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LIST OF ACRONYMS

AT	Assurance Team
CoST	Construction Sector Transparency Initiative
DFID	Department for International Development
MDF	Malawi Defence Forces
MHC	Malawi Housing Corporation
MMSG	Malawi Multi Stakeholder Group
MPI	Material Project Information
NCIC	National Construction Industry Council
NRWB	Northern Region Water Board
ODPP	Office of the Director of Public Procurement
OFID	Opec Fund for International Development
PEs	procurement Entities
RA	Roads Authority

Template for collecting Material Project Information from procuring entities

This template has been developed to assist Multi-stakeholder Groups in collecting Material Project Information from procuring entities on projects that are included in the on-going disclosure process. The template could be available on line and the procuring entity be asked to update it on a regular basis.

Stage of project cycle	List of MPI to be disclosed	Project name: Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme Contract No: NRWB/W/01 Procuring Entity: Northern Region Water Board (NRWB) Client (if different): N/A	Key Findings by the Assurance Team
Project identification	Project purpose	To provide Mzuzu residents with adequate potable water supply	
	Location	Mzuzu City, Northern Malawi	
	Intended Beneficiaries	Local businesses, industry, institutions, and general public	
	Specification	Rehabilitation and upgrading of water treatment plant, transmission pipe lines & storage capacity.	
	Feasibility study	Conducted	
Funding	Financing agreement	Between World Bank and Government of Malawi	
	Budget	The budget for the works was prepared in 2008. The total was MK1,336,889,831.31.	Due to financial constraints, the works were sub-divided into phases: Phase I, Lot I: MK577,595,443.95 Phase II MK463,224,870.28
	Engineer's estimate	MK628,305,805.54 (Compiled in 2008)	• The corrected bid for the lowest evaluated bidder - Plem

Stage of project cycle	List of MPI to be disclosed	Project name: Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme Contract No: NRWB/W/01 Procuring Entity: Northern Region Water Board (NRWB) Client (if different): N/A	Key Findings by the Assurance Team
			Construction – H.E. Jackson JV was MK1,062,316,731.98; (the other bids ranged from MK1,603,374,669.21 to MK 1,794,768,471.99) compared with the engineer’s estimate, this bid was 169% higher. • Government and World Bank allowed the project to be implemented (See main report for justification).
Tender process (contract for project supervision)	Tender procedure	Quality & Cost Based Selection (QCBS)	
	Number expressing interest	20	
	Number shortlisted	6	
	Number submitting tender	4	
Tender process (main contract for works)	Tender procedure	ICB: (a) preliminary evaluation based on qualification information; (b) Detailed examination of cost; (c) Post qualification evaluation including capacity of qualifying bidders.	
	Number expressing interest	14	
	Number shortlisted	n/a	
	Number submitting	5	

Stage of project cycle	List of MPI to be disclosed	Project name: Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme Contract No: NRWB/W/01 Procuring Entity: Northern Region Water Board (NRWB) Client (if different): N/A	Key Findings by the Assurance Team
	tender		
	List of tenderers	<ul style="list-style-type: none"> • Technofab-Gammon JV • N3 Construction Co, Hydro Water wells & United Chemoline Industries JV • Cilcon Ltd • Plem Construction – H.E. Jackson JV • Saifro Ltd & Unipumps 	•
	Tender evaluation report	Disclosed	
Contract award (project supervision)	Name of main consultant	Metaferia Consulting Engineers	
	Contract price	Phase 1: Design: \$275,465.63 Phase II: Supervision: \$228,605.00	
	Contract scope of work	Design and supervision of the rehabilitation and upgrading of water treatment plant, transmission pipe lines & storage capacity.	
	Contract programme	9 months Design; 10 months supervision	
Contract award (main)	Name of main contractor	Plem Construction Ltd & HE Jackson JV	

Stage of project cycle	List of MPI to be disclosed	Project name: Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme Contract No: NRWB/W/01 Procuring Entity: Northern Region Water Board (NRWB) Client (if different): N/A	Key Findings by the Assurance Team
contract for works)	Contract price	MK615,225,854.31	
	Contract scope of work	Construction of 2 reinforced concrete sedimentation tanks, 2 reinforced concrete rapid sand filters; removal of existing surface pumps and supply and installation of 7 new surface pumps at water treatment plant; supply and laying of transmission pipes 22,000m long with diameters ranging from 250mm to 400mm; construction of pumping stations at MBC & Katawa tank sites and supply and installation of 5 and 3 new surface pumps at MBC and Katawa tank sites respectively; construction of 1 No. 2000m ³ reinforced concrete tank at MBC site and other related activities	
	Contract programme	12 Months construction & 12 Months Defects Liability Period.	
Contract Execution (project supervision)	Significant changes to contract price, programme, scope with reasons	The design phase of the project commenced on 11 July 2007 and original completion date was 11 April 2008 for duration of 9 months. Revised completion was 8 th November 2008	<ul style="list-style-type: none"> • Due to increased scope of design works (it was assumed that the works to be designed would be for US\$ 3.3 million but it turned out to be US\$ 18.5 million), the period was extended for 7 months and Revised Completion Date was on 8th November 2008.

Stage of project cycle	List of MPI to be disclosed	Project name: Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme Contract No: NRWB/W/01 Procuring Entity: Northern Region Water Board (NRWB) Client (if different): N/A	Key Findings by the Assurance Team
			<ul style="list-style-type: none"> The Extension of Time was given to match with the Works Contract duration. Cost for Extension of Time of 4 months: \$85,220.00.
Contract Execution (Main contract for works)	Individual significant changes to the contract which affect the price with reasons	The works contract has been extended with no cost implications for extra time.	The contract has 4 No. approved Variation Orders which have increased the Contract Sum from MK615,225,854.31 to MK627,060,906.32 or 0.02% of the (See main report for details)
	Individual significant changes to the contract which affect the programme, with reasons	At the time of research, the Contract had been extended by 1.5 months, with no additional costs.	The extension of time is to cover for delays due to rain. It is however expected that an additional extension of time shall be awarded to cover additional works for which a no objection has been requested from the World Bank.
	Details of any re-award of main contract	N/a	
Post contract completion details (main contract for works)	Actual contract price	Not yet known	
	Total payments made	MK384,734,015.57 or 63% of the Contract Sum.	
	Actual contract scope of work	At time of research, Four variations were approved and paid whilst one variation to add French drains had been carried	

Stage of project cycle	List of MPI to be disclosed	Project name: Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme Contract No: NRWB/W/01 Procuring Entity: Northern Region Water Board (NRWB) Client (if different): N/A	Key Findings by the Assurance Team
		out but awaits approval or no objection from the World Bank. However, it is expected further variations are to be instructed upon the World Bank giving a no objection.	
	Actual contract programme	Original start 15 August 2009; Completion 15 August 2010. Programme revised from 12 months to 13.5 months now completion is on 30 September 2010.	
	Project evaluation reports (on completion and on-going)	N/a	

Documents disclosed	Disclosure status
Feasibility study	Disclosed

Financing agreement	Disclosed
Specification	Disclosed
Tender evaluation report	Disclosed
Project evaluation reports	Not yet complete

EXECUTIVE SUMMARY

This report summarises the initial findings by EMC Jatula Associates; who were selected as the Assurance Team (AT) to collect data from participating procurement entities (PEs) in the CoST Initiative. Northern Region Water Board participated in the study whose aim is to increase transparency and accountability in the Malawi construction sector.

The Northern Region Water Board embarked on improving water supply for residents in Mzuzu City in order to improve supply to the city. A total budget of MK1,336,889,831.31 was proposed but due to financial constraints, the World Bank could not finance the whole amount. Therefore the works were sub-divided into phases. Phase I of the works was the following project.

Supply, Installation and Construction of Priority Rehabilitation, Upgrading and Expansion Works for Mzuzu Water Supply Scheme – Contract No. NRWB/W/01

Contractor: Plem Construction – H.E. Jackson JV

This project is phase I being constructed by Plem Construction – H.E. Jackson JV. Due to budgetary constraints, the contract sum was reduced from the evaluated sum of MK1,062,316,731.989 to MK615,225,854.31 by reducing scope of works.

The scope of works is for construction of concrete sedimentation tanks, rapid sand filters; supply and installation of new surface pumps; and other related activities.

The AT collected adequate data on this project, apart from that compiled on the MPI, which is supported by detailed source documents. In this respect, Addenda, variation Orders, Bills of Quantities, payment records, specifications, and other pertinent documentation were collected and verified through the consultant and/or the contractor. The information thus collected on this project is therefore complete and accurate.

Commencement of the contract was on 15 August 2009 and completion was planned for 15 August 2010. However, due to revised scope of works, the programme was revised from 12 months to 13.5 months and the new completion date is 30 September 2010.

The AT made the following observations on this contract:

- The works contract has been extended with no cost implications for extra time. This extension is to cover for delays due to rains.
- The contract has 4 No Variation orders which have increased the Contract Sum from MK615,225,854.31 to MK627,060,906.32 or 0.02% of the contract value
- The client has asked for a no objection from World Bank to carry out additional works and the contract is likely to be extended for 6 weeks due to 7 these additional items if approved.
- The contract excluded contingency sum (which was originally included in the Client's budget) although the Engineer's Estimate had a provision of 15%. One variation has already been carried

out before receiving the no-objection from the World Bank as the work was deemed to be necessary. If the contingency amount had been included in the Contract, the above variations should have been fully covered.

- EMC Jatula Associates conducted a site visit and observed that the contractor is not implementing safety measures which are a requirement under this contract.

1.0 INTRODUCTION AND STUDY BACKGROUND

This report covers the work carried out by EMC Jatula associates as the selected Assurance Team to collect Material Project Information (MPI) from selected Procurement Entities (PEs). It highlights all the activities carried out by the Assurance Team during the period under review and includes both achievements and constraints.

The Construction Sector Transparency (CoST) Initiative is an international multi-stakeholder programme which is designed to increase transparency and accountability in the construction sector. The programme is supported by the UK Department for International Development (DFID) and the World Bank.

Malawi was selected to undertake a pilot for this programme as one of seven countries in the world. The programme is being administered by the National Construction Industry Council (NCIC) on behalf of the Construction Sector Transparency Initiative (CoST) Malawi Multi Stakeholder Group (MMSG).

The programme aims at enhancing the accountability of Procuring Entities (PEs) and construction companies for the cost and quality of public sector construction projects. Each PE selected to provide data will do this by disclosing to the public 'Material Project Information' (MPI) at all stages of the construction project cycle, from the initial identification of the project to the final completion.

The main aim for CoST is about increasing transparency through the release of project information into the public domain. It is however recognised that the disclosure of this information may not be sufficient on its own to achieve greater accountability as some of the information is most likely to be complex and not easily understandable to the general public.

EMC Jatula Associates Consulting Engineers were therefore selected to undertake this study to ensure that the information that is released is both accurate and available in a form that can easily be understood by stakeholders. Part of our brief is to ensure that the disclosed information must be verified, analysed and interpreted by experts as an 'Assurance Team' appointed specifically for this purpose. The major role to be played by EMC Jatula Associates as the consultant on this pilot project is to act as an interpreter at all the assurance processes to help make raw data disclosures more understandable to all stakeholders.

Hence the objectives of the pilot programme to be achieved by EMC Jatula Associates are as follows: -

- To assist the MMSG to liaise with the Procuring Entities (PEs) of projects involved in the CoST initiative to ensure the publication of the relevant Material Project Information (MPI);

- To verify the accuracy and completeness of MPI disclosures on all or a subset of projects involved in the CoST initiative, as required by the MMSG;
- To analyse the disclosed and verified data on all or a subset of projects involved in the CoST initiative in order to make informed judgements about the cost and quality of the built infrastructure;
- To produce reports that are clearly understandable to the non-specialist, outlining the extent and accuracy of information released on projects involved in the CoST initiative and highlighting any causes for concern that the analysed information reveals.

2.0 METHODOLOGY

2.1 Selection of Projects

The Malawi MSG selected 3 (three) institutions which are participating as PEs to provide MPI under the CoST Initiative. The following are the institutions together with a list of the respective projects for which information has been released:

Malawi Housing Corporation (MHC):

1. MHC/01/09 - Chilumba
2. MHC/2008/03/Lilongwe

Northern Region Waterboard (NRWB)

1. NRW/W/01
2. NRW/W/01B

Malawi Roads Authority (RA):

1. 4T/PP/NR/RU/KA/09
2. 3T/RM/CR/KU/DA/MC/NS/09
3. 4T/PP/SR/BLK,MH,MHG,ZA/09
4. 102U/REHAB/SR/BTC/08 LOT 2
5. 121U/REH/CR/LLC/08 LOT 3

2.2 Data Collection

i. Northern Region Waterboard (NRWB)

The AT planned to collect data for the Northern Region week of 4th July 2010. Visits to Northern Region Water Board were conducted and EMC Jatula Associates faced no hindrances whatsoever from the NRW.

The AT collected data on project No. NRW/W/01; Supply, Installation & Construction of Priority Rehabilitation, Upgrading & Expansion Works for Mzuzu Water Supply Scheme. This project is being constructed by Plem Construction – H.E. Jackson JV.

Following the data collection, a site visit to evaluate whether the works were being constructed in accordance with specifications was planned but due to foul weather, it was not possible to carry out a proper site inspection in the rains. The site visit was therefore deferred to the following week and was conducted successfully.

2.3 Data Verification

EMC Jatula Associates were given the responsibility to collect data and verify that the MPI is both complete and accurate. The AT therefore collected as much information as possible and verification was done using the consultant's as well as the contractor's documents.

Northern Region Waterboard (NRWB)

The AT found that record keeping at NRWB is meticulous and cannot be compared with any other institution in the study. All the required information was obtained and cross-checked to ensure completeness and its accuracy and the AT could not find any deviations.

All necessary comparisons have been made and the findings made available in the appropriate sections of this report.

2.4 Data Analysis

Northern Region Waterboard (NRWB)

Purpose for the Projects

The purpose of the projects is to provide Mzuzu residents with adequate potable water supply and intended beneficiaries are Mzuzu residents.

Supply, Installation and Construction of Priority Rehabilitation, Upgrading and Expansion Works for Mzuzu Water Supply Scheme – Contract No. NRWB/W/01

Contractor: Plem Construction – H.E. Jackson JV

The Northern Region Water Board embarked on improving water supply for residents in Mzuzu City in order to improve supply to the city.

Funding

A feasibility study was conducted and the NRWB sought Government's assistance for financing the project. Malawi Government entered into an agreement with World Bank to finance the works. A total budget of MK1,336,889,831.31 was proposed but due to financial constraints, the World Bank could not finance the whole amount. Therefore the works were sub-divided into phases. This project is therefore Phase I.

An engineer's estimate was prepared in 2008 and the total was MK628,305.54. Subsequently, the NRWB advertised for the works to be tendered. Fourteen firms expressed an interest in tendering for the works, and five firms submitted bids. The firms submitting bids were:

- Technofab-Gammon JV
- N3 Construction Co, Hydro Water wells & United Chemoline Industries JV

- Cilcon Ltd
- Plem Construction – H.E. Jackson JV
- Saifro Ltd & Unipumps

Tender procedure

The tender procedure used was International Competitive Bidding. NRW examined the bids and prepared a tender evaluation report which was disclosed to the AT. Plem Construction – HE Jackson JV were evaluated as the lowest evaluated bidder. The corrected bid for joint venture was MK1,062,316,731.98; (the other bids ranged from MK1,603,374,669.21 to MK 1,794,768,471.99) compared with the engineer's estimate, this bid was 169% higher. The main reason for this deviation was due to the fact that similar projects upon which the estimate was based were implemented in 2003. Although adjustments of between 30-70% were made on the 2003 rates for the engineer's estimate, the main differences arose from devaluation of Malawi kwacha from K84 to K140 against the US\$ during the period. Consequently, prices of goods rose astronomically. The Procuring Entity, therefore, made recommendations to the World bank that due to critical shortages of water in Mzuzu as a result of heavy development, re-tendering the works would delay the project and the cost for implementing the project would increase. On this basis, the Government and World Bank allowed the project to be implemented. Due to budgetary constraints, the contract sum was reduced from the evaluated sum of MK1,062,316,731.989 to MK615,225,854.31 by reducing scope of works.

Contract Scope of Works

The scope of works is for construction of 2 reinforced concrete sedimentation tanks, 2 reinforced concrete rapid sand filters; removal of existing surface pumps and supply and installation of 7 new surface pumps at water treatment plant; supply and laying of transmission pipes 22,000m long with diameters ranging from 250mm to 400mm; construction of pumping stations at MBC & Katawa tank sites and supply and installation of 5 and 3 new surface pumps at MBC and Katawa tank sites respectively; construction of 1 No. 2000m³ reinforced concrete tank at MBC site and other related activities.

Contract programme

The duration for the contract is 12 months with 12 months Defects Liability Period. Commencement of the contract was on 15 August 2009 and completion was planned for 15 August 2010. However, due to revised scope of works, the programme was revised from 12 months to 13.5 months and the new completion date is 30 September 2010.

Significant Changes to Works Contract price and Programme

The works contract has been extended with no cost implications for extra time. This extension is to cover for delays due to rains.

However, the contract has 4 No Variation orders which have increased the Contract Sum from MK615,225,854.31 to MK627,060,906.32 or 0.02% of the contract value:

Item	Variation Order No.	Description	Value (MK)
1		Original Contract Sum	615,225,854.31
2	1	Construction of Engineer's office	2,208,810.00
3	2	Construction of under drain to remove ground water from filters foundation	1,054,099.40
4	3	Modification works for under drain and reimbursement of cost for relocation of power line at MBC	7,520,161.61
5	4	Construction of additional manhole	1,051,981.00
6		Total Revised Contract Sum	627,060,906.32

The above additional works instructed represent 0.02% of the contract sum and the works, in the opinion of the AT are justifiable.

Further, the client has asked for a no objection from World Bank to carry out additional works and the contract is likely to be extended for 6 weeks due to 7 additional items:

Item	Description	Value (MK)	Percent Increase
1	Revised Contract Sum	627,060,906.32	
2	Minor rerouting of pipelines	27,674,328.00	4.5%
3	Laying of main distribution line omitted from Contract due to funds but necessary not to inconvenience Central Business Area. Client does not want to revisit this area in near future by disrupting businesses and traffic; hence the decision to carry out this work under this project.	5,151,876.12	0.84%

4	Replacement of small diameter pipes at Treatment Plant; taken into account in design but error by consultant by not including same in Bill of Quantities	14,226,186.80	2.31%
5	Change in quotation for power supply by ESCOM from MK10,071,295.50 to MK21,029,339.83	10,958,044.33	1.78%
6	Addition of gravel and French drains due to water logged conditions at treatment plant. Work carried out with proper variation issued to contractor but funding request not formalised at time of instruction as the works were deemed to be necessary. Proper investigations not carried out by consultant at design stage. This cost could have been avoided had the consultant carried out proper investigations.	8,682,432.60	1.41%
7	New tank built near existing overhead line. Location not in line with statutory requirements of ESCOM. Design error by Consultant. Cable now needs to be rerouted and changed to underground service cable. This expense could have been avoided had the consultant exercised due diligence	5,128,488.22	0.83%
8	Extra chiselling of water tank to accommodate interconnection of new to existing filters. The extra work is to enable contractor to make good joints and for the same to be water tight. This work was not originally envisaged at design stage	2,458,444.00	0.4%
9	The contractor has requested an Extension of 6 weeks to carry out the above works at an additional cost to cover his Preliminary and General Items (P&Gs).	4,411,711.07	0.72%
	Total Revised Contract Sum	627,060,906.32	

The above variations, if approved by the World Bank, will represent 12.8% of the Contract Sum.

It is noted that the contract excluded contingency sum (which was originally included in the Client's budget) although the Engineer's Estimate had a provision of 15%. If this amount had been included in the Contract, the above variations should have been fully covered.

Total payments made as at the time of the study were MK384,734,015.57 or 63% of the contract sum.

Supervision Contract

The NRWB advertised for supervision of the works using the Quality and Cost Based Selection (QCBS) procedure. Twenty firms expressed an interest in tendering for the works and six were shortlisted. However, only four firms submitted tenders. Metaferia Consulting Engineers were successful and were awarded the supervision contract. The duration of the contract was 12 months with a Defects Liability period of 12 months.

Significant Changes to Supervision Contract price and Programme

The design phase of the project commenced on 11 July 2007 and original completion date was 11 April 2008 for duration of 9 months. Due to increased scope of design works (it was assumed that the works to be designed would be for US\$ 3.3 million but it turned out to be US\$ 18.5 million), the period was extended for 7 months and completion was on 8th November 2008. The design phase did not attract additional costs. However, the consultant carried out more work for the same cost than originally envisaged.

Supervision Contract Start Date: 1 Aug 2009

Supervision Completion Date: 31 May 2010

Duration: 10 Months

Extension of Time: 4 Months: 30 Sept 2010

The Extension of Time was given to match with the Works Contract duration. Additional Time Related Costs were approved with the Extension of Time.

Cost for Extension of Time of 4 months: \$85,220.00. Contract Sum revised from \$228,605.00 to \$313,825 as per Addendum No. 1 dated 31 May 2010.

Original Contract Sum	\$228,605.00
Addendum No. 1 (to cover time related costs for Extension of Time)	\$85220.00
Revised Contract Sum:	\$313,825.00

Disclosures

The NRWB have made all the required disclosures including Feasibility study, Financing Agreement, Specifications, and Tender Evaluation Report.

The MPI template for data collected on this project is included herein as **Appendix B (i)**.

Site Visit

EMC Jatula Associates conducted a site visit and observed that the works are generally being carried out according to specifications. However, it was noted that the contractor is short changing the client, his own employees and the general public by not implementing safety measures which are a requirement under his contract.

The photo below, NRWB 1 shows employees wearing no protective clothing e.g. boots, gloves, and hard hats. Again, the roller is parked on the main thoroughfare in Mzuzu yet there are no warning signs.

The AT checked the works contract and there is no provision for marking tape which is a requirement for installation of underground utilities. This is necessary for future construction work to warn those excavating to proceed carefully not to cut or disrupt existing services. This omission is attributable to budgetary constraints on this project.



NRWB 1 – Labourers wearing no protective gear; no warning signs; no marker tape

3.0 CONCLUSIONS

The AT was given maximum access to NRWB. Record keeping at this institution is very good. Several issues of concern pertaining to management of the project and actual construction have been raised by the AT in the appropriate sections.