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EXTRACT FROM:  
Road Maintenance Program in Cameroon  
Training Program  
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Consultant: BCEOM

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***Training Plan  
for Small and Medium  
Scale Contractors  
and Supervision Consultants***

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## A Small and Medium-Sized Contractors (SME)

### A.1 Objectives of the training program for small and medium-sized contractors

The general training objective may be formulated as follows:

To develop and promote the capacity of small and medium-sized contractors to carry out works in conformity with quality standards while making sufficient profit to ensure them a successful future.

Thus, mechanized maintenance contractors should be capable of:

- preparing and submitting bids (mechanized works and road mending) which are both competitive and realistic,
- organizing and managing mechanized job sites: site management, full sequence of site management and organization activities including the techniques and methods for carrying out road maintenance tasks;
- monitoring the performance of their teams (schedule, specifications, cost prices),
- complying with quality standards,
- managing public works equipment,
- carrying out routine maintenance,
- having available the necessary operators for driving their equipment,
- for company managers or those to whom these functions have been delegated, to carry out the management of their company in accordance with methods which guarantee the minimum profit which a company manager is entitled to expect from his activity.

As regards road mending contractors, they should be capable of:

- preparing their bids, knowing exactly what the various road repair jobs involve, organizing team work and knowing how to calculate their cost prices.

### A.2 Content of the training program for small and medium-sized contractors

The training program for the small and medium-sized contractors comprises ten modules. A detailed presentation is given in Annex 2.

#### a) Small/Medium-Sized Mechanized Maintenance Contractors (SME)

- **Bid Preparation:** this module is designed for managers of SME or their engineers in charge of submitting bids. It aims to provide the managers with the useful bases concerning the regulations of public contracts, the methods of analyzing the difficulties of the tender and techniques for setting a price. It also explains the content of the bid and how it should be presented to have a good chance of being selected.
- **Site Organization and Management:** this module takes into account the needs expressed by the SME. It is designed for SME site managers and clerks of works who are directly responsible for carrying out the works. It includes a section where the various management functions of the site manager are explained, followed by a section where organization and techniques for executing the various road maintenance tasks are explained: quick realignment, leveling and compacting, leveling with supply of new materials, regravelling,

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for earth roads, etc., as well as routine maintenance operations for surfaced roads. This module, which is probably the most important one for the SME, also comprises a section on works monitoring: quality, equipment, cost price monitoring. It also includes administrative tasks: surveying, preparing breakdowns, works situations, claims. Lastly, it contains information on personnel administration and management.

- **Road Laboratory Tests and Checks:** this module is designed for the same audience as above. It is complementary for all aspects relative to the understanding and respect of specifications as well as the quality of works.

The two modules above are also part of the program for external candidates for Clerk of Works and Site Manager positions.

Four other modules deal with public works equipment:

- **Equipment Management:** this module is designed for personnel in charge of the equipment and possibly for managers of SME desirous of keeping up to date regarding such matters. It is designed to enable the participants to know and calculate cost prices for their equipment/machinery, organize its maintenance and set up a small stock of standard spare parts and know what throughput may be expected from their machinery.
- **Preventive Maintenance Mechanic:** this module is designed for contractor's mechanics responsible for the routine maintenance of machinery. It does not deal with major repairs but should enable the SME to considerably reduce damage to their equipment.
- **Heavy Machinery Driver:** the aim of this module is to train drivers from contracting firms in daily maintenance operations for which they are responsible, develop their awareness of periodic maintenance of machines and train them to drive the machinery for the road maintenance tasks they have to perform. Four machines are dealt with in the program: leveler, bulldozer, loader and compactor.
  - available on site for those contractors who so desire, to train their staff on their own equipment. The trainer will be required to train and improve the driving techniques of staff designated by the contractor.

One module concerns the contractors' management staff or their personnel who are responsible for organizing and managing the company.

- **Manager of an SME:** this module which, on account of its duration (1 week), can only be an initiation-introduction to management, comprises a section on the financial management of a company, presenting a simplified system for checking the company's cost prices as well as the necessary bases for SME managers to learn how to manage their staff and equipment. It should enable the participants to avoid making mistakes and anticipate problems which very often imperil the existence of the SME itself.

A separate module has been created for secretaries working for SMEs since they contribute to the image of the company and also play an important role regarding administrative tasks.

**Secretary of an SME:** in this module, good secretarial practice with clients or visitors to the company is dealt with, but also the management of correspondence, equipment, and office supplies and materials and even how to manage a small cash fund when the secretary is responsible for this. This module should help to train excellent secretaries for the company.

Finally, an annual seminar for design offices and SMEs is included in the program. Its aim

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is not to train, but to bring together representatives of these companies to give them an opportunity to meet and exchange views on problems they encounter on site, in order to try and find solutions.

## **b) Road Repairing SME**

A single module is proposed for road repair SMEs:

- Manual road repairs: this module provides works managers with notions on road construction to give them a better understanding of the tasks they are required to carry out. It places emphasis on maintenance of structures which contribute to road drainage and briefly discusses environment-related issues. It also comprises a section relative to the various types of road mending contracts and one concerning bid preparation.

## **B. Design and supervision consultants**

### *B.1 Objectives of the Training Program for local consultants*

The general objective of this training program may be defined as follows:

To give engineers and technicians of local consultants the knowledge and methods necessary to efficiently carry out their function of road maintenance supervisor.

To fulfil this objective, staff from local consultant should:

- be familiar with the regulations concerning public works contracts in force in Cameroon, the content of specifications applied to road maintenance contracts, the obligations involved for those who are party to a contract;
- know how to appraise the seriousness of road deterioration, determine the maintenance works to be performed on a road and calculate quantities;
- know the content of the various road maintenance operations and how they should be performed (earth and paved roads);
- be thoroughly proficient in works' supervision processes and techniques;
- know how to draft correspondence and prepare reports;
- during the second phase of a project, know the tendering process and how to prepare tenders.

### **2.2.2. Content of the training program for consultants**

This training program has 11 modules. Their detailed content is given in Annex 3:

- Regulations of public works contracts: this module is designed for engineers and technicians responsible for checking and aims to remind design office staff of the rules which govern the performance of contracts: role and attributions of each of the parties to a contract, the different types of contracts, the rules governing their signature, obligations arising from the contract, rules concerning the payment of works, events affecting the contract during its execution, receptions and guarantees.
- Supervising road maintenance work: this module, designed for engineers and technicians,

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is vital for design office staff who have little experience in this field. It deals with all operations involved in works' supervision: approvals and agreements before starting work, technical checks during works, preparing breakdowns, technical and cost control of the project, relations between the various participants on site and finally operations for winding up the job site. It is completed by an identical module to that proposed to the SME entitled:

- Road Laboratory Tests and Checking: this module is designed for the same public as previously. Part of it is devoted to tests on bitumen.

The three modules above are also on the program for non structured design offices which occupy a separate role in the project, since it is by promoting them that the Ministry of Public Works hopes to increase competition in this sector. This module lasts three weeks on the practice of checking instead of two for structured design offices, so as to give more time for practical exercises and site visits.

The following two modules are based around collecting road condition data:

- Computer-assisted data collection on the condition of roads: this first module is designed for staff from three design offices as explained above, in order to widen competition for data collection tenders. The detail of the content which is complex may be consulted in Annex 3, module 4.
- Use of route schemes: this module concerns design and checking engineers. This method is already widely used in Cameroon. Knowledge of it is useful for surveys of deterioration which precede tender invitations, but may also be useful just before starting works to update the final design.

This module is also part of the program for non structured design offices.

The following module frequently recurs in training programs:

- Correspondence and report preparation: this is aimed at design office engineers and technicians. It comprises a specific section on the preparation of monthly works reports once a model has been determined.

This module is also part of the program for non structured design consultants.

- Preparation of tenders: this module is aimed at engineers from design offices. Its execution will depend on the government's decision to transfer the preparation of tenders to the private sector.

The following two modules are more for developing awareness than for training purposes. The first concerns:

- The Environment: it is designed for engineers and works' supervisors and aims to inform them of new measures in the process of being integrated into contracts on this subject. It should also put them in a position to apply the new regulations to job sites.
- The Quality Process in Road Construction: this module is aimed at design office engineers and technicians. It seeks to inform them of recent changes regarding the search for quality in road construction. The content of module 9 given in Annex 3 relates to the organization of quality for public works contractors. Some managers have requested that training be more oriented towards quality as regards checking services. The ISO 9000

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Standards are currently being modified. The request of the design offices could be taken into account and a new program proposed as soon as the new version is published.

- The Consultants/SME seminar was presented in the paragraph on SMEs.

Finally, a module has been added concerning Design Office training:

- Training Trainers: this is designed both for private sector staff from design offices as well as for government staff. It aims to prepare local staff who will attend or participate in training for PERFED II. The levels of the staff concerned as well as their specialism (driving machinery, carrying out works) is very varied. The content of the module will be specified when the staff have been designated.