

CONSTRUCTION SECTOR TRANSPARENCY INITIATIVE ETHIOPIA (CoST-ETHIOPIA)

FINAL REPORT

PROJECT: - **HUMBO -ARBAMINCH UPGRADING
ROAD PROJECT**

*Prepared by
Anteneh Worku
September, 2010*

<i>PROJECT NAME</i>	<i>TEAM LEADER</i>	<i>TEAM MEMBER</i>
<i>HUMBO -ARBAMINCH UPGRADING ROAD PROJECT</i>	<i>YAREGAL ALI</i>	<i>ANTENEH WORKU</i>

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LIST OF ACRONYMS / ABBREVIATIONS

AC	Asphalt Concrete
AT	Assurance Team
BOQ	Bills of Quantity
BPR	Business Process Re-Engineering
CAC	Contract Award Committee
CoST	Construction Sector Transparency Initiative
DBST	Double Surface Treatment
DDM	Deputy Director General
EIA	Environmental Impact Assessment
ERA	Ethiopian Roads Authority
ETB	Ethiopian Birr (local currency)
FDRE	Federal Democratic Republic of Ethiopia
FEACC	Federal Ethics and Anti-corruption Commission
GCC	General Conditions of Contract
GM	General Manager
Gov	Government of Ethiopia
LCB	Local competitive bidding
MPI	Material Project Information
MSG	Multi Stakeholder Group
PE	Procuring Entity
PPA	Public Procurement Agency
RE	Resident Engineer
RFI	Request for Inspection
RFP	Request for Proposals
TAC	Tender Analysis Committee
TOR	Terms of Reference
VAT	Value Added Tax
VO	Variation Order

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1. Executive Summary

Background

CoST is a multi-stakeholder initiative designed to increase transparency and accountability in the construction sector. Its aim is to enhance the accountability of procuring bodies and construction companies for the cost and quality of public sector construction projects. This initiative is being piloted in seven countries, and Ethiopia is one of the countries.

The CoST performs its work principally through the release of project information into the public domain. But it is recognized that the disclosure of this information may not be sufficient on its own to achieve greater accountability. This is because some of the information is likely to be complex and not easily intelligible to the general public. To ensure that the information that is released is both accurate and available in a form that can easily be understood by stakeholders it may need to be verified and interpreted by experts. As a result, CoST Ethiopia has engaged an Assurance Team (AT) to collect, verify and analyse MPI (material project information) *for Alaba – Sodo – Arbaminch road project.*

Overview of the Project

The Alaba – Sodo – Arbaminch road project, of which contract 2: Humbo – Arbaminch is entirely located within Southern Nations Nationalities and Peoples Regional Government of FDRE. It starts from Humbo village, approximately 17km far from Wolaita Sodo town (Sodo town is located 380 km from Addis Ababa and can be branching off to the right at Shashemene town or 326 km from Addis Ababa and can be reached by branching off to the left at Alemgena through Butajera – Hossan – Sodo road). The project exactly starts at Humbo town in the direction of 6⁰ 45’ N latitude 37⁰ 46’ E and extends up to Kulfo River Bridge, which is in Arbaminch Town in the direction of 6⁰ 02’ N latitude 37⁰ 33’ E longitude.

The road runs through in the southern part of the country for a distance of **100.70 Km** long. Section of the main road involves rehabilitation of the existing asphalt surfaces to a two lane

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flexible bituminous surfacing with 7 meters carriageway width and 1.50 meters shoulder on both sides. Up on completion of the project, it is expected that the road will enhance socioeconomic development of the area, assist the administrative and social services coverage in the region and accelerate economic growth of the country.

In general the study of the project has been divided in different section. Background of the pilot programme, objective & tasks of the assurance team, activities to be undertaken in data collection & verification of MPI disclosed by ERA and summary of the findings is enveloped by the report. The report deals with project information which covers the project cycles from inception to the recent implementation status of the road project.

Though feasibility study and EIA of the project could not be found, the technical evaluation report indicates that the detailed engineering design and detailed tender document preparation was made by Associated Engineering Consultants (AEC) PLC.

On implementation phase, construction supervision and contract administration during construction stage is carried out by the same consultant, AEC. The main contract works of the project construction is being carried out by a local construction company known as DMC Construction PLC.

Key Findings

- *Feasibility study and EIA of the project could not be disclosed from ERA. The technical evaluation report indicates that the detailed engineering design and detailed tender document preparation was made by Associated Engineering Consultants (AEC) plc. Therefore, clear cut conclusions on the fact that whether concerns to be expressed in the feasibility study regarding the project, are addressed before proceeding implementation of the project could not be disclosed.*
- *The tender document for works contract has been prepared by AEC and the consultant was made agreement with PE to prepare tender document for periodic maintenance*

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road. The tender for works contract was advertised for upgrading the project. There is no clear information disclosed for the change of the work from its original plan. The PE was expected to prepare proper tender document as per the actual work of the project and it will be in contrary with the Ethiopian Government law for Procurement of Works PPA, January, 2006’.

The PPA law for procurement of works under User Guide, on section ‘Preparation and Issue of Bidding Document’, states that the PE is responsible for the preparation of studying document before bid

- Fluctuation of program of the PE from the original intended plan has caused to make additional agreement for supervision works. The supervision consultant has originally entered in to a contract for periodic maintenance works. However, the PE has changed his plan for upgrading the road project. Consequently, change of the procuring entity’s interest has resulted to a supplementary agreement of ETB 4,886,966.40.
- The Monthly Progress Report No 29 the project, which is prepared by the consultant AEC, reveals that 99.78 % of the total contract time has been elapsed so far. The contractor has planned to achieve 99.92% of the total works and has actually achieved 39.63 %. According to the disclosed documents major reasons for which substantial delay have occurred and required solution to be addressed for the same are
 - ✓ Delay in mobilization of plants and equipments.
 - ✓ Delay of subsurface investigation and construction of Raya River Bridge.
 - ✓ Extended delay of fuel and cement supply to the project sites.
 - ✓ Contractor’s failure to deploy required resources as per the approved work program
 - ✓ Contractor’s failure to diversify the works
 - ✓ Rainy weather conditions accompanied by floods.

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The contractor has got an approved extension time of 192 days and the completion time is extended to January 10, 2011. However the gap between the remaining percentage of work and time is very large.

In order to overcome the problems and expedite the progress, the engineer has given solution from time to time for design solution, claim analysis, conduct meetings and forwarding reminder letter to the contractor to take all necessary actions.

In order to have detailed informed judgement and analyse for the problems explained by the consultant report, both the contractor and the consultant have been informed by letter from CoST-Ethiopia.

DMC Construction PLC has been informed from CoST-Ethiopia by letter dated on September 28, 2010 ref. No CoST-E/AS/01/054/10 for verification of project information. However no response is given from the contractor side.

Associated Engineering Consultants (AEC) has been informed from CoST-Ethiopia by letter dated on September 28, 2010 ref. No CoST-E/AS/01/053/10 for verification of project information. However no response is given from the consultant side.

The consultant report is basically explained the overall performance of the contractor and action taken for the problems. For securing the employer from contractor's delay of the construction, detail reports couldn't be disclosed.

As per the condition of contract *sub-clause 49.5 (defects liability period) for every delay of works the contractor is liable for 0.1 % of contract amount each day.* However AT couldn't get disclosed document for any action of the consultant for advising the PE on giving attention and take early measures on the liquidated damage case.

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2. Introduction

2.1 Background

The Construction Sector Transparency Initiative (CoST) is an international multi- stakeholder program initiated to increase transparency and accountability in the public construction sector. Public sector infrastructure projects provide a major contribution towards economic growth and poverty reduction. However, *mismanagement and corruption* during the planning, implementation and monitoring phases of the construction projects weaken the expected social and economic benefits. Recent studies show that corruption in public construction projects is getting widespread. Corruption shall result in unwanted, inappropriate, imperfect and dangerous construction projects. When the subject matter comes on to the poor, who are most reliant on the provision of public services, the effects of mismanagement and corruption gets extremely tough.

The Construction Sector Transparency Initiative (CoST) aims to increase the accountability of public sector organisations and construction companies for their construction projects. It will do this by disclosing Project Material Information (MPI) at all stages of the construction project cycle, from the initial identification of the project to the final completion.

It is, however, recognised that the disclosure of this information may not be sufficient on its own to achieve greater accountability. This is because some of the information is likely to be complex and not easily intelligible to the general public. For example, there are many reasons for time and cost overruns on construction projects that may be quite legitimate and not necessarily an indication of poor governance of the procurement process.

This pilot is led by the CoST-ETHIOPIA Multi-Stakeholder Group, which comprises representatives from the Civil Society, Contractors' Association, Association of Consulting Engineers and Architects and Government.

The Multi-Stakeholder Group has already been selected and identified a number of projects for the pilot assurance process in Ethiopia. Humbo - Arbaminch Road Project is one of the selected

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projects. For the specified project, Ethiopian Roads Authority (ERA) is an accounted PE for discharging responsibilities of PEs while running the project in every construction cycles.

2.2 Objectives of the pilot programme

The National Multi-Stakeholder Group has identified four objectives for the pilot:

- To learn lessons to inform the design of CoST internationally
- To learn lessons that improves transparency internationally through the disclosure of project information.
- An enhanced understanding of construction project costs amongst public sector clients, industry and wider society
- To learn and share lessons on publicly-funded construction project governance

2.3 Core objectives of the assurance team

The Assurance Team will have the following core objectives:

- To collect the project information from the Procuring Entities (PEs) of CoST projects so as to ensure publication of the relevant Material Project Information (MPI) .
- To verify the accuracy and completeness of MPI disclosures on CoST Projects.
- To produce reports that are clearly intelligible to the non-specialist, outlining the extent and accuracy of information release for the selected CoST projects.
- To analyse disclosed and verified data in order to make informed judgements about the cost and quality of the built infrastructure on CoST Projects.

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- To produce reports that are clearly intelligible to the non-specialist, outlining the findings regarding the program, cost and quality of the infrastructure and highlighting any cause for concern that analysed information reveals on CoST Projects.

2.4 Scope of works to be carried out for phase I

Relevant documents and information were tried to be collected by member of the Assurance Team in collaboration with the team leader on Humbo -Arbaminch projects, for which assignments has been announced before. Such information was collected from the PE, namely ERA. Introduction letters from the CoST Champion (Federal Ethics and Anticorruption Commission) were provided to the Consultant. Difficulties in collection of information were also reported to the Country Coordinator so that appropriate remedial action shall be taken through FEACC.

The AT was required to verify that the MPI is complete and correct. Differing degrees of verification would be required:

- I. Some of the information on the list will be reports (e.g. feasibility studies, financing agreements etc.) commissioned by the PE and produced by others. The AT will be required simply to verify the source of the report, confirm that the information is complete and the latest version is available.
- II. Tender evaluation reports for the design, supervision and the works contracts, as well as the initial contract prices, scope and program, shall require more careful scrutiny and are to be checked and confirmed from other sources.
- III. The most rigorous verification would be required on the information concerning changes to the contracts (for design, supervision and for works) during implementation. The information to be released, on an on-going basis, during contract implementation includes
 - (i) Individual changes to the contract which affects the price and reasons for those changes and
 - (ii) Individual changes to the contract which affect the program and duration and reasons for those changes. To ensure accuracy and completeness, the information released

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should include more detailed source documents, such as variation orders, claims and payment records. This information may also need to be checked and confirmed from other sources.

The principal alternative sources against which MPI can be checked are the consultants' and contractors' records. For this reason, all parties were made aware and written Memorandum of Understanding (MoU) was signed.

2.5 Data Collection & Verification Process

- ✓ As it has been cited on scope of the works, CoST- Ethiopia has signed memorandum of understanding outlining schedule of project information and documents to be disclosed by the procuring entity for the pilot programme on selected projects
- ✓ Following commencement of data collection process, the PE (ERA) has appointed a staff members of the authority to facilitate availability of relevant documents of implementation phase, as it has been verbally requested by the team members. Information related with procurement processes were collected from the procuring department for all projects.
- ✓ Each Assurance team member had conducted the assigned professionals in ERA, counterpart engineers, assigned to follow up each project, so that required documents would be organized and made available. Having copy of the relevant documents, the original ones were returned back to ERA. The same procedure has been followed for both procuring department and department responsible for implementation phase.
- ✓ During the data collection process, problem has been encountered for the fact that the counterpart engineers did not exactly know availability of documents. Since the PE is implementing *Business Process Re-Engineering (BPR)*, there were reshuffle of projects by which both regional directors and counterpart engineers were assigned for. This has induced grave impact on the availability documents containing highly relevant information during

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implementation phase. The challenge did not only adversely affect availability of documents but also induced prolonged time and incompleteness of data collection phase.

- ✓ The problem has been reported to the country coordinator of CoST-Ethiopia so that it would be resolved in due time. The country coordinator has also called for an assembly on August 10, 2010 to be held with deputy director of ERA in the presence of all Department managers, aiming at discussing status of document availability and refreshing cooperativeness of professionals who have been assigned earlier taking responsibility of availing the documents for further disclosure. The meeting were adjointed by confirming commitment of ERA for making the relevant documents available in time and also to notify contractors and consultants so that they would also be cooperative for the assurance team too.
- ✓ The information provided was reviewed and further meeting was held with project contract managers & consultants to clarify challenging issues & to enhance their understanding on targets of CoST related with projects.
- ✓ Template for material project information which ERA was expected to disclose under the pilot programme is tabulated in Appendix 1.
- ✓ So as to indicate the contemporary status, relevant documents collected so far in hard copies for disclosure purpose are tabulated here under.

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Table 1: Status of documents collected.

Sr. No.	Description	Status	Purpose
1	Feasibility study	Not yet found	Documents dealing with overall feasibility of the project.
2	Technical bid evaluation report for design works	Obtained	Documents dealing with tendering procedures of design works mainly focusing on technical evaluation process.
3	Financial bid evaluation report for design works	Obtained	Documents dealing with tendering procedures of design works mainly focusing on financial evaluation process.
4	Contract agreement for design works	Obtained	Documents dealing with details of contractually signed design works.
5	Final design reports	Not yet found	Documents dealing with details of finally submitted engineering designs and cost estimates.
6	Technical bid evaluation report for supervision works	Obtained	Documents dealing with tendering procedures of supervision work mainly focusing on technical evaluation process.
7	Financial bid evaluation report for supervision works	Obtained	Documents dealing with tendering procedures of supervision work mainly focusing on financial evaluation process.
8	Contract agreement for supervision works	Obtained	Documents dealing with details of contractually signed supervision works.
9	Technical bid evaluation report for main contract works	Not yet found	Documents dealing with tendering procedures of main contract work mainly focusing on technical evaluation process.
10	Financial bid evaluation report for main contract works	Obtained	Documents dealing with tendering procedures of main contract work mainly focusing on financial evaluation process.

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11	Letter of acceptance	Obtained	Documents dealing with official acceptance of the contractor by PE.
12	Contract agreement for main contract works	Obtained	Documents dealing with details of contractually signed main contract works.
13	Last interim payment	Obtained	Documents dealing with status of payments effected to date and works executed to date.
14	Annual reports	Obtained	Document revealing up to date status of implementation phase.
15	Detailed variation files	Not yet found	Documents dealing with the most sensitive part of MPI, variations.
16	Detailed claim files	Not yet found	Documents dealing with the most sensitive part of MPI, time extension claims.

It worth to mention that serious action has to be taken so that the PE professionals' shall become familiar with the newly implemented BPR and transfer of all project documents from former engineers could be completed in soonest possible time.

3. Verification on material project information

3.1 Procedures followed for procurement of Design & Supervision Consultants

Details of procedures that has been followed by ERA, the procuring entity, for selecting design & supervision consults of this specific project are described hereunder:-

- All the work on the design and construction supervision of the project is awarded to consultants and contractors on competitive basis.
- The Ethiopian Roads Authority has invited local general consultants or road consultants on the Ethiopian Herald news paper on 7, 8 and 9 January 2005 to submit proposal for the detailed engineering design, tender document preparation and supervision works of

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the project. Dead line for submission was fixed on 21 February 2005 at 2:30 pm. However, submission for the deadline was extended up to 3 march 2005 for reasons not described on the report. The deadline extension was notified to all bidders through addendum No. 1 on 15 February 2005.

- Pre –proposal meetings were arranged at ERA’s conference rooms on 2 February 2005, 4:00 pm. The meeting was held in the presence of firms’ representative who wished to attend and representatives of ERA. Answers for questions raised during the pre-proposal meeting were sent to each firm in written forms with addendum no. 1.
- Tender Analysis Committee (TAC), a committee constituted of three engineers of ERA, was organized for each contract.
- Two stage Evaluation of bids was adopted for selection, as stated in the RFP, first technical proposals are evaluated with respect main criteria in RFP and breakdown of scores prepared by TAC members. Each proposal was evaluated out of 100 points and those scored above the minimum set out score in RFP shall be considered as technically responsive.
- TAC prepared evaluation reports with their recommendation and highlighted issues and present to Contract Award Committee (CAC). CAC decides on report and forward it to the director general for approval.
- Financial Offers are opened in the presence of CAC members and representatives of consultants and Evaluated by TAC as per the criteria stated in RFP and each offer scored out 100, and finally prepares combined score which is the sum of technical score multiplied by 80% and financial score multiplied by 20%. A report is prepared and presented to CAC for endorsement.

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3.2 Project identification and budget

As previously cited in the report, feasibility study and EIA could not be found from ERA. However, to date collected documents disclose sufficient budget for detailed engineering design, tender document preparation and construction supervision was allocated by the Federal Democratic Republic of Ethiopia (FDRE). Annual report made by the consultant on June 2010 and Financial evaluation report reveal that source of budget for the main contract work is Federal Democratic republic of Ethiopia too.

3.3 Selection of Design and Supervision Consultant

The following two documents were found in relation with selection of design and supervision consultant.

1. Technical evaluation report
2. combined (financial +technical) evaluation report
3. Contract agreement

Evaluation process

- Invitation for those consultants interested to take part in the consultancy works were announced on Ethiopian Herald news paper dated on January 7, 8 & 9, 2005.
- Request for proposal (RFP) were collected by 18 consulting firms on or before March 3, 2005.
- As per RFP, the intended service covers the Detailed Engineering Design, Tender document preparation and construction supervision for Alaba – Sodo - Arbaminch road project, of which Humbo – Arbaminch was considered as contract 2.
- Dead line for submission of proposals was on March 3, 2005 at 2:30 pm. Out of the eighteen firms who have shown interest; only nine consulting firms have submitted their technical and financial proposals before the deadline. Prior to the opening, the committee has checked the parcels for proper sealing and markings, which were found in order. The

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envelopes containing the technical proposals were opened in front of the participants. Following the opening, CAC members have signed on original technical proposals and on the sealed financial proposals. Technical proposals were handed over to tender evaluation committee (TAC) to be evaluated in detail and find out determined scores.

- Depending on the average scores, the committee has finally submitted evaluation report. TAC has concluded that three firms were rejected on technical evaluation stage. MH Engineering, SABA Engineering and HEC and CDSCo in joint venture with HAMDA were rejected for the following reasons.
 1. MH Engineering has been rejected for the fact that the proposal was not prepared for the specified task. Moreover, time schedule prepared by the firm and its proposed team composition that the supervision team is to be a single team unlike to the requirements stated in RFP.
 2. SABA Engineering Plc has not enclosed declaration of intent for four its key staff members. Hence rejected.
 3. HEC and CDSCo in joint venture with HAMDA have been rejected for committing the same mistake as SABA Engineering almost for all of its staffs.
- CAC on its meeting held April 02, 2005 has decided opening of financial proposals of the six qualified consulting firms. Minutes of meetings is attached to the evaluation report. List of qualified firms with their respective scores are shown bellow.

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Item No.	Consulting Firm	Score (%)	Rank
1	AEC	89.50	2
2	BEZA	82.90	5
3	DANA	86.10	3
4	METAFERIA	90.80	1
5	PANAF-CWCE (JV)	83.70	4
6	UNICONE	77.10	6

- Following endorsement and subsequent approval of GM of ERA, a notice was addressed to the six firms, setting the opening of financial proposal for 7 April, 2005. The financial offer was presented independently for phase I (Design and tender document preparation) and Phase II (Construction Supervision). Their respective readout prices are described here under.

Item No.	Consulting Firm	Financial Proposal in ETB		Remarks
		Phase I	Phase II	
1	AEC	1,015,719.00	2,344,280.00	Excluding Tax
2	BEZA	2,486,357.50	3,766,250.00	Including Tax
3	DANA	1,312,480.63	3,008,400.00	Including Tax
4	METAFERIA	810,692.50	4,630,667.63	Including Tax
5	PANAF-CWCE (JV)	4,200,260.00		For both phases
6	UNICONE	985,276.88	3,450,970.60	Including Tax

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3.3.1 Appointment

Having made all necessary arithmetic corrections to each firms’ financial proposals, TAC has found the following financial scores;

Item No.	Consulting Firm	Score (%)
1	AEC	100
2	BEZA	60.49
3	DANA	93.04
4	METAFERIA	76.71
5	PANAF-CWCE (JV)	93.21
6	UNICONE	87.86

Right after the financial score, total scores has been found as listed here under.

Item No.	Consulting Firm	Score (%)	Rank
1	AEC	91.60	1
2	BEZA	78.40	6
3	DANA	87.40	3
4	METAFERIA	87.90	2
5	PANAF-CWCE (JV)	85.50	4
6	UNICONE	79.30	5

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. Hence Associated Engineering Consultants has been found to fit for the design, tender document preparation and construction supervision works.

3.3.2 Scope works of design and supervision contract

PHASE I

- To carryout necessary field investigation, detailed engineering design and tender document preparation for the proposed road project.

PHASE II

- The consulting firm shall fulfil role of the engineer to the highest standards, as defined under the works contract throughout the entire construction phase including defect liability period, so as to ensure the works under construction;
 - Are constructed in accordance with General and Particular conditions of the contract, technical specifications and Engineering drawings.
 - Optimize the use of available material resources to minimize costs of the employer and to maximize quality of the works.
 - Are constructed within the contract price and time for completion allowed under the contract documents or amendments thereto.

3.4 Selection of contractor

3.4.1 Tender Procedure

Generally, a tender procedure that has not deviated from standard procedures was followed. The details are;

- The procurement method is national competitive bidding, whereby interested contractors fulfilling administrative requirement of the notice shall buy the bid document and prepares their qualification applications and financial offer at the prescribed deadline.

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- Tender evaluation committee will verify and check for substantial responsiveness of the applications to be followed with detailed examination of technical and financial status.
- The committee writes post qualification evaluation report and presents to CAC which give its deliberation (comment & revise or forward to the GM) ,if approved a notice will be issued to responsive bidders stating the opening date of the financial proposal . The prices are then readout in the presence of their representatives and CAC committee members.
- TAC will receive copies the proposals and examine completeness and substantial responsiveness; check for errors in engineering estimate, provisional sums and considers any discounts and modifications. Finally comparing the price with engineering estimate will present its recommendation to CAC, which will revert or endorse the report, after which the report passes to GM and finally to Board of Directors.

3.4.2 Appointment of Contractor for the main contract works

It needs to be noted that only the following documents were obtained in connection with the appointment of contractor for the main contract works.

- Financial evaluation report
- progress report of June,2010
- Letter of acceptance
- Contract document
- Latest payment certificate
- Work program

The following documents were not disclosed in relation with the main contract works.

- Technical bid evaluation report
 - Detailed variation files
 - Detailed claim files
- Notice for invitation to bid for the subject project was announced on Ethiopian Herald prints of dated on 21 and 22 of July 2007. Pursuant to the notification, eight applicant

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contractors have shown interest and collected tender documents before dead line for submission of application. Name of companies collected bidding documents are;

Item No.	Bidder's Name	Country of registration
1	Alemayehu Ketema General contractor	Ethiopia
2	CRBC Addis Engineering Plc	Ethiopia
3	DMC Construction Plc.	Ethiopia
4	Keangnam Enterprise Ltd.	Korea
5	MIDROC Construction Ethiopia Plc	Ethiopia
6	SINOHYDRO Corporation	China
7	SUR Construction	Ethiopia
8	Yenkomad Construction Plc	Ethiopia

- Out of the above mentioned companies, only four of them, namely DMC Construction Plc, Keangnam Enterprise Ltd, SINOHYDRO Corporation and Yenkomad Construction Plc have submitted their qualification documents and financial offers. Dead line for submission of the documents was on 27 September 2007.
- Pre-bid meeting was held on September 03, 2007 at 9:00 PM local time. However, only SINOHYDRO Construction and Keangnam Enterprise Ltd had taken part in the meeting. Minutes of pre-bid meeting together with Addendum No. 1 dated on 20 September 2007 were issued to all prospective bidders who purchased bidding documents.

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- Prior to the opening, the committee has checked the parcels for proper sealing and markings, which were found in order. Dead line for submission of the bids was on 27 September 2007 at 2:30 pm.
- During the qualification process, TAC has recommended DMC Construction Plc and Keangnam Enterprise Ltd would proceed for financial evaluation. However, SINIHYDRO Corporation and Yencomad Construction PLC did not complied with the qualification requirements and hence rejected for financial evaluation. Post qualification evaluation report could not be available however, the PE has forwarded a letter ref. No. AR1/50/9-381 dated on 15/11/10 to CoST Ethiopia for the reasons of failure of the contractors.
 - SINOHUDRO Construction has been rejected by the TAG from further evaluation because the firm failed to satisfy the requirements of the bidding for specific construction.
 - Yencomad Construction PLC has also been rejected from further evaluation because the firm's peak construction turnover is below the minimum peak construction turnover requirement.
- Following endorsement and subsequent approval of GM of ERA, a notice was addressed to the qualifying firms, setting the opening of financial proposal on 11 October 2007. The financial offer was opened and the readout prices were ETB 380,031,990.79 and 527,230,955.00 respectively for DMC Construction Plc and Keangnam Enterprise Ltd.

3.4.3 Appointment

TAC had examined completeness of bid, checked substantial responsiveness, correction of errors and consideration of discounts & modifications and comparison with Engineers estimate (TAC) has used engineer's estimate of (Prepared by Associated Engineering Consultants). At the end, on meetings held on 16 October 2007 it has been mentioned that TAC has highlighted that Keangnam's rates are overestimated and therefore it does not

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represent current market price. Following the TAC’s findings on the evaluation process, CAC has also agreed on the same meeting that the contract should be retendered with possible amendments to the engineer’s estimate.

Finally, as per the PE has forwarded a letter ref No AR1/50/9-381 dated on 15/11/10 to CoST Ethiopia, it is decided that DMC Construction PLC has been the least bidder both on contract 1: (Alaba-Humbo) and contract 2: (Humbo-Arbaminch). However, analyzing the limitation in the capacity of the contractor to execute both projects, the board has decided to award DMC Construction PLC one of the two projects he prefers and retender the remaining. Accordingly, the contractor, DMC Construction PLC has been awarded contract 2: (Humbo-Arbaminch project) and contract 1: (Alaba-Humbo) project has been re-tendered and awarded to the least bidder, Keangnam Enterprise LTD.

Analysis of verified material project information:

- Feasibility study and EIA of the project could not be available from ERA. The technical evaluation report indicates that the detailed engineering design and detailed tender document preparation was made by Associated Engineering Consultants (AEC) plc.

Therefore, clear cut conclusions on the fact that whether concerns to be expressed in the feasibility study regarding the project, are addressed before proceeding implementation of the project could not be disclosed.

- It has been stated on disclosed documents that the Federal Democratic Republic of Ethiopia (FDRE) has allocated sufficient budget for detailed engineering design together with tender document preparation. Moreover, FDRE has also allocated budget for payments for consultancy services held on project supervision and contract administration works. Budget for construction of main works were allocated by the same.

However, the amount of budget originally allocated for design, supervision and execution of the main contract works is unclear.

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- Regarding the project engineering design, tender document preparation and construction supervision works, the Ethiopian Roads Authority has invited local general consultants or road consultants on the Ethiopian Herald news paper on 7, 8 and 9 January 2005. Dead line for submission was fixed on 21 February 2005 at 2:30 pm. Deadline extension was notified to all bidders through addendum No. 1 on 15 February 2005.

However, submission for the deadline was extended up to March 3, 2005 for reasons which are not properly addressed in the bid evaluation reports.

- Except the above mentioned point a procedure which did deviate from the general procedure was followed for procurement of design and tender document preparation works.
- On implementation phase, construction supervision and contract administration during construction stage is carried out by the same consultant.

Fluctuation of the procuring entity has caused additional agreement to make for supervision works. The supervision engineer has originally entered in to contract for periodic maintenance works. However, the procuring entity has required upgrading of the road project. Consequently, change of the procuring entity's interest has resulted to a supplementary agreement of 4,886,966.40.

- Further verification made on the supervision engineer has revealed that the project has encountered four variation orders. Details of variations including financial impact are listed below.

Variation order No. 1

- Extension of single slab culvert and extension together with realignment of triple RC pipe culverts has induced a total variation amount of 823,947.49 ETB.

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Variation order No. 2

- A table which indicates details of the variation is as follows:

Item No.	Description	Additional amount due to VO No.2 (ETB)	Omissions due to VO No. 2 (ETB)
1	Earth works	-	-1,160,486.71
2	Pavement works	-	-6,350,016.44
3	Bridges and pertinent protection works	4,211,640.00	-
4	Additional irrigation culverts	2,228,851.20	-
5	Culverts to be replaced	612,789.36	-
6	Culverts to be rehabilitated	1,324,426.01	-
7	Protection works	46,161.00	-
8	Constructed and under construction culverts	695,327.33	-
Net amount variation after addition and omission (ETB)			1,608,691.65

- The employer has noted that a variation of such amount should not have occurred as amount of payment made for design review of major drainage structure works was increased by ETB 4,211,640.00. Such amount of variation works should not have

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occurred when detailed engineering design and design review is made by the same consultant.

Variation order No. 3

- Variation no. 3 has occurred due to design revision of Raya River Bridge. It has induced a reduction of ETB 2,356,147.09 from the original contract. The net reduction is resulted from
 1. Pile foundation has been changed to shallow reinforced concrete spread foundation.
 2. The cement mortar stone masonry abutment and wing walls have been changed to reinforced concrete structure.
 3. The final deck level has been raised by considering the current sediment deposition.

Variation order no. 4

- The fourth variation was due to mitigation of flood damages and protection works. Measures to be taken have been categorised in to two, namely emergency measures and Long-term measures. The emergency measures comprise of silt removal from five river bridges and stone masonry & rock fill works for protection of deep gully formation. Long-term measures encompasses introduction of vertical alignment changes by increasing fill height and hydraulic redesign of existing drainage structures. As such, these are elaborated as;
 - a) Change in vertical alignment for raising grade line based on hydraulic analysis and structural requirement.
 - b) Hydraulic design of drainage structures for improvement of existing side ditches, culverts and bridges.

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- Cost implication of the fourth variation order is considerably high amount whereby it indicates proper and detailed study was not conducted for drainage design structures. Details of cost implication are tabulated here under.

Item No.	Description	Additional amount due to VO No.4 (ETB)
1	Reinforced concrete pipe and slab/box culverts	24,885,471.12
2	Earth works	9,373,394.38
3	Reconstruction of gravel sub-base and base course	2,618,356.45
4	Reconstruction of continuously graded 50 mm thick asphalt concrete	1,589,280.00
5	Application of lean concrete at protection works	137,414.02
6	Construction of protection works such as gabion retaining walls & check dams	2,196,748.64
Total amount (ETB)		40,800,664.61

- Time implication of the above listed variations is not yet managed and time table for the project is updated accordingly.
- The contractor has claimed for 573 calendar days. Unforeseen events, shortage of cement supply, nationwide electric power shortage and inclement weather condition are causes

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for the delay. The contractor has been granted for 192 calendar days. Order for updating work program is given to the contractor.

- The contemporary evaluation of the project by the supervision consultant reveals that 99.78 % of the total contract time has been elapsed so far. The contractor has planned to achieve 99.92% of the total works and has actually achieved 39.63 %.
- According to the disclosed documents major reasons for which substantial delay have occurred and required solution to be addressed for the same are
 - ✓ Delay in mobilization of plants and equipments.
 - ✓ Delay of subsurface investigation and construction of Raya River Bridge.
 - ✓ Extended delay of fuel and cement supply to the project sites.
 - ✓ Rainy weather conditions accompanied by floods.

4. Problems encountered and Constraints

On the general process of collecting material project information from ERA, serious difficulties in collection of information were encountered. This time ERA has already started implementation of Business Process Re-engineering and for this reason the assigned professionals has replied that clear border of projects to which they are assigned is not demarcated yet. Hence, this has induced difficulties in obtaining relevant documents.

The problem has been verbally reported to the Country Coordinator so that appropriate remedial action could be taken early. The Country Coordinator has also taken immediate measures to discuss with top managements of the procuring entity on ways out of the terrible processes to obtain MPI. Though there are still missing documents containing vital material project information, following the discussion improvements on obtaining relevant documents were observed.

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Works Contract Summary

- **PROJECT:** *HUMBO -ARBAMINCH UPGRADINGROAD PROJECT*
- **LOCATION:** *Starts at Humbo Town and extends up to Kulfo river bridge (town of Arbaminch)*
- **EMPLOYER:** *Ethiopia Road Authority*
- **CONSULTANT:** *Associated Engineering Consultants (AEC)*
- **CONTRACTOR:** *DMC Construction PLC*
- **DATE OF SIGNING OF CONTRACT:** *23rd November 2007*
- **CONTRACT VALUE/ MAIN AGREEMENT:** *ETB 380,204,197.21*
- **VARIATIONS APPROVED:**
 - *Variation 1* ETB 823,947.49
 - *Variation 2* ETB 1,608,691.65
 - *Variation 3* ETB -2,356,147.09
 - *Variation 4* ETB 40,800,664.61
- **TOTAL AMOUNT BIRR:** *40,877,156.66 ETB*
- **CONTRACT TIME:** *913 Calendar days*
- **MOBILIZATION TIME:** *90 Calendar days*
- **CONTRACT LENGTH:** *100.07 km*
- **COMMENCEMENT DATE:** *1st January 2008*
- **COMPLETION DATE:** *2nd July 2010*
- **EXTENSION OF TIME APPROVED:** *192 Cal. Days*
- **REVISED COMPLETION DATE:** *10th January 2011*
- **PERCENTAGE OF WORK PLANNED:** *99.92 %*
- **PERCENTAGE OF WORK DONE:** *36.99 % (as of June 2010)*
- **ADVANCE SUM TAKEN /BIRR:** *ETB 59,182,341.80*
- **TIME ELAPSED IN DAYS:** *99.78 %*
- **TIME ELAPSED IN PERCENT:** *99.78 %*

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Appendix 1 – Material Project Information

Stage in Project Cycle	Initial List of Disclosures	Additional disclosures that has to be requested	MPI Disclosed	
Prior disclosures in support of CoST	Project identification	• Project specification	The project has been given project identification number of W/74/07.	
		• Purpose	The project road will enhance socioeconomic development of the area, assist the administrative and social services coverage in the region and accelerate economic growth of the country	
		• Location	Humbo – Arbaminch is entirely located within Southern Nations Nationalities and Peoples Regional Government of FDRE. It starts from Humbo village, approximately 17km far from Wolaita Sodo town (Sodo town is located 380 km from Addis Ababa and can be branching off to the right at Shashemene town or 326 km from Addis Ababa and can be reached by branching off to the left at Alemgena through Butajera – Hossan – Sodo road). The project exactly starts at Humbo town in the direction of 60 45' N latitude 370 46' E and extends up to Kulfo River Bridge, which is in Arbaminch Town in the direction of 60 02' N latitude 370 33' E longitude	
		• Intended beneficiaries	Intended beneficiaries are not stated on any of the project documents obtained so far.	
		• Feasibility study	The project feasibility study is not obtained so far.	
	Project funding	• Financing agreement	• Budget	As per the technical report evaluation, it has been mentioned that sufficient budget has been allocated for project consultancy services of construction supervision by FDRE.
			• Engineer's, QS or architects estimate	Financial evaluation report for the main works reveals that the project cost was estimated as 436,117,910.76
	Tender process for the contract for project		• Procurement Strategy	Procurement strategy followed was national competitive bidding.

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<i>design</i>			• Contract Strategy /Type	Though the exact contract type implemented is not mentioned on either the technical or financial evaluation report, it is found that the usual standard contract type signed between procuring entities and local firms has been implemented.
			• Tender procedure	Tender procedure followed was a two stage procedure whereby the first stage concerned with technical evaluation and the second one with financial evaluation.
			• Name of main consultant	Associated Engineering Consultants (AEC).
<i>Tender process (contract for project supervision)</i>			• Tender procedure	Tender procedure followed was a two stage procedure whereby the first stage concerned with technical evaluation and the second one with financial evaluation.
			• Number expressing interest	Eighteen firms.
			• Number shortlisted	Not applicable
			• Number submitting tender	Eight consulting firms have submitted their proposals. Name of the firms are listed in the report. of QCBS process.
<i>Tender process (main contract for works)</i>	• List of tenderers		• Tender procedure	Tender procedure followed was a two stage procedure whereby the first stage concerned with technical qualification evaluation and the second one with financial evaluation.
			• Number of companies expressing interest	Eight firms have shown their interest by collecting RFP. Name of the firms are listed in the report.
	• Tender evaluation report		• Number shortlisted	Not applicable
			• Number submitting tender	Four companies have submitted the tender. Name of the companies is listed in the main report.
<i>Contract award</i>			• Name of main consultant	Associated Engineering Consultants Plc

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Core disclosures in support of CoST	(contract for project supervision)		<ul style="list-style-type: none"> • Contract price 	The contract price for the consultancy service is 3,955,932.72 ETB	
			<ul style="list-style-type: none"> • Contract scope of work 	Scope of the work in the consultancy service are; a) To ensure the road is constructed in accordance with the General and Particular conditions of the contract, technical specifications, engineering drawings and amendments thereto b) to optimize the use of available material resources to minimize cost to the employer, to maximize the quality of the works c) to ensure the road is constructed within the contract price and time for completion allowed under the contract or any agreed amendments.	
			<ul style="list-style-type: none"> • Contract program 	Not yet found.	
	Contract award (main contract for works)	<ul style="list-style-type: none"> • Contractor name 			DMC Construction Plc
		<ul style="list-style-type: none"> • Contract price 			ETB 380,204,197.21 including 10% contingency and 15% VAT
		<ul style="list-style-type: none"> • Contract scope of work 			Scope of the work involves provision of general items, site clearances, construction of minor & major drainage structures, breaking of existing pavement layers, earth works which involves embankment layer of variable thickness, improved sub grade layer and capping layer, gravel shoulders, bituminous road bases and surface coatings.
		<ul style="list-style-type: none"> • Contract programme 			Currently existing contract program needs to be revised in line with the newly granted time extension. Order is already given to the contractor.
	Contract Execution (contract for project supervision)		<ul style="list-style-type: none"> • Significant changes to contract price, program, scope with reasons 		24 month duration which was originally given for periodic maintenance has been changed to 30 months for the upgrading road project program.
			<ul style="list-style-type: none"> • Variation orders, claims early warnings, compensation events 		The contract amount has come to a supplementary agreement of 4,886,966.40.

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	Contract Execution (main contract for works)	<ul style="list-style-type: none"> Individual significant changes to the contract which affect the price (the threshold to be determined by the MSG) and reasons for those changes 	<ul style="list-style-type: none"> Payment certificates 	A total variation of ETB 40,877,156.66 has occurred on to the project. Details for the variation are cited in the analysis section of the report.
		<ul style="list-style-type: none"> Individual significant changes to the contract which affect the program (the threshold to be determined by the MSG) and reasons for those changes 		The contractor has requested for entitlement of time extension of 573 cal. Days. However, only 192 cal days is granted to the contractor. The work program is getting updated accordingly. This time extension does not include variation works.
		<ul style="list-style-type: none"> Details of any re-award of main contract 		
	Post contract completion details (main contract for works)	<ul style="list-style-type: none"> Actual contract price 		
		<ul style="list-style-type: none"> Total payments made 		
		<ul style="list-style-type: none"> Actual contract scope of work 		
		<ul style="list-style-type: none"> Actual contract program 		
		<ul style="list-style-type: none"> Project evaluation reports (on completion and on-going) 		

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Appendix 2 – Verification of information related to project changes (variation orders)

No	Date of issue of variation order	Reason for variation	Work required to implement the variation	Effect on cost	Effect on programme / time	Effect on quality
1.	01/07/09	Rehabilitation of three culverts	Extension and realignment of pipes and culverts	Addition of ETB 823,947.49	Project time will be extended.	Better quality drainage system
2.	25/11/09	Provision of additional irrigation culverts	Constructions of additional culverts and protection works.	Addition of ETB 1,608,691.65	Project time will be extended.	Better quality drainage system
3.	26/08/10	Revised design of Raya River Bridge	Pile foundation shall be changed to spread footing foundation	Reduction of ETB -2,356,147.09	Project time will be extended.	Better quality drainage system
4.	31/08/2010	Mitigation of flood damage	Removal of silts from bridges and introduction vertical realignments	Addition of ETB 40,800,664.61	Project time will be extended.	Better quality drainage system

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Appendix 3 - Analysis of changes of terms of contract

Variation Identifier	Effect	Scale (or Amount)	Type of Effect	Cause Category	Apparent Cause	Comment - Detail or Justification	Transparency Flag
Variation order No. 1	Completion Time	S = < 1%	Contract extension	Internal	Drainage structure design changes	Extension and realignment of pipes and culverts is made for three culverts.	
	Completion Cost	S = < 1%	Item change	Client and engineer related	Project requirements change		
	Contract Terms		Variation order given	Design-related			
Variation order No. 2	Completion Time	S = < 1%	Contract extension	Internal	Drainage structure design changes	Constructions of additional culverts and protection works.	
	Completion Cost	S = < 1%	Item change	Client and engineer related	Project requirements change		
	Contract Terms		Variation order given	Design-related			
Variation order No. 4	Completion Time	S = < 1%	No Contract extension	Internal	Drainage structure design changes	Removal of silts from bridges and introduction vertical realignments	
	Completion Cost	S = < 1%	Item change	Client and engineer related	Project requirements change		
	Contract Terms		Variation order given	Design-related			
Variation order No. 4	Completion Time	M = 1< 10%	Contract extension	Internal	Drainage structure design changes	Pile foundation shall be changed to spread footing foundation	
	Completion Cost	L = > 10%	Item change	Client and engineer related	Project requirements change		
	Contract Terms		Variation order given	Design-related			

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