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Training of labour intensive supervisors

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BACKGROUND

Lesotho is a small African country completely surrounded by the Republic of South Africa. It faces many special political and development problems due to its geographical position and its mountainous topography. 1.5 million tons of soil are lost each year to erosion. 50% of the working male population works in South African mines and factories (constantly under threat of repatriation). Unemployment at home in Lesotho is high. Communication (mainly by road) through the mountains is slow and hazardous.

LABOUR INTENSIVE METHODS

The government realised in the late 1960's that one way of tackling these problems was to utilize the large manpower resources to undertake construction and development projects by labour intensive methods.

Since 1970 in Lesotho many development projects have been undertaken by various authorities using labour intensive methods and food for work. In 1977 the Labour Construction Unit was established under the Ministry of Works, to undertake construction projects, to appropriate engineering standards, utilizing repatriated mine labour for cash wages.

Between 1977 and 1982 the LCU proved that it could compete favourably against machine intensive contractors and authorities in many sectors of construction. The Lesotho government with the support of donor agencies decided to expand the use of Labour Intensive Methods of construction into other government departments using the principals learnt within the LCU.

SUPERVISION

The key to the success of the use of labour methods is the level of supervision, both quality and number. One technician alone cannot supervise the work of 200 labourers; on the other hand 20 supervisors with little technical knowledge give a similarly poor result.

TRAINING UNIT

A review of the staffing of the labour intensive departments in 1983-84 showed that there was a shortfall in quality and quantity of supervisors to undertake the planned

expansion of work of this nature.

A training unit for labour intensive methods of construction was set up in September 1984, by the appointment of a Training Engineer attached to the LCU. The aims of the training unit were and are;

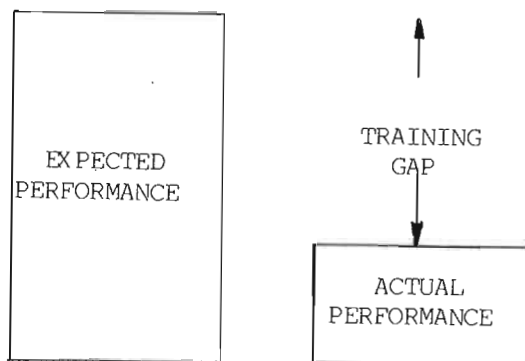
1. To train a pool of supervisors in sufficient number and to a sufficient standard to allow the expansion of labour intensive construction within the country at a rate of approximately 2000 labourers per year.
2. To register these supervisors in order that they can be called upon in the event of an employment emergency. (Large scale repatriation of miners and others from South Africa)

This unit became known as LITU (Labour Intensive Training Unit)

FINDING NEEDS The first step for any training programme is to determine, in some detail, the training needs. This was a difficult job in this case involving as it did a variety of government departments working in different sectors & with different staffing arrangements. The training needs analysis was carried out in a formal manner over a period of six months. This exercise involved determining a detailed job description and sometimes a job specification for each grade of technical supervisor in each sector. This was done by investigation and interviews with senior personnel in each department involved. Thus a picture of what would be expected by management of a technician - supervisor at each level in each sector was built up.

The actual supervision work as it was being carried out in the field was then investigated. By observation and by interview with supervisors at all levels on site their actual performance was established.

The 'actual' could then be compared to the 'expected' to find the Training Gap.



Although there were many varied needs between individuals in different sectors certain common key needs were identified at the various levels in all sectors.

VIZ:-

COMMON TRAINING NEEDS

1st Line Supervisors (gang leader).
Supervision techniques, motivation and attitude training, use of tape measure, care of tools & equipment.

Gang Foreman (Technician-Supervisor in charge of 50 men).

Supervision Techniques. Area & Volume measurement, Basic Arithmetic skills. Taskwork theory and practise. Production & Productivity measurement & reporting. Work Planning. Work item organisation and techniques.

Technical officers (Section Supervisor).

Taskwork theory and practise, planning & programming, Setting out, Work item organisation & techniques, Productivity reporting & checking.

Senior Technical Officers (& Engineers).

Basic management techniques, Report writing Planning & programming. Attitude training.

IMPLEMENTATION OF TRAINING

With a clear picture of the training needs a full programme of training was built up including attendance of external and overseas courses for some staff, formal centered lessons and seminars for section supervisors and above, and a decentralised course of on-the-job instruction for all field staff supervisors.

The main thrust of the LITU training was to the decentralised on-the-job training system, since this could reach a large number of staff at the grass roots level. It is on this aspect of LITU's work that I will expand the rest of the work being quite normal to any training programme. The proposal for implementing this type of training was laid down at the inception of LITU and was carried through as follows:-

1. Field staff working in the appropriate

departments were selected as potential trainers by their departments.

2. These staff were sent to LITU for a 1 week intensive 'training of trainers' course, at the end of which they were assessed using video aided feedback on presentations given by the potential trainers. 40% of the candidates failed to achieve the necessary standard. The others received certificates as trainers and were registered with LITU.

3. Before any department begins its first labour based work the registered trainers from that department return to LITU for training and experience in the basic core requirements of supervising labour based work. This usually includes attachment to LCU sites.

4. The trainer is provided with basic training equipment (flipchart, easel, pens, chalk etc) and specially prepared material in the form of lesson plans & demonstration plans which he has been trained to interpret.

5. The trainer returns to his parent department and works part time as a technician-supervisor on the labour based project and part time as a trainer to train the other subordinate staff.

He does this by giving lessons and demonstrations in a classroom situation and following these up by discussions and critical observations during normal work.

Large projects might have more than one trainer of different grades.

6. LITU senior staff make regular visits to the trainers on site to monitor their performance and the effect they are having on the work of the field staff. This gives LITU not only feedback on the trainer's and field staff performance but also completes the 'training cycle' by giving feedback on the ever changing Training Needs.

By holding 4 training of trainers courses per year the target of training staff to supervise 2000 labourers can be met.

PROBLEMS

The single biggest problem which LITU has met is with the inter-departmental nature of its work. Since LITU is based in the Ministry of Works departments from other Ministries are reluctant to send their staff to LITU for training. They are also sceptical about the appropriateness of the material produced by LITU for use in their departments.

The initial reluctance can only be overcome with full political support for such an enterprise and policy decisions at a high level are required at the very beginning. The problem of the use of material is overcome by ensuring that material is appropriate and adaptable to each departments needs. To do this the material is produced in liason with the trainers and senior staff of the department concerned.

PROGRESS

This decentralised system of training began with the departments which were already using labour intensive methods and has been successful both in LCU (works) and in Civil Works Section (Rural Development) were the system has been adapted to account for the thin spread of staff. Training of trainers for Village Water Supply (Rural Development) Soil Conservation Division (Agriculture) and Ministry of Interior is underway.

LITU presently has 15 registered trainers working in the field on projects ranging from construction of surfaced roads, and laying of trunk sewer lines to gabion installation for river training and erosion control structures. These 15 trainers are currently training staff who are supervising some 7000 labourers.

DEVELOPMENTS

A Field Training Unit (F.T.U.) has been established by LITU with senior trainers in charge. The project is carried out with training not production as the main objective and therefore costs are somewhat higher than might be obtained an a normal project.

Trainee staff are brought to the FTU for intensive training and work experience for a six week period after which they return to thier parent department. The FTU supplements the on-site training system with good quality work experience under tight control. Thus showing what can be achieved using labour intensive methods in the correct way.

LITU's own staff has increased with the units growth and these staff have been continually trained since 1985 in both training and management techniques. By June 1987 LITU will be completely localised when the consultant Training Engineer hands over to his counterpart who is already performing most of the duties of head of the unit.

It is intended for the future that LITU, now working well and fully established, be relocated under Ministry of Education instead of Ministry of Works thus overcoming the inter-departmental rivalry problems.

COSTS

The costs of establishing LITU and its FTU have been very low. The fact that LITU was able to utilise the existing resources of LCU and Ministry of Works for administrative backup, offices, transport and technical staff helped a great deal.

The overall cost to the donor since 1984 has been;

LITU direct costs \$100,000
(Excluding consultants fees)

Cost of establishing a \$500/trainer
trainer to parent department

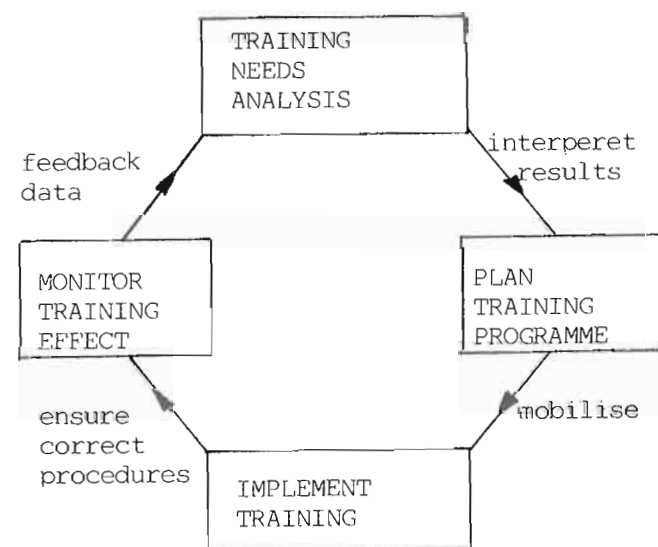
Establishing and running \$50,000
Field Training Unit for 1year

Total cost of establishing
and training supervisors
for 2000 labourforce per year \$155,000

DISCUSSION

The work of LITU has been successful although certain changes and improvements could be made to the system.

The formal method of training needs analysis takes a long time and this delays the start of practical training. Since the whole system is cyclic and changes in material are being made constantly with feedback from the monitoring procedure, the target setting method of analysis giving DIF ratings to tasks performed or required will give quicker results. These can be modified if necessary later after monitoring.



THE TRAINING CYCLE

This could reduce the programme time between inception and start of field training to approximately 6 months instead of 15 months if extra manpower was also utilised for material preparation after the initial analysis.

CONCLUSION

The work of LITU in Lesotho has shown that a systematic approach to training for Labour Intensive Construction work is possible and can be carried out using available resources and modern training techniques to great advantage. The cost of doing this can be kept very low.

Given initially a core of technical staff with knowledge of Labour Intensive method the whole system can be fully run by local staff within a period of three years. This type of training unit can serve the needs of all appropriate government departments as well as the private sector. Appropriate work which can be done by Labour Intensive Methods using trained technician-supervisors includes water supply pipeline, irrigation, sewer installation erosion control and river training works.

The key to successful use of labour intensive methods for civil engineering work is to have the correct number of properly trained technician-supervisors.

This training can be achieved by using similar methods to those described in this paper. One word of warning; No training system or programme can be transferred from one country to another or from one work system to another without the appropriate modifications being done to it .