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## I. INTRODUCTION

1. The need and justification for giving priority to manpower development as a basis for improving the efficiency of transport systems in Africa has been enunciated in a number of United Nations documents.<sup>1,2,3</sup> In 1985 ECA mounted a survey of "Manpower and Training Needs for Middle and Senior Management Staff in the Road and Road Transport Subsector in Africa",<sup>3</sup> whose preamble to the terms of reference clearly stated that "the supply of skilled and well trained manpower must increase if African countries are to effectively play their growing role in the development of international and domestic transport. Thus there is an urgent need to improve the quality of human resources and training institutions in the sector. African skilled manpower requirements in the transport sector cannot all be met by overseas educational and training institutions alone. A great deal of institutional improvement and expansion is needed in the region for all levels of manpower development. Even in respect of high level training it is doubtful whether the range and numbers likely to be needed can all be produced by institutions overseas. Taking these points against the background of the requirement in the growth of the transport industry in the region, it seems reasonable to conclude that whilst assistance through executive manpower development would be of great benefit, the bulk of manpower shortage in transport will have to be solved by institutional arrangements within the region."

2. In general the study findings show that in the roads subsector,

- (i) the African highway network is underdeveloped in terms of reach, network density, design standards and surface condition. Heavy investment by individual states is required to upgrade it;
- (ii) the maintenance of the existing network has reached a very critical stage. The World Bank<sup>4</sup> estimates that US\$5 billion is required to meet the (1984) estimated backlog of road maintenance in Sub-Saharan African countries. This neglect is due to inadequate funding, mismanagement, misallocation of resources and poor maintenance policies.
- (iii) over and above serious manpower shortages in the middle to senior management levels, the road sector also faces organisational, institutional and financial problems.

3. In the road transport industry the general findings show that:-

- (i) road transport operations are controlled by the Ministry of Transport which defines and oversees the implementation of road transport policy.

- (ii) a large proportion of the industry is in the private sector with many owner operators in the bus and trucking industry.
- (iii) many of the state owned road transport companies have been facing serious operational and managerial problems and are unable to break even.

4. The findings on manpower needs and training requirements are also summarised below:

(a) Road infrastructure

- (i) an acute shortage of professional staff particularly experienced engineers in design, construction management, planning and maintenance exists in most African states. This attributed to
  - the inadequate output of technical graduates,
  - ministries' inability to recruit and thereafter retain good well qualified professionals for long because of generally poor working conditions, low salaries, lack of incentives and poor schemes of service where the only way to be promoted is to accept an administrative position.
- (ii) The current "over dependence" on expatriate personnel under bilateral and multilateral aid arrangements should only be considered as a stop gap and not as a long term solution to Africa's high level manpower shortages.
- (iii) The lower levels of cadres involving unskilled and semi-skilled operatives particularly in road maintenance are in many cases grossly overstuffed and underutilised.

(b) Road Transport.

- (i) 50% of the road transport industry is in the hands of owner operators, for whom more often than not no training programmes exist.
- (ii) The performance of these entrepreneurs would be improved if short training programmes in specific areas of road fleet operations, management and maintenance were periodically organised for them.
- (iii) For the larger road transport industry enterprises (those operating more than 20 vehicles), training in specified areas of road transport management is urgently required to reduce the losses and improve productivity.

5. It is readily seen from the findings of the survey that Africa is in need of rationalised manpower development policies and programmes over and above other supportive requirements in the roads and road transport subsector.

## II.. Objective and scope of guidelines

6. This document attempts to give guidelines for the design and implementation of manpower development policies and programmes in the roads and road transport subsector. It is obvious that the subsector has wide ranging activities controlled by various authorities. In an attempt to streamline the guidelines, the document will only address issues pertaining to government and parastatal roads and road transport organisations only.

7. Examples pertaining to some aspects of the guidelines for specific fields will be given.

8. The main elements of the guidelines will comprise:-

- (a) an inventory for the existing manpower situation and the performance levels,
- (b) manpower needs and training requirements
- (c) Participation of women
- (d) manpower development criteria
- (e) manpower plan
- (f) manpower development program
- (g) training methodology
- (h) evaluation

9. These are elaborated on below.

## III. The guidelines

### Step I: Inventory of the existing manpower situation and performance levels

10. An exhaustive inventory of personnel at all levels should be maintained. The major features of the inventory should be:-

- (i) The organizational chart of the entity

(ii) The establishment by category

(iii) a breakdown of each category into

- (a) filled posts
- (b) vacancies
- (c) age and length of service for individual staff
- (d) pending recruitment, promotions, transfers and retirements
- (e) possible "expansion" programmes
- (f) existing training programmes and institutions

11. It must be noted that in the case of road maintenance for instance, due to overstaffing at the lower levels, new recruitment may not be possible. Instead optimisation of staff numbers could be achieved by promoting or transferring personnel from within the organization.

12. Performance criteria to determine acceptable performance levels should be set. In the case of road infrastructure the number of kilometers constructed/maintained per month should be a good indicator.

13. The performance of the existing organisation can then be compared to the predetermined acceptable performance levels.

Step II: Determination of manpower needs and training requirements

14. A comparison of the indicators defined in step I will identify the level of performance of the organization. Performance lower than the acceptable level indicates a shortcoming in the organisation.

15. This shortcoming may be due to various aspects including:

- (i) manpower shortage due to resignations arising from lack of incentives;
- (ii) introduction of expanded and/or new programmes;
- (iii) Further training requirements
- (iv) Other exogenous aspects such as reduced funding to the industry, etc.

16. This should enable the organisation to identify the areas where there are manpower needs and training requirements. It must be noted that manpower needs assessment should not be done on an ad hoc basis but should be a continuous process.

Step III Participation of women

17. Technically, the question of women participation should be based on a clear mechanism charged with the responsibility for human resources management. The mechanism should be properly installed in the relevant government ministries and road transport establishments.

18. From the "ECA Manpower and Training Needs Survey" referred to in the introduction it has been established that the efficiency at various levels of road and road transport operations suffered mainly from lack of human resources management systems charged with the responsibilities for manpower planning, recruitment and utilisation. The absence of such a system renders recruitment, promotion etc to manipulation by those authorities whose actions may be biased against the participation of women (or any other target group for that matter).

19. With an effective human resources management system in place, the participation of women would be enhanced by virtue of the unbiased safeguards built into the management system.

20. It should be noted that where overstaffing exists, e.g. road maintenance at the lower level, recruitment will be minimal. For the higher levels and other fields in the roads and road transport subsector, it is strongly recommended that the role of women in the subsector be taken up seriously. In this respect an integrated approach should be adopted rather than having a separate manpower development programme for women. This will require policy and attitudinal changes by the authorities.

21. Anything over and above this would be determined on the basis of the political will of the authorities.

Step IV. Manpower development criteria

22. The development of all training programmes must be closely coordinated with the general development of personnel. The recruitment, job rotation, transfer and promotions have to be interfaced with a greater or lesser amount of training in order to be beneficial to the roads and/or road transport organization.

23. The general principles guiding manpower development should be:

- (a) The staff shall contribute to an effective utilisation of personnel, equipment and materials
- (b) The present dependence on expatriate staff must be phased out and eventually replaced by indigenous personnel

- (c) The high staff turnover should be reduced by active measures of training, management and improved economic benefits (salaries, allowances, fringe benefits, etc.)
- (d) Job rotation should be encouraged particularly in the early stages of individuals' development, in order to gain experience from the various relevant fields of work.
- (e) There should be an emphasis on management training for middle and senior level management staff at both recruitment, promotion and in-services stages.
- (f) Training activities should promote the identification and mutual understanding of the general goals of the subsector at all levels.

24. As mentioned earlier there are other exogenous prerequisites for the effective preparation and implementation of a manpower development programme. These include:

- (i) support from the highest level of management staff;
- (ii) an agreement by management to allocate the necessary human, financial and physical resources for the implementation of the programme,
- (iii) where technical assistance and/or twinning arrangements are agreed on it must be ensured that the supplier of the assistance has proven operating experience in similar functions.

25. The twinning arrangements has a lot of advantages in that it can be easily converted to the training of trainers especially in the introduction of new equipment.

STEP V: The manpower plan

26. The development of a sound manpower plan entails:-

- collecting and maintaining accurate personnel data;
- critically reviewing the establishment levels in relation to the work load;
- determining the number of personnel to be recruited, promoted and/or retired;
- assessing training requirements from personnel data and training records;

- finally drawing up training programmes to account for specific training needs for the personnel to execute the operations in question efficiently.

27. Most of the aspects above have been covered in Steps I to III. What is remaining is to design manpower training programmes and to determine the training methodology.

#### STEP VI: Manpower development programmes

28. A manpower plan can consist of short-term and long-term manpower development. The choice of programmes should be programmes based in the prioritisation identified in steps I and II. The short-term programme should cater for the most urgent training requirements and manpower needs with a clearly defined time scale, 3 - 5 years for instance. A typical short-term training programme designed for the Roads Department in Zimbabwe<sup>6</sup> is given in Fig. 1.

29. The long-term programme should also include some aspects included in the short term programme for continuity. This is to cater for the past twinning or technical assistance period. Fig.2 gives a typical long-term training programme without a time scale for obvious reasons.

#### STEP VII: Training methodology

30. There are many different ways of carrying out training. The choice and method depends in the length of training periods the availability of participants and last but not least the cost of training.

31. Training can be undertaken through lectures, demonstrations, exercises, workshops, self-instructional courses on-the-job-training, job rotation, mobile training. Local national regional or overseas training institution can be used. ESAMP is the only institution in the Eastern and Southern African region catering for the sub-sector.

32. The choice of training methodology will be determined by the requirements of the training programmes defined in step V.

33. It must be emphasised that training along does not guarantee increased efficiency. The effects of training can easily be undermined by among other aspects improper manpower allocations, arbitrary transfers, promotion policies or the absence of carrier development opportunities.

#### STEP VIII: Evaluation

34. All manpower development programmes should avail themselves to be evaluated during and after completion for purposes of improving the programmes.

SHORT-TERM TRAINING PROGRAMME

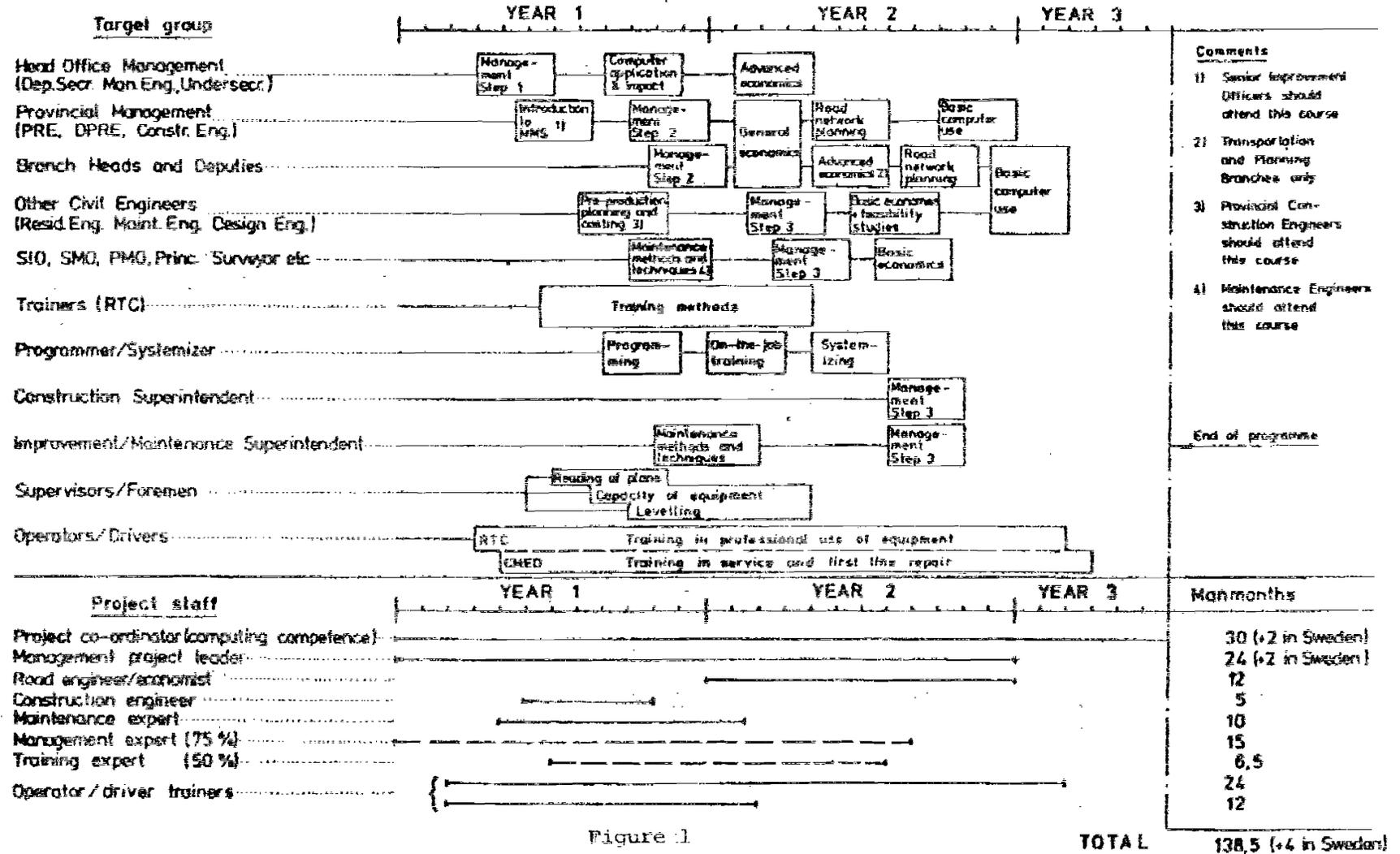


Figure 1

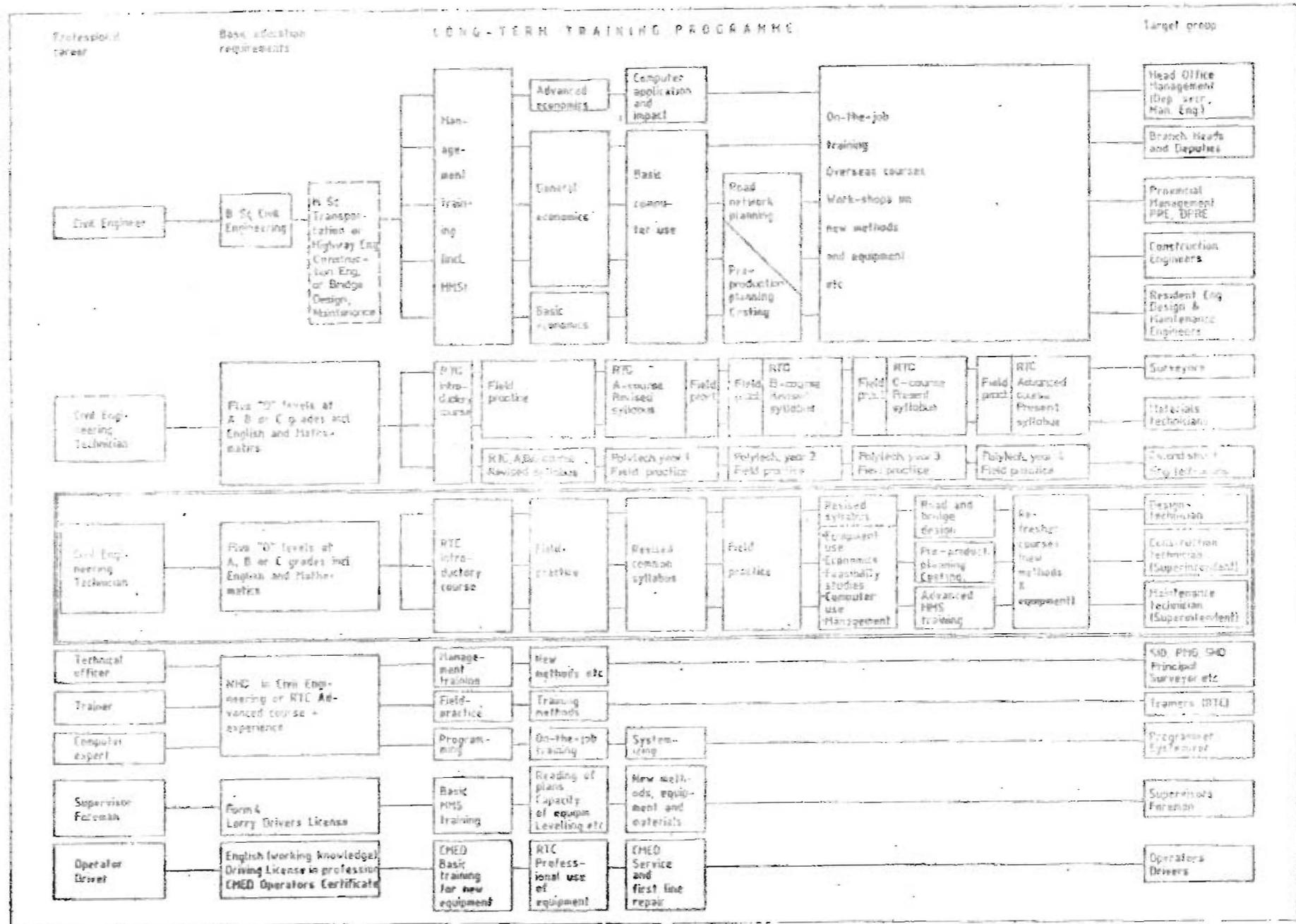


Figure 2