

**The State of Eritrea**



**MINISTRY OF PUBLIC WORKS**

**20 YEARS OF  
WORK ACHIEVEMENTS**

**1991 – 2011**

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### 1. DEPARTMENT OF INFRASTRUCTURE (ID)

### 2. DEPARTMENT OF ENGINEERING WORKS (DOEW)

### 3. DEPARTMENT OF URBAN DEVELOPMENT (DUD)

## **I. THE MINISTRY**

# 1. INTRODUCTION

The “Ministry of Construction” (MOC) was established in 1993 by a decree under the Gazette of Eritrean Laws No. 37/1993 having regulatory, supervising and operational mandate in the construction industry. The Ministry was then restructured in 1997 under the name “Ministry of Public Works” (MOPW), and its mandate was limited to *regulatory* and *supervisory* functions only.

The Ministry of Public Works as a *regulatory body* is responsible for all construction-related works of buildings, infrastructure, town planning and housing. The prime mission of the Ministry is based on the policies formulated by the State of Eritrea, to achieve its economic and social objectives, and strive to ensure the sustainable development and maintenance of various sectoral infrastructure and construction activities.

## 1.1 Mission

The mission of the Ministry of Public Works is to coordinate, organize and facilitate by means of overseeing and monitoring the various construction related “activities” against set out policies, guide lines, standard and requirements, so that an efficient and effective construction industry is to develop to competently meet the requirements of the infrastructure, housing, urban and rural planning development within the country’s overall development objectives.

## 1.2 Functions:

The main functions of the Ministry of Public Works are as follows:

1. Review and appraise of infrastructure development;
2. Review and appraisal building construction;
3. Review and appraisal environment projects as related to sanitary and mechanical works;
4. Review and appraisal of development planning urban and regional planning;
5. Formulate and plan national housing program;
6. Issue various standards, specifications, contract documents and codes of practice related to construction and urban planning;
7. Supervise and monitor all public construction projects;
8. Licensing and registering of all construction, consultants and professionals;
9. Encourage and promote the development of building materials industry to satisfy local demands;
10. Organize, coordinate and monitor HRD programs in the construction industry.

# 2. SECTOR POLICY FRAMEWORK AND STRATEGY

## 2.1 Goals and Objectives:

- Ensure that all public construction projects are economical, functional, and appropriate and hence avoid unnecessary expenditure and cost to the public. (cost effective);
- Alleviate the chronic housing/ shelter/ shortage at national level through correct implementation program;
- Enhance regulatory framework for quality and safety of all construction projects by ensuring professional and ethical standards;
- Satisfy the manpower and material resources requirements in the construction industry;
- Enhance quality of design and workmanship compatible with existing economic and social conditions in Eritrea;
- Ensure health and safety measures in all construction activities through formulation and enforcement of appropriate legislation;
- Promote research into all aspects of the construction industry and ensure the optimum

documentation dissemination and application of the research findings;

- Create an appropriate environment for the industry in which there will be enhanced opportunities for career development, further education, training and skills development for all levels of personnel, whereby the requisite numbers of personnel will be attracted to and retained by the industry; and
- Encourage construction materials production activities at all levels, where economically appropriate and promote the optimum utilization and development of local design; construction and construction materials in order to achieve self sufficiency through optimum exploitation and use of local resources.

## **2.2 Sector Strategies**

- Strengthen the quality of staff with professionally experienced personnel, employing periodically new graduates and establish a training scheme that consolidates their professional skill;
- Introduce up to date working facilities such as computerization to effectively implement plans and programmes of action;
- Establish Building Information Center which could give advice and guidance and disseminate information in the promotion of the construction industry;
- Encourage and assist to contractors and consultants to acquaint themselves with modern techniques and know-how;
- Support and encourage training schemes undertaken by international and national organizations to maintain and upgrade the skill of technical manpower;
- Encourage the production of building construction materials and promote the production of prefabricated building components by both local and foreign investors to speed up construction process;
- Encourage big investors to invest on important projects by making agreement that will benefit the country;
- Introduce standard design of bridges that will be simple and economical to construct;
- Introduce cost cutting construction systems on residential and other buildings throughout the country.

## **II. EXECUTIVE SUMMARY**

# **MOPW ESTABLISHMENT AND ACHIEVEMENTS (1991 – 2011)**

## **INTRODUCTION**

In 1991 and 1993 as proclaimed in the Gazette of Eritrean Laws No. 23/1992 & 37/1993 respectively, the Ministry of Construction had the regulatory, supervisory and operational mandate in the construction Industry.

However, it was in 1994, the Government of the State of Eritrea clearly spelled out its National Development Objectives, Strategies and Policy frame works in its MACRO POLICY booklet. The overriding national development objective was the creation of a modern, technologically advanced, and internationally competitive economy within the next two decades. To realize this objective the government adopted a broad-based growth strategy that has aspects of rehabilitation, reconstruction and development covering all sectors of the economy where the centre piece of this strategy is the establishment of an efficient, outward looking, private sector-led market economy where the government playing a proactive role to stimulate private economic activities and public sector involvement is restricted to areas where the private sector may tend to avoid for some reason.

The Ministry was then restructured in 1997 under the name “Ministry of Public Works” (MOPW), and its mandate was limited to *regulatory* and *supervisory* functions only. The Ministry of Public Works as a *regulatory body* is responsible for all construction-related works of buildings, infrastructure, town planning and housing. The prime mission of the Ministry is based on the policies formulated by the State of Eritrea, to achieve its economic and social objectives, and strive to ensure the sustainable development and maintenance of various sectoral infrastructure and construction activities.

The National Economic Policy Frame work and program for 1998-2000 published by the Government of the State of Eritrea in March 1998 (just two months before the eruption of the war between Eritrea and Ethiopia) strengthen, the Government’s vision of Eritrea in the MACRO-POLICY; and the 3 year program was to finish the rehabilitation and reconstruction stage and embark the economy on a path of sustainable long-term development with an ultimate objective of reducing poverty and external dependence and to create wealth and prosperity. The conflict between Eritrea and Ethiopia had a negative impact to the socio-economic development of Eritrea. The Government has adopted the Warsay-Yikealo all-rounded socio-economic developmental campaign for a fast socio-economic recovery. In fact this campaign gives way to the quick re-start of the already delayed private sector leading role in the economic development of Eritrea.

Thus, the bases for the policies, objectives and strategies of the MOPW are the Government’s National Development Policy Frameworks, Objectives and Strategies.

### **1. 1 Mission**

The mission of the Ministry of Public Works is to coordinate, organize and facilitate by means of overseeing and monitoring the various construction related “activities” against set out policies, guide lines, standard and requirements, so that an efficient and effective construction industry is to develop to competently meet the requirements of the infrastructure, housing, urban and rural planning development within the country’s overall development objectives.

### **1.2 Functions:**

The main functions of the Ministry of Public Works are as follows:

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7. Supervise and monitor all public construction projects;
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9. Encourage and promote the development of building materials industry to satisfy local demands;
10. Organize, coordinate and monitor HRD programs in the construction industry.

## **POLICY FRAME WORK**

The policy framework of the Ministry of Public works is to facilitate (lay ground rules/mechanisms) the over all Government National Development Objectives, by encouraging and ensuring the development of infrastructure and other civil Engineering/Construction Industry related activities. Its main mandate being regulation, supervision and direct participation (when it is deemed necessary), with an ultimate goal of restricting its role to an encouraging, regulatory and supervision function only.

### **General**

The Ministry of Public Works was established along with other Ministries, Authorities, Commissions, Zonal Administration etc, through the Proclamation Law No. 23/1992, and the subsequent revised laws namely Law No. 86/1992 and Law No. 14/1993.

An overview of the Ministry's mandate as decreed in Law No. 23/1992 reveals a mandate which seem transient in nature, brief in specifics and mainly geared and focused on the immediate need of a new born state.

The mandate initially had two main functions, one Regulatory and the other one Operative. The latter was phased out gradually, and the former is retained and remains the core of the Ministry's function, albeit very much constrained by the lack of details.

The new structure which is under study requires new mandate which is flexible in nature, forward looking and in tune with current development strategy and economic realities of the country. To this end, the following proposal to update the current mandate is submitted.

### **Particulars (Policy Formulation)**

- Establish adequate capacity in the Ministry to effectively plan and monitor the activities and development of the Construction Industry;
- Promote the economic and efficient utilization of existing local capacities, by making a firm commitment to providing an increasing work load to the industry with minimum fluctuations, but compatible with the overall national development objectives;
- Ensure increased efficiency, productivity and economy in design, construction manufacture and distribution of construction materials;
- Enhance quality of design and workmanship compatible with existing economic and social conditions in Eritrea;
- Establish realistic construction costs for the industry, monitor trends;
- Ensure health and safety measures in all construction activities through formulation and enforcement of appropriate legislation;

- Ensure and even distribution of capacity for construction, technical service, manufacture & standardization of construction materials, equipment and tools throughout the country;
- Promote research into all aspects of the industry and ensure the optimum documentation, dissemination and application of the research findings;
- Improve the registration, monitoring and control of all professionals and firms engaged in the construction industry;
- Establish procurement procedures and conditions of contract which are fair, equitable and efficient;
- Establish standards and regulations, enforce usage through a centrally coordinated system; and
- Streamline the composition and activities of all advisory and regulatory bodies to ensure their optimum level of performance and relevance.

## OBJECTIVES

The objectives of the Ministry of Public Works (MOPW) include but are not limited to:

- Ensure the development of transport infrastructure that facilitates the Government's National Development objectives.
  1. **Road Network:** - Ensure/Encourage the development of trunk roads for domestic and regional services and comprehensive domestic networks.
  2. **Rail:** - Ensure/Encourage to Rehabilitate the railway system and study the feasibility of a regional network.
  3. **Ports and Harbours:** - Ensure/Encourage the development of the ports of Massawa and Assab with particular emphasis on the port of Massawa that it becomes a regional port. Develop other harbours and jetties in line with other national development objectives.
  4. **Air ports/Air strips:** - Ensure/Encourage the development of air ports and / or air strips that enhance domestic air services and making Eritrea a hub for regional air services.
- Ensure that other infrastructural facilities (fisheries, tourism, energy, water, communication, financial and transiting services, etc...) promote their respective national development objectives.
- Ensure that all public and/or private buildings conform to already set rules and guide lines and serve the purpose.
- Ensure that the development of Urban, semi-urban and/or villages enhance the government's development objectives.
- Formulate National Housing Policy: Alleviate the housing/shelter problem.
- Ensure that all construction activities are cost effective, safe and environmentally viable.
- Ensure that an appropriate quality and number of work force is in place in the construction Industry.
- Encourage the production of construction materials and /or equipment locally.

## STRATEGY

The strategy needed for achieving the objectives of the MOPW is Establishment of Regulatory/ Supervisory Instruments.

- Proclamation in the Gazette of Eritrean Laws:
  - ◆ Recommendation of the legal status of the MOPW (mandate, authority, limitation, relationship, etc...)
  - ◆ Recommendation of sub sectoral policies.
- Production and enforcement of National Codes/Regulations

## CHALLENGES

The challenges that face to the Ministry in administering many of the projects are associated with problems and lack of adequate studies and designs and lack of complete contract documents before the start of the project and shortage of construction materials and equipment during the construction process. In most cases, there is no well studied schedule of works and materials and sometimes, it does not exist at all.

It is clear that project management is a challenging and an on-going process that needs to be monitored and regulated on a day to day basis. The challenges that need to be taken immediate and urgent actions in order to achieve the objectives of the Ministry are as follows:

- Recruitment of adequate and qualified staff;
- Assignment of consultants to every project be it new or maintenance work;
- Availability of signed contract document to every project before commencement of works or/and services;
- Preparation and abiding by the schedule of works to the contractors before starting any project and during the project period;
- Assurance of quality control for the projects through performance tests, compliance tests and tests on completion;
- Implementation of projects on a time bound manner;
- Requirement of technical and financial audits of projects;
- Availability of adequate fuel to the Ministry to enable timely visits of monitoring and supervising the projects.

### MOPW EXECUTIVE SUMMARY: ACHIEVEMENTS 1991 – 2011

Projects	Description			~ Cost (ERN)
	Type	Rehabilitated (Kms)	New (Kms)	



<b>Roads</b>	Asphalt	906	478	<b>1384</b>	1,467,000,000		
	Gravel	1,080	1,400	<b>2,480</b>	1,392,000,000		
	Earth	1,574	3,612	<b>5,186</b>	450,000,000		
<b>Bridges</b>	21 new (16-116 m) long made of steel & pre-stressed girder concrete bridges				411,357,000		
<b>Airports</b>	Massawa International Airport				928,929,000		
	Asmara International Airport & Apron Extension				120,000,000		
	Sawa Airport with Compound Access Roads				237,309,000		
	Nakfa and Tessennei Airstrips				11,000,000		
<b>Railway Line</b>	Asmara – Massawa & Extending to Keren				50,000,000		
<b>Ports &amp; Fisheries</b>	Massawa Port Expansion & Rehabilitation & Assab Port Recovery				186,000,000		
	Tio, Edi & Gelealo Fisheries				400,000,000		
<b>Dams, D/Canals, Irrigations &amp; W/Supply</b>	Toker, Gerset, Fanko, Seled, Adi-Tsenaf, Berhenet and other micro earth dams; Alebu, Aligidir Diversion Canals; Gahtelay, Sawa-Himbol, Gahro, Hazemo & other Irrigations; Gindae, Shieb & Wadi Labka Water Supply.				3,226,578,000		
<b>Buildings</b>	Housing Residential Complexes: - Sembel & Massawa (Korean), Maitemenay M/Chira, Sembel (Segen), Megarih (Keren), Space 2001, Ertro-German...				4,000,000,000		
	Small Residential Houses, Social Welfare Buildings				4,858,000,000		
	Colleges, Secondary, Junior & Elementary schools and Training Centers				982,000,000		
	Hospitals (Referrals), Health Centers & Clinics				850,000,000		
	Governmental Offices, Stores and other developmental projects				1,481,000,000		
	Hotels & Tourism sites				1,070,000,000		
	W-Y: Construction underway for 1,565 units in Massawa, Barentu, Akordat, Mai-Hutsa and Dekemhare.				1,360,000,000		
	W-Y: Plans pending for about 4,031 units: Tessennei, Halibet, Mai-Temenai, Villagio Genio, Mendefera, Dubarwa, Gindae, Tio, Assab etc.				3,600,000,000 (not included)		
<b>Parcels/Plots, Surveyed/ Planned &amp; Allocated (for Residential, Commercial and Industrial Purposes)</b>	<b>Surveying and Planning Works</b>						Estimated cost of 51,000,000 which are almost all the surveying and planning works are done by the Department of Urban Development of the Ministry of Public Works.
	<b>Zoba</b>	<b>Surveyed</b>		<b>Planned</b>			
		<b>Projects</b>	<b>Area(Ha)</b>	<b>Projects</b>	<b>Area(Ha)</b>	<b>Plots (No)</b>	
	Maekel	42	6282.57	33	2521.24	20572	
	Debub	30	6185.05	40	2994.71	28734	
	Anseba	12	3213.19	11	815.19	7178	
	Gash-Barka	20	9321.99	13	3691.58	27326	
	S/K/ Bahri	25	5370	19	2084.07	21215	
	D/K/Bahri	9	962.43	8	385.50	3533	
<b>Total</b>	<b>138</b>	<b>31335.23</b>	<b>124</b>	<b>12492.28</b>	<b>108558</b>		
<b>Machinery</b>	More than 3,000 different kinds of construction machinery acquired.				3,000,000,000		
<b>Firms &amp; Human Resources</b>	<b>CATEGORY</b>		<b>New Reg.</b>	<b>Licensed/ Renewed</b>	<b>Total Reg.</b>	-	
	Contractors		35	276	937		
	Consultants		-	11	40		
	Practicing Professionals		12	10	58		
	Studio		1	14	50		
	Professionals		42	42	1188		
	Heavy Mach. Renting		-	-	35		
In addition, more than 10,000 Skilled Laborers have also been trained.						-	
<b>Grand Total</b>					<b>30,131,173,000</b>		

## SUMMARY: MAJOR DEVELOPMENTS

- The major network of main roads and some secondary roads throughout the country have been rehabilitated, upgraded and maintained to a relatively higher standard.

- The newly constructed paved roads cover 478 km joining important agricultural areas and cities.
- Similarly, the newly constructed gravel roads cover more than 1400 km connecting each administrative zobas, sub-zobas and towns.
- Constructed and rehabilitated of ports and airports.
- Constructed and maintained of more than 2,000 micro earth dams.
- Strengthened the institutional capacity and facilities even though it is not adequate.
- By encouraging private sector, the increase in number over the years of local and foreign contractors and consultants through registration in the Ministry.
- Collection of statistical data of the professionals engaged in the construction sector.
- Prepared Master plan for most of the towns of the country, which had not one.
- Through checking and approving of designs and supervision of construction works a relatively better quality work is achieved.
- Training of human resource, although limited, inside the Ministry and also private sector through on job training and short courses.
- Continued effort to install an overall institutional set up to equip with the required professionals and skilled manpower and other facilities.
- Set up the only laboratory in the country for testing construction material to ensure that they comply with the standards, specification and codes.
- Produced different Guidelines, Standards that dictate the implementation of Construction works.
- Conducted different studies and programs. Major and significant once are under mentioned in a tabular form.

### ***SIGNIFICANT STUDIES AND PROGRAMS***

<b>Road Sector Development Program</b>	For developing and implementing a policy institutional framework. This has four parts and was prepared and completed by SMEC consultant: Road Sector Strategy Study, Road User Charges Study, Road Safety Study and Environmental and Social Impact Management Guidelines for Road Operations. Consolidated Report of the Road Sector Strategy Study was prepared by BCEOM for a working summary (action plan).
<b>Eritrean Transport Sector Study</b>	A broadly based study of the management of transport of Eritrea and covers the road sector in detail. The Consultants are SPT & GOPA.
<b>Road Sector Engineering Project</b>	This study project includes: Technical Assistance and Capacity Building in Contract Administration; Spare Part Procurement and Training; National Bridge Inventory, Condition Survey and Strength Analysis.
<b>National Bridge Study</b>	IDA funded, Cost ERN 840,000,000.00, Completed. Consultant Carl Bro
<b>Feasibility Studies of Roads (Preliminary and Detailed Designs)</b>	Feasibility Study and preliminary engineering design for the improvement and upgrading of Asmara – Keren; Massawa – Assab; Nefasit – Dekemhare – Teraemni; Mendefera – Mereb and Mendefera – Barentu Roads. Detailed design of Nefasit – Dekemhare – Teraemni; and Mendefera – Barentu Roads
<b>Gash-Barka Roads (AFD Funded Project)</b>	Barentu-Awgaro, Dase –Tekombia, Awgaro-Guluj and Keiru - Ghirmayka – Tessennei Roads. This is to include both the study and implementation, as part of the Emergency Reconstruction Program (ERP). About 280Kms of road in Zoba Gash Barka was to be studied and a selected US \$ 3 million worth was to be implemented. But due to a change in policy by the French government, it was said that it would only be for the study worth US \$ 250,000. BCEOM had prepared a Final Ranking Report.
<b>Asmara Infrastructure Development Study</b>	To formulate a long-term strategic urban development plan for the Greater Asmara and identify priority projects for immediate rehabilitation, upgrading and extension of infrastructure services. The project has 3 phases: 1) Urban Development Strategy Plan; 2) Prepare 3 alternate feasibility studies of 2 sub sectors – Water Supply & Sanitary and Transport; 3) Detailed Design of the 2 sub sectors from the selected feasibility study. Consultant: BCEOM. Project Cost: USD 2.5 million (ADB Fund)

<b>Housing &amp; Urban Development Policy</b>	The outcome of this project is to assist and promote the strengthening of the government role in preparing policy. It includes, among other things, Housing Development Plan. Budget: USD 462,899 (87% UNDP, 9.07% UN Habitat and 2% Government of Eritrea).
<b>Low-cost Housing Development Program</b>	To facilitate access to housing, basic physical infrastructure and social services; to train local staff in the production of building materials and support them in becoming local entrepreneurs in the city they live; to create conditions for job opportunities and income generation in the construction sector by focusing on the most vulnerable communities in the urban centers.

## ***FUTURE PLANS (INFRASTRUCTURE)***

Short, Medium and Long Term Plans for Improving and Upgrading of Existing Roads:

- I. Upgrading from unpaved roads to paved standard including all structures. This covers 1,867 km long and costing about ERN 7,468,000,000. The short term target is to accomplish 127 km of road by the amount of ERN 508,000,000 in each year. And for medium and long terms, the targets are 168 km and 78 km by the amount of ERN 672,000,000 and ERN 312,000,000 respectively each year.
  
- II. Upgrading from earth roads to gravel standard including all structures. This covers 1,790 km long and costing about ERN 3,580,000,000. The short term target is to complete 152 km of road by the amount of ERN 304,000,000 in each year. And for medium and long terms, the targets are 110 km and 96 km by the amount of ERN 220,000,000 and ERN 192,000,000 each year respectively.
  
- III. The budget for maintenance in the short term will be around ERN 260,000,000 each year. The annual budget for maintenance after the end of the medium term will be increased to 390 million Nakfa. Following similar arguments, the annual budget for maintenance after the completion of the long term plan is estimated to reach 560 million Nakfa.