



**FWC Services SIEA 2018 - LOT 2 / Infrastructure, sustainable growth and jobs**  
**EuropeAid/138778/DH/SER/multi**

**THE REPUBLIC OF UGANDA**

**Mid Term Evaluation of the  
"Capacity Improvement of the Kampala Northern Bypass" Project  
Decision FED/2012/023-172**

**FINAL REPORT**  
*VOLUME I: MAIN REPORT*

**Project implemented by:**

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## ABBREVIATIONS AND ACRONYMS

<i>AFD</i>	<i>Agence Française de Développement</i>
<i>AfDB</i>	<i>African Development Bank</i>
<i>AITF</i>	<i>Africa Infrastructure Trust Fund</i>
<i>BRMP</i>	<i>Backlog Roads Maintenance Programme</i>
<i>CIKNBP</i>	<i>Capacity Improvement of the Kampala Northern Bypass Project</i>
<i>DRC</i>	<i>Democratic Republic of Congo</i>
<i>EAC</i>	<i>East African Community</i>
<i>EANRA</i>	<i>Eastern Africa North Road Axis</i>
<i>EC</i>	<i>European Community</i>
<i>EIB</i>	<i>European Investment Bank</i>
<i>EDF</i>	<i>European Development Fund</i>
<i>EVAL</i>	<i>e-Evaluation Tool &amp; Library</i>
<i>EU</i>	<i>European Union</i>
<i>EU-AITF</i>	<i>European Union – Africa Infrastructure Trust Fund</i>
<i>EUD-UG</i>	<i>European Delegation to Uganda</i>
<i>EUR or €</i>	<i>Euro</i>
<i>GoU</i>	<i>Government of Uganda</i>
<i>HDM4</i>	<i>Highway Design and Maintenance Model version 4</i>
<i>IFI</i>	<i>International Financial Institutions</i>
<i>IPC</i>	<i>Interim Payment Certificate</i>
<i>IRS</i>	<i>Interest Rate Subsidy</i>
<i>KCCA</i>	<i>Kampala Capital City Authority</i>
<i>KNB</i>	<i>Kampala Northern Bypass</i>
<i>KNBP</i>	<i>Kampala Northern Bypass Project</i>
<i>M&amp;E</i>	<i>Monitoring and Evaluation</i>
<i>MoFPED</i>	<i>Ministry of Finance, Planning and Economic Development</i>
<i>MoWT</i>	<i>Ministry of Works and Transport</i>
<i>NAO</i>	<i>National Authorising Officer</i>
<i>NCI</i>	<i>National Construction Industry</i>
<i>NCR</i>	<i>Northern Corridor Route</i>
<i>NDP II</i>	<i>Second National Development Plan</i>
<i>NIP</i>	<i>National Indicative Programme</i>
<i>NEMA</i>	<i>National Environment Management Authority</i>
<i>NIP</i>	<i>National Indicative Programme</i>
<i>OECD- DAC</i>	<i>Organisation for Economic Cooperation and Development – Development Assistance Committee</i>
<i>OVI</i>	<i>Objectively Verifiable Indicator</i>
<i>PR</i>	<i>Progress Report</i>
<i>QAG</i>	<i>Quality Assessment Grid</i>
<i>ROM</i>	<i>Results-Oriented Monitoring</i>
<i>SDG</i>	<i>Sustainable Development Goals</i>
<i>SIEA</i>	<i>Services for the Implementation of External Aid</i>
<i>ToR</i>	<i>Terms of Reference</i>
<i>UCICO</i>	<i>Uganda Construction Industry Commission</i>
<i>UGX</i>	<i>Uganda Shilling</i>
<i>UNRA</i>	<i>Uganda National Roads Authority</i>
<i>URF</i>	<i>Uganda Road Fund</i>



## EXECUTIVE SUMMARY

### 1. Description of the project

#### Background to the project

The 21km long Kampala Northern Bypass (KNB) commences at the Busega roundabout, where it connects also to the newly constructed Entebbe Expressway and proceeds for approximately 200m north along the Mityana Road. It then heads north-east and follows the edge of the Lubigi Swamp. It skirts north of Lubya Hill and crosses Hoima Road at Namungoona. The alignment then passes Kawala Hill behind Makerere Hill, before reaching Bombo Road at its junction with Sir Apollo Kagwa Road. The route then runs through Bwaise and south of Kyebando Hill before crossing the swamp again to Bukoto, Kigowa, and Nsimbiziwoome (to the south of Kulambiro Hill). From Kulambiro, the route crosses over to Kiwatule, Kamidi before connecting to Jinja Road at Ntebetebe.

The Kampala Northern Bypass was intended to partially relieve the traffic congestion experienced in the City of Kampala and also serving as part of a wider programme to reduce transportation constraints along the Northern Corridor Route (NCR) which runs from Mombasa Port through Kenya, Uganda and Rwanda to Burundi, and DR Congo. The NCR stretches 650km across Uganda, from Malaba to Katuna and the Kampala Northern Bypass forms a vital section of this Northern Corridor Route.

The road was initially constructed, with the support of EU 9th EDF, and delivered to traffic in 2009 as a single carriageway road in most of its length (17.5 km). Only a small section of the bypass (3.3 km) was constructed as a double carriageway road at the time of the bypass construction

Since then, the city of Kampala expanded due to its population increase and the northern bypass became a very busy and congested urban arterial road, not able to serve both the local and the passing-by traffic.

Most KNB traffic was local. For many, KNB was an escape from congestion in the city. Rather than battle city congestion, many drivers drove out from the city to the bypass, circumnavigated the city, then drove back in, to their final destinations.

So successful was KNB that it soon became congested. There was a pressing need to complete the dual carriageway along the entire route. The junction roundabouts could not cope because they were gathering points for matatus waiting for passengers and congregation points for street vendors. The roundabout's traffic function was smothered by these other activities. Thus, all at-grade junctions needed to be upgraded to grade-separated interchanges.

Another (intended) effect the bypass was to promote urban development north of the city, counterbalancing development that had already taken place to the south.

The Capacity Improvement of the Kampala Northern Bypass Project, herein called Phase 2, essentially completed KNB as originally envisaged. Specifically, Phase 2 would greatly improve KNB's traffic carrying capacity, shorten travel times and improve traffic safety for road users and pedestrians.



## Description of the project/programme and its objectives

The "Capacity Improvement of the Kampala Northern Bypass" project is the continuation of the "Kampala Northern Bypass" first phase. The project comprises of the expansion of the already existing Northern bypass by:

- constructing two additional lanes along sections that are presently single carriageway,
- improving capacity of roundabouts and providing grade separated intersections, pedestrian walkways and footbridges.

21 km of modernised 2 carriageway road shall be handed over at the end of the execution of works contract, 6 new grade separated junctions will be constructed as well as improvements to the existing grade separated junction at Bombo Road. Road safety features are to be added into the project such as (i) segregated facilities for cyclists and pedestrians (ii) improved lighting, (iii) active road-studs, (iv) three additional footbridges, (v) improved at-grade crossings at signalised junctions, ((vi) full length central reserve safety barriers. An (i) environment, (ii) road safety, (iii) occupational health and safety mitigation strategy will be implemented.

The project intends reduce travel times, reduce vehicle operating costs as well as improve road safety on the 21km Kampala Northern Bypass. Furthermore, the project shall reduce congestion in the centre of Kampala through increased traffic volumes bypassing the city centre. In addition to the economic benefits, the project will reconnect local communities severed by the bypass and provide dedicated facilities for the non-motorised users of the bypass.

Whilst the Intervention Logic for the Capacity Improvement of the KNB repeated some objectives which had already been realised under the first Phase between 2004 and 2009, it additionally emphasised road safety and pedestrian safety which were omitted from the first phase due to budget limitations. The Evaluation Manager and the Evaluators jointly reconstructed the Intervention Logic as follows.

### Global Objectives

- Improved service to road users in GKMA and on NCR by upgrading KNB to function as an urban arterial and a bypass on NCR.
- Improved road safety for road users in GKMA.

### Specific Objectives

- Improved performance and level-of-service for traffic on KNB.
- Improved road safety on KNB.

This exercise provided guidance for preparation of the Evaluation Matrix of questions to be answered to address the DAC criteria and the two EU-specific criteria.

The project is implemented through a Works and a Supervision Contract. Additional contracts for communication and visibility and for technical audit were included and implemented.

The execution of the works contract started on 14 July 2014 and is still ongoing. The Contracting Authority was not able to hand over on time to the Contractor the necessary land for works. This affected the Contractor's possibility to achieve the planned progress. It is expected that execution of works will only end by middle 2022.



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## 2. Evaluation Methodology

### Purpose and scope of the evaluation

This Evaluation is a Mid-term Evaluation. According to the ToR the main objective of this evaluation is to provide the relevant services of the European Union, the interested stakeholders and the Government of Uganda with:

- i) an overall independent assessment of the past performance of the "Capacity Improvement of the Kampala Northern Bypass Project, paying particular attention to its 'intermediate' results measured against its expected objectives; and the reasons underpinning such results"
- ii) key lessons learned, conclusions and related recommendations in order to improve current and future Actions.

Specific objectives:

The evaluator shall verify, analyse and assess in detail the issues outlined in the ToR. The list of issues is not intended to be exhaustive. The issues refer to the five evaluation criteria endorsed by the OECD-DAC (relevance, effectiveness, efficiency, sustainability and impact), and to the EC-specific evaluation criteria (EC added value and coherence).

The evaluator was also requested to verify, analyse and assess the integration and impact of cross cutting issues in the project, and to use his professional judgement and experience to review all relevant factors and to bring these to the attention of the NAO, UNRA and the EC.

The evaluation team furthermore considered whether gender, environment and climate change were mainstreamed; the relevant SDGs (Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation) and their interlinkages were identified; the principle of Leave No- One Behind and the rights-based approach methodology was followed in the identification/formulation documents and the extent to which they have been reflected in the implementation of the Action, its governance and monitoring.

As part of the initial part of the Assignment the evaluation team would be also asked to reconstruct the Intervention Logic of the Action(s) in order to reflect an updated and shared vision of the intended casual chain underpinning the Action(s). This reconstruction shall be based on the existing Logical Framework Matrix of the Action. Intervention Logic, consultation with key stakeholders and review of key documents relevant to the Action(s), as well review of availability and accessibility of data and source of verifications for indicators.

Consequently, as part of the assignment the evaluation team would be also asked to review and propose improvements to the Logical Framework Matrix of the Action, its results and indicators, taking into account revised Intervention Logic of the Action(s) and accessibility of data and source of verifications for indicators. The evaluation team shall collect and propose, whenever possible on the basis of collected information and data during the assignment, the baseline, mid- term and target values for proposed/revised logframe indicators.

### Evaluation Questions

In consultation with the Reference Group, the following questions were selected, based on the reconstructed Intervention Logic:



## **1. RELEVANCE**

- 1.1 The extent to which the project has been consistent with, and supportive of, the policy and programme framework.
- 1.2 The extent to which stated objectives correctly address the identified problems and social needs, clarity and internal consistency.

## **2. EFFICIENCY**

- 2.1 The quality of day-to-day management in operational work planning and implementation and management of the budget.
  - 2.1.a Whether management of risk has been adequate.
  - 2.1.b Relations/coordination with local authorities, institutions, beneficiaries, other donors.
  - 2.1.c Respect for deadlines.
- 2.2 Extent to which the costs of the project are likely to be justified by the benefits.
- 2.3 Quality of monitoring: its existence (or not), accuracy and flexibility, and the use made of it.
- 2.4 The realism in the choice and quantity of inputs (financial, human and administrative resources).

## **3. EFFECTIVENESS**

- 3.1 Whether the planned benefits can be delivered and received, as perceived by all key stakeholders (including women and men and specific vulnerable groups).
- 3.2 Whether any shortcomings were due to a failure to take account of cross-cutting or over-arching issues such as gender, environment and poverty during implementation.

## **4. SUSTAINABILITY**

- 4.1 Institutional capacity, e.g. of the Government and counterpart institutions; the extent to which the project is embedded in local institutional structures.

## **5. IMPACT ("perspectives of" OR "early signs of" impact)**

- 5.1 Extent to which the objectives of the project are likely to be achieved as intended in particular the project planned overall objective.
  - 5.2.a Whether the project is facing shortcomings due to a failure to take account of cross-cutting issues or over-arching issues such as gender, environment and poverty during implementation.
  - 5.2.b Whether the project is likely to produce any unintended or unexpected impacts.

## **6. COHERENCE**

- 6.1 The likelihood that results and impacts will mutually reinforce, duplicate or conflict which one another.
- 6.2 The likelihood that the intervention will contribute to or contradict other EU policies and is in line with evolving strategies of the EU and its partners.

## **7. EU VALUE ADDED**

- 7.1 Whether the intervention is complementary to interventions by EU Member States in the region/country/area.
- 7.2 Whether the intervention is creating actual synergy (or duplication) with the intervention of EU Member States.
- 7.3 Whether the intervention involves concerted efforts by EU Member States and the EU to optimise synergies and avoid duplication.

Apart from the questions mentioned here above, the Evaluation Team also dealt with the remaining indicative questions that were given in the Terms of Reference.



## Methodology

The evaluation of this project has been organized and executed in conformity and the spirit of the guidelines given in the documents “Evaluation Methods for The European Union’s External Assistance”, 2006. <http://www.oecd.org/dac/evaluation/dcdndep/47469160.pdf>

The evaluation consisted of three distinct Phases:

Phase 1 – Inception Phase

Phase 2 – Desk and Field Phase

Phase 3 – Synthesis and Dissemination Phase

### Phase 1 – Inception Phase

During the Inception Phase the following activities were carried out:

- Initial document/data collection
- Background analysis
- Inception interviews
- Stakeholder analysis
- Reconstruction of the Intervention Logic, (based upon available documentation and discussions with the EU Evaluation Manager and members of the Reference Group)
- Methodological design of the evaluation (Evaluation Questions and Evaluation matrix), which was discussed with the Reference Group, presented in the Inception Report and approved for implementation by the Evaluation Manager.

### Phase 2 – Desk and Field Phase

During the Desk and Field Phase the following activities were carried out:

- In-depth document analysis (focused on the Evaluation Questions)
- Interviews with over 50 persons representing a broad spectrum of stakeholders and beneficiaries
- Methodological design of the Field Phase
- Gathering of primary evidence with the use of ‘the most appropriate techniques’
- Data collection and analysis
- The preparation of an Intermediary Note

### Phase 3 – Synthesis and Dissemination Phase

During the Synthesis and Dissemination Phase the following activities were carried out:

- Final analysis of findings (with focus on the Evaluation Questions)
- Formulation of the overall assessment, conclusions and recommendations
- Reporting (Draft Final Report for the Reference Group, EU Evaluation Manager)
- Preparing a PowerPoint Presentation and the organisation of the final presentation seminar to the stakeholders
- Preparation Executive Summary and Final Report

The following deliverables were submitted:



Draft Inception Report:	7 October 2019
Inception Note:	7 October 2019
Intermediary Note:	18 October 2019
Final Inception Report:	21 October 2019
Draft Final Report for Reference Group:	25 October 2019
Workshop to present findings to Stakeholders:	30 October 2019
Draft Final Report to EU Delegation:	8 November 2019
Final Report to EU Delegation:	13 December 2019 (estimated)

### **Limitations**

The Evaluators encountered the following problems that affected the evaluation:

- It was impossible to speak to the original design consultants of this Phase 2, Mott MacDonald, since all staff involved in the design were no longer present in Uganda;
- Due to reorganisations within UNRA, the institutional memory of the project was quite low;
- Key personnel of both the Contractor and the Supervising Consultant were replaced;
- Due to the nature of the evaluation (Mid-term Evaluation), it is difficult to estimate the envisaged Impact of the project. The Outputs so far are measurable, but the Outcome is very much a “best guess”.

## **3. Key findings**

### **Answers to the evaluation questions and findings**

#### **RELEVANCE**

Due to the importance of the East African Northern Corridor Route, and KNB’s ever-increasing role as an urban artery, KNB is a priority in all the latest Transport Sector Development Plans, National Development Plans and the EDF 10th National Indicative Programme. It is also in line with the Uganda Vision 2040. Due to budget constraints it was decided in 2002 to construct KNB in two phases the current project is Phase 2. It augments Phase 1, construction of which was supported by the EU. Phase 2 is thus highly relevant for the EU and for Uganda.

Whilst the Phase 2 intervention logic repeated some Phase 1 objectives which had already been realised by Phase 1, it additionally emphasised road safety and pedestrian safety which were omitted from Phase 1 due to budget limitations.

#### **EFFICIENCY**

Implementation of the works was greatly hampered due to land acquisition. According to the Works contract 75% of the site would be handed over to the Contractor upon commencement with the balance to be handed over within 12 months. The project funding is detailed below.



*Table 1 – Evolvement of the budget allocations included in the Financing Agreement*

Original Financing Agreement 17 December 2012

	EDF-10	GoU	Total
Works	37,000,000	10,000,000	47,000,000
Works Supervision	2,500,000	-	2,500,000
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	1,000,000	1,000,000
Contingency	-	4,260,000	4,260,000
	<b>40,000,000</b>	<b>15,260,000</b>	<b>55,260,000</b>

Addendum 1 - Approved Revised Budget 7 February 2014

	EDF-10	GoU	Total
Works	37,000,000	30,400,000	67,400,000
Works Supervision	2,500,000	1,800,000	4,300,000
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	-	-
Contingency	-	11,060,000	11,060,000
	<b>40,000,000</b>	<b>43,260,000</b>	<b>83,260,000</b>

Addendum 2 - Approved Revised Budget 16 July 2018

	EDF-10	GoU	Total
Works	37,000,000	115,624,159	152,624,159
Works Supervision	2,500,000	4,264,294	6,764,294
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	-	-
Contingency	-	16,000,000	16,000,000
	<b>40,000,000</b>	<b>135,888,453</b>	<b>175,888,453</b>

The budget blow-out is partly due to delays caused by land acquisition and partly by changes in the scope of works. There is optimism that not all the currently-budgeted EUR176M will be



spent. All cost increases have been, and will be, borne by GoU since EU rules preclude any increase in EU contribution. To date, GoU has honoured its obligations.

Due to the increased costs and extended construction period, the economic rate of return (EIRR) on the investment will be less than the 19.7%pa foreseen during project preparation and reported in the Feasibility Study report in 2011. This report inexplicably used a capital cost of USD 35.6 million in the economic analysis after estimating the project economic cost to be USD 71.0 million, or USD 62.0 million excluding the expenditures on lighting and footbridges envisaged in 2011. Using the latter figure for capital cost the EIRR falls to 12.6%pa. But the costs of land acquisition were not tallied. Adding the USD 22.7 million cost of property acquisition, the EIRR falls to 9.4%pa. This does not necessarily mean the project was unjustified. The traffic and associated benefits may have been underestimated. Or the project could have been deferred to allow traffic to increase to a level that justified the cost.

### **EFFECTIVENESS**

KNB's road capacity will be greatly increased by the extra carriageway and grade-separated interchanges. Improved road safety is assured by:

- a full-length segregated footway/cycleway.
- 3 pedestrian footbridges.
- improved signalisation and road marking.
- street lighting at junctions
- full-length central reserve safety fencing
- limited access to the road.

Separating pedestrians from moving traffic should markedly reduce the prevalence of pedestrian accidents and deaths. Separating opposing directions of traffic flow should eliminate head-on collisions

### **SUSTAINABILITY**

UNRA has the staff and tools to plan periodic and routine maintenance needed to preserve its road assets.

Money for asset preservation should not be an issue— but it is. Inability of the Uganda Road Fund (URF) to provide sufficient funding to preserve road assets is the greatest single threat to KNB's sustainability.

Overloading by heavy vehicles is a potential threat to sustainability of KNB. That the Phase 1 pavement remains serviceable after a decade suggests that Uganda's overload controls are working

### **EU ADDED VALUE**

Adding a parallel carriageway and grade-separating junctions is not complementary to other EU or EU member countries interventions.

### **COHERENCE**

KNB is a vital section of the EAC's Northern Corridor Route, which formerly threaded its way through urban Kampala. KNB serves transit traffic bypassing Kampala. It is also part of a ring road system for Kampala, serving mostly urban traffic which use KNB as a collector-distributor ring road. Once opened to traffic, the Capacity Improvement of KNB will mutually reinforce the results and impacts that were already envisaged under Phase 1.



## 4. Conclusions

### Conclusions

- C1 Relevance 1:  
Since the construction works are on-going and will not be completed before October 2021, the results have not been achieved yet.
- C2 Efficiency 1:  
A huge risk has been taken to go for tendering and subsequently the awarding of the works contract when less than 75% of the additional land to be acquired for the construction of the works was secured.
- C3 Efficiency 2:  
The design review was carried out when the contract was already awarded. Therefore the results and financial consequences of the review could not be taken into consideration at the tender stage.  
There is an issue with regards to the design responsibility when the design review consultant makes fundamental changes to the original design. Is the original designer no longer responsible now and has the review consultant taken over the design responsibility?
- C4 Effectiveness 1:  
The road surface of the single and partly double carriageway that were constructed under Phase 1 between 2004 and 2009 needs a new overlay at the end of the construction of Phase 2 in October 2021.
- C5 Sustainability 1:  
The inability of the Road Fund to provide sufficient funding to preserve road assets is the greatest single threat to sustainability of the Kampala Northern Bypass Project.
- C6 Sustainability 2:  
A major threat might be the merger of UNRA with the MoWT and the mainstreaming of the URF with the MoWT.
- C7 Sustainability 3:  
Even before the completion of the works, there is encroachment into the road reserve by market vendors and illegal access to the road.



## Lessons to be learned

### Construction Kampala Northern Bypass (Phase 1, 2004-2009)

The January 2011 evaluation of the completed Phase 1 drew attention to the following points.

- Lack of adequate planning:
- More attention should be given to the qualifications and experience of the personnel:
- If progress of the job reveals a lack of team work, the remedy is to replace the personnel concerned:
- Appoint a Disputes Resolution Board:
- It is better to specify the end result than the method of getting there, i.e. "performance specifications" where they are appropriate:
- The bypass project showed a lack of foresight by not including a truck service area and safety provisions for pedestrians:

Unfortunately, most of these points have not been taken into consideration in the design and construction stage of this Phase 2.

### Capacity Improvement Kampala Northern Bypass (Phase 2, 2014-2021)

From this Phase 2, the following lessons can be learned:

- L1 One of the main lessons learned is that Design and Supervision should preferably be in a single contract. The Evaluators have interviewed the contracting partners NAO and UNRA and no reason was found why there was the split into two separate contracts for the Design and Supervision respectively. The negative consequences have been substantial: a costly design review and the following subsequent increase of the construction cost due to:

Item	Amount (millions of €)
Costs arising due to Omissions in the Tender design	+18.1
Issues with the Tender Design Implementation	+ 8.1
Additional Works	+ 9.0
Design Change for Ground Treatment due to delayed access to site	+ 3.0
Increase in General Costs (Bill 1) due to 685 days EOT up to May 2019 due to delayed access to site experienced up to end of 2016.	+ 4.1
Sub-total	+42.3
Savings to balance	- 3.2
Total Euro	+39.1

Part of these costs could have been avoided.

There were no clear procedures in place for taking over the design responsibilities from the original designer Mott MacDonald to the Supervising Consultants COWI. Now the design has been altered substantially by COWI without the written approval of the original designer and therefore it will practically be impossible to claim part of the additional construction cost from Mott MacDonald.





- L2 It is not clear what information was provided to the original Design consultant Mott MacDonald at the start or during their design exercise. An abundance of information could have been made available from the construction of Phase 1 of the project, but apparently nothing was given or nothing was done with it. It is unacceptable that a design review by COWI has resulted in very expensive modifications due to geotechnical conditions encountered in the field. The project consists mainly of construction a second carriageway, 10 meters parallel to the carriageway constructed under Phase 1 and the geotechnical conditions have not changed since that Phase.
- L3 Some nations empower government agencies to compulsorily acquire property for worthy public purposes. Acquisition cannot be contested. Only compensation remains to be settled, by arbitration if need be.

Without such powers, commencing road projects before *all* land is acquired is most unwise and can have severe economic and financial consequences due to project delays and inflated price expectations. Acknowledging that special situations may warrant softening the rule of full acquisition, **at least 95% of the land should be acquired before going to tender.**



## 5. Recommendations

*Table 2 – List of Recommendation*

No.	Recommendation	To be implemented by	Priority	Importance
R1	It is advised to carry out the Final Evaluation of the KNB project for Phase 1 and 2 combined, in order to see the real effects of the project and not just the addition of some lanes and the construction of 6 interchanges.	EU	Low	High
R2	The risk taken by awarding the works contract when less than 75% of the necessary additional land was required turned out to be far too high. For future projects, the rule should be that at least over 95% should be acquired. Proper planning and budgeting for timely land acquisition should be ensured.	EU, UNRA	Low	High
R3	The design review should be carried out in a timely manner (before tendering), in order to have the results reflected in the BoQ.  For future projects, the design and supervision should preferably be in one single contract, to avoid finger pointing.  After the design review the consultant should sign a declaration that he takes over the design responsibility.	EU, UNRA	Medium	High
R4	In order to increase the effectiveness of the KNB project, the proposed overlay works should be budgeted for. It would greatly enhance the effectiveness of the KNB project when in October 2021 they can start with a good road surface on both carriageways, thereby avoiding periodic maintenance in the near future.	EU, UNRA, Contractor	High	High
R5	Donors should continue and maybe intensify the dialog with the Ministry of Finance to secure sufficient funds for the maintenance of the investments made on all infrastructure projects.	EU, UNRA	High	High
R6	All donors combined should prepare an action plan on how to act/react in case the	EU, UNRA	Medium	High



	proposed restructuring of UNRA and the URF will be implemented.			
R7	UNRA and the Police should strictly enforce the applicable laws.	UNRA	High	High
R8	KCCA, NEMA and UNRA should combine forces to avoid unplanned and often illegal urban and industrial settlements in the swamp areas adjacent to the road. and stop giving building permits in these environmentally sensitive areas.	UNRA, NEMA	High	High



## 1. INTRODUCTION

### 1.1 BACKGROUND

The Capacity Improvement of the Kampala Northern Bypass (KNB) is part of an overall plan to improve the Eastern Africa North Road Axis - EANRA (or Northern Corridor Route - NCR), which is one of the most important road axes in East Africa. It connects the big seaport of Mombasa in Kenya with the land-locked countries of Uganda, Rwanda and Burundi, but also serves road transport to/from the Democratic Republic of Congo (DRC), South Sudan and northern areas of Tanzania. The importance of this road axis is especially high since there are no other surface transport means (e.g. railways) to serve the transport needs of these countries.

The overall length of the NCR in Uganda, from the border with Kenya to the border with Rwanda, is approximately 650 km. It goes from Malaba (border crossing with Kenya) through Tororo, Jinja, Kampala, Masaka, Mbarara and Kabale to Katuna (border crossing with Rwanda).

This road is considered to be the backbone of the transportation infrastructure of the country as it connects Uganda with most of the East Africa region's countries, carries practically the totality of Uganda's passenger and freight traffic (and respectively 60% and 30% of Rwanda's and Burundi's international traffic), facilitates trade along the corridor, encourages safer personal mobility and contributes to balanced economic development and to sustained growth in the country, which are essential for the creation of wealth and the reduction of poverty, which in turn are the key elements needed to foster regional integration.

The northern bypass of Kampala (on the NCR) was constructed as a single carriageway road in most of its length (17.5 km); only a small section of the bypass (3.3 km) was constructed and delivered in 2009 as a double carriageway road at the time of the bypass construction. Since then, the city of Kampala expanded due to its population increase and the northern bypass became a very busy and congested urban road, not able to serve both the local and the passing-by traffic; surveys have shown that it was needed urgently to be upgraded to a double carriageway road with controlled access (i.e. through 6 additional interchanges) and safety structures (through 3 additional footbridges and a footpath along its whole length). The reconstructed Intervention Logic identified the following objectives:

#### Global objectives

- Improved service to road users in GKMA and on NCR by upgrading KNB to function as urban arterial and bypass on NCR.
- Improved road safety for road users in GKMA.

#### Specific objectives

- Improved performance and level-of-service for traffic.
- Improved road safety on KNB.

Due to the importance of the NCR, its upgrading (and maintenance) as per the developing needs in the transport sector, is considered a priority in all the latest Transport Sector Development Plans and National Development Plans of the country, as well as in the Uganda Vision 2040 (which provides development paths and strategies to operationalize Uganda's Vision statement: "A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years", as approved by Cabinet of Ministers in 2007). Under this policy direction, the Government of Uganda (GoU) tries to keep the road in a good condition and capacity to serve the transport needs.

The "Capacity Improvement of the Kampala Northern Bypass" project, subject to current mid-term evaluation, is the continuation of that "Kampala Northern Bypass" Project, first phase.

The project is implemented by the Ministry of Finance, Planning and Economic Development – The National Authorising Officer (Contracting Authority for works and supervision contracts). Project's



beneficiary and executing agency is Uganda National Roads Authority (UNRA), acting as the Supervisor for the Works Contract.

The project consists of the following contracts:

1. The Works contract with Mota Engil (on-going)
2. The Supervision contract(s) with COWI (on-going)
3. The Visibility contract with Suez-Safège (closed)
4. Technical Audit contract with Suez-Safège (closed)
5. Mid-term Evaluation contract with Euronet Consulting (ongoing)
6. Final Evaluation contract (to be tendered)
7. Financial Audits contract

The most important project component is of course the Works contract. The actual progress as per 30 September 2019 was: planned progress 68.7%, achieved progress 64.7% in relation with the revised work plan. The execution of the contract for works started on 14 July 2014 for the initial period of 36 months and is ongoing. Given the current situation of land access achieved so far, progress at the interchanges and significantly increased scope of works, it is currently expected that execution of works will only end by middle 2022. Also, some sections can be handed over to the public earlier.

On the 5<sup>th</sup> of August 2019 the contract Mid Term Evaluation of the "Capacity improvement of the Kampala Northern Bypass" Project, contract number: 2019/408256/1, was signed between the Delegation of the European Union (DEU) in Uganda and Euronet Consulting.

The main objective of this evaluation is to provide the relevant services of the European Union, the interested stakeholders and the Government of Uganda with:

- an overall independent assessment of the past performance of the "Capacity Improvement of the Kampala Northern Bypass Project, paying particular attention to its 'intermediate' results measured against its expected objectives; and the reasons underpinning such results"
- key lessons learned, conclusions and related recommendations in order to improve current and future Actions.

The financial details of the Works and Supervision contracts are given in Chapter 3, Table 7.

The Evaluation has been carried out in accordance with the OECD/EU guidelines for evaluations as described in the document "The Evaluation Methods for the European Union's External Assistance" of 2006. <http://www.oecd.org/dac/evaluation/dcdndep/47469160.pdf>

In addition to evaluating the project in accordance with the standard OECD/DAC Evaluation Criteria (Relevance, Efficiency, Effectiveness, Sustainability and 'perspectives of' OR 'early signs of' Impact), the evaluation was to assess two EU specific evaluation criteria:

- the EU added value (the extent to which the Action brings additional benefits to what would have resulted from Government of Uganda fully funded or other development financial institutions funded interventions only);
- the coherence of the Action itself, with the EU strategy in the country and sector and with other EU policies and Member State Actions, and other DPs

The Evaluators also reviewed and reconstructed the Intervention Logic and based on this prepared a proposed revision of the Logical Framework Matrix, its results and indicators.

Details of the evaluation methodology are given in the Final Evaluation Report – Volume II, Annex 3: Detailed Evaluation Methodology.

The Technical Experts in charge of the evaluation were:



Mr. Ben A.M. Gerritsen, Team Leader  
Dr. Ronald R Allan, Transport Economist

## 1.2 REVIEW AND RECONSTRUCTION OF INTERVENTION LOGIC

### 1.2.1 Intervention rationale

At the time the KNB project was being prepared in 2000 by the consultants of BCOM, the proposal was to construct a "high quality limited-access bypass" (see Financing Agreement 6574UG). The need for a bypass project sprang from mounting congestion in central Kampala exacerbated by transit traffic using East Africa's Northern Corridor route from the port of Mombasa to eastern Congo, Rwanda, Burundi and Tanzania. In turn, this transit traffic was being affected by the urban congestion in Kampala.

Due to budget constraints, only 3.5 km was constructed as a dual carriage way with the remaining 17 km single carriage way. Three of the seven junctions were grade-separated and the other four were roundabouts. Construction took place between May 2004 and October 2009 and in this report is referred to as Phase 1.

Upon opening in 2009, KNB was the preferred route for transit trucks with no business in Kampala. Most KNB traffic was local, however, and for many road users was an escape from congestion in the city. Rather than battle city congestion, many drivers drove out from the city to the bypass, circumnavigated the city, then drove back in, to their city destinations. Another, intended, effect the bypass was to promote welcome urban development on the northern side of the city, counterbalancing the development that had already taken place to the south.

So successful was KNB that it soon became congested. There was a pressing need to complete the dual carriageway along the entire route. The junction roundabouts could not cope because they were gathering points for matatus waiting for passengers and congregation points for street vendors. The roundabout's traffic function was smothered by these other activities. Thus, all the junctions needed to become grade-separated interchanges.

The Capacity Improvement of the Kampala Northern Bypass Project, herein called Phase 2, essentially completed KNB as originally envisaged. Specifically, Phase 2 would greatly improve KNB's traffic carrying capacity, shorten travel times and improve traffic safety for road users and pedestrians.

### 1.2.2 Intervention logic

For reconstructing the KNBP Phase 2 intervention logic, the Evaluators examined the official documents establishing the intervention and allocating resources. The main activities were identified. There were some changes to the proposed Phase 2 interventions initially proposed, as identified in Table 3 on the next page (see interventions 2 and 6).

Apart from these changes in the proposed intervention there are also the issues of the prolonged construction period, up from 36 to 87 months, and the cost increase of the works contract (due mainly to revised scope of works, delayed access to site as contractually guaranteed, and price escalation) now estimated to rise from €67.4 million to €127.2 million, based on the latest tentative revised works final cost estimate – September 2019.



*Table 3 – Revised List of planned interventions*

No.	Original planned interventions	Revised interventions September 2019	Remarks
1	Widening to dual standard to improve traffic through-put	Widening to dual standard to improve traffic through-put	Unchanged
2	Junction improvements including minor realignments, provision of signalisation at the roundabouts including pedestrian crossing phases, and 5 grade-separations to increase capacity	1. Junction improvements including minor realignments, provision of signalisation at the roundabouts including pedestrian crossing phases, and 6 grade-separations to increase capacity	At-grade crossing Sentema road changed into grade-separated Interchange
		2. Construction of Service ducts for communication, water supply and electricity	Unforeseen
		3. Construction of large capacity drains as part of the KCCA Urban Drainage Masterplan	Unforeseen
		4. Paving of road shoulders with Asphalt Concrete, rather than bituminous double surface dressing	Change in methodology
3	Formalisation of local roads to avoid illegal access to the bypass	Formalisation of local roads to avoid illegal access to the bypass	Unchanged
4	Formalisation and provision of segregated footways for the full length of the bypass	Formalisation and provision of segregated footways for the full length of the bypass	Unchanged
5	Three further pedestrian footbridges at busy crossing points to provide safe crossing facilities	Three further pedestrian footbridges at busy crossing points to provide safe crossing facilities	Unchanged
6	Solar powered street lighting to avoid intermittent power supply and component theft issues	Solar powered street lighting to avoid intermittent power supply and component theft issues	At interchanges only, remainder is optional
7	Dedicated parking areas to avoid stopping on the bypass	Dedicated parking areas to avoid stopping on the bypass	Unchanged
8	Central reserve safety barriers to prevent u-turning and potential head-on collisions	Central reserve safety barriers to prevent u-turning and potential head-on collisions	Unchanged
9	Low metallic content signs to combat theft for scrap issues	Low metallic content signs to combat theft for scrap issues	Unchanged
10	Improved road markings for better information to drivers	Improved road markings for better information to drivers	Unchanged

\* Based on the latest Tentative Revised Project Cost Estimate - September 2019

### 13 RECONSTRUCTING THE INTERVENTION LOGIC

Based on the foregoing descriptions the Evaluators have reconstructed the intervention logic as presented on the following pages.



*Table 4 – Reconstructed Intervention Logic*

	<b>Results chain (intervention logic)</b>	<b>Assumptions/Risks</b>
<b>Impacts (Overall objectives)</b>	1. Improved service to road users in GKMA and on NCR by upgrading KNB to function as urban arterial and bypass on NCR. 2. Improved road safety for road users in GKMA.	(Not applicable)
<b>Outcomes (Specific objectives)</b>	1. Improved performance and level-of-service for traffic on KNB. 2. Improved road safety on KNB.	<ul style="list-style-type: none"> <li>• Matatus pick up and set down passengers at the roadside.</li> <li>• Roadside activities are permitted to compromise traffic flow.</li> <li>• Pedestrians walk across the carriageway rather than use footbridges.</li> </ul>
<b>Outputs (results)</b>	1. Widening to dual standard to improve traffic throughput. (outcome 1) 2. Junction improvements including minor realignments, provision of signalisation at the roundabouts including pedestrian crossing phases, and 6 grade-separations to increase capacity. (outcomes 1 and 2) 3. Formalisation of local roads to avoid illegal access to the bypass (outcome 1 and 2) 4. Formalisation and provision of segregated footways full length of the bypass (outcome 2) 5. Provision of pedestrian footbridges at busy crossing points to provide safe crossing facilities (outcome 2) 6. Solar powered street lighting to avoid intermittent power supply and component theft (outcome 2) 7. Dedicated parking areas to avoid stopping on the bypass (outcomes 1 and 2) 8. Improved road markings for better information to drivers (outcome 2) 9. Construction of Service ducts for utilities providers (outcome 1) 10. Drainage improvements including high-capacity drains (outcome 1)	<ul style="list-style-type: none"> <li>• Further cost overruns.</li> <li>• Insufficient funding to complete the works fully.</li> <li>• Land acquisition is incomplete.</li> <li>• Street lighting remains vulnerable to theft.</li> </ul>





<b>Inputs</b> (costs of the activities)	<b><i>COST (EUR)</i></b>	<ul style="list-style-type: none"> <li>• Further cost overruns.</li> <li>• Insufficient funding to complete the works fully.</li> </ul>
	<p><i>Works</i> 152,624,159</p> <p><i>Works supervision</i> 6,764,294</p> <p><i>Audits and evaluation</i> 400,000</p> <p><i>Communications/visibility</i> 100,000</p> <p><i>Contingencies</i> <u>16,000,000</u></p> <p><b>GRAND TOTAL EUR 175,888,453</b></p> <p><b>Note: Cost are based on Financing Agreement, Addendum 2.</b></p> <p><b>Cost are provisional costs and not real costs, to cater also estimates for claims, revision of prices and other related costs that may incur.</b></p>	
<b>Activities</b>	<p>1. Works</p> <p>2 Supervision of works</p> <p>3 Technical and financial audits</p> <p>4 Visibility activities</p> <p>5. Project evaluation</p> <p>5 Land compensation</p>	

Based on this reviewed and reconstructed Intervention Logic, an updated proposal of the Logical Framework Matrix has been produced. This updated logframe proposal is given in Volume II – Annex 5.

## 1.4 MECHANISMS OF CHANGE

The mechanisms that lead from outputs to outcomes are well established in the discipline of traffic engineering. Traffic carrying capacity is measured as the maximum flow rate of vehicles—or, more precisely, passenger-car units (PCUs).

For example, a single lane in typical circumstances can serve 1800 PCU per hour. Adjustments to this number are made to account for features such as lane width, shoulder width, directional split, and “side friction”. Side friction refers to roadside features such as properties with access directly onto the road. This can cause traffic conflicts between through-vehicles and vehicles manoeuvring on to and off road. This same mechanism has a deleterious effect on road safety. A traffic conflict has the potential to result in a crash.

It follows that a four-lane limited-access highway has roughly double the traffic capacity of a two-lane road. For a given vehicle flow,  $V$ , the greater the road capacity,  $C$ , the lower is the volume-to-capacity ratio,  $V/C$ . This is a measure of “level of service” (a traffic engineering concept) provided by the road. Congested roads have high  $V/C$  ratios. Roads with low  $V/C$  ratios are free flowing with sparse traffic travelling at its desired speed because there is little interaction between vehicles.

Interaction between vehicles is most severe when heavy trucks on steep grades slow to a crawl. On a two-lane two-way road this results in faster vehicles being held-up behind such trucks because oncoming traffic may allow only infrequent safe overtaking manoeuvres. From time to time, impatience or poor judgment results in head-on collisions. Both level of service and



safety are promoted by having a two-lane *one-way* road in each direction, all the more so if these carriageways are separated by a median barrier.

As noted, traffic conflicts can turn into traffic crashes. The purpose of grade separated junctions is to permit the main axis of flow to be unheeded by junctions. This is a traffic capacity advantage, but grade separation also reduces the number of potential conflict points, thereby denying accidents opportunities to happen. This strong safety effect is well known.

The main inhibitor to the realisation of these effects is traffic growth. As KNB traffic grows the level of service will diminish. For a time, serious accidents may increase but as congestion slows the traffic there will be fewer serious accidents and more “fender benders”— minor scrapes and dents. A rule of thumb is that the probability of an accident resulting in death rises with the fourth power of speed at impact (subject to an upper limit of unity).

In Table 3 the connections between outputs and outcomes are noted.



## 2. ANSWERED QUESTIONS / FINDINGS

In this chapter the answers to the Evaluation Questions, based on the OECD-EU Evaluation Methods for the European Union's External Assistance, are given. The answers are based on persons interviewed (see ANNEX 7), the documents reviewed (see ANNEX 8) and site inspections carried out by the Evaluators.

### 2.1 RELEVANCE

#### 2.1.1 The extent to which the Project has been consistent with, and supportive of, the policy and programme framework within which the action is placed, in particular the EC's EDF 10 NIP, the NDP and relevant sector policies and programs.

The Capacity Improvement of the Kampala Northern Bypass (KNB) project is in fact just finishing what was originally planned: the construction of a full dual carriage way with grade separated interchanges. The genesis of this project arose in the 1990s from the Gibb report Comparative Feasibility Study between Northern and Southern Bypasses of Kampala City (CFSFR) 1998, which considered both southern and northern bypass options for Kampala. The need for a bypass project sprang from mounting congestion in central Kampala exacerbated by transit traffic using East Africa's Northern Corridor route from the port of Mombasa to eastern Congo, Rwanda, Burundi and Tanzania. In turn, this transit traffic was being affected by the urban congestion in Kampala.

Due to budget constraints it had to be decided already in 2002 to construct the road in 2 Phases:

- Phase 1: consisting of 3.5 km of dual carriageway and 17.5km of single carriageway, six at-grade junctions (roundabouts) and one grade-separated junction (Bombo road).
- Phase 2: the completion of the originally planned design by adding 17km of single carriageway and transform the at-grade crossings into grade-separated junctions, the construction of 3 pedestrian footbridges and ancillary works.

Due to the importance of the East African Northern Corridor Road in the light of the developing needs in the transport sector and its ever-increasing role as an urban artery, the KNB is considered a priority in all the latest Transport Sector Development Plans, National Development Plans of the country, the EDF 10<sup>th</sup> National Indicative Programme and is in line with the Uganda Vision 2040.

#### 2.1.2 The project's coherence with current and ongoing initiatives:

The project's coherence was already safeguarded under Phase 1. The project is in line with the National Transport Masterplan, including a Transport Master Plan for Greater Kampala Metropolitan Area that set out a framework for development of the transport sector over the years 2008-2023. (currently under review by COWI and funded by the EU).

Although the KNB is not even fully operational, it has become clear that due to the plans for the Kibuye Expressway, the junction in Busega (which is part of the Entebbe Expressway) will be modified and a new junction built from the Expressway to Entebbe with the road to Masaka. Currently the traffic coming from Entebbe by the new Expressway has to leave the Expressway before the Busega junction and then take 3 roundabouts to be able to continue their way to Masaka. The current solution is disastrous (see the map below).



Map 1 – Existing situation at Busega Junction



Apart from the problems identified near the existing Busega junction, there is the connection with the proposed Kampala-Jinja Expressway. This junction will have to be overhauled completely but this will be dealt with under the Kampala-Jinja Expressway contract.

2.1.3 The quality of the problem analysis and of the project's intervention logic and logical framework matrix and the appropriateness of the objectively verifiable indicators:

The project is just the completion of the road according to the original plans that formed the basis of Phase 1 of this project. The only difference is that under Phase 2 more attention is given to road safety, something that was left out due to budget constraints of Phase 1.

The **original** Intervention Logic was as follows:

Overall project objectives:

- Consolidation of regional integration by improving connection with neighbouring countries via NCR
- Affordable transport prices via the NCR
- Increase of business activity along the NCR.
- Affordable urban transport prices on and around the Kampala Northern Bypass

Specific objectives:

- Improve traffic operations and traffic management on KNB
- Establish and maintain affordable transport operating costs on NCR
- Reduction of traffic congestion within Kampala city and its outskirts
- Reduction of urban traffic costs

The expected results:

- Increased capacity of the KNB, a section of the NCR (Northern Corridor Route)
- Improved Road Safety on the KNB



Outputs (not mentioned in the Logframe):

- The completed North Bypass of Kampala (17.5 km) consisting of a dual carriageway road with 6 interchanges three footbridges and a footpath along the overall length of KNBP (20.83 km).

Main activities:

- Construction of works
- Supervision
- Technical and Financial Audits
- Visibility activities
- Mid-term and Final Project Evaluations

Identified Indicators for the Overall Objectives:

- OO.1 Volume of freight hauled via NCR;
- OO.2 Transport tariffs (e.g. of a 20ft. container) along;
- OO.3 Financial turnover of businesses along sections of the NCR;
- OO.4 Urban transport prices.

Identified Indicators for the Special Objectives:

- SO.1 Average travel speed on NCR;
- SO.2 Type and number of commercial vehicles operating on sections of the NCR;
- SO.3 Average travel speed on the KNB;
- SO.4 Number of KNB road users per day;
- SO.5 Levels of CO2 as measured and classified by the National Environment Authority (NEMA)

Identified Indicators for the Results:

- R.1 Road condition indicators;
- R.2 No of recorded car accidents;
- R.3 No of road accidents involving pedestrians

All of the above-mentioned identified indicators were in fact indicators that should be used for a Final Evaluation of the whole project, i.e. Phase 1 and 2 combined. Especially for a mid-term evaluation of Phase 2 only, most of these identified indicators are not suitable due to the fact that the results are not there yet and are not measurable, especially not as a contribution to the NCR at this point in time.

The **reviewed and reconstructed** Intervention Logic proposed in this report, which has been discussed in Chapter 2 gives the following Overall and Specific Objectives:

Global Objective:

- Improved service to road users in GKMA and on NCR by upgrading KNB to function as an urban arterial and a bypass on NCR.
- Improved road safety for road users in GKMA.



Specific Objectives:

- Improved performance and level-of-service for traffic on KNB.
- Improved road safety on KNB.

*2.1.4 The extent to which stated objectives correctly address the identified problems and the clarity and internal consistency of the stated objectives;*

The stated overall objectives of this Phase of the project address more the identified problems for the whole of the project, i.e. Phases 1 and 2 combined. For example, the Phase 2 objectives concerning the NCR (regional integration, promotion of business activity and affordable transport prices) were achieved by Phase 1. Also, by diverting transit trucks having no business in Kampala, the specific objective of reducing the air pollution in Kampala's Business Centre was also achieved by Phase 1. When applied for the whole of the project, the stated objectives are internally consistent but rather vague and difficult to measure.

*2.1.5 The quality of the identification of key stakeholders and target groups (including gender analysis and analysis of vulnerable groups) and of institutional capacity issues;*

The target groups and stakeholders that have been identified are: UNRA (Uganda National Roads Authority), MoWT (Ministry of Works and Transport), MoFPED (Ministry of Finance, Planning and Economic Development), NEMA (National Environment Management Authority), KCCA (Kampala City Council Authority), the Utility agencies; the Traffic Police; the people compensated due to land acquisition.

The beneficiaries of the project are: the road users (using all means of transport); the people living and businesses operating along the road, especially women and youth, the local communities, enterprises / trading entities and private institutions in the project area.

Capacity issues were identified and described in the KNB project's formulation document and in the Acton Document of the Project at its formulation stage, but no specific capacity building programmes were included in this Phase 2 itself.

There are other specific EU (and other donors) funded programs tackling the capacity issues of MoFPED, UNRA, MOWT and URF. Under the current EU 11 EDF a 12 MLN EURO capacity building program to the transport sector is included.

*2.1.6 The stakeholder participation in the design and the implementation of the project, the level of local ownership and implementation capacity;*

The stakeholder participation in the design and implementation of the project was mainly coming from UNRA. The other stakeholders were more involved in the facilitation and financial control of the project implementation. Private sector participation was not noticed during this Phase 2. This was mainly due to a lack of implementation capacity in the private sector.

*2.1.7 The realism in the choice and quantity of inputs;*

The funding of the project as described in the original Financing Agreement was as follows:



*Table 5 – Original budget from Financing Agreement, dated 17 December 2012*

Original Financing Agreement 17 December 2012

	EDF-10	GoU	Total
Works	37,000,000	10,000,000	47,000,000
Works Supervision	2,500,000	-	2,500,000
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	1,000,000	1,000,000
Contingency	-	4,260,000	4,260,000
	40,000,000	15,260,000	55,260,000

There is also an EIB loan of € 55,000,000, indicatively to be used on 2 separate and individual EDF projects:

- The Mbarara Bypass, estimated contribution: € 40,000,000
- The Capacity Improvement of the KNB, estimated contribution: € 15,000,000

Due to non-compliance with the EIB rules with regards to the land acquisition and PAPs, no disbursements whatsoever have been made by the EIB to the Capacity Improvement Project on the KNB yet. There is the likelihood that an amount of approx. € 7 million might become available for the KNB project Phase 2, but for now, this possible EIB loan contribution will not be considered at all.

During implementation, the project suffered huge cost increases, which were entirely met by the GoU (the EUD refused to contribute to cost overruns, as per their funding regulations and principles).

*Table 6 – Anticipated increased construction costs (September 2019)*

	Description	Contract Amount (Euro)	Revised - August 2019 Amount (Euro)
<b>I.</b>	<b>SUMMARY OF CONTRACT BILLS</b>		
	Bill No. 1 - General	11,025,187.77	22,120,094.40
	Bill No. 2 - Drainage	7,674,639.66	8,334,159.99
	Bill No. 3 - Earthworks and Pavement Layers of Gravel or Crushed Stone	14,181,330.24	34,374,987.74
	Bill No. 4 - Bituminous Layers and Seals	15,184,126.76	13,630,998.45
	Bill No. 5 - Ancillary Roadworks	7,172,947.31	7,285,873.29
	Bill No. 6A - Hoima Grade-separation Structures	1,502,556.37	2,967,184.85
	Bill No. 6B - Kulambiro Footbridge - FB02	1,370,958.03	1,024,406.67
	Bill No. 6C - Kyebando Footbridge - FB03	1,121,235.04	1,225,194.38
	Bill No. 6D - Naalya Footbridge - FB04	689,349.93	583,994.04
	Bill No. 6E - Gayaza Grade-separation Structures	1,557,191.18	2,437,035.26
	Bill No. 6F - Kyebando Grade-separation Structures	1,425,184.52	2,771,474.92
	Bill No. 6G - Ntinda Grade-separation Structures	1,928,614.04	2,550,281.45
	Bill No. 6H - Naalya Grade-separation Structures	1,497,562.85	2,488,718.75
	Bill No. 6I - Gayaza Road Culvert	706,084.37	573,220.71
	Bill No. 7 - Testing	6,195.00	6,195.00
	Bill No. 8 - Dayworks	361,608.66	472,608.47
	<b>Subtotal -1</b>	<b>67,404,771.72</b>	<b>102,846,428.37</b>



II.	ADDITIONAL WORKS (As Priority)		
2.1	Bill No. 6K - Sentema Interchange		10,047,008.26
2.2	Service Ducts		1,635,540.37
2.3	Hoima North Box Culvert Extension		699,482.87
2.4	Kyebando South Road Box Culvert KY01		937,344.53
2.5	Kampala-Entebbe Expressway Tie-in		250,240.12
2.6	Footpath from Km 0+050 to 0+763		201,009.15
2.7	Additional cost of replacing DBST with asphalt concrete on shoulders		173,539.51
	Extra provisions for slope erosion control and provision of Pedestrian		
2.8	Access to Footpath		143,419.34
2.9	Vehicular access with culverts or slab at agreed locations with UNRA		51,505.38
	Additional cost arising out of the drainage design review (excluding Box		
2.1	Culvert at km 5+458)		
2.11	Large capacity drains at Km 10+820 - Km 12+200		2,099,387.33
2.12	Large capacity drains at Km 8+700 - Km 9+600		864,685.54
2.13	Sentema IC North access road box culvert		726,474.22
2.14	Naalya IC Electricity Pylon Protection works		108,764.07
2.15	Hoima Road IC Box Culvert ML16A at Km 4+975		319,679.51
2.16	Hoima Road IC Box Culvert ML18 at Km 5+458		853,672.45
2.17	Kyebando Box Culvert ML29A at Km 10+945		518,084.40
2.18	Ntinda Culvert ML39 at Km 13+415		368,496.63
2.19	Access at Km 17+560-17+780 LHS		41,840.18
2.2	Hoima road IC access to NWSC plant at Km 5+533		117,019.87
2.21	Various Additional pipe culverts		1,408,883.34
	Reconstruction of damaged shoulders adjacent to the sidewalk between		
2.22	Busega and Hoima road		230,552.20
	Resurfacing of the existing shoulder adjacent to Median drain with Single		
2.23	Seal		40,518.79
2.24	Improvement of SR's Laboratory		4,845.31
2.25	Kyebando Additional Soil investigations		5,154.57
2.26	Drainage & Access Improvements around Kyebando FB		14,152.18
2.27	Ntinda Gabion Retaining walls, SRR2		107,337.04
2.28	Ntinda IC additional Soil investigations		14,995.00
	Requirement of access provision to private & community cut off by the		
2.29	bypass (Gayaza Abatia, Tirupati business park, Kisota, Kulambiro, Km 17+200LHS)		119,712.00
	Requirement of access provision to private & community cut off by the		
2.3	bypass (Gayaza Service Rd & Taxi park, km 16, )		243,000.00
	Guardrail system (VRS) in the median of existing road section from Hoima -		
2.31	Gayaza		236,007.60
	Additional Street Light requirement along the Interchnages ramps as a		
2.32	priority provision		1,059,045.40
	Rectification of Landslide at Km 14+200 Existing Road LHS		
	<b>Sub Total -2</b>		<b>23,641,397.16</b>
	<b>Sub Total (1+2)</b>	<b>67,404,771.72</b>	<b>126,487,825.53</b>
	<b>Add 1% Contingency</b>		<b>1,264,878.26</b>
	<b>Total projected cost to Completion with priority additional works &amp; Contingency</b>	<b>67,404,771.72</b>	<b>127,752,703.79</b>





As for the Capacity Improvement of the KNB project, the originally committed amounts by all partners was considered to be adequate but that turned out to be a great under-estimation. The only party that has to pay the bill for this is the Government of Uganda.

### 2.1.8 The realism in the analysis of assumptions and risks.

In the Feasibility Study Report of the Capacity Improvement of the KNB, prepared by Mott MacDonald in April 2011, a Monte-Carlo risk analysis was given with triangular distributions assumed for the following variables:

- (i) initial and recurrent cost
- (ii) values of time
- (iii) VOCs.

In each case a range from -0.8 to 1.2 times the central estimate was tried. None of the EIRR outcomes fell below 12%. (See Mott Macdonald Feasibility Study report 2011, section 8.1.2.3 Risk Analysis.)

According to the Mott MacDonald Feasibility Study, of all benefits, 78% of benefits accrue to passenger vehicles, predominantly to cars and SUVs (65% of the total). That cars and SUVs are the main beneficiary group is hardly surprising: their occupants have high values of time and they account for 89% of passenger veh-km on the bypass. Of the goods vehicle benefits, 62% accrue to truck-trailers and semi-trailers.

The benefits distribution is based on current patterns of use with some account taken of a greater propensity to use the bypass in future as city roads become more congested.

For the implementation of the works contract, a detailed Risk Analysis Matrix was developed. This is discussed under EFFICIENCY, par. 3.2.2 and included in Volume II - ANNEX 9.4

## **2.2 EFFICIENCY**

This criterion deals with how well the various activities transform the available resources into the intended results/outputs in terms of quantity, quality and timeliness. It also addresses the value-for-money question, i.e. whether similar results could have been achieved by other means at lower cost in the same time. The assessment of Efficiency has therefore been addressed inter alia along the following questions:

### 2.2.1 The extend how the lessons learnt from the implementation of the first phase of the construction of the Kampala Northern Bypass have been taken into account in design and implementation of the "Capacity Improvement of the Kampala Northern Bypass" project.

Surprisingly, the "Evaluation of the Kampala Northern Bypass Project", Final Report by ALAnet Global, January 2011, did not contain a section on Lessons learnt, Conclusions and Recommendations. This was partly due to the fact that, at the time of this evaluation, the project was enrolled into an arbitration and, therefore, no details about the time and cost overruns were given in the report. Nevertheless, the following main points were identified:



- Lack of adequate planning:  
This was the case under Phase 1 and has not been improved. We still expect a delay between 4 and 5 years in the completion of the project. Part of this delay can be contributed to poor planning and little respect for deadlines.
- More attention should be given to the qualifications and experience of the personnel:  
This has been improved under this Phase of the project.
- If progress of the job reveals a lack of teamwork, the remedy is to replace the personnel concerned:  
The same situation as under Phase 1 occurred. Both the Team Leader of the Supervision Team and the Contractor's Project Manager were replaced, although quite late.
- Appoint a Disputes Resolution Board:  
It is not known if this suggestion has been followed.
- It is better to specify the end result than the method of getting there, i.e. "performance specifications" where they are appropriate:  
The suggestion was to consider the use of so-called Output and Performance-based Contracts. This suggestion has not been followed for this Capacity Improvement Project but has been introduced as a pilot project on the road Tororo-Mbale-Soroti-Lira- Kamdini road (340km). The KNBP-Phase 2 contract is still a standard BoQ contract and no prolonged maintenance is foreseen under this contract.
- The bypass project showed a lack of foresight by not including a truck service area  
This suggestion was not picked-up in the design stage of the current project.

2.2.2 If assumptions and risk assessments at results level turned out to be inadequate or invalid, or unforeseen external factors intervened, how flexibly the NAO and EU Delegation have adapted to ensure that the results would still achieve the purpose; and how well has it been supported by the beneficiary institutions.

There exists an approved Risk Management Matrix, which is updated regularly by the Supervisor's Representative. The Risk Management Matrix is divided into 5 main groups:

- A. Risks related to project cost, sub-divided into 7 items
- B. Risks related to the project delivery schedule (programme), sub-divided into 7 items
- C. Risk related to the quality of works, sub-divided into 3 items
- D. Risk related to the functionality of the works, sub-divided into 4 items
- E. Risk related to accessing project funds, 1 item only

The Risk Management Matrix contains the following columns:

- Risk Description (Risk Area)
- Risk Event
- Provability or likelihood of the risk
- Impact of the risk
- Consequences
- Mitigation Strategy or Measures
- Responsible Party
- Present Risk Assessment

The Risk Management Matrix worked well in signaling the risk but was not able to prevent the risk to occur.

Of the 22 risks identified and included in the Risk Management Matrix:



7 are rated as: remain high,  
7 are rated as: still exists  
1 is rated as: reduced risk and  
7 are rated as: no longer a risk

For details see the Risk Management Matrix, given in Volume II – ANNEX 9.4

## **Land Acquisition**

The Evaluators were informed by UNRA that, although 99.5% of the land was acquired, only 85% has been paid for up to now. This difference was due to technicalities in the procedures (not knowing the presence of the owner, etc) or specific features of the land ownership and land tenure system in Uganda. In the eyes of the Evaluators this still continues to be a huge risk. The land is only legally UNRA's land if every penny has been paid!

### **Access to site**

Access to site stands at approximately **100%** as per the Original Phase II design. The overall access to site stands at approximately **99.5%** as per the Extra Land Take III - VI design. The remaining **0.5 %** encumbered site at Gayaza interchange comprising of an objection of the approved compensation award.

### **Site fully handed over**

Approximately 17.4Km have been secured out of the total 17.5km with 4 interchanges i.e. Sentema, Hoima, Kisaasi and Naalya are fully handed over. There is one encumbrance at the Gayaza interchange which is being handled by the UNRA Land acquisition team and the office of the Chief Government Valuer.

For more details with regards to the Land Acquisition see Volume II – ANNEX 9.1

The NAO and EU Delegation have, with sufficient flexibility, adapted to the outcome of these risks, in order to ensure that the results would still achieve the purpose. Most of the risks identified materialized, leading to extension of time and increased costs. The necessary Amendments to the Financing Agreement were produced and approved in time. Even greater flexibility was shown by the GoU, because they had to absorb all cost overruns.

### *2.2.3 Operational work-planning, implementation, and budget management;*

The project has suffered severe deviations from the original implementation schedule, as foreseen in the Feasibility Study, Detailed Design Report, the tender documents and the Financing Agreement. The main reasons for these deviations are: design shortcomings and omissions, land acquisition, increase in quantities, additional scope etc. This has moved the current completion date now to 22 October 2021, excluding the Defects Liability Period of 12 months. This results in a delay of 51 months.

The implementation of the works was greatly hampered due to the Land Acquisition issue. According to Sub-Section 1223 (The Handing Over of the Site) of the Technical Specifications of the Works contract, some 75% of the Site shall be handed over to the Contractor upon



commencement with the balance to be handed over within 12 months from commencement of the Project. The minimum length of any section to be handed over should be around 2km. This was never realized and even now the 100% has not been achieved, more than 5 years after the commencement date of 14 July 2014. It is obvious that this has very serious consequences both in completion of the works and financially. The status with regards to the land acquisition as per September 2019 is as follows:

### Compensation Status

Total compensation stands at approximately **80.3%** as per Project Affected Persons (PAPs) paid and at **86.3%** as per land acquired (note: land acquired is not the same as land paid). The summary of the compensation status is detailed in the Table 7 below.

*Table 7 – Compensation Status*

Sn	Description	
1	Total Number of PAPs Approved:	1,581
2	Total Number of PAPs Paid:	1,269
3	Percentage of PAPs paid	<b>80.3%</b>
4	Total Land Area Approved (Acres):	59.90
5	Total Land Area Acquired:	51.69
6	Percentage of Land Acquired	<b>86.3%</b>
7	Total Amount Approved (in UGX):	83,863,652,923
8	Total Amount Paid (in UGX):	75,558,453,715
9	Percentage Amount Paid:	<b>90.1%</b>

### Project Funding

The funding of the project is complicated because the overall financing is combined with the Mbarara Bypass Project under a blending scheme.

For the Capacity Improvement of the Kampala Northern Bypass alone, the following data are important:

*Table 8 – Overview Financing Agreement's evolution*

#### Original Financing Agreement 17 December 2012

	EDF-10	GoU	Total
Works	37,000,000	10,000,000	47,000,000
Works Supervision	2,500,000	-	2,500,000
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	1,000,000	1,000,000
Contingency	-	4,260,000	4,260,000
	<b>40,000,000</b>	<b>15,260,000</b>	<b>55,260,000</b>



Addendum 1 - Approved Revised Budget 7 February 2014

	EDF-10	GoU	Total
Works	37,000,000	30,400,000	67,400,000
Works Supervision	2,500,000	1,800,000	4,300,000
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	-	-
Contingency	-	11,060,000	11,060,000
	<b>40,000,000</b>	<b>43,260,000</b>	<b>83,260,000</b>

Addendum 2 - Approved Revised Budget 16 July 2018

	EDF-10	GoU	Total
Works	37,000,000	115,624,159	152,624,159
Works Supervision	2,500,000	4,264,294	6,764,294
Audit and Evaluation	400,000	-	400,000
Communication/Visibility	100,000	-	100,000
Land Compensation	-	-	-
Contingency	-	16,000,000	16,000,000
	<b>40,000,000</b>	<b>135,888,453</b>	<b>175,888,453</b>

The cost increase from € 40,000,000 to the now allocated € 175,888,453 is related to various factors; the most important ones being:

- The quality of the original design by Mott MacDonald turned out to be insufficient to cater for the actual situation (far more traffic than anticipated, unforeseen drainage problems, upgrading of the Sentema roundabout to a grade-separated junction, etc.);
- No lessons that could have been learned from the construction of Phase 1 have been taken into consideration, especially the geotechnical conditions along the alignment;
- If a design review had been carried out before going to tender, it would have revealed a necessary cost increase that could have been taken into consideration by the bidders but would not have avoided it;
- The design review that was carried out by COWI revealed that in fact a new design had to be produced. It took a design review to precipitate a new design;
- The differences between the original design by Mott MacDonald and COWI are that big that one can speak now of a new design by COWI, rather than a design update based on the design review. Therefore, it is obvious that Mott MacDonald cannot be held responsible any longer for the design now implemented.
- UNRA had at that time insufficient in-house capacity to carry out the quality control of the original design;
- The cumbersome process of land acquisition;
- The increased cost of the supervision due to the extension of time that had to be granted.

The negative consequences of the above-mentioned points have been substantial: a costly design review and the following subsequent increase of the construction cost due to:



Item	Amount (millions of €)
Costs arising due to Omissions in the Tender design	+18.1
Issues with the Tender Design Implementation	+ 8.1
Additional Works	+ 9.0
Design Change for Ground Treatment due to delayed access to site	+ 3.0
Increase in General Costs (Bill 1) due to 685 days EOT up to 28 May 2019 due to delayed access to site experienced up to end of 2016.	+ 4.1
Sub-total	<u>+42.3</u>
Savings to balance	<u>- 3.2</u>
Total Euro	+39.1

Part of these costs could have been avoided.

Payments to the contractors are implemented by UNRA except for the payments of the EU grant amounts which are paid by the EUD-UG directly to the contractors, on the basis of the approved by UNRA/MoFPED interim payment certificates (IPC).

The total amount certified up to the end of May 2019 for the Works contract is € 81,542,169.40. Further IPC's are in the pipeline.

For the Supervision contract of COWI the total certified amount till the end of 2018 was € 5,488,873.39. The IPC for the period Jan. 2019 till Jun. 2019 was under preparation.

The planned progress at the end of September 2019 was 68.7% while the achieved one is 64.7%.

No delays in payment of IPCs have been caused by EUD-UG. There were delays in payment of IPCs 1 and 3 of the Contractor by UNRA due to delayed budget provisions by the MoFPED.

#### 2.2.4 Relations and co-ordination with local authorities and beneficiaries:

The relation with local authorities and beneficiaries has been good so far.

Coordination was not always perfect, especially in the beginning there were coordination problems with:

- KCCA (drainage works and dimensions of the roundabouts);
- The Utilities Companies;
- The Entebbe Expressway project;
- KCCA, UNRA and NEMA on developments in the swamps.

Most of these problems have been solved now.

#### 2.2.5 Quality of information management and reporting, and the extent to which key stakeholders have been kept adequately informed about the project activities:

The quality of the information management and reporting is considered of a good quality. However, according to the EIB ROM reviewers, the intended results of the project, especially the socio- economic aspects and the cross-cutting concerns, are not –as a rule- monitored during project implementation, because none of the stakeholders possesses a system monitoring specific project results. Most systems are based on Outputs and not on Outcomes.



The Contractor prepares monthly reports and the Supervision Consultants prepare monthly and bi-annual reports. All these reports provide sufficient detail for the stakeholders and are submitted in time. The distribution of the reports is in accordance with the respective Works and Supervision contracts.

2.2.6 Respect of deadlines:

Respect of deadlines was and remains a hot issue. Below a table is given with the days claimed and approved till the end of September 2019 and further claims are anticipated.

*Table 9 – Extension of Time Claims*

Potential Claim No.	Description	No. of days claimed	No. of days approved
1	EOT due to Lack of Access to Site - Unpaid Compensation	685	685
2	EOT due to Delayed Relocation of Utilities	18	Nil
3	EOT due to Increase in Quantities of Swamp Treatment	200	Nil
4	EOT due to Precast Prestressed Beams – Additional Reinforcement	Nil	Nil
5	EOT due to Delayed Notification of Pavement Design Change - Subbase	Nil	Nil
6	EOT due to Work Stoppage associated with the General Election (and Pope’s Visit)	7	Nil
7	EOT due to Lack of Access to Site - Unpaid Compensation	1327	877

With the approval of the 685 days, the contractual date for the finalisation of the works contract (excluding the defects liability period) stood at 29 May 2019.

A further EoT of 877 additional calendar days was granted in September 2019, bringing the new end date to 22 October 2021 plus one-year Defects Liability Period. It is important to realise that the Contractor has expressed his reservations with this new end date.

As a consequence of this, also the Supervision contract with COWI, that commenced on the 14<sup>th</sup> of July 2014 had to be extended for another 50 months. A new contract for this was signed on the 18<sup>th</sup> of July 2019.

2.2.7 Extent to which the costs of the project have been justified by the benefits whether or not expressed in monetary terms, in comparison with similar projects or known alternative approaches, taking into account contextual differences and eliminating market distortions:

The costs of the project have gone up several-fold as can be seen below:



*Table 10 – Estimated Final Amounts Works and Supervision Contract*

Description	Amount in Euros
Original works contract	67,394,566.56
Design Review Estimated Final Amount August 2014	70,757,200.05
Estimated Final Amount November 2014	68,055,895.36
Estimated Final Amount October 2015	79,982,857.05
Estimated Final Amount November 2016	129,374,076.39
Estimated Final Amount February 2017	118,230,152.10
Estimated Final Amount October 2017	106,480,753.07
Tentative Revision September 2019	127,221,631.85
Original Supervision contract	3,431,192.98
After Addendum to the Supervision contract	7,415,018.13
After new Supervision contract	12,110,939.36

It is anticipated that the project will address the capacity constraints and road safety issues that have emerged since the opening of the Kampala Northern Bypass. More specifically, the project will reduce travel time, reduce vehicle operating costs as well as improve road safety. Furthermore, the project will reduce congestion in the centre of Kampala City through increased traffic volumes bypassing the city centre. In addition to the economic benefits, the project will also reconnect local communities severed by the bypass and provide dedicated facilities for the non-motorized users of the bypass.

The benefits of the capacity improvement cannot be measured now because they have not been materialized yet. The biggest benefits in economic terms would come from the reduction of travel time on the KNB, but due to the ongoing construction works, the travel time has increased. This will only become better once the dual carriage way and its interchanges are opened. Also, the other anticipated benefits have yet to be realised.

Due to the increased costs and extended construction period, the economic rate of return (EIRR) on the investment will be less than the 19.7%pa foreseen during project preparation and reported in the Feasibility Study report in 2011. This report inexplicably used a capital cost of USD 35.6 million in the economic analysis after estimating the project economic cost to be USD 71.0 million, or USD 62.0 million excluding the expenditures on lighting and footbridges envisaged in 2011. Using the latter figure for capital cost the EIRR falls to 12.6%pa. But the costs of land acquisition were not tallied. Adding the USD 22.7 million cost of property acquisition<sup>1</sup> the EIRR falls to 9.4%pa. This does not necessarily mean the project was unjustified. The traffic and associated benefits may have been underestimated. Or the project could have been deferred to allow traffic to increase to a level that justified the cost.

The Evaluators have produced a new economic evaluation forecast for the KNBP-Phase II, based on available data and assumptions on increased costs and benefits. The details are given in Volume II – ANNEX 9.2.

It is obvious that, due to all cost increases and time extensions, the doubling from a single to a dual carriageway over a distance of 17 km plus the construction of 6 interchanges and

<sup>1</sup> This was the amount approved for payment as at September 2019.





additional drainage works for a now estimated total amount of € 127 million, is a very high cost, also compared with similar projects in Uganda.

### 2.2.8 GoU's contributions:

The budgeted contribution of the GoU has evolved as shown in Table 5 from € 15,260.000 at the start of the project in 2012, as per original Financing Agreement (but before start of the procurement for works) to € 135,888,453, based on the Addendum 2 to the Financing Agreement signed in July 2018, an increase of 886%.

It has been decided that the latest Addendum to the Supervision contract of COWI from € 7,415,018.13 to € 12,110,939.36 will be treated separately and the cost are therefore not included in the economic analysis

There are other contributions like tax exemptions, work permits, etc. but their quantum is trivial in the extreme.

Up to now, the GoU has fully honoured its commitment.

### 2.2.9 Quality of monitoring: its existence, accuracy and flexibility and the use made of it; adequacy of baseline information;

The monitoring of the project is divided more or less between output-based monitoring and outcome-based monitoring. The output-based monitoring is carried out by COWI as part of their Supervision contract. The quality of the works is monitored along the lines of the agreed Contractor's Quality Management Plan and Quality Assurance Plan.

With regards to the outcome-based monitoring, the situation is somewhat fragmented and mainly due to the absence of good outcome indicators and survey data. This is a common situation in many countries: very few projects have conducted pre-investment baseline surveys, post-investment surveys and subsequent follow-up surveys to learn the longer-term outcomes. Here a task is at hand for the Monitoring Division of UNRA.

The quality of the monitoring of the construction contract by COWI is found to be professional and up to international standards.

Not only the works, but also the cross-cutting issues are monitored strictly. For compliance with the environmental standards, the Contractor had to prepare an Environmental Management Plan (EMP) for the project, which outlines the potential environmental hazards and risks and provides an action plan to deal with the hazards, minimize the risks and mitigate adverse environmental impacts; including a general decommissioning plan covering all relevant aspects of the project. This EMP was approved on the 28<sup>th</sup> of February 2015 and forms the basis of the monitoring. The monitoring of the implementation by the COWI team, in close cooperation with UNRA and the National Environmental Management Agency (NEMA), is of a high standard and sets an example for other road projects in Uganda.

During discussions with NEMA the Evaluators were informed that UNRA is not complying with the legal obligation to submit an Annual Environmental Audit of the project to them. This issue was raised during the workshop on 30 October 2019 and will be taken up by both parties a.s.a.p.



The Contractor was also obliged under the terms of the contract to prepare an Occupational Health and Safety (OHS), HIV/AIDS and Gender Management Plan which includes details of measures they propose to adopt in a bid to:

- a) Prevent and reduce accidents and injuries to the staff and workers and minimise health hazards to the adjacent community and the general public and;
- b) Prevent the spread of HIV/AIDS and STIs between their staff, labourers and the immediate local community.

This Plan was approved on the 28<sup>th</sup> of February 2015.

For the implementation of the component HIV/AIDS/Gender Mitigation of the plan, the Contractor hired the nominated service provider M/S Family Rescue Initiatives – Uganda based on the ToR provided by UNRA.

During August 2015 M/S Family Rescue Initiatives submitted the following project documents: HIV/AIDS Workplace Policy; Baseline Study Report; and Gender Strategy. These submissions have been reviewed by the SR and approved for implementation. The monitoring of the approved plans and Gender Strategy is carried out very seriously by UNRA, COWI and the Contractor and the results of the monitoring is presented in the monthly and semi-annual reports of COWI.

It is important to note that there is no close communication/cooperation between EUD-UG and EIB, while their communications with the MoFPED are more frequent and structured.

#### 2.2.10 If any un-planned outputs arose from the activities so far.

- The Evaluators noted that as a result of the construction of the KNB, there is a rapid and uncontrolled urban development ongoing in the swamp areas adjacent to the road. This will create even more drainage and wetland storage capacity problems than already encountered.
- Pockets of crime have developed along parts of the road, especially near the roundabouts. This may not be new crime. It may be crime relocated from elsewhere.

## **2.3 EFFECTIVENESS**

**Effectiveness (achievement of purpose):** this criterion deals with the extent to which the project's results are used or their potential benefits are realised i.e. whether they achieve the project purpose. The key question is what difference the project makes in practice, as measured by how far the intended beneficiaries really benefit from the products or services made available. The analysis of effectiveness has been determined inter alia through the following questions:

#### 2.3.1 Whether the planned benefits, as perceived by all key stakeholders, have been/or can be delivered and received by the end of the project

The ToR provided little guidance in carrying out this specific task. Are the Evaluators evaluating:



- (i) what participants were legally obliged to deliver or
- (ii) what the Evaluators think (without EU concurrence) the participants *should* have been asked to deliver?

The Evaluators followed (i).

In the Logical Framework Matrix, the following data related to this Action are given:

Overall project objectives:

1. Consolidation of regional integration by improving connection with neighbouring countries via NCR
2. Affordable transport prices via the NCR
3. Increase of business activity along the NCR.
4. Affordable urban transport prices on and around the Kampala Northern Bypass

Specific objectives are:

5. Improve traffic operations and traffic management on KNB
6. Establish and maintain affordable transport operating costs on NCR
7. Reduction of traffic congestion within Kampala city and its outskirts
8. Reduction of air pollution in Kampala
9. Reduction of urban traffic costs

The expected results are:

10. Increased capacity of the KNB, a section of the NCR (Northern Corridor Route)
11. Improved Road Safety on the KNB

Since the construction of the road is only completed for around 65% it is obvious that the planned benefits have not materialized. Therefore, everything written here below related to this paragraph EFFECTIVENESS is a best estimate of what could be delivered and achieved by the end of the project.

*Re 1: Consolidation of regional integration by improving connection with neighbouring countries via NCR:*

This is a very abstract Overall Objective and it is likely to be delivered but hardly depends on the adding of a second carriageway adjacent to the existing one.

*Re 2: Affordable transport prices via the NCR*

This cannot be measured now and also after completion it will be virtually impossible to measure the effects of the Capacity Improvement project over a length of 17km on a road totalling 1695 km.

*Re 3: Increase of business activity along the NCR*

Like for the affordable transport prices, this can only be measured after completion of the construction. It is however very likely that this will occur somewhere.



*Re 4: Affordable urban transport prices on and around the Kampala Northern Bypass*

The likelihood of this is realistic and the addition of the second carriageway may result in a further reduction of some transport prices.

*Re 5: Improve traffic operations and traffic management on KNB*

There is no doubt that this specific objective will be met. A free flow of the through traffic will be realized and safety increased. However, this will only be realized after the full completion of the works. Interim results are not realized yet, although the recent opening of 1 carriageway on the Sentema interchange has contributed already to less traffic congestion.

*Re 6: Establish and maintain affordable transport operating costs on NCR*

It is not possible within the framework of this action to establish and maintain affordable transport operating costs on the NCR. Besides that, the adding of 17km of single carriageway is neglectable given the total length of 1695km of the NCR.

*Re 7: Reduction of traffic congestion within Kampala city and its outskirts*

The reduction of traffic congestion within Kampala city and its outskirts will only be noticeable when the whole bypass is completed. The current traffic congestion on the KNB will reduce in line with the completion of the interchanges and the sections where the additional carriageway is opened for traffic.

*Re 8: Reduction of air pollution in Kampala*

The part of the air pollution that was caused by the heavy transit trucks has already moved from the city centre to the KNB, but also the KNB has to be considered as an urban artery within Kampala. NEMA has started monitoring the air pollution in Kampala and also the American Embassy is quite active in this.

*Re 9: Reduction of urban traffic costs*

It is not very likely that the doubling of the KNB will lead to a reduction of urban traffic costs. In general, one can say that adding more roads and/or traffic lanes only attracts more traffic and this does not necessarily result in lower traffic costs. What is needed is a much better public transport system to avoid the town getting a "traffic infarct". Within the review of the National Transport Masterplan attention is given to this topic, but this has not led yet to concrete action plans and investments.

*Re 10: Increased capacity of the KNB, a section of the NCR*

The doubling of the KNB will definitively result in an increased capacity of the KNB, not only by the construction of the extra carriageway but also, and maybe even more, by the transformation of the at-grade crossings and roundabouts into grade-separated interchanges. This will be reflected in increased traffic speed and reduced travel time.

*Re 11: Improved Road Safety on the KNB*

The following safety features are being provided on the KNB:



- A full-length segregated footway/cycleway along the length of the road
- Three pedestrian footbridges
- Improved signalization and road marking
- Street lighting (at the junctions only, in the future possibly for the whole road)
- Full-length central reserve safety fencing
- Limited access to the road
- Environmental fencing (noise) in locations of sensitive receptors

The detailed design underwent a Road Safety Audit and the findings have been incorporated in the detailed design as far as possible.

All this is supposed to result in less traffic accidents. Baseline data of year 2018 have been obtained from the 7 police stations along the KNB. For some earlier years there are raw data available but not in sufficient detail to be used in the final evaluation.

### 2.3.2 Whether intended beneficiaries participated in the intervention.

The beneficiaries of the project are: the road users (using all means of transport); the people living and businesses operating along the road, especially women and youth; the international donors and financial institutions active in the country; the local communities, enterprises / trading entities and private and governmental institutions in the project area. Beneficiaries of the project are also the regional and international organisations present in the region (e.g. the East Africa Community); these institutions will use project results in the updating of their strategy and policies for the road transport sector development in East Africa

There was a very active participation from the governmental institutions, the EU Delegation and other IFIs. Unfortunately, there are few signs of participation by the road users, apart from maybe the Civil Society Coalition on Transport CISCOT. Other road users, industry and commerce and Civil Society organisations were consulted during the Feasibility and Design stages but did not play a meaningful role during the execution of the project. To get this participation during the execution stage requires a pro-active role of UNRA, COWI and the Contractor; they must be aware of the value this participation can have for a smooth implementation of the works.

## **2.4 SUSTAINABILITY**

The Evaluators have assessed the prospects for the sustainability of benefits on the basis of the following issues:

### 2.4.1 Ownership of objectives and achievements e.g. how far all stakeholders were consulted on the objectives from the outset and whether they agreed with them and continue to remain in agreement;

All stakeholders were consulted from the outset on the objectives of the project and they agreed fully with them and continue to remain in agreement.



2.4.2 Whether the beneficiaries appear likely to be capable of continuing the flow of benefits after the action ends (are the beneficiary institutions well-led, with adequate and trained staff, sufficient budget and equipment?); whether counterparts have been properly prepared for taking over technically, financially and managerially;

Sustainability of programme's benefits depends on adequate maintenance and control of truck overloading; both are the responsibility of UNRA.

UNRA is generally speaking a well-led organisation with adequate and trained staff. UNRA has recently been restructured and its capacity improved with the assistance of the EUD-UG. There are still needs (e.g. the introduction of an IT supported M&E system) which are known and are programmed to be fulfilled soon.

UNRA has the tools to prepare, annually, five-year rolling programmes for periodic and routine maintenance. They are able to quantify the consequences of under-funding and justify the money needed to bring riding quality, and hence travel speeds, up to an economic optimum. The delays and the cost overruns in the project suggest that overall the management of the projects is weak.

The major problem UNRA faces is, as usual, money to carry out the necessary maintenance tasks. Availability of money should not be an issue, but it is. The Uganda Road Fund is responsible for funding maintenance and vetting claims on its resources. Notwithstanding its independence under its empowering act, the Road Fund relies on the policy makers and the Ministry of Finance, Planning and Economic Development as exercised through parliamentary votes. Available funding meets only one-half of the routine maintenance costs, or just one-third of the combined routine maintenance and periodic maintenance needs.

***The inability of the Road Fund to provide sufficient funding to preserve road assets is the greatest single threat to sustainability of the Kampala Northern Bypass Project.***

2.4.3 Policy support and the responsibility of the beneficiary institutions e.g. how far donor policy and national policy correspond, the potential effect of any policy changes, how far the relevant national, sectoral and budgetary policies and priorities affect the project positively or adversely and the level of support from governmental, public, business and civil society organisations;

The cause of the systematic underfunding of all forms of maintenance is the result of political choices made. Emerging economies underfund maintenance, including road maintenance, on the grounds that the government must have freedom to set every budget as it sees fit—bolstered by the mistaken belief that the International Monetary Fund supports this attitude. Reserving road maintenance money in a “road maintenance fund” is regarded as wrong.

It is not wrong. A road maintenance fund can function as a servant of road users — supplying road users what they are prepared to pay for — without wresting control of the road sector budget from the finance ministry. The finance ministry retains control of resources allocated to roads through the road development budget. The large sums of money go to road network improvements: new roads, widening existing roads, converting gravel roads to sealed roads, and so on. These remain in finance ministry hands.

The paradox is that, when maintenance funding is insufficient to preserve existing assets, politicians ask to fund road developments that add to the burden of asset maintenance and lengthen the list of unmaintained roads.



The answer is to let the road maintenance fund work as planned. World over, road users are happy to pay the price for serviceable roads, with one proviso: that the process is transparent. Users want to see that the revenues they contribute are being applied to the roads. Under the Uganda Road Fund empowering act, that transparency is simple to achieve.

The Road Fund solution is designed to keep good roads good. It should not be asked to pay for past misdeeds that lead to a maintenance backlog of “unmaintainable” roads

2.4.4 Institutional capacity, e.g. of the Government for instance in terms of policy and budgetary support and that of counterpart institutions; the extent to which the project is embedded in local institutional structures, and whether the counterparts were properly prepared to take over, technically and managerially;

Up to now there is unconditional support from the Government to make this project a success. A sticking point remains the legal and administrative process covering the land acquisition. Two attempts have already been undertaken to modernize and streamline this process but up to now without success. A third attempt is now under preparation.

The provision of the GoU funds as part of their obligation under the project is up to now forthcoming although sometimes with delays. This could cause cash flow problems for the contractor.

Besides that, the Contractor received at the start of the project an Advance payment of 10% of the contract amount of € 67 million (although he could have asked for additional 20% for "materials" advance). The expected final contract amount has gone up to € 127 million, but no further advances have been provided.

In order to ease the burden somewhat, a number of steps have been made by the Contracting Authority toward the Contractor to improve its cash flow: significant increase of materials added to the list of materials on site, replacement of the retention by the retention guarantee, etc.

The ownership of the road is well guaranteed within the UNRA system, who is responsible for the KNB not only during the construction, but also afterwards as the organisation responsible for the maintenance of the road.

2.4.5 Are the risks of inadequate maintenance and axle load control being managed?

Sustainability of project benefits depends on: (i) adequate road maintenance (preservation of the asset), (ii) control of truck overloading (also preservation of the asset), and (iii) maintaining trafficability and road safety.

## **Maintenance**

In the ten years that KNB Phase 1 has been open it has been subject to unanticipated levels of traffic yet the pavement has stood up well. To an extent this is because the unanticipated traffic was urban in nature. Numbers of trucks, which are the source of pavement wear, may not be markedly different from what was anticipated when the pavement was designed. Some other aspects, notably the road shoulders, are less satisfactory, which is understandable on sections of the road subject to construction activity.



In the long term, the maintenance of KNB is jointly in the hands of UNRA and the Uganda Road Fund (URF). UNRA does the work but cannot do more than permitted by the quantum of funds forthcoming from the URF. UNRA says that the maintenance budget is always a challenge, but the funding shortfall seems to be manageable for now.

URF pays a block grant which is less than what UNRA requested and needs. So UNRA prioritises where these funds are spent. Routine maintenance uses simple tools and light equipment and provides a consistent flow of work for small contractors. Cutting back on routine maintenance would result in higher remediation costs later. Periodic maintenance, on the other hand, is intermittent and very costly. It employs very expensive equipment and skilled operators, supervised by professional engineers. A bituminous overlay due after 10 years, for example, can be stretched out to 11 years, then 12 years, then 13... until the pavement reaches such a state that periodic maintenance is no longer adequate. The road needs reconstruction.

It is for this reason that the Evaluators strongly recommend to overlay the road surfaces of the KNB Phase 1 with a fresh asphalt concrete wearing course at the end of the construction of this Phase 2, when the road surface of the KNB Phase 1 carriageway would reach more than 12 years already. In that way the whole KNB will have a good pavement that can last for another 10 years without costly interventions.

Given that it is such a heavily trafficked road and given its importance as a link section for transit traffic on the NCR, keeping KNB in good shape yields large benefits. Therefore, it may be reasonable to expect KNB to be allocated (most of) the funds it needs. Taken to the ultimate, this reasoning implies that only busy roads will be maintained, which cannot be the case. Politics would not allow this to happen— nor would economic logic, since it would lead to collapse of feeder roads.

Thus, even if KNB were to be awarded most of the funds it needs, that would be a hollow victory. It would just shift the penalty of under-funding elsewhere.

The problem of under-funding arises because the URF was predicated on being fully-funded by “road user charges” which could be adjusted from year-to-year to match the revenue needs for “preservation of assets”. Such a road fund is known as a “second generation” fund.

This road fund is not “second generation”. We have been told that the finance ministry deems road user charges as taxes, not fees-for-use, which by law must be paid into the Consolidated Fund— at which point they lose their identity and join all the other shillings available for distribution as the government sees fit. The old Public Finance and Accountability Act 2003, Section 9(3) gave the Minister power to “establish special funds which shall not form part of the Consolidated Fund”. However, this has been changed in the new Public Finance and Management Act, 2015 [See box.]





## ***The Public Finance and Management Act, 2015***

### **PART V – CASH AND ASSET**

#### **29. Collection and deposit of revenue and retention of revenue.**

- (1) Revenue shall not be collected or received by a vote, state enterprise or public corporation, except where the vote, state enterprise or public corporation is authorised by an Act of Parliament to collect or receive revenue.
- (2) The revenue collected or received by a vote, state enterprise or public corporation under subsection (1) shall be-
  - (a) paid into and shall form part of the Consolidated Fund; or
  - (b) receivable into a public fund established for a specific purpose where this is authorised by an Act of Parliament.
- (3) A vote, state enterprise or public corporation shall retain revenue collected or received, where the revenue-
  - (a) is in the form of levies, licences, fees or fines and the vote, state enterprise or public corporation is authorised through appropriation by Parliament to retain the revenue;
  - (b) is a monetary grant exempted by the Minister under section 42.
- (4) Notwithstanding subsection (3), any revenue received by a vote, state enterprise or public corporation in the form of fines or fees, which is refundable at a future date on fulfilment of specified conditions, shall not form part of the Consolidated Fund and shall be held in trust by the Government, in the Bank of Uganda

In many cases finance ministries invoke International Monetary Fund (IMF) advice that any earmarked funding diminishes the government's flexibility to govern. That was the case many years ago but not today— on two counts.

Firstly, *toll roads* do not detract from flexibility to govern. Yet tolls are a much "worse" than road user charges that pay for asset preservation but not asset creation. The purpose of tolls is usually to recover the investment cost, as well as maintain the asset.

Secondly, the IMF does *not* oppose dedicated funding; at least *not all* dedicated funding. Executed soundly, as in the case of a second-generation road fund, the IMF favours dedicated funding. It would be remiss *not* to employ dedicated funding if the choice was (i) to rely on uncertain government hand-outs and watch the road network fall into disrepair or (ii) to fund road maintenance by earmarking road user charges that are calibrated to match maintenance needs.

The problem is clear. So is the solution: stop subverting the empowering legislation that established the URF as a second-generation road fund.

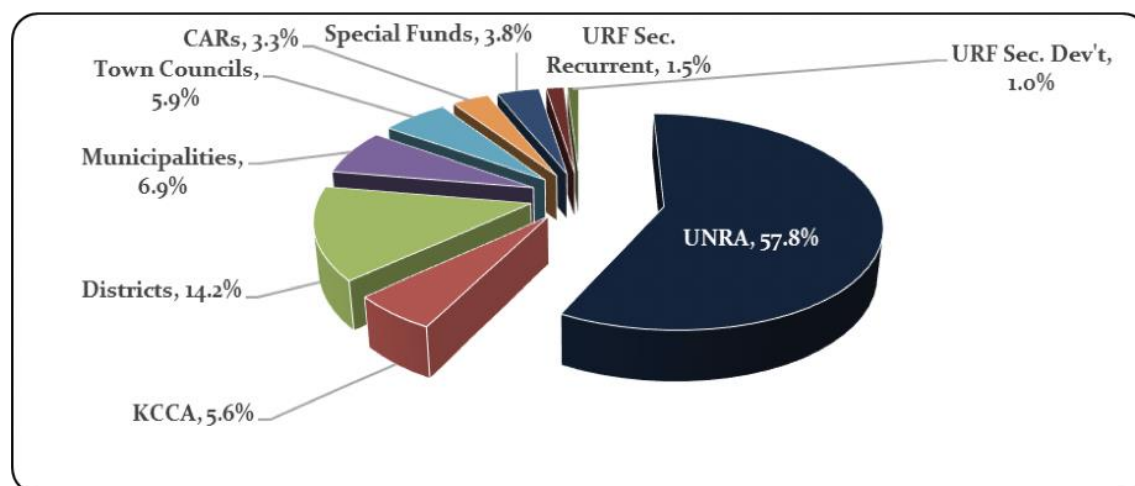
UNRA carries out regular Road Condition Surveys and Visual Inspections and is therefore well informed about the maintenance needs country-wide. However, they don't have the means to obtain a higher allocation of maintenance funds.



The road maintenance needs for the FY 2018/19 was UGX 1,807.2 billion. UGX 512.24 billion was allocated to road maintenance. This represents 28.3% of the annual road maintenance needs funded.

The allocation of the available money by the URF to the eligible stakeholders in FY 2018/19 was as follows:

*Fig. 1 – Allocation of available resources*



UNRA received around UGX 312 billion, which it was able to spend almost fully. It is clear that based on this budget for the whole paved and unpaved national road network under the jurisdiction of UNRA, there will never be sufficient funds for full maintenance of the KNB.

### Heavy Vehicle Load Control

Overloading costs money. A report<sup>2</sup> published in September 2011 estimates that in the EAC overloading increases maintenance costs by 12-21%. A feature of overload control in East Africa is the harmonisation of axle weight regulation through the EAC's supranational act<sup>3</sup>: The East African Community Vehicle Load Control Act, 2013. Formerly, load limits had varied chaotically between nations of East Africa. Nowadays a vehicle crossing a border will not be subjected to more stringent rules on the other side. The Uganda National Roads Authority (Vehicle Dimensions and Load Control) Regulations 2017 implement the EAC Act in Uganda.

In Uganda, control of heavy vehicle loads and dimensions is quite advanced. There are nine permanent weigh stations which never close. (See map at the end of this section.) There are six mobile units. Three operate from multiple, but fixed, locations off the major roads. The other three roam unpredictably. The mobile units span 24 hours but not continuously. Typically, they work 16 hours a day. All are part of UNRA's Directorate of Road Infrastructure Protection which undertakes other duties as well, such as protection of the right-of-way.

**Officially** the steps of enforcement are as follows. The truck presents itself for checking at the weigh station. It is weighed and given an automatically generated certificate recording the axle weights and gross weight. If the vehicle has infringed it is impounded. The driver is informed

<sup>2</sup> Study for the Harmonization of Vehicle Overload Control in the East African Community, Final Report, for the East African Trade and Transport Facilitation Project, JICA, PADECO, September 2011

<sup>3</sup> A supranational Act of the EAC overrides any contrary national laws under article 8 of the EAC Treaty.



(educated) as to why he has transgressed. He is given a demand for payment of the fine with details of the bank account into which to make payment. The driver's options are to: visit the nearby town and pay at a bank; use his phone to pay by "mobile money"; or, notify the truck owner or consignee to arrange payment.

Once the weigh station has proof of payment the truck is free to leave, provided its overloaded condition has been rectified. If it is the truck's gross weight that is too high, the load must be lightened. If only an axle is over the limit, the remedy may be to redistribute the load.

**At the moment**, vehicles overloaded by axle are not impounded and fined but impounded and guided to rearrange the load. As can be seen in the table for FY 2018/19 below, 42,338 vehicles were impounded for overloading, 40,333 of these were overloaded by axle (impounded and guided to rearrange loads before continuing their journeys) and 1,558 overloaded by gross (impounded and fined). The UGX 3,228,978,758 was thus overloading fees collected from 1,558 vehicles. Gross overloading is the focus of enforcement operations at the moment.

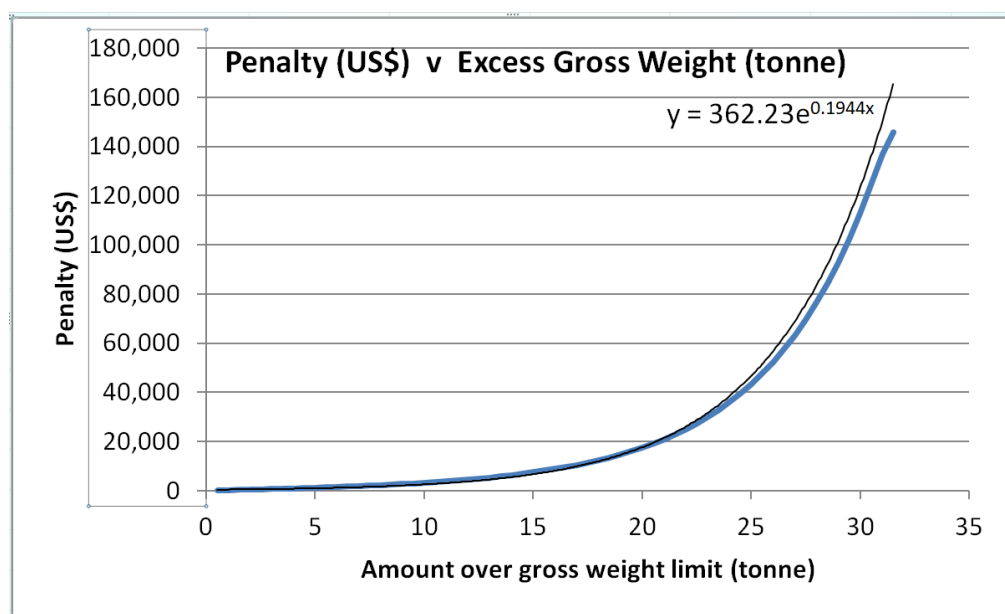
It defies reason that out of well over one million vehicles weighed only 1,558 vehicles were overloaded in terms of gross weight. Overloading is not always deliberate. Unintentional overloading alone would likely account for one-in-a-thousand vehicles. Investigation of these figures is warranted.

Offloading hazardous materials (e.g. fuel) cannot be done safely. The truck is nevertheless free to leave in its overloaded state but only after paying a fine that is *four-fold* the regular fine.

The (huge) fines are graphed below. The fine rises exponentially to USD 145,890 at 31.5 tonne overload on gross weight. It starts at USD 91 for being half a tonne overloaded. To the challenge that these fines are far too high, the rejoinder is that they are working. Indeed, there is no way a driver could be 31.5 tonne overloaded and not know it. Thus, there is not the slightest chance that a truck would travel at such an extreme weight.

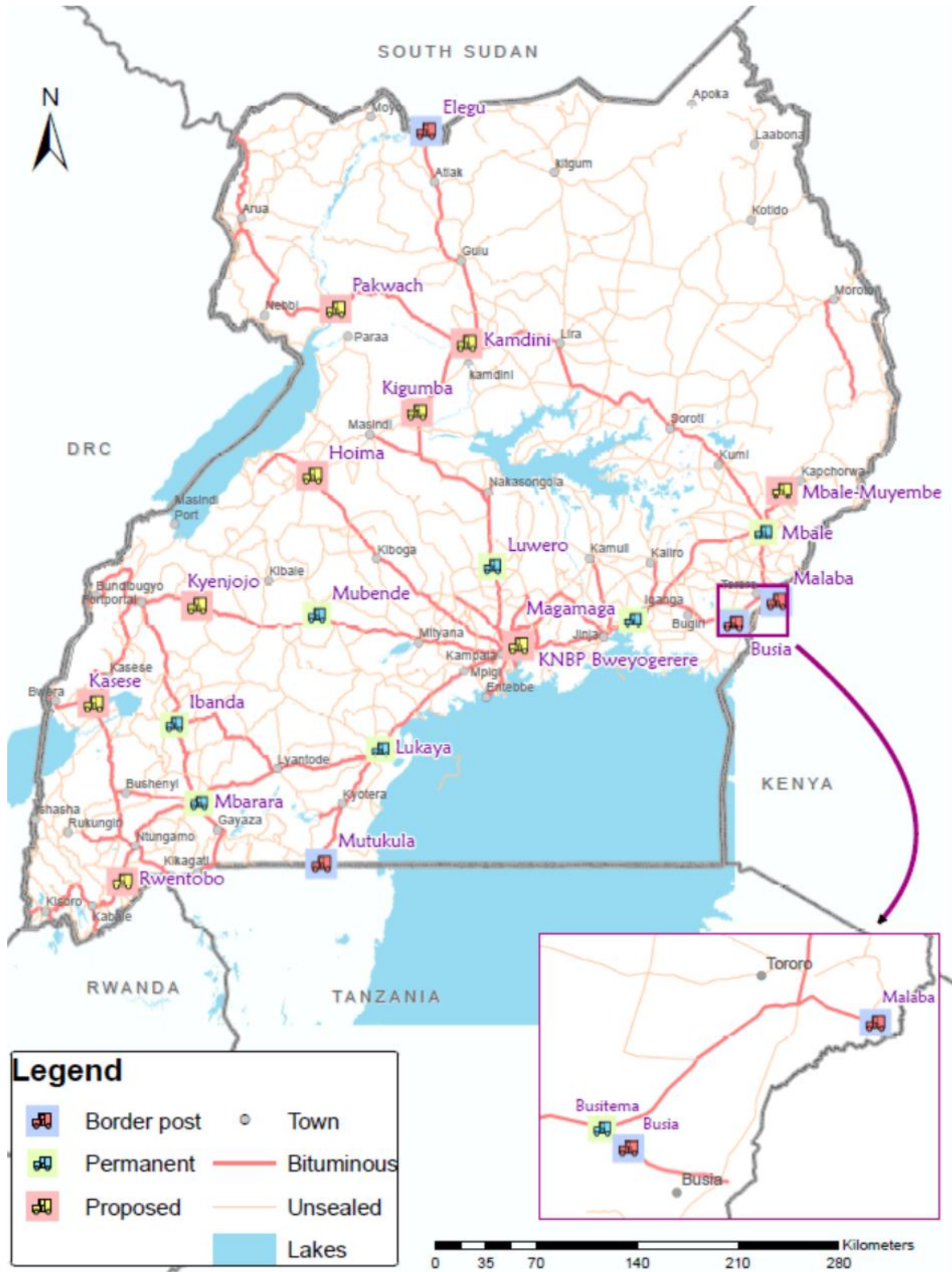
The possibility of corruption is a constant concern in situations like this. Given the method of payment, of fines, which leaves no room for manoeuvre, manipulation might be limited to just waving the overloaded vehicle though, in return for a cash contribution.

*Fig. 2 – Penalty versus Excess Gross Weight*





*Map 2 - UNRA Weighbridge Locations*





## 2.5 “PERSPECTIVES OF” OR “EARLY SIGNS OF” IMPACT

The extent to which the objectives of the action:

### 2.5.1 Have been achieved so far;

The overall and specific objectives of the action are:

- Improved service to road users in GKMA and on NCR by upgrading KNB to function as urban arterial and bypass on NCR.
- Improved road safety for road users in GKMA.
- Improved performance and level-of-service for traffic on KNB.
- Improved road safety on KNB.

Up to now, none of these objectives has been achieved and that also was not expected. The impact of the interventions will become visible and measurable only after the completion of (sections) of the works.

The partial hand-over of sections of the road works has resulted in less congestion, especially now on the Sentema interchange.

The likelihood that the objectives will be met is great, despite the delays in the implementation of the works.

### 2.5.2 Have been facilitated/constrained by external factors;

The objectives of the project have not been facilitated/constrained by external factors. Delays due to land acquisition, increased quantities of work, geotechnical conditions, etc. are not considered external factors, but are internal factors that partly could have been avoided or taken into consideration already at the tender stage.

### 2.5.3 Have produced any unintended or unexpected impacts and if so how have these affected the overall impact;

The anticipated improved performance and level-of-service for traffic on KNB has resulted already now in an accelerated traffic growth, mainly of commuters. The road has led to rapid and sometimes uncontrolled urban development outside the KNB, threatening especially the swamp along the road. It is very important to prevent controlled and uncontrolled construction activities in these vulnerable areas as much as possible and give space to the water.

### 2.5.4 Have been facilitated/constrained by project/programme management, by coordination arrangements, by the participation of sector stakeholders.

The objectives of the project have been constrained by a lack of clear communication between on the one hand UNRA and the supervisors from COWI and on the other hand the Contractor Mota Engil, especially in the beginning of the project.

The fact that the project has now already the fifth Project Manager in UNRA and the third Supervisor's Representative in COWI is just exemplary for the first years of the implementation of the project. The consequence of this is that every time there is a further loss of institutional memory.



During the last six months, the situation has fortunately improved.

## 2.6 EU ADDED VALUE

The extent to which the action (its objectives, targeted beneficiaries, timing, etc) is:

### 2.6.1 Complementary to the intervention of EU member states in the country;

The following EU member organisations are active in the road construction sector but their actions are/were not directly complementary to the KNB:

*Table 11 – EU member organisations active in the road construction sector*

<b>DANIDA</b>	1	Rural Transport Infrastructure (RTI)	Rehabilitation of districts and Community Access Roads, Labour Based Training and Capacity Building at MELTC and Institutional Support to the MoWT
<b>DFID</b>	1	Creating Opportunities for Sustainable Spending on Roads (Crossroads)	Improving the efficiency of GoU spending on roads through applying a market systems approach to support the private sector; support to MOWT for contractor classification, capacity building on social safeguards and Occupation safety.
	2	Road Sector Support Project 4-Upgrading of Kigumba-Hoima-Masindi-Kabwoya Road	Works and supervision for Upgrading of 135 km of 2 lane road from gravel to bitumen standard from Kigumba-Masindi-Hoima-Kabwoya. Road Fund, training to UNRA and reviews of Kapchorwa-Suam & Rukungiri-Ishasha
	3	TRADEMARK Uganda Programme: Supporting regional integration through improved trade facilitation and competitiveness	<b>Ntungamo-Mirama Hills Road:</b> Works and supervision for the upgrade of the Ntungamo-Mirama Hill Road to the OSBP with Rwanda 37km. Co-funded 50% with GoU. PPP capacity building for Kampala-Jinja Road (\$500k)
			<b>Construction of the Elegu OSBP</b> and PPP capacity building for Kampala-Jinja Road (\$500k)
4	Cities and Infrastructure for Growth: Technical assistance for urbanisation, cities and transport planning.	TA to KCCA for feasibility study prioritisation of Kampala city roads upgrade	
		TA to KCCA: Feasibility study for the USAFI terminal upgrade	
<b>KfW</b>	1	Support to post production in Northern Uganda	Feasibility study for a DUCA road and support to markets programme

In the transport sector TradeMark East Africa is active, representing various individual EU member states and the EU, but their activities are more geared towards supporting the logistic and e-commerce activities and therefore do not interfere with this action.

At bilateral level France is active via Agence Française de Développement with a special focus on the Kampala-Jinja Expressway which connects to the KNB, but also their activities in this are not directly complementary to this Action. The only foreseeable direct contribution could be the AFD/KCCA involvement in the street lighting project but it is not clear if the funding for this is secured yet.

### 2.6.2 Coordinated with the intervention of EU member states in the country;

Since there are no bilateral actions of EU member states ongoing in the road sector and related to this project, no coordination is required.



### 2.6.3 Creating actual synergy (or duplication) with the intervention of EU member states;

There is no synergy with the intervention of EU member states.

### 2.6.4 Involving concerted efforts by EU member states and the EU to optimise synergies and avoid duplication.

The coordination and policy dialogue between GoU and the Development Partners (DPs) takes place in the framework of the Transport Sector Working Group. Joint Transport Sector Review (JTSR) facilitate the monitoring of targets agreed between the GoU, DPs, and other stakeholders in an open process of dialogue and consultation.

## 2.7 COHERENCE

What is the likelihood that results and impacts will:

### 2.7.1 Mutually reinforce one another?

The EU's Country Strategy Paper and National Indicative Programme 2008-2013 named two "focal sectors" for assistance, one of which was the transport sector. The objective was

- (i) to complete the rehabilitation and upgrading in Uganda of the Northern Corridor route linking the port of Mombasa to Uganda and neighbouring land-locked countries, and
- (ii) to improve the maintenance of the national road network through rehabilitation and institution building, specifically UNRA and URF.

The National Indicative Programme budgeted EUR40 million for sector budget support to the road sector, and to road maintenance in particular, in anticipation of the implementation of road reforms strengthening sectoral governance and accountability. This sector support was deferred, however, due to a number of issues, including delay in establishing the road fund, failure to apply effective axle load controls, and moves to re-equip and expand force account operations. These funds have not been lost to the road sector but are now spent on this Capacity Improvement project of the Kampala Northern Bypass.

Under the National Indicative Programme 2014-2020 Transport was initially still a focal sector, considering projects on the NCR like the Kampala-Jinja Expressway and capacity building projects to UNRA, URF and MoWT.

However, in December 2018 the NIP was revised fundamentally, leading to a merger of Sector 1: Transport & Infrastructure with Sector 2: Food Security and Agriculture. The new Sector 1 is now called **Inclusive Green Economy** with the following Specific objectives:

Specific objective 1: develop green business and eco-entrepreneurship, with a particular attention to woman and youth

Specific objective 2: make the investment climate more conducive



Specific objective 3: implement the soon-to-be adopted Uganda Green Growth Development Strategy 2017/18-2029/30 in a number of sectors and values chains

Projects on the NCR like the Kampala-Jinja Expressway and capacity building projects to UNRA, URF and MoWT continue to be part of this revised NIP.

The bypass project needs to be seen in the context of policies and plans of GoU, EU and other donors active in Uganda, to establish whether the bypass project complements, conflicts with, or is neutral to those policies and plans, and also whether there is wasteful duplication.

The bypass is a vital section of the EAC's Northern Corridor, which formerly threaded its way through urban Kampala. It serves transit traffic bypassing Kampala.

The bypass is also part of a proposed ring road system for Kampala. It serves mostly urban traffic, which use it as a collector-distributor ring road.

Once opened to traffic, the Capacity Improvement of the KNB will mutually reinforce the results and impacts that were envisaged already under Phase 1.

#### 2.7.2 Duplicate or conflict with one another?

There are no signs that the action (its objectives, targeted beneficiaries, timing, etc.) is in conflict with or might create a duplication with other ongoing activities.

#### 2.7.3 Likely to contribute to/contradict other EU policies;

It is likely that action will contribute to other EU policies on environment, gender and human rights.

#### 2.7.4 In line with evolving strategies of the EU and its partners (including other DPs).

The project is in line with the evolving strategies to further develop the regional integration and urban development.

The project is in line with the support that the country will be able to receive under the Regional Indicative Programme (RIP) for Eastern Africa, Southern Africa and the Indian Ocean (EA-SA-IO).

Of the active donors in Uganda, the EU, World Bank, African Development Bank and JICA have placed emphasis on the national and Kampala road network development. The Kampala northern bypass most certainly is in harmony with JICA's objectives as outlined in the Kampala Transport Master Plan (currently under review). To sum up, the bypass was, and remains, a highly coherent project which accords with the objectives of the EU, other donors, and GoU.





### 3. OVERALL ASSESSMENT

The Kampala Northern Bypass has a long history that started already in the nineties. The genesis of this project arose from the Gibb report: Comparative Feasibility Study between Northern and Southern Bypasses of Kampala City (CFSFR), Gibb (East Africa) Ltd, 1998.

This report considered both southern and northern bypass options for Kampala. The need for a bypass project sprang from mounting congestion in central Kampala and was exacerbated by transit traffic using East Africa's Northern Corridor route from the port of Mombasa to eastern Congo, Rwanda, Burundi and Tanzania. In turn, this transit traffic was being affected by the urban congestion in Kampala.

On the basis of this report the NAO and EU decided on 8 October 1997 to undertake a feasibility study of the northern bypass. The results of this feasibility study were given in: Feasibility Study of Kampala Northern Bypass, Final Report, Ministry of Works, Housing and Communications, BCEOM, December 2000. The original plan foresaw the construction of a full dual carriageway and grade separated interchanges.

In 2004 the construction started, but not completely as planned: the works were scaled down due to budgetary constraints to the construction of 17km of single carriageway, 3.3km of dual carriageway, 1 grade-separated interchange at Bombo road and 6 at-grade junctions. After considerable delay, the road was opened in 2009. In 2014 the second Phase started to complete the original design.

The need for capacity improvement so soon after opening of the bypass had its genesis in the feasibility study for Phase 1 (BCEOM December 2000). The traffic forecasts made it appear that the bypass could cope for many years with just a single carriageway along most of its length. Traffic was forecast to be 1154 veh/day if the bypass were open in 2000 rising to 2867 veh/day in 2020.

Reality was rather different. From its opening in October 2009, KNB functioned more as an urban arterial ring road than a bypass of an urban area. At opening, average traffic volume (excluding motorcycles which had not been forecast) was 3600 veh/day, which is 25% more than the forecast for 2020. (If motorcycles are included the traffic was exactly double the forecast for 2020.) Counts undertaken a year later, by UNRA in September 2010, measured average traffic to be 10,400 veh/day (excluding motorcycles) or 3.6-fold the forecast for 2020.

For this second Phase, the Feasibility Study, Detailed Design and Tender Documents were prepared by the consultants of Mott MacDonald UK. These documents formed the basis of the current project under Mid-term Evaluation.

After a normal tender procedure, the works contract was awarded to MOTA ENGIL of Portugal for an amount of € 67.4 million and the supervision contract was awarded to COWI for an amount of € 3.4 million. The contractual implementation period for the works and supervision contracts (excluding the defects liability period of 12 months) was 36 months, starting from the official commencement date of 14 July 2014. It is clear that the two main conditions: construct the works **in time** and **within the budget** are not going to be met.

As for the Extension of Time: the contractual construction period of **36 months** has been extended various times and it is now estimated that the construction period will become **87 months** (from 14/07/2014 till 22/10/2021).



As for the works contract budget: it is estimated now that the value of the works contract will go up from **€ 67.4** million to **€ 127.2** million. This does not include potential claims for idle time from Jan. 2017 till now, due to the inability to give the contractor access to the site as per the Special Conditions of the contract. Therefore, the total costs of the works contract will further increase, but most likely will stay within the revised total works costs of **€ 152.6** million, as included in the Financing Agreement, Addendum 2.

Also, the cost of the Supervision contract will increase from the original **€ 3.4** million to an estimated amount of **€ 12.1** million.

The reasons for these phenomenal increases are given in the related chapters before and can be summarized as follows:

- Problematic land acquisition, partly due to design changes
- Increased quantities of work (additional Interchange at Sentema, drainage works)
- Increased cost due to foundation problems at interchange bridge locations
- Increased cost due to unforeseen geotechnical conditions in swamps
- Lack of a design review before tendering

Much of the problems faced now can be attributed to the fact that the relevant authorities (UNRA, NAO and EU) allowed the project to go out for tender when less than 75% of the additionally needed land was acquired (under Phase 1 most of the land was acquired for the dual carriageway but not for the interchanges). The risk taken here has worked out to be very costly. Not only could the Contractor not take possession of the site(s) as contractually agreed, but this also led to design changes and additional cost.

Also, a point of concern is the fact that, although UNRA claims that 99.9% of the land has been acquired now, not all owners have been compensated. The total compensation as per the end of October 2019 stands at approximately **80.3%** as per Project Affected Persons (PAPs) paid and at **86.3%** as per land acquired. In the opinion of the Evaluators, the land is only yours if you have paid in full.

Since the access to the site is no longer a problem, the implementation of the works is now progressing in a satisfactory way. A new work programme has been prepared and progress is good. There are of course always points that can be improved but generally speaking it should be possible for the contractor to meet this schedule, although he has expressed his reservation to the very tight timetable, which affects his cash flow position negatively.

There is an issue has to be solved between the Employer and the Contractor: the construction of 680m of drain between 2 culverts. The design prepared by COWI foresees this drain to be constructed in-situ but the Contractor insists of having this drain constructed with pre-casted concrete elements. The price difference between the 2 methods might be in the range of € 1 million.

During the implementation of the works, remarkable attention has been given to the cross-cutting issues. An Environmental Management Plan and an Occupational Health and Safety (OHS), HIV/AIDS and Gender Management Plan were produced in conformity with the local laws and regulations. The implementation of those plans is taken very seriously by the Contractor and monitored by the supervisors of COWI and NEMA.



The effects of the Capacity Improvements can only be felt once the whole road is open to the traffic. Early signs are that, even when a single carriageway is opened on an interchange (Sentema), traffic congestion is reducing markedly. It is therefore expected that the objective of improved performance and level-of-service for traffic can be met.

In the Feasibility Study of Mott MacDonald and the Revision of the design by COWI no consideration was given to the fact that there are advanced plans underway to construct the so-called Outer Belt ring road some 30km away from the city centre. That road will become part of the Northern Corridor Road and the KNB will be reduced to an important urban artery.

The objective of Improved road safety for road users in GKMA and on the KNB in particular is likely to be achieved. However, additional measures like publicity campaigns to make the road users, and in particular the non-motorized ones, more aware of the rules and regulations for safer use of the roads is required. The street lighting should be expanded from just the interchanges to the whole road.

Within the framework of sustainability, it is advisable to overlay the lanes constructed during Phase 1 at the end of the completion of this Phase 2. In that way, the whole KNB will have a good riding surface and normally no periodic maintenance will be required for the upcoming 10 years.

With regards to the sustainability of the works there is, apart from the financial constraints, another issue that can become a major threat: the implementation of the recommendations contained in the report “A FINAL REPORT ON COMPREHENSIVE REVIEW AND RESTRUCTURING OF GOVERNMENT MINISTRIES, DEPARTMENTS AND AGENCIES (MDAS)”, prepared by the Directorate of Management Services, Ministry of Public Services with the assistance of the consultants of Adam Smith International. The conclusions contained in that report have been adopted by Cabinet in their meeting of 28 September 2018 and, as far as the road sector is concerned, might have the following consequences:

#### **Agencies to be merged under the Works and Infrastructure Development:**

(xiii) Uganda National Roads Authority should be collapsed into a department under the Ministry of Works and Transport

#### **Agencies under the Water and Environment Sector to be Mainstreamed:**

Ministry of Works and Transport

1. (a) National Roads Safety Boards
2. (b) Transport Licensing Boards
3. (c) Uganda Road Fund

It is not up to the Evaluators to comment on these proposals, but this should be followed carefully by the policy makers in the EU Delegation and Brussels. Especially the merger of UNRA with the MoWT is considered a major step backwards in the process of good governance in the infrastructure sector that will create unrest and affect the proper functioning of UNRA.



## 4. CONCLUSIONS AND RECOMMENDATIONS

The conclusions, lessons learned and recommendations are organised per evaluation criterion.

### 4.1 CONCLUSIONS

#### C1 Relevance 1:

Since the construction works are on-going and will not be completed before October 2021, the results have not been achieved yet.

#### C2 Efficiency 1:

A huge risk has been taken to go for tendering and subsequently the awarding of the works contract when less than 75% of the additional land to be acquired for the construction of the works was secured.

#### C3 Efficiency 2:

The design review was carried out when the contract was already awarded. Therefore, the results and financial consequences of the review could not be taken into consideration at the tender stage.

There is an issue with regards to the design responsibility when the design review consultant makes fundamental changes to the original design. Is the original designer no longer responsible now and has the review consultant taken over the design responsibility?

#### C4 Effectiveness 1:

The road surface of the single and partly double carriageway that were constructed under Phase 1 between 2004 and 2009 needs a new overlay at the end of the construction of Phase 2 in October 2021.

#### C5 Sustainability 1:

The inability of the Road Fund to provide sufficient funding to preserve road assets is the greatest single threat to sustainability of the Kampala Northern Bypass Project.

#### C6 Sustainability 2:

A major threat might be the merger of UNRA with the MoWT and the mainstreaming of the URF with the MoWT.

#### C7 Sustainability 3:

Even before the completion of the works, there is encroachment into the road reserve by market vendors and illegal access to the road.



## 4.2 LESSONS LEARNT

### Construction Kampala Northern Bypass (Phase 1, 2004-2009)

The January 2011 evaluation of the completed Phase 1 drew attention to the following points.

- Lack of adequate planning:
- More attention should be given to the qualifications and experience of the personnel:
- If progress of the job reveals a lack of team work, the remedy is to replace the personnel concerned:
- Appoint a Disputes Resolution Board:
- It is better to specify the end result than the method of getting there, i.e. "performance specifications" where they are appropriate:
- The bypass project showed a lack of foresight by not including a truck service area and safety provisions for pedestrians:

Unfortunately, most of these points have not been taken into consideration in the design and construction stage of this Phase 2.

### Capacity Improvement Kampala Northern Bypass (Phase 2, 2014-2021)

From this Phase 2, the following lessons can be learned:

- L1 One of the main lessons learned is that Design and Supervision should preferably be in a single contract. The Evaluators have interviewed the contracting partners NAO and UNRA and no reason was found why there was the split into two separate contracts for the Design and Supervision respectively. The negative consequences have been substantial: a costly design review and the following subsequent increase of the construction cost due to:

Item	Amount (millions of €)
Costs arising due to Omissions in the Tender design	+18.1
Issues with the Tender Design Implementation	+ 8.1
Additional Works	+ 9.0
Design Change for Ground Treatment due to delayed access to site	+ 3.0
Increase in General Costs (Bill 1) due to 685 days EOT up to May 2019 due to delayed access to site experienced up to end of 2016.	+ 4.1
Sub-total	+42.3
Savings to balance	- 3.2
Total Euro	+39.1

Part of these costs could have been avoided.

There were no clear procedures in place for taking over the design responsibilities from the original designer Mott MacDonald to the Supervising Consultants COWI. Now the design has been altered substantially by COWI without the written approval of the original designer and therefore it will practically be impossible to claim part of the additional construction cost from Mott MacDonald.



L2 It is not clear what information was provided to the original Design consultant Mott MacDonald at the start or during their design exercise. An abundance of information could have been made available from the construction of Phase 1 of the project, but apparently nothing was given or nothing was done with it. It is unacceptable that a design review by COWI has resulted in very expensive modifications due to geotechnical conditions encountered in the field. The project consists mainly of construction a second carriageway, 10 meters parallel to the carriageway constructed under Phase 1 and the geotechnical conditions have not changed since that Phase.

L3 Some nations empower government agencies to compulsorily acquire property for worthy public purposes. Acquisition cannot be contested. Only compensation remains to be settled, by arbitration if need be.

Without such powers, commencing road projects before *all* land is acquired is most unwise and can have severe economic and financial consequences due to project delays and inflated price expectations. Acknowledging that special situations may warrant softening the rule of full acquisition, **at least 95% of the land should be acquired before going to tender.**

### 43 RECOMMENDATIONS

The recommendations given below are related to the Conclusions, as given in Par. 4.1 above.

*Table 12 – List of Recommendations*

No.	Recommendation	To be implemented by	Priority	Importance
R1	It is advised to carry out the Final Evaluation of the KNB project for Phase 1 and 2 combined, in order to see the real effects of the project and not just the addition of some lanes and the construction of 6 interchanges.	EU	Low	High
R2	The risk taken by awarding the works contract when less than 75% of the necessary additional land was required turned out to be far too high. For future projects, the rule should be that at least over 95% should be acquired. Proper planning and budgeting for timely land acquisition should be ensured.	EU, UNRA	Low	High
R3	The design review should be carried out in a timely manner (before tendering), in order to have the results reflected in the BoQ.	EU, UNRA	Medium	High



	<p>For future projects, the design and supervision should preferably be in one single contract, to avoid finger pointing.</p> <p>After the design review the consultant should sign a declaration that he takes over the design responsibility.</p>			
R4	<p>In order to increase the effectiveness of the KNB project, the proposed overlay works should be budgeted for. It would greatly enhance the effectiveness of the KNB project when in October 2021 they can start with a good road surface on both carriageways, thereby avoiding periodic maintenance in the near future.</p>	EU, UNRA, Contractor	High	High
R5	<p>Donors should continue and maybe intensify the dialog with the Ministry of Finance to secure sufficient funds for the maintenance of the investments made on all infrastructure projects.</p>	EU, UNRA	High	High
R6	<p>All donors combined should prepare an action plan on how to act/react in case the proposed restructuring of UNRA and the URF will be implemented.</p>	EU, UNRA	Medium	High
R7	<p>UNRA and the Police should strictly enforce the applicable laws.</p>	UNRA	High	High
R8	<p>KCCA, NEMA and UNRA should combine forces to avoid unplanned and often illegal urban and industrial settlements in the swamp areas adjacent to the road. and stop giving building permits in these environmentally sensitive areas.</p>	UNRA, NEMA	High	High