ECONOMIC COMMISSION FOR AFRICA

TERMS OF REFERENCE:
DEVELOPMENT OF A NATIONAL LEVEL
ROADS AND ROAD TRANSPORT DATA BANK IN ETHIOPIA

ECA/RCID/012/99

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PROJECT PROFILE

TITLE:	Terms of Reference: Development of a national-level roads and road transport data bank in Ethiopia
PROJECT SITE:	Ethiopia
EXECUTING AGENCY:	Ethiopia Roads Authority (ERA)
COUNTERPART CONTRIBUTION:	ECA to provide backstopping to the project
STARTING DATE:	To be decided between ERA and GTZ
DURATION:	Two years with the possibility of extension
BENEFICIARIES	Ethiopian Government

Description: This project will develop policies and guidelines for the establishment of user-oriented roads and road transport sub-sector information system in Ethiopia. The preliminary phase will focus on determining the data and information needs of the sub-sector and the best ways to collect them. The project will also develop a computerized data base for roads and road transport statistics at Ethiopia Roads Authority (ERA).

The project will consist of a market analysis that clearly identifies the data needs of users (including policy analysts) in the roads and road transport sub-sector including performance/efficiency indicators; a review of existing sources of data and recommendations for the implementation of the database; design for and means to establish a computerized database for the roads and road transport sub-sector; and the preparation of a roads and road transport Statistical Yearbook for Ethiopia.

I.   **Background and Justification**

Ethiopia with an area of 1.1 million sq. kms and a population of about 60 million depends heavily on roads and road transport for interurban movement of freight and passengers. The country's road network consists of 26,053 kms composed of 3,656 kms of asphalt, 12,240 km of gravel and 10,156 kms of refined roads. The length of unclassified roads is estimated at 30,000 kms. The shortage of data on roads and road transport in Ethiopia is well recognized and there is a need for appropriate data covering the sub-sector to facilitate planning, monitoring of efficiency, identification of trends and other anticipated emerging problems.

Since 1976 efforts have been made to survey roads in the country especially some selected rural roads. Efforts to establish a system of roads inventory were initiated in 1984 with assistance from Delcanda of Canada. This led to the establishment of a Road Authority Manual. Through cooperation between ERA and the Finish National Road Administration, a roads and highway conditions survey was carried out in 1993 which covered Alemgena District.

Assistance had also been received by ERA in 1995 from a Spanish consulting firm INARSA whereby a visual condition survey of more than 9,600 km of main roads network was carried out, with the objective of laying baseline data for the Road Sector Development Programme. The study focused mainly on paramount distresses and the classification of the road network into good, fair and poor. The study also covered traffic volume analysis for the purposes of setting up their importance and priority measures for their improvement. This was followed in 1997 by a contract for Road Functional Classification and Paramount Management study carried out by ERA and BECEOM of France. Under this joint venture, a road condition survey and data bank for about 2000 kms of roads was established.

Given the key role of transport in the socio-economic development of Africa, similar activities were embarked upon by ECA and the World Bank in 1992, through a project for the development of a Regional Transport Data Base for sub-Saharan Africa

covering all modes of transport including road and road transport. The initial project document on the subject was signed in April 1990 under UNDP financial assistance. Financing from other donors enabled the launching of national programmes in eight pilot countries. In the field of roads and road transport, the project focused mainly on the road inventory as the main primary source of data and on the extent and condition of roads network whenever the basic source of data on road use is provided by traffic counts. The project recognized that the road inventory is an important element of the Road Monitoring System which can provide information for the following levels of management:

(a) Maintenance management: assignment of road maintenance resources, control of the results achieved, identification of special problem areas requiring major remedial action

(b) Road system management: establishing maintenance and rehabilitation programs, preparation of budget estimates, evaluation of priorities, preparation of road maintenance and development plans;

(c) At an aggregate level, the results of road inventories are an important input into an overall monitoring process.

The data derived from road inventories of pilot countries for the project were regarded as the basic condition for the development of valuable roads and road transport statistics.

The outcome of road inventories in pilot countries were aggregated using the following classifications:

(a) Functional primary, secondary and local roads;

(b) Traffic carried annual range daily traffic and daily number of vehicles, where availability of these measures depend upon systematic programme of traffic counts.

(c)   <u>Construction Standards</u>: divided into carriage highways, paved roads, gravel roads, unimproved earth roads and trails (rural roads)

(d)   <u>Road condition:</u> the most common classification used were "good", "fair" and "poor" road transport covering data collection in roads and road transport focusing on methodological principles and harmonization of measures for data collection and compilation of performance indicators for the sub-sector.

The ERA/ECA/GTZ project should therefore concentrate on updating previous efforts for the establishment of a roads and road transport data bank for ERA within the scope and framework of achievements of phase I of the ECA/World Bank regional transport data base programme.

II.   Target Beneficiaries

The establishment of a roads and road transport data bank at ERA will benefit all national ministries directly involved in the development of road and road transport in Ethiopia, financial institutions including private/public investors, other transport agencies which interface with the roads and road transport in their operations, sub-regional and regional institutions involved in road transport studies and development and users of the sub-sector.

III.   Development/Long-term Objective(s)

The development of a roads and road transport data bank for ERA will enable the organization to effectively develop and implement, in a harmonized manner, a statistical information system for the performance monitoring essential for the development of effective policies and programmes for the sub-sector through:

- The design of efficient demand-driven data systems at national levels as a basic tool for managing and monitoring the performance of the sub-sector

- Assurance of the consistency of data collection, processing and dissemination

- The enhancement of ERA capability to design and deliver training programmes to serve the future requirements of national roads and road transport administration.

- Becoming a national pilot case in Ethiopia for the development of a sub-sectoral transport data bank.

IV.   Immediate Objective(s)

- The establishment of a national-level road and road transport data bank and a unit at ERA responsible for its management and operation;

- Standardization of norms and definition of roads data and harmonization of data collection methods; and

- Development of performance indicators that would be used for national planning and research in the sub-sector.

V.   Expected Outputs

- A review of previous ERA activities in the establishment of a roads and road transport data base in Ethiopia is carried out and a report prepared.

- A survey on data collection methodologies, harmonized roads and road transport statistics terminologies including indicators and parameters for monitoring and evaluation of the sub-sector, is prepared and discussed at meetings of road transport experts and users organized under the project.

- Structures and processes necessary for the establishment of roads and road transport data bank are assessed and requirements determined.

- Organizational and administrative structures, tasks budgets and staffing for the establishment of the data bank are determined.

- A computerised national road and road transport data bank for all classes of roads, vehicle composition operating costs for both freight and passenger traffic is established.

- Roads and road transport statistics and performance indicators dissemination systems are established and an annual roads and road transport statistics yearbook designed.

VI. Activities

- Familiarization with ERA operations and management through briefings by senior and middle staff of the Authority and field visits to selected ERA offices in Ethiopia outside Addis Ababa.

- Organization of preparatory meetings to be attended by those who will be involved in the implementation and evaluation and monitoring of the project.

- Delivery of theoretical and practical on-the-job training on roads and road transport statics tailored to ERA requirements.

- Preparation of reports and documents on improvement of roads and road transport statistics data collection methodologies, harmonization of terminologies, and performance indicators.

- Preparation of a report on the structure and staffing of the unit in ERA for operations and management of the data bank including job descriptions of the required staff and the budget for the unit.

- Preparation of a report on ERA requirements for computer software and hardware for the data bank

- Establishment of the required data bank.

- Design of data bank dissemination methods in relation to user requirements.

- Design of a training package for future use.

VII.   Inputs

ERA Inputs

- Project hosting facilities and ERA local counterparts to GTZ/CIM Expert(s) .

- Support in conducting field missions for data collection.

ECA In-kind Support

ECA will provide, where necessary, backstopping support to the project by assisting in preparations of meetings and other activities envisaged under the project. This will include liaison with other ECA Divisions on the project as necessary; and exposure of the project team to the achievement of phase I of the regional transport data programme with specific reference to the roads and road transport sub-sector.

VIII.   Success Criteria Verifiers

- The successful establishment and implementation of a national-level roads and road transport data bank which satisfies the needs of ERA

- A number of ERA staff trained in roads data collection, analysis process and dissemination

- Dissemination criteria met and users of roads and road transport data are sensitized.

- A training scheme established to ensure sustainability.

IX. External Factors

- Support from field staff-regarding data collection

- Difficulties with identification of appropriate project staff

- Inability to decide upon suitable hardware and software for the data bank

- Level of Support from ERA administration

X. Monitoring of the Project

Up to the end of the project the project Expert will monitor progress on a continuing basis and provide ERA with periodical quality reports using an established format. ECA may be called upon by ERA to give technical support in this regard if ERA considers it to be useful.

XI. Final Project Report

On completion of the Project, the Consultant will be required to prepare a final project report providing:

- A brief description of the activities undertaken; any lessons learned; and particular problems encountered.

- An assessment of whether the project has effectively attained its immediate objectives and produced its expanded outputs; and

- Appropriate recommendations for ERA's follow-up.

JOB DESCRIPTION

1.   **Position:**   **Roads Transport Data Base Specialist**

2.   **Reports to:**   ERA (with copies to ECA) and CIM, or ERA and ECA

3.   **Immediate Subordinates:** To be decided by ERA

4.   **Performance Measure:**   Timely and reliable output assignments given by ERA

5.   **Objectives:**

To provide ERA with a roads and road transport data base through review of past ERA studies on the subject, streamlining of data collection methodologies, harmonizing data terminologies, designing a data bank including suggestions on the required software and hardware; and training of ERA staff for the establishment and management of a data base at ERA headquarters

6.   **Main Duties and Responsibilities:**

● Undertake the overall responsibility of reviewing past studies conducted for ERA in the field of roads and road transport, statistics and other related activities towards the development of a national data bank.

● Undertake the responsibility of designing policy guidelines regarding data collection, processing, documentation, dissemination and training of ERA staff for the development and establishment of a national roads and road transport data bank.

● Design and develop a roads and road transport data base systems in accordance with the requirements of ERA.

- Establish a unit within ERA for the implementation of the data base.

- Carry out the data bank design including the design of input forms, storage files output reports and all the means of data/information dissemination.

- Recommend to ERA suitable software and hardware for the data base.

- Design and implement a training programme for users in ERA and other relevant government institutions.

- Perform other tasks as requested by the immediate supervisor.

Job Specification

- Should have a Master's degree with significant training in various aspects of information systems and road transport statistics.

- Extensive experience in management of a roads and road transport data bank design, systems analysis, programming, testing and implementation.

- Special skill in the use of PCs and their application software relevant to the roads subsector; and 10 years managerial experience in a roads and road transport MIS environment.