in Road Agency Costs</b>				<b>Savings in</b>				<b>Net</b>
					<b>Savings in</b>	<b>MT Travel</b>	<b>&amp; Operating</b>	<b>Reduction</b>	<b>Net</b>	<b>Economic</b>
		<b>Capital</b>	<b>Recurrent</b>	<b>Special</b>	<b>MT VOC</b>	<b>Time Costs</b>	<b>Costs</b>	<b>in Accident</b>	<b>Exogenous</b>	<b>Benefits</b>
								<b>Costs</b>	<b>Benefits</b>	<b>(NPV)</b>
	Undiscounted	6.17	-0.06	0.00	30.22	0.56	7.54	0.00	0.00	32.20
	Discounted	4.69	-0.07	0.00	8.40	0.15	2.21	0.00	0.00	6.14
<b>Economic Internal Rate of Return (EIRR) = 25.9% (No. of solutions = 1)</b>										
<b>HDM-4 Version 1.3</b>										<b>Page -1 of 1</b>

**Annex 4 - Project Location Map**



# AfDB CENTRAL UGANDA ROAD MAINTENANCE PROJECT



**THE GOVERNMENT OF UGANDA**  
**UGANDA NATIONAL ROADS AUTHORITY**

### Legend

- AfDB C.U. Rd Maintenance Projects
- Paved Period Maintenance
- Unpaved Periodic Maintenance
- Upgrading to Paved Road
- Nodes
- Rest of Classified Road Network
- Paved
- Unpaved
- Uganda boundary
- Lakes & Rivers
- District Boundaries

## **Annex 5 - Project Narrative**

### **Characteristics of Implementation**

#### **1. Project's Origin and History**

The Government in its prioritization of implementation of the Road Sector Development Program (RSDP) proposed in February 1998, for financing by the Bank Group, a number of projects included in the RSDP. The package included the Gayaza-Kalagi Road (20 km) to be upgraded from gravel road to bitumen standard and the maintenance of several road links in Central Uganda, a component of the program for the preservation of existing road assets. ADF/TAF resources were used to finance the initial feasibility and detailed engineering studies of the packaged roads for Bank Group intervention, including preparation of tender documents.

The condition of the road network in Central Uganda had deteriorated with backlog of maintenance resulting in high vehicle operating costs. Besides, the volume of traffic on some of the gravel roads had increased, resulting in capacity constraint in the network. The maintenance and upgrading of the prioritised links in the region were to improve the efficiency of the road network in line with the sector goal as outlined in the RSDP. Following the official request of the GOU to finance the projects, the Bank appraised the project in March 2000.

The Bank Group had approved loans and grants for 88 operations in Uganda since 1968 and as at 31 December 2009, for a net total amount of UA 1.086 billion, 88% of which was for the public sector. In the road sub-sector, the Bank Group commenced operations in 1975 and to date, has financed twelve projects and fourteen studies for a total amount of about UA 292.69 million, of which UA 12.25 million has been in grants. Nine projects and eight studies have been completed satisfactorily. These include the feasibility and detailed engineering studies of 1783 km main roads and 2105km district roads. Three projects, RSSP1 (Kabale–Kisoro–Bunagana/Kyanika -100.3km) and RSSP 2, (Fort Portal-Bundibugyo-Lamia – 103km) are under construction and RSSP3 (Nyakahita-Ibanda-Kamwenge – 143km) is in the bidding process. Excluding the three on-going, the above Bank financial assistance has resulted in the rehabilitation and upgrading to bitumen standard of 327 km of main roads, 270 km of road resealed and re-gravelled, 2400 km of district roads maintained and 2000 km of spot improved district roads. The interventions have contributed to improved road conditions, annual vehicle fleet increase of 9.0% and annual traffic growth by 8% in the last ten years. These interventions have led to opening up of isolated and inaccessible areas to markets. Post evaluation undertaken for the completed projects has indicated that the constructed roads have brought about an all round improvement and growth in production in the agricultural and livestock sectors. The Bank interventions have also fostered regional integration and trade between Uganda, Tanzania, Kenya, Rwanda and Democratic Republic of Congo (DRC).

Nine development agencies/financial institutions (DANIDA, EU, IDA, BADEA, ADB, NDF, JICA, IDB and DFID) are involved in funding the RSDP and have formed a Transport Sector Working Group (TSWG). The TSWG provides a platform on which the DPs discuss financing and implementation issues in the sector, is currently led by the EU. Government also undertakes

joint Transport Sector Review Meetings with participation of public sector stakeholders and DPs to ensure Government-led donor co-ordination.

## **2. Design and Readiness for Implementation**

The implementation and design benefited from lessons learnt from previous Bank interventions in the sector including the then recently completed Iganga-Mbale road project which had similar design characteristics. Capacity weaknesses had been identified in the MOWHC, therefore RAFU which was expected to have enhanced project management capacity was designated as the Project Implementation Unit. Other lessons included issues of delays in project start-up and fulfilling loan conditions, properly plan to avoid unnecessary expenses and time slippage, packaging of group of contracts into bigger lots, failure to timely provide counter-part funding and not undertaking project audits as required by the Bank.

The project underwent cycles of analysis in meeting design and implementation readiness commitments with regard to project management, finance and sustainability. The Bank process facilitated the change effectively complemented by the borrower's commitment to the project. The appointed consultants had ensured the project success in terms of output quality. It was established that the GOU had already commissioned a Road Management and Financing Study under IDA funding to ring-fence the road-user revenue for the maintenance of the road network. To solve problems of insufficient and delayed monthly releases, Government placed Road Maintenance in the budget's "Core Areas" which are protected from cuts and delayed releases. Sustainability of maintenance funding was to a large extent depend on Government adopting and enacting a Road Fund Act and ensuring adequate support for user fees among road users and other stakeholders through effective participatory approach.

## **3. Modifications**

The scope of the regravelling works had been reduced from 10 No. roads (214.2km) to 8 No. roads (175km) in the bidding documents, following the Government's decision to use Matugga-Kanyanda road (22.2 Km) and Kanyanda-Kapeeka road (18.0 Km) as a pilot project for Demonstration of Innovative Technologies for the construction of Low-Volume Traffic Roads financed by Nordic Development Fund (NDF). However due to extra length of Kayunga-Baale and Mitala Maria-Bulo roads, the total roads length eventually maintained was 180.8km.

Regravelling works- Lack of adequate drainage structures was one of the most common shortcomings of these roads. Additional lines of culverts with raised embankment were constructed to improve drainage in low-lying areas.

The resealing works essentially ranged from local patching, selective re-construction to resurfacing with Double Bituminous Surface Treatment (DBST). The shoulders were strengthened and the drainage structures improved in line with the existing standards. In light of the severe deterioration of the shoulders of the Nansana –Busunju and Jinja Road – Polytechnic roads, the scope of works was reviewed to include shoulder improvement, which was done within contract ceiling and without additional claim for extension of time (EOT).

The Gayaza-Kalagi upgrading road (20km) was designed as a DBST Class II road. The road followed the existing alignment, except for approximately 6 km, in order to improve the horizontal

alignment of the road, with a number of re-alignments. Road signs, road markings, guard rails and kilometer marker posts were provided.

The above modifications in the regravelling and resealing works were carried out in the overall interest of the project and that the Bank's "no objections" were given prior to their implementation of the appropriate Variation Orders and Addenda to contracts.

## **2. Quality and physical operating performance**

Following the site visit to the project roads in March 2010, given the fact that the road works were substantially completed on 31 December 2005 and concomitantly opened to traffic afterwards and all the defects were rectified by the Contractors by 31 December 2006 (end of Defects Liability Period), the roads are still in good motorable condition.

**Regravelled Roads** - The roads under this component were fully regravelled, including widening of the widths to a minimum standard of Class C gravel class, increased drainage facilities including open drains, lined open drains, and pipe culverts for access roads, with associated headwalls and erosion protection measures to ensure that the roads are adequately protected.

**Resealed Roads** - All the roads under this component were repaired and resealed. Main works executed include widening, strengthening and sealing of shoulders on urban roads; improvements to drainage; bitumen sealing of the main road including the shoulders. It was noted that the shoulders of Nansana-Busunju were not sealed, which contributed to the damage of the road and thus requiring earlier than the planned intervention.

### **Upgraded Road**

- The road was upgraded in accordance with the appraisal proposal following the existing alignment, except to improve curves and prevent unnecessary demolition of existing properties. The general quality of the finished work was found to be good and the alignment of the road appears to be to the standard;
- The pavement surface and riding quality was good and with no signs of damage or surface defects, except for minor shoulder edge breaks at km 0;
- The safety features and furniture such as safety barriers and road signs are well located and most are intact, except road markings which requires repainting;
- The drainage coped well with the flow; and
- The bridge structure on the swamp area at 8.3km is well constructed with no apparent signs of defects or poor workmanship and its drainage features coped well.

Overall the project objectives were fully achieved at cost effective prices as evidenced by the quality of the completed works. This was a consequence of the effective project management measures.

### **3. Performance of Consultants and Contractors**

In view of Section 2 (Quality and physical operating performance) above, the performance of both the Consultants and Contractors can be assessed as satisfactory in terms of output and the quality of works. The performance of all the Contractors was satisfactory as evidenced by quality of the completed works albeit the slow progress on the upgrading works due to Contractor's failure to provide adequate financial resources and the additional instructed works.

The performance of all the Supervision Consultants was adequate as evidenced by the quality of the completed works on all the project roads. It should also be noted that the project did not experience any unjustified project cost over-runs.

### **4. Effectiveness of Bank's supervision**

The Bank was effective in expediting the loan proceeds although there were some delays in making payments due to its temporary relocation of the Headquarter from Abidjan to Tunis. The Bank carried out the required supervisions in a well organized manner. The professionalism of the Bank's supervision team and strict adherence to the bank's guidelines had assisted in managing and ensuring project continuity.

### **5. Effectiveness of Borrower's supervision**

The Government fulfilled all the conditions precedent to entry into force for the loan agreement and the conditions prior to first disbursement of the loan, required by the Bank towards the financing of the project road. It was noted that the "Other" Conditions of the loan agreement for the project relating to submission of Axle Load Control Annual Report and Bi-Annual Regular Traffic Counts were not fully adhered to by the Government.

The Project was appraised and implemented under Ministry of Works, Housing and Communications, while the Road Agency Formation Unit (RAFU) was the Project Implementation Unit. A Project co-coordinator for the project was designated from within RAFU, whose qualification and experience were accepted by the Bank. The restructuring of UNRA has not affected the project implementation. The Borrower's performance to fulfill the loan conditions was satisfactory, which is evidenced by the establishment of RAFU; appointment of key personnel in RAFU; and the timely disbursement of counterpart funding. The Borrower's supervision effectiveness is considered to be satisfactory.

## **6. Compliance Assurance strategy adopted by Bank.**

Compliance assurance has been carried out through the supervision missions, disbursement and annual audits. Technical compliances have been duly executed by the consultants through the quarterly progress reports in accordance with the Bank's requirements. Annual Audit Reports including the final project audit report for the year ending June 2007 were submitted to the Bank. The auditing of the project was undertaken by the Auditor General, even though there was provision for the project audit in the project in line with the Bank's Guidelines for Project Audit.

## **7 Lessons Learned**

On loan saving - The cost estimates were based on rates for international competitive bidding and the rates turned out to be more competitive than anticipated at appraisal. The appraisal cost estimates were based on feasibility studies and detailed design studies undertaken under ADF/TAF resources. In addition, due to the improved road conditions arising out of the earlier Government maintenance intervention before project commencement, the regravelling of two road sections were excluded from this component. The lesson to be learnt is that all factors that may affect volatility of bid prices should be considered at appraisal. Government could not use the loan savings. This is because the balance could not be used on activities that were not foreseen at appraisal. Bank should be more flexible in the use of balance of funds.

The poor cashflow from contractor – One of the contractors suffered from poor cashflow due to problems which he had with his creditors which resulted in Banks retaining all the payments deposited on his account by the project to pay debts incurred by the company. The firm eventually went into liquidation. This situation could not easily be foreseen at tender. Lesson to be learnt is that Bank should do more diligence on firms which have operations in other countries. Furthermore, tender documents should be revisited to allow more disclosure of local firms' activities and obligations in other countries.

Measures to ensure that compensated people do not continue encroaching road right of way - Government is now taking control of right of way very seriously. Reserve boundaries are now marked with clear permanent mark posts. The Road Authority is engaging brokers to demolish any structures within the reserve and hold the culprits liable.

Non submission of axle load data and bi-annual traffic data - These activities were under the Ministry of Works before the formation of UNRA and systems for data compilation were not in place. UNRA has now set up systems and it is expected that this data is going to be provided regularly. Lessons in new operations are that this should remain a condition because it is necessary so that the set up systems are kept operational.

## **8 Accomplishment at time of project closing**

The project was substantially completed in June 2006, with a slippage of 18 months on the completion time due to the upgrading contractor slow start of works, poor mobilization of equipment, poor state of equipment, poor cash flow, inclement weather conditions and abnormal rainfall. With respect to the contract execution, there was a slippage of 24 months relative to the appraisal estimate.

The final project cost was also 34.67% lower than the appraisal estimate mainly due to lower than estimated tender prices for the works and partly due to the decrease in the re-gravelled road from 214.2 to 180.8km. Despite the above shortcomings, the output and outcomes of the project of the upgrading and maintenance works are satisfactory and the activities were implemented as designed. The benefits of the project includes travel time reduction, improved road transport services, availability of minibuses, decrease in passenger transport cost, reduced road maintenance costs (for the paved section) and enhanced economic development in the project zone of influence.

Overall the project objectives were fully achieved at cost effective prices as evidenced by the quality of the completed works. This was a consequence of the effective project management measures.

## **Annex 6 - Supporting Documents**

- 1 – Project Completion Report, Central Uganda Road Maintenance and Upgrading Project, Road Agency Formation Unit, Uganda, March 2007.
  
- 2 – The Uganda Road Fund Act, 2008, The Republic of Uganda Acts Supplement No. 9, Uganda, 3 October 2008.
  
- 3 - Various Project Quarterly Progress Reports.
  
- 4 - Uganda: Proposal For an ADF Loan of UA 15 million to finance the Roads Maintenance and Upgrading Project, May 2000.
  
- 5 - Various Aide Memoire of Supervision Missions and Project Correspondences.

## **Annex 7 - List of Persons Met**

### **1 - Ministry of Finance Planning & Economic Development**

O. Obella	Ass. Commissioner Aid Liaison Department
C. Ogol	ADB Desk Officer
C. Ishimwe	Economist

### **2 - Uganda National Roads Authority**

P.W.Ssebanakitta	Executive Director
J. Okiror	Director Projects
B. Ssebbugga	Director Operations
D. Luyimbazi	Director Planning
J. Ssemugooma	Director Finance & Administration
P. Kirimunda	Chief Internal Auditor
C. Manyindo	Project Manager
G. Bwanga	Project Manager
G. Ssambwa	Project Manager
J. Aguma	Transport Economist
G. Obara	Project Engineer
R. Nganwa	Project Engineer
P. Muleme	Project Engineer
P. Ayebare	Land Acquisition Specialist
P. Kamanda	Environmental Specialist
A. Rutebuka	Sociologist
K.B. Odongo	Project Engineer
F. Musinga	Project Engineer
I. Matovu	Station Engineer

- |            |  |   |
|------------|--|---|
|            | H. Namuwonge                                     | Engineer                                    |
|            | R. Byekwaso                                      | Assistant Engineer                          |
|            | F. M. Achobi                                     | Assistant Engineer                          |
|            | J. Asiimwe                                       | Assistant Engineer                          |
| <b>3 -</b> | <b>Road Fund</b>                                 |   |
|            | M. Odongo  | Executive Director                          |
|            | J. Falconer                                      | Consultant                                  |
| <b>4-</b>  | <b>National Environment Management Authority</b> |   |
|            | A.A. Waiswa                                      | Environmental Impact Assessment Coordinator |
| <b>5 -</b> | <b>World Bank</b>                                |   |
|            | V. Ocaya   | Senior Highway Engineer                     |
| <b>6 -</b> | <b>European Union</b>                            |   |
|            | D. Kivumbi                                       | Head Infrastructure                         |
| <b>7-</b>  | <b>JICA</b>                                      |   |
|            | A.Nanami   | Representative                              |
| <b>8 -</b> | <b>Mpigi District Administration</b>             |   |
|            | B.K. Mukalazi                                    | District Chairman                           |
|            | F. Nabirye                                       | CAO   |
| <b>9 -</b> | <b>Kayunga District Administration</b>           |   |
|            | P.Walakira                                       | Deputy CAO                                  |

## **Annex 8 - Socio Economic Context**

### **Socio Economic Context<sup>1 2</sup>**

Uganda is a land-locked country occupying 241,551 sq. km., 18% of which consists of open inland waters and permanent wetlands. It is closely linked by economic and colonial history to neighbors: Kenya, Tanzania, Sudan, Democratic Republic of Congo (DRC), Rwanda and Burundi. There are cross-border ethnic linkages with nearly all the neighboring countries, a fact of economic and socio-political significance for Uganda in the region. Uganda's population has been doubling almost every 20 years and the mid 2008 population projection stood at 31.7 million; (2002 Census)

<b>Country Data for Uganda</b>	<b>2008</b>
Population, total (millions)	31.7
Population growth (annual %)	3.3
Surface area (sq. km) (thousands)	241
GNI, PPP (current international \$) (billions)	3.77
GNI per capita, PPP (current international \$)	420
Life expectancy at birth, total (years)	52.7
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of which 87 per cent live in rural areas and 73 per cent are engaged in agriculture. With its population growing at the rate of 3.3 per cent per annum, Uganda has one of the highest population growth rates in the world, higher than the Sub-Saharan Africa (SSA) average of 2.4 per cent. The high population growth rate is attributed to a high fertility rate (7.1 per woman), low prevalence of family planning methods, young marriage age for women (18 years of age on average), and the high influx of refugees.

With a gross per capita income of US\$ 420 in 2008, Uganda has made considerable progress in poverty reduction; from an income poverty of 56 per cent in 1992 to 31 per cent in 2005. However, in spite of the considerable efforts to transform the economy, and considering the substantive gains recorded in economic growth over the last decade, the overall welfare of the farmers and the rural population has not correspondingly registered a substantial improvement. While the modern sectors, including services sector, commercial agriculture, and real estate, among others, have positively responded to the macro-economic policy stimuli, the small-holder farmers have not equally responded to the same stimuli. This challenge is compounded in the north and north-east by insecurity where the sub regions' economic potentials were stifled. Eradicating poverty and attaining rapid, equitable and sustained economic development for social transformation remain Uganda's major challenges to the achievement of Millennium Development Goals (MDGs). In this respect, Uganda has made progress in reducing income poverty and HIV/AIDS prevalence as well as increasing school enrollment, access to safe water and gender parity. Areas of slow progress include combating infant, under-five and maternal

<sup>1</sup> Uganda Human Development Report 2007- UNDP

<sup>2</sup> Country Strategy Paper 2011-2014, Concept Note

mortality; reducing malaria; improving environmental sanitation and living standards in the slums; and reversing the loss of environmental resources, such as wood fuel sources, change in rainfall regime, lack of soil erosion control, and other related environmental services.

Uganda grew by 7.1% in 2008/2009 in spite of the regional instability and world economic slowdown. Private consumption and public and private investment drove growth in 2008 but are expected to slow in the next two years. GDP growth is therefore expected to decline to 6.3% in 2009/2010 and to recover to 6.6% in 2010/11. Services sector growth was mainly driven by expansion in financial services, transport and communications, public administration, and defence, which together accounted for about half of GDP. Agriculture, with a 15.2% share of GDP in 2008, has recently stagnated, growing at only 2.6% in 2008. The industrial sector (manufacturing, construction and mining) has recovered from the 1980's slump and accounted for 24.2% of GDP in 2008. However, industrial sector growth slowed down in 2008/09 due to the global economic crisis, growing by only 3.8% compared to 9.1% the previous year. This was largely due to the slowdown in the construction sector following a reduction in remittances that have hitherto fuelled the construction boom in Uganda.

Governance indicators prepared by the World Bank in 2009 show low rankings in most dimensions of governance. The lowest percentile ranking was in political stability, in which the rank was 19 out of the 215 countries surveyed. Other aspects with low rankings were control of corruption (23) and voice and accountability (33). The Corruption Perceptions Index published by Transparency International in 2009 shows that Uganda had a score of 2.5, thereby ranking 126<sup>th</sup> out of 180 countries, behind Rwanda and Tanzania (both at 102<sup>nd</sup>), but better than Kenya (147<sup>th</sup>).

Non-income indicators of poverty are also a matter of concern. While primary school enrolment more than doubled from 3.1 million children in 1996 to 7.4 million in 2008, completion rates at 37.9%, have been less than satisfactory. Infant mortality has declined from 122 deaths per 100 000 live births in 1991 to 75 in 2006. The maternal mortality rate also fell from 505 per 100 000 live births in 2000 to 435 in 2006. HIV/AIDS prevalence fell from 18% in 1992 to 6.4% in 2008 but continued vigilance is needed to combat the pandemic. Access to safe water and sanitation remains low especially in rural areas. It is estimated that only 63% of the rural population and 72% of urban population have access to safe water, while access to sanitation is estimated at 56% for both urban and rural areas. This means that almost 30% of Uganda's rural population is without adequate water and sanitation facilities. In sum, Uganda is on track to achieve some MDGs, including poverty incidence, HIV/AIDs and primary school enrolment, but strategic interventions are urgently required to sustain progress and to meet the other MDGs.

Uganda has made major strides in mainstreaming gender issues in most national aspects. This has led to the improvement in female social indicators. For example the proportion of girls in primary schools improved from 44.2% of pupils in 1990 to 49.8% in 2006. The ratio of 15 -24

year-old literate women to men is about 0.92. The share of women in wage employment in the non-agricultural sector is 28.9%, and 30% of Parliament members are women. However, women still lag behind men in a number of important aspects and more needs to be done to address the numerous constraints to improve gender equality.