

Rediscovering Manpower

By Mike Winney

This article first appeared in Construction News Magazine, November 1979 and is re-printed by their kind permission

Chronic balance of payments problems associated with huge pools of seasonally and permanently unemployed who are prepared to work for under £1 per day are making labour intensive construction methods a sensible option for many countries. There is an increasing feeling, fostered by the World Bank, but not always enthusiastically supported by either aid agencies or recipient governments, that the future for many places lies with labour-based methods.

It appears that for earthworks and road construction, well-organised manual labour can be cheaper than machines in countries where wages are very low. Several successful projects demonstrate this and it avoids the trap of heavy future dependence on fuel and spares.

However, enthusiasts for labour methods have found that there is normally initial opposition to their ideas. Aid agencies, whose aims may not be as straightforward as they claim, can be a problem to people seeking funds for labour intensive work.

A straight transfer of cash into a poor country to pay the meagre wages of large construction gangs can do a lot for the dignity and lifestyle of local people. But it will not of course generate any work back in the donor country by stimulating the sale of plant – unless there is some other kind of deal tied to the first loan.

Even if truly philanthropic aid can be found the agency usually has to be convinced by a pilot demonstration that labour can be organised to build structures which are as good as those made by machines. With adequate supervision the quality of earth and roadworks built by pick, shovel and barrow rather than by machine methods can in fact be much higher and more economical with materials.

Labour intensive maintenance of gravel and earth roads has been found to be much more economical than the occasional use of machines. If each person employed is made directly responsible for a short stretch of road near the village the combination of pride in the job, and the ability to repair local damage before serious erosion develops, results in a better road than if machines are used.

"How did it look when you came



Pick and shovel excavation is proving very effective in Lesotho



Steady thump of the compacting rams at Ratau beat time for the Lesotho LCU

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along?" The greeting remark of the foreman leading a group of road maintenance workers in Lesotho conveyed a lot of pride in a simple question.

Many engineers in senior positions in African government works departments have been educated in high wage countries where minimum use of labour is regarded as a measure of progress and efficiency. Inappropriate mechanisation is as much a status symbol to them as a flashy international airport.

Labour methods must be a good thing for independent black African countries since they make them less tied to the industrialised nations. Local rejection in Tanzania of the labour methods proposed for a major highway project will help plant exports from Britain at the expense of the local economy which is already one of the most aid-dependent in the world.

However a pilot scheme for labour intensive road building is under way in Marxist Benin and Malawi's first project has led to a labour intensive upgrading and maintenance programme for 8,000 km of gravel roads.

In Kenya, which is developing a thriving capitalist economy, the labour-based rural access roads programme has developed a powerful momentum.

Over 1,500 km of roads have been built since the programme began with a single

unit at Nyeri in October 1974. Over £10 million has been secured for 42 separate units of 300 employees. The aim is for each unit to run three sites and build 45 km of gravel road a year.

Financing problems have slowed expansion and reduced the size of the programme, and gravelling work on completed roads has lagged. But despite these setbacks Kenya's RAR programme is going well. With the organisation able to recruit local labour easily for KSh 7/90 (about 50p) a day the output is averaging 1,700 man days per km. John Simpson, in charge of the programme under the Kenya Ministry of Works, is making vigorous efforts to improve this. By tightening line management and improving efficiency and quality control he aims to reach the 700 to 800 man days per km which has been achieved on other labour projects. Labour is recruited locally within daily walking distance of each site.

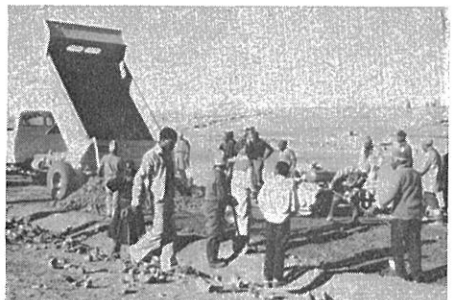
The programme is bringing self-contained subsistence farming communities within reach of large markets for the first time so that growing of cash crops becomes a practical proposition. It is run in conjunction with agricultural aid projects.

The roads are modestly engineered in keeping with the overall aim to create highways than can be negotiated at average speeds of 35 km per hour or so and to avoid massive earthworks. About 80 per cent of the finance comes from overseas and 50 per cent of the direct costs are local – which appears to have led to some hard bargaining with certain aid organisations.

Mechanised plant is limited to tractors with specially developed tipping trailers for moving gravel and occasionally muck over any long hauls that are needed.

Excavation is strictly by pick, shovel, mattock and other special hand tools. Development of locally manufactured hand tools for the project was given a lot of thought but it was not until recently, when compliance with the specification was deemed more important than price, that satisfactory equipment with an adequate life was secured.

Most earthworks involve no cartage since the road profile is developed by throwing soil to the centre from the



Standard tippers are used by the LCU for long hauls