Regional Seminar for Labour-Based Practitioners
In The Road Sector in Sub-Saharan Africa

Department of Feeder Roads, Ministry of Roads and Highways
in collaboration with ASIST
Accra, Ghana
22 - 26 April 1996

Labour-based Technology -
A Review of Current Practice

PROCEEDINGS OF THE FIFTH REGIONAL SEMINAR

Theme of the seminar:
Labour-based Contracting

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International Labour Organisation
Advisory Support, Information Services, and Training (ASIST),
Nairobi, Kenya
Abbreviations

AGETIP    Agences d’Execution de Travaux Publics pour l’Emploi
ASIST     Advisory Support, Information Services and Training
BOQ       Bill of Quantity
CSIR      Council for Scientific and Industrial Research
DANIDA    Danish International Development Agency
DFR       Department of Feeder Roads
EIWP      Employment-Intensive Works Programme
FIDIC     Federation Internationale des Ingenieurs Conseils
IHE       International Institute for Infrastructural Hydraulic and Environmental Engineering.
ILO       International Labour Organisation
IYCB      Improve Your Construction Business
KTC       Kisii Training Centre
LABCA     Labour-based Contractors Association (Ghana)
MART      Management of Appropriate Road Technology
MPBS      Management Performance Budgeting System
POL/DEV   Development Policies Branch, ILO
ROMAR     Routine Maintenance and Regravelling
SAMAT     Southern Africa Multi-disciplinary Advisory Team (ILO)
USAID     United States Agency for International Development
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1 Introduction

1.1 Background of the seminar

The fifth regional seminar for labour-based practitioners in the road sector in Sub-Saharan Africa took place over five days from 22 to 26 April 1996 in Accra, Ghana. It was organised by the Department of Feeder Roads in Accra, in collaboration with the ILO/ASIST project. The theme of the seminar was labour-based contracting.

The seminar was the fifth in a series of reviews of current practice in labour-based technology. The first seminar was held in Mbeya, Tanzania, in 1990. The second seminar took place in Mohales Hoek, Lesotho, two years later, the third was held in Harare, Zimbabwe, in 1993, and the fourth was organised in Johannesburg, South Africa, in 1995.

The purpose of the regional seminars is to bring together people involved in labour-based roadworks in Sub-Saharan Africa to discuss experiences and ideas. The participants learn from problems, successes and failures experienced in the various programmes and countries, and this, in turn, stimulates further development of labour-based techniques and improves the efficiency of such techniques.

1.2 Structure of the report

The seminar report describes the proceedings (narrative) of the seminar. The presented and circulated papers are published separately in a report called: Labour-based Technology: A Review of Current Practice. Papers of the Fifth Regional Seminar, and can be ordered from ILO/ASIST or the Development Policies Branch of the ILO in Geneva.

Chapter 2 of this report explains the structure and proceedings of the seminar. It also includes a summary of the comments and suggestions the participants made in the evaluation session on the last day of the seminar. The full evaluation report is in Annex 7. Chapters 3 and 4

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1 The acronym ASIST stands for Advisory Support, Information Services and Training. ASIST is a regional project serving labour-based road projects and programmes in Sub-Saharan Africa, and is funded by the Swiss Development Cooperation (SDC), the Swedish International Development Authority and the Government of Norway.

summarise the various papers that were presented in plenary, and the
discussions following the presentations. Full reports on the discussions
are given in Annex 5. Chapter 5 reports on the field visit. The key issues
identified for group discussions and the outcome of the group work are
presented in Chapter 6. The group members are listed in Annex 6.
2 Seminar proceedings

2.1 Seminar objectives

The seminar had three main objectives:

1. **To bring together practitioners in labour-based roadworks so that they can exchange experiences**

2. **To update participants on policies and programmes in labour-based roadworks in Sub-Saharan Africa**

3. **To identify and debate key issues relating to labour-based contracting.**

The first two objectives are common to all the regional seminars while the third objective focuses on the main theme of this specific seminar.

**LABOUR-BASED CONTRACTING**

Contracting of road maintenance tasks is to an increasing extent replacing force account systems all over the world. In Africa, several countries are presently contracting out a main part of their road maintenance works. These countries are: Burkina Faso, C.A.R., Cameroon, Chad, Comores, Cote d'Ivoire, Ghana, Madagascar, Senegal, South Africa, Uganda, and Zaire. Other countries may follow their example, in line with a general shift from the public to the private sector.

The introduction of labour-based contracting is a means to develop the local private sector and to create employment. It allows the public sector to concentrate on its core tasks. However, experience suggests that to introduce sustainable labour-based contracting, many issues need to be taken into account. These include training, credit facilities, regularity of orders, contract documentation, selection of contractors, and the provision of equipment.

Various projects and programmes in Sub-Saharan Africa have involved labour-based contracting, with varying degrees of success. The time is therefore appropriate to exchange experiences and draw conclusions.

2.2 From objectives to results

To translate the objectives into practical work and results, the seminar was divided into three main activities: plenary sessions, groupwork sessions, and a site visit. The detailed seminar agenda is presented in Annex 1.

**PLENARY SESSIONS**
The plenary sessions were based on the papers different people had been asked to prepare. In total, 20 papers were submitted for the seminar, of which seven were presented during plenary sessions. The time reserved for each presentation was 45 minutes, after which a discussion session was held. Time allocated for discussion was maximised, in line with the recommendations derived from the evaluation of the previous regional seminar.

**GROUPWORK**

In order to generate more intensive and rewarding discussions the participants were divided into seven groups on the fourth day of the seminar. The following topics were selected during the preparatory plenary session before the groupwork began:

- Group 1: Employment policy and labour issues
- Group 2: Contract documentation
- Group 3: Cost and quality comparisons
- Group 4: Contractor-client relationships
- Group 5: Sustainability, growth and diversification of labour-based road contracting
- Group 6: Equipping contractors
- Group 7: Training approaches for contractors

The groups reported back to the plenary, after which their findings were discussed.

**SITE VISIT**

On the third day of the seminar, the participants visited three pilot feeder-road projects in Eastern Ghana and the newly established labour-based training school at Kafiridwa. A social element of the visit included a boat trip with lunch, and a visit to the Akosombo dam.

### 2.3 Seminar participants

A total of 103 people from 17 different countries registered for the seminar. Among the participants were national and expatriate staff of government organisations, staff of educational and training institutions, consultants and ILO advisers. Participating countries were Botswana, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Norway, South Africa, Switzerland, Tanzania, Uganda, United Kingdom, Zambia and Zimbabwe. Annex 2 includes the names and addresses of all the participants.

### 2.4 Evaluation

The seminar was evaluated by means of a written questionnaire on the last day of the seminar. The questionnaire was filled in by 73 out of 103 participants.
The participants evaluated the seminar as of good to very good. The secretariat of the seminar and the organisation of the registration were considered to be very good, even excellent according to about 35 per cent of the respondents.

The seminar was well organised, according to most participants. The balance between papers and groupwork was generally considered to be right, though about 30 per cent felt that less papers and more groupwork might have further enhanced the learning process. One week was felt to be the appropriate duration for the regional seminar.

The seminar presentations were evaluated as being good to very good by most participants, and addressing appropriate themes. Most people felt that the number and length of presentations were right, though some added that several presentations were too long. More time for plenary discussion would be appreciated by several respondents.

The hotel accommodation received relatively the lowest evaluation, though it was still considered fairly good. In addition, many participants felt that the seminar venue was too small for the number of participants. As one respondent remarked: “Most people appreciate the problems, which arose since the original venue was not available. The hotel, Maple Leaf, did its best, and the staff were very friendly and helpful”. Another participant added: “Great hospitality. Great country”. For one respondent, the laundry service was evaluated as “very excellent”. The respondent added: “I gave in socks with holes and got brand new ones back”. Still, various candidates recommended a very careful selection of the venue for the next seminar.

The outside activities were highly appreciated, and several participants recommended that the next seminar should “follow the excellent example of Ghana”. This next seminar should take place in Kenya or Uganda, according to the outcome of the questionnaire, though fourteen other countries were mentioned as well.

Results of the questionnaire are in Annex 7.

2.5 Follow-up of the seminar

During an evaluation session, the participants were divided into seven groups, and asked how ASIST should follow up on this seminar. Most groups felt that ASIST should prepare guidelines on contract documentation, quality control and contractor development in general. A full report on the outcome of the group evaluation is given overleaf.

2.6 Acknowledgements

The ILO/ASIST seminar secretariat wishes to express its thanks to the Department of Feeder Roads (DFR) in Ghana for hosting the seminar and for all their organisational and logistical support. We are especially thankful to Mr Antwi, Director of DFR, Mr A. Twumasi-Boakye,
chairman of the organising committee, and the organising committee itself, for the endless hours they put in to make the seminar successful.

We would especially like to thank Mr D.S. Boateng, Honourable Minister of Employment and Social Welfare, who gave us the opening speech, and Dr Ato Quarshie, Honourable Minister of Roads and Highways, who gave the closing speech. The programme and full text of the opening speech are in Annex 3; the programme of the closing ceremony in Annex 4. Unfortunately, the closing speech is not available.

Lastly, we would like to thank all the participants for their attendance and contribution.
<table>
<thead>
<tr>
<th>What?</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To prepare guidelines on quality achievement and quality control.</td>
<td>To ensure quality of labour-based works, particularly as they compete with machine-based works and are used for higher specification works. To ensure long term sustainability of labour-based methods.</td>
</tr>
<tr>
<td>• To prepare guidelines and a position paper on contract documentation, based on country experiences.</td>
<td>These are urgently needed.</td>
</tr>
<tr>
<td>• To ensure the development of comprehensive labour-based contracting guidelines.</td>
<td>In order to make use of experiences gained and to avoid repetition of mistakes.</td>
</tr>
<tr>
<td>• To prepare standard contract documents and training material that can easily be adapted to country specific conditions.</td>
<td>At present, most contract documents are not suitable for labour-based contracting. Development of training material is expensive and time consuming, but necessary.</td>
</tr>
<tr>
<td>• To prepare technology-neutral guidelines for contract documentation, including: tender procedures, evaluation, data returns, risk sharing, insurances, labour clauses, labour related costs, and safety.</td>
<td>To facilitate a move towards competitive bidding. To give directions to newcomers in contracting. To level the playing field for labour-based and machine-based contracting.</td>
</tr>
<tr>
<td>• To devise formats for: 1. cost comparison of equipment and labour-based roadworks; 2. the design of training courses; and 3. case studies on contractor-client relationships.</td>
<td>To provide a basis for comparison of experiences.</td>
</tr>
<tr>
<td>• To prepare a policy document for Governments to promote sustainability of labour-based contracting.</td>
<td>To promote long term commitment of governments and donors to labour-based contracting. To create an enabling environment for Labour-based contracting.</td>
</tr>
</tbody>
</table>
3 Labour-based technology - the role of the ILO and the ASIST project

3.1 The role of the ILO

Summary of the presentation by Jan de Veen, Development and Technical Cooperation Department, ILO, Geneva, Switzerland

THE EMPLOYMENT-INTENSIVE WORKS PROGRAMME

The ILO has a particular interest in labour-based and local resource-based approaches through its mandate on productive employment, poverty alleviation and social concerns. Since the mid-1970s, the ILO has developed a large technical cooperation programme – the Employment-Intensive Works Programme (EIWP) – which promotes and demonstrates the use of labour-based technologies in the infrastructure sector in developing countries.

DIVISION OF RESPONSIBILITIES

The Development Policies Branch (POL/DEV) in ILO Headquarters includes a policy planning unit. This unit performs the following tasks:

• Developing inter-regional and regional support programmes, including: reviewing the planning for ASIST; developing and supporting inter-regional programmes (such as: Jobs for Africa and AGETIP); and developing and supporting programmes on capacity building and rural transport
• Conducting studies and guidelines on key issues (see later)

In the various regions, the ILO has multi-disciplinary teams and regional support programmes. This field structure performs the following tasks:

• Development and backstopping of national programmes
• Collaboration on studies and guidelines
• Training and capacity building
• Information dissemination

At local level, the ILO has projects with the following functions:

• Demonstration, training and replication
• Providing inputs for comparison and case studies

KEY ISSUES IN THE EMPLOYMENT-INTENSIVE WORKS PROGRAMME (EIWP)

ILO assistance is directed to key issues in the EIWP. These key issues are:

1. Developing macro-economic policies for employment creation and poverty reduction. Firstly, ILO headquarters performs research into the potential macro-economic impact of employment-intensive
works. Secondly, employment strategies and targets are studied. Thirdly, ILO headquarters analyses employment-intensive and local resource-based sectoral investments. Fourthly, planning units in Ministries of Planning and Finance are assisted in developing employment-intensive strategies.

2. Democratisation and participatory development. The ILO believes that policies should not be developed and implemented in a top-down fashion, but in a bottom-up approach, addressing the real needs of the population. This includes developing a transparent system for negotiating and contracting, and developing an innovative environment for contracting to communities and the informal sector. It also includes developing decentralised participatory planning and implementation procedures, and supporting participatory development.

3. Private sector development. It has become commonly accepted that the public sector cannot perform all tasks itself, and has to call upon the private sector. This is only feasible if the public sector creates an enabling environment for small-scale contractors. Attention to the technology choice is essential as well, since most small scale enterprises operate with labour-based methods. Consulting and contractors’ associations ought to play a leading role in the development of the private sector.

4. Capacity building. Countries should have the capacity to develop and implement labour-based construction. To further develop the capacity, the ILO collaborates with educational institutions, and develops training materials and guidelines. Institutional development is also supported, especially in relation to planning units in the area of employment and investment, and in relation to national fora.

5. Labour standards and conditions of work. National labour legislation should set an appropriate level of labour standards and conditions of work. For labour-based works, the focus is on laws concerning minimum wages, non-discrimination, forced labour, child labour, workmen’s compensation and casual labour. Contract documents and specifications may further specify the relevant labour items and conditions of work.

**WORLD BANK MEETING, APRIL 1996**

In April 1996, Jan de Veen participated in a World Bank meeting on rural transport. The World Bank focuses on rural poverty, within its mission “to reduce poverty and improve the quality of people’s lives” (J.D. Wolfensohn). It aims at increasing rural incomes, and facilitating access through national systems, feeder roads, and village tracks. The focus, critical performance indicators, and trends are as follows:
Focus | Critical performance indicator | Trends
---|---|---
Rural roads are the first priority to improve market access and mobility | Responsibility assigned and funding systems defined | The improvement is/will be linked to progress on the main roads
Village level transport is important to improve productivity and living conditions | Included under community programmes | Pilot efforts are launched in five countries

**DISCUSSION HIGHLIGHTS**

- The World Bank meeting looked into rural transport planning in addition to physical transport.

### 3.2 The role of ASIST

Presentation by David Stiedl, ILO/ASIST, Harare, Zimbabwe

ASIST – Advisory Support, Information Services and Training – is a project of the ILO whose mandate is to support labour-based road projects in Sub-Saharan Africa. It operates from two offices; the Advisory Support component from Harare and the Information Services and Training components from Nairobi.

**THE PURPOSE OF ASIST IS:**

1. to increase the use, where appropriate, and increase efficiency in the use of labour-based methods in the road sector
2. to increase efficiency in labour-based road project management.

**WHAT ASIST DOES**

**Advisory support** provides services related to technical, organisational and management aspects of labour-based road projects in 11 countries in the region. In this work, ASIST liaises closely with the ILO Multi-Disciplinary Advisory Team in Harare (SAMAT).

**Information services** gathers and synthesises general and specific information in order to disseminate it to practitioners in labour-based technology, and other interested persons and institutions.

**Training** develops and implements, in collaboration with Kisii Training School in Kenya, international courses for engineers and managers, senior technicians and trainers; and assists in setting up courses in national educational and training institutions.

ASIST also provides a **Rural Transport** component in Harare to advise on policies and technologies for improved rural accessibility planning, and an **Urban Poverty Alleviation** component in Nairobi, which promotes labour-based infrastructure development in informal settlements.
4 Labour-based contracting in Sub-Saharan Africa

This chapter summarises the presented papers, and the discussions following the presentations. The full text of the discussion is presented in Annex 5.

4.1 Labour-based Contracting: Practice and Prospects

Summary of the paper presented by Alex Twumasi-Boakye, Department of Feeder Roads, Accra, Ghana.

The paper reports on current labour-based practices in Ghana, Kenya, Tanzania, Uganda, Lesotho and South Africa, as observed by the three-man ILO mission of April-May 1995. The experience in all countries, except South Africa, concentrates on rural roads. However, the objectives and contracting arrangements of the projects differ considerably. The study looked into contractor selection, training, support given to contractors, and contract documentation in each country. A summary of the country experiences is given overleaf.

Based on the comparative analysis, the paper identifies key-issues:

- Project preparation should ensure that contractors survive beyond the life of the project. This requires government commitment.

- Training is a need of all parties concerned, and is often underestimated.

- Contract documentation is often inappropriate for small scale contractors.

- In the implementation, the technical assistance should only play an advisory role.

In conclusion, the need for appropriate guidelines on labour-based contracting is stressed. The guidelines should have two parts: institutional, directed at policy makers; and operational, directed at programme designers and implementors.

The paper also stresses the need for sustainability through various means. Governments need to create an enabling environment for small scale contracting. “Protection” of contractors is a tricky issue, since it may make the contractor dependent and lessen sustainability. Sustainability further requires a sufficient market for contractors, beyond the life of the project, and possibly beyond the narrow market in “roads”, which tends to be dominated by one client.

Discussion highlights
It was noted that the Ghanaian experience was duplicated in Uganda, without adjustments to the local environment. This is causing various problems.
Summary of project/programme experiences in contracting development in selected countries

<table>
<thead>
<tr>
<th>Project/programm</th>
<th>Contractor selection</th>
<th>Training</th>
<th>Support</th>
<th>Contract document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Improved rural accessibility</td>
<td>Method: newspaper adverts; list of applicants</td>
<td>18 weeks in classroom &amp; field</td>
<td>Tools</td>
<td>Rates negotiated</td>
</tr>
<tr>
<td>• Increased capacity in DFR and contracting</td>
<td>Criteria: basic education, experience, location of office</td>
<td>4 months trial continuation</td>
<td>Equipment</td>
<td>FIDIC (third edition) with price adjustments and adjustments to labour-based works</td>
</tr>
<tr>
<td>• Create rural employment</td>
<td>18 weeks in classroom &amp; field</td>
<td>Trained are contractors, supervisors, and DFR staff</td>
<td>Guarantee of work for 4 years</td>
<td>Documents prepared by DFR</td>
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<tr>
<td></td>
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<tr>
<td>Kenya</td>
<td></td>
<td></td>
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<tr>
<td>• Promote competition</td>
<td>Method: newspaper adverts and local notice</td>
<td>3 months theory and 12-18 months practice</td>
<td>No tools or equipment</td>
<td>Training: fixed rates</td>
</tr>
<tr>
<td>• Increase capacity for contracting</td>
<td>Criteria: equipment, education of owner, location, and experience</td>
<td>Trained are managing directors. Foremen are trained separately</td>
<td>No work available</td>
<td>Contracts: FIDIC with adjustments</td>
</tr>
<tr>
<td>• Create rural employment</td>
<td>3 months theory and 12-18 months practice</td>
<td>No data</td>
<td>Training: fixed rates</td>
<td>Standard tender and contract documents developed</td>
</tr>
<tr>
<td>• Guidelines development</td>
<td>20 weeks classroom &amp; field experience</td>
<td>Hired equipment for training</td>
<td>FIDIC (third edition), adjusted to labour-based works</td>
<td>New “user friendly”document has been proposed</td>
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<tr>
<td></td>
<td></td>
<td>Support</td>
<td></td>
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<tr>
<td>Tanzania</td>
<td></td>
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</tr>
<tr>
<td>• Establish labour-based contracting</td>
<td>Criteria: registered building contractor with some equipment</td>
<td>20 weeks classroom &amp; field experience</td>
<td>Hired equipment for training</td>
<td>FIDIC (third edition), adjusted to labour-based works</td>
</tr>
<tr>
<td>• Increase contracting capacity in ministry</td>
<td>20 weeks classroom &amp; field experience</td>
<td>6 months trial continuation</td>
<td>Supportive government policy</td>
<td>New “user friendly”document has been proposed</td>
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<tr>
<td>Uganda</td>
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<tr>
<td>• Introduce labour-based methods</td>
<td>Criteria: qualifications of Managing Directors, equipment, experience</td>
<td>2 weeks on demonstration site</td>
<td>Light equipment and tools</td>
<td>No data</td>
</tr>
<tr>
<td>• Improve capacity in ministry</td>
<td>2 weeks on demonstration site</td>
<td>4 months detailed site training</td>
<td>No data</td>
<td></td>
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<tr>
<td>• Improve roads</td>
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<tr>
<td>• Train contractors</td>
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<tr>
<td>Lesotho</td>
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<td></td>
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<tr>
<td>• Sustainability</td>
<td>Methods: adverts on radio and in papers; tests; interviews</td>
<td>ROMAR + IYCB used</td>
<td>Tools during training</td>
<td>Simplified contracts for trial routine maintenance</td>
</tr>
<tr>
<td>• Reduce government establishment</td>
<td>Criteria: basic education, experience, access to equipment</td>
<td>Total of 10 months</td>
<td>Routine maintenance guaranteed</td>
<td>No provision for fluctuation in contracts</td>
</tr>
<tr>
<td>• Greater efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Train contractors</td>
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</tbody>
</table>
4.2 The development of labour-based road contracting for road works.

Summary of the paper presented by Jan de Veen, Development Policies Department, ILO, Geneva.

Since the mid-1980s the execution of public works through the private sector is increasingly emphasised. The acknowledged financial and technical competitiveness of labour-based technologies for roadworks combined with the growing private sector participation in this field, has led to the establishment of a significant number of labour-based road contracting programmes and projects in developing countries. Many of these have been supported in different ways by the Employment-Intensive Programme of the ILO. General principles of the ILO support to contractor development include:

- Technical ministries need to be reoriented towards the efficient use of labour for roadworks.
- Ministries ought to develop an enabling environment for small scale contractors.
- The business community should be involved in developing policies and implementation.
- Training programmes, adequate equipment and adequate funding should be available.
- Simple contract documents should be available.
- The formation of employers and workers organisations is encouraged.
- Projects should last three to five years to promote sustainability.

The paper then reviews relevant experience with programmes of this nature in three continents. It concludes that the potential for labour-based road contracting is huge, but requires comprehensive project
designs combined with measures to modify the working environment in which small scale road contractors have to operate. The growth in labour-based contracting furthermore results in a growing need for institution and capacity building. The paper also draws attention to the increasing risks of worker exploitation and recommends the development of strategies to minimise such risks.
4.3 Managing labour in labour-based activities: an approach for sustaining labour-based contracting

Summary of the paper presented by David Tajgman, ILO/SAMAT, Harare, Zimbabwe.

Labour management under private contracts differs from force account, since private enterprises are more productivity oriented and less bureaucratic. The government is often perceived as “beyond the law”. Labour management is impacted by the productivity orientation, since the contractor tends to insist on more regular attendance, lower wage levels, higher labour productivity, and more supervision.

Appropriate salary levels and conditions of work depend on local conditions. On the one hand, labour-based methods should remain cost-effective, which puts downward pressures on wage levels and working conditions. On the other hand, labourers should receive “fair” pay, and a safe working environment, while labour laws should be adhered to. This puts upward pressures on wage levels and working conditions. The appropriate wage levels and working conditions further depend on the project objectives: poverty-relief projects will tend to pay lower wages (possibly in the form of food-for-work) than productivity-oriented projects.

All parties have a role to play in setting and adhering to wage levels and conditions of work. The government has to set appropriate labour policies, regulations, and contracting procedures on the basis of tripartite discussions. Contractors, being the employers, need to be motivated to adhere to laws. This requires appropriate laws, contracts which include labour clauses, and training. Contractor associations can play an important role in this regard. Workers, on their part, need to be (made) aware of their self-interest in improving working conditions and salaries; an interest which can be promoted by strong workers’ and community organisations.

Discussion highlights

- Minimum wage levels should depend on local conditions, to allow labour-based methods to be cost-effective, while at the same time allowing labourers fair working conditions and salary levels.
- Labour laws are difficult to monitor, since labour inspectorates are often not up to their task.

4.4 The client/contractor relationship in labour-based construction and maintenance

Summary of the paper presented by Derek Miles, Department of Civil and Building Engineering, Loughborough University of Technology, UK.
The paper highlights the importance of equitable contract documents to regulate the relationship between small contractors and their clients. A contract is defined as an agreement between two or more parties which is intended to be legally binding, and which defines the risks and responsibilities of both parties. Since contractual complexity can vary according to the nature of the risks to be covered, the ideal contract document in any given case would be the simplest formulation that permits effective accountability.

**RISK TRANSFER**

Contracts involve the transfer of risk from the client to the contractor. This needs to be paid for; the more risk is transferred, the higher the price. However, excessive risk transfer to small contractors means that the local construction industry will remain fragile and unsustainable.

To determine the risk, its nature and impact need to be identified. The risk must also be measured by assessing and classifying the risky situations, and evaluating the handling of risks by the parties.

In labour-based projects, most risks have no serious consequences for the client, while contractors tend to be small scale enterprises and consequences can therefore be far reaching.

Project risks need to be minimised from the start, by assessing the local situation. Some guidelines are:

- Assess the organisational and management capacity of the host organisation.
- Be open minded on the choice of technology.
- Make sustainability the objective of the project.
- Integrate technical and managerial innovations, also in training activities.
- Work with and through the private sector.

**PARTNERING**

Partnering is a route towards more collaborative relationships, which can reduce the levels of conflict and confrontation and permit domestic contractors to play a more productive and developmental role. The principle of partnering is: Choosing to live by the spirit rather than the letter of the law...... Partnering is not a contract, but a recognition that every contract includes an implied covenant of good faith (Ron Baden Hellard). Francis Fukuyama mentions trust and reciprocity as essential additions to laws and contracts in preventing conflict.

Contracts should be based on a compromise between the parties. Both parties have to concede, agree to the final contract, and trust its implementation. Thus, a contract becomes viable by establishing a partnership.
COSTS PER UNIT
During the presentation, it was noted that costs per unit in construction had remained on more or less the same level over the past 50 years, while costs per unit in most other sectors reduced considerably, and for computers tremendously. Appropriate technology and management and organisational structures might reduce costs.

CONCLUSIONS
We need to move from equity to sustainability. This requires:
• developing partnership arrangements, based on trust and an understanding of the cultural differences.
• drawing lessons from field trials of simple contracts, in order to spread risks equably and establish sustainable contractors.

DISCUSSION HIGHLIGHTS
• Relationships between clients and contractors are not equal, since most contractors are small and dependent on one client. Strong contractors' associations may address the inequality.
• The development of small scale contractors must be sustainable. Small contractors must be able to compete with large scale contractors, and, in the long run, survive without assistance in a competitive market. Though some hints were given on how to create a sustainable system, the issue remains difficult.

4.5 Force account or contractors? A comparison of Kenya and Ghana
A summary of the paper presented by Gary Taylor, I.T. Transport Ltd, UK.

The paper compares the labour-based programme in Kenya, which is based on force account, with the programme in Ghana, which is based on private contractors.

In Kenya, approximately 12,000 km of roads, including rural access roads and minor roads, were rehabilitated and maintained by labour-based methods in the early 1990s. In Ghana, the project started only in 1992, and approximately 4,000 km of feeder roads are presently in a maintainable state.

COMPARISON
The two programmes appeared to be surprisingly similar, despite the different approaches. Similarities include:
• Both feeder road departments employ about 1,000 permanent employees, indicating that the use of contractors does not necessarily reduce staff numbers of the client.
• Roads have either been fully rehabilitated or not at all, with little attention to routine maintenance. This is caused by donor involvement. Both countries are now moving to more pragmatic policies.

• Close site supervision proved to be the key to consistency and good quality work in both force account and contractor-executed work.

• The need to maintain labour-based equipment was underestimated in both projects.

• All equipment is bought with donor support.

The paper notes differences between the two systems as well:

• In Ghana, the labour-based programme has been established as part of mainstream policy from the start, while in Kenya it took the programme 20 years to become part of mainstream policy.

• Lengthmen maintain roads in Kenya, while contractors do so in Ghana. Lengthmen require a lot of supervision, but maintain each section of the roads, while contractors in Ghana tend to postpone or forget maintenance contracts.

• In Kenya, district engineers prepare maintenance plans themselves, while planning is done centrally in Ghana.

FORCE ACCOUNT VERSUS CONTRACTORS

In Kenya, contracting has only been introduced in a small way, without being as successful as in Ghana. In Ghana, however, contractors are still not considered ready for open competition. Developing contractors thus requires a significant, long term, and carefully planned programme of assistance.

The use of contractors is potentially more sustainable than force account, but has the risk that contractors may go out of business or into equipment-based methods.

RECOMMENDATIONS

A main recommendation is that donor contributions should be set at the same level for all activities required for the project, to prevent a bias towards activities with higher donor support.

The establishment of a system of routine maintenance should receive priority. Spot improvement and partial rehabilitation should be considered as well, since these options may be more cost-effective than total rehabilitation.

DISCUSSION HIGHLIGHTS
• Government policies are essential in promoting labour-based equipment and contracting, though the technology choice depends first and foremost on local economic conditions.

• Donor funding plays an important role in priority setting of government policies. Lobbying should thus be directed to the government and donor community.

• Phil Hendrix gave a presentation on the Division of Roads and Transport Technology of CSIR in South Africa. The division conducts transportation research, development and implementation in Southern Africa.

4.6 A study of the field performance of selected labour-based contractors in Ghana.

Summary of the paper written by S.K. Ampadu and Y.A. Tuffour, Civil Engineering Department, School of Engineering, University of Science and Technology, Kumasi, Ghana.

In Ghana, labour-based methods executed by small-scale labour-based contractors are used side by side with conventional equipment-based methods. In order to generate the required field data to assist in the proper planning and control of labour-based works, a series of studies of various durations on the performance of small scale labour-based contractors in the field was executed between November 1992 and December 1994 with ILO/DFR/UST collaboration. This paper describes the methodology of the study in detail, and summarises and discusses the results of two of these studies.

ORGANISATION OF CONTRACTORS

The contractors consisted, generally, of a Managing Director, supervisors (on average three at a site), operators and artisans (on average eight per site), and casual workers (on average 63 per site). The operators and artisans were well trained on labour-based techniques and management. Of the casual workers, 5 to 46 per cent were female, while on average one third of the workforce was from the local vicinity. Migrant workers tended to spend more time on site.

PRODUCTIVITY

The employment contract system was based on task rates, which were allocated to individuals or gangs, depending on the activity. The task rates varied considerably for contractors and tasks, and “one day work” could thus take 3 hours, but also more than 8 hours.

Productivity depended first and foremost on site management, and especially on transport arrangements. Another important factor was the experience of the workforce. The effect of the site condition on productivity was less clear, with no significant differences in productivity for the dry and wet seasons.
The study resulted in average labour productivity rates.

**QUALITY OF THE OUTPUT**

Less than 50 per cent of the used gravel materials satisfied the specifications, illustrating the difficulty of obtaining gravel of the required quality. In addition, the level of compaction was rather low, especially on the shoulders of the gravel layer. For two of the eight roads, the thickness of the gravel layer was insufficient (less than 60 mm).

A further analysis has shown that the inadequate thickness of the gravel layer correlates to a high number of casual workers per trained supervisor and high task rates. Nineteen casual workers per supervisor and a task rate of 10 m²/hr appeared to provide the best results.

The quality of the drains was generally sufficient.

**DISCUSSION HIGHLIGHTS**

- Cost and quality comparisons between labour-based and machine-based projects are essential but very difficult. Projects will perform different activities in a different local environment and with different relative costs of labour and equipment. One way to compare costs may be to compare costs of large numbers of roads, instead of comparing individual roads.

4.7 **Enhancing equipment loan repayment for small scale labour-based contractors**

A summary of the paper presented by E. Opoku Mensah, OPM Construction Ltd., Accra, Ghana.

Ghana introduced small scale contracting in roadworks in 1986. Under the programme, trained contractors receive equipment costing about US$150,000 as a loan, for repayment in four years. Out of the present 93 trained contractors, 54 are fully equipped.

Based on the experience, recommendations can be given concerning the role of the three main players in loan repayment: loan management banks, clients, and contractors.

**LOAN MANAGEMENT BANKS**

- The loan should be granted in local currency.
- Interest rates should be at the lowest interest rate level applicable in the country’s banks for similar special projects, if not lower.
- Repayment can best be based on the Diminishing Balance Approach, to provide incentives for early repayment, while repayment schedules can be set quarterly.
• The collateral should be low, and the agreements relaxed to suit small scale contractors.

CLIENTS (DFR IN GHANA)

• Equipment must be selected carefully, be of good quality and with good after-sales service.

• Equipment must be appropriate for the work, and selected in consultation with contractors.

• During a trial period, the client should manage the equipment and hire it to the contractor at economic rates.

• Contractors should be paid promptly, and prompt payment of labourers by the contractor should be promoted by advancing labour costs.

• Contractors should receive enough money in advance to cover bills for labour, fuel and lubricants. The present 15 per cent of the contract sum is inadequate.

CONTRACTOR

• Contractors who have repaid their loans have to produce 1 km of gravel road per month to break even; those with loans have to produce at least 1.3 km per month.

• Contractors should aim at arranging a supply of materials on credit.

• A labour-based contractors’ association is a vehicle for discussion and resolution of the specific problems labour-based contractors face.

DISCUSSION HIGHLIGHTS

• The kind of equipment that contractors need depends on the local circumstances and cost-effectiveness of the equipment. Tippers may thus be appropriate labour-based technology in certain conditions.

• Banks charge interest rates and demand a collateral, which increases the risks of investment for small scale contractors.

4.8 Progress on the MART initiative

A summary of the paper presented by Derek Miles and Paul Larcher, Loughborough University of Technology, UK.

Prior to the ASIST seminar in Accra, MART held a two day workshop, in association with the ILO, to discuss issues of intermediate equipment. This workshop followed up on a workshop in November 1995 in Harare, in which contractor guidelines were discussed. This seminar concluded that guidelines should include institutional and operational aspects. Guidelines are expected to be finalised in 1997.
Through plenary discussions, the Accra workshop produced a list of 28 key issues that were identified as influencing the availability, cost and performance of intermediate equipment. These issues are either institutional, operational, or related to training.

The workshop further identified 70 items of intermediate equipment. Those that were considered most important, were categorised as haulage, compaction, structures or otherwise.

The discussion then focused on the operational issues of the most important pieces of intermediate equipment. For each item of equipment, the workshop identified the operational information that was available, and highlighted research and development needs. The discussions concentrated on designs and specifications.

In conclusion, the workshop participants agreed on a number of actions required to promote research and development, improve standards, and increase availability of intermediate equipment. This is the next step in the development of guidelines on the specification, procurement and management of intermediate equipment.

4.9 Panel discussion: Ghanaian contractors

During a plenary session, the participants of the seminar were offered the opportunity to ask questions of five Ghanaian contractors. The moderator of the plenary session was E.N.K. Ashong. The Ghanaian contractors were: E. Opoku Mensah (Managing Director of OPM Construction Works Ltd; National Chairman of LABCA); A.J.K. Mensah (Technical Director of M/s Amensah Construction Works Ltd); Mrs L. Gbedemah (Managing Director of Buro-Buro); S.K. Tandoh (Operations Director of m/s IS-Haque Company Ltd); and B.K. Arthur (Managing Director of Knatto Complex Ltd).

The plenary session brought together various issues raised in the previous papers. The highlights of the discussion were as follows:

- Roads are perceived to be made by machines. Contractors thus have to create awareness that labour-based roads are not inferior to machine-based roads. Otherwise, the local community may feel cheated.

- Labour-based projects have supervisors qualified in management, while machine-based projects do not. Machine-based projects thus require more management assistance of the Managing Director.

- Competitive bidding makes labour-based contractors more effective and efficient, since they will have to compete. However, new contractors continue to need assistance. In Ghana, trained contractors are expected to survive.

- Contractors' associations have an important role to play in a system of competitive bidding.
In Ghana, contractors have contracts on a continuous basis. Therefore, the need for alternative contracts and use of equipment has not arisen.
5 Field visit

MAINTENANCE PERFORMANCE BUDGETING SYSTEM (MPBS)

Three roads were visited that were maintained under a pilot project of MPBS. MPBS is a planning system which aims at maintaining roads according to priority. MPBS was developed by the DANIDA component of the National Feeder Roads Rehabilitation and Maintenance Project in DFR. Priority is set on the basis of traffic density, defined maintenance levels, workloads and resource requirements.

MPBS has two parts.

Part 1 is an annual maintenance budgeting system, which plans maintenance at a national level, on the basis of traffic density. The activities that are performed depend on the available budget. With a limited budget, the system automatically selects those activities that preserve the largest possible road network.

Part 2 is an operation system at regional level. The Regional Road Engineer plans the actual maintenance, within the national framework, on the basis of the actual situation of the roads. This results in Bills of Quantities for groups of roads.

Maintenance is performed by contractors, using standard documents. A standard contract document includes general specifications, activity specifications and Bills of Quantity. The Regional Road Engineer inspects and approves the works, after which payment is certified.

LABOUR-BASED ROADS IN EASTERN GHANA

Labour-based technology was introduced in 1989 in Eastern Ghana, which now has the highest number of trained labour-based contractors (10 equipped and 5 non-equipped contractors). 160 km of roads have been fully rehabilitated, using 640 culverts and spending US$2,461,000.

Three roads were visited:

- Amanase-Budu Feeder Road (3.2 km). The road was rehabilitated between October 1995 and March 1996.
- Tetekassum-Budu Feeder Road (19.8 km). Routine and recurrent maintenance of this road formed part of a contract covering 98.2 km for a period of 12 months at an estimated cost of US$135,000. Rehabilitation of the road was completed in 1994.
- Aman-Kwesi Darko (2.05 km). The rehabilitation of the road forms part of a 13.95 km road rehabilitation contract awarded in March 1996, for completion in seven calendar months. The road is located within a major cocoa growing corridor of the region. The participants in the seminar were given the opportunity to observe
progress of the works and discuss issues with the contractor and workers on site.

LABOUR-BASED TRAINING SCHOOL

Ghana is presently establishing a training school, funded by the Government of Ghana, DANIDA and USAID. The buildings are almost completed, as the participants in the seminar observed. Training is expected to start within a year.

AKOSOMBO

The participants were offered lunch during a boat trip at Akosombo. After the lunch, the participants visited the Akosombo dam, which is a major power station.
6 Group work

6.1 Identification of key issues

During a plenary session following the presentations, the participants identified issues and questions that should serve as a starting point for group discussions. The issues were grouped together under seven key headings as shown below.

<table>
<thead>
<tr>
<th>Group number</th>
<th>Key issue</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Employment policy and labour issues</td>
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<td>2</td>
<td>Contract documentation</td>
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<td>3</td>
<td>Cost and quality comparisons</td>
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<td>Contractor-client relationships</td>
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<td>5</td>
<td>Sustainability, growth and diversification of labour-based road contracting</td>
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<td>6</td>
<td>Equipping contractors</td>
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<tr>
<td>7</td>
<td>Training approaches for contracting</td>
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</tbody>
</table>

For each key issue a number of sub-issues were identified, which served as guidelines in the group discussions.

After each presentation, other groups were asked to comment on the findings. A list of group members is presented in Annex 6.

6.2 Group 1: Employment policy and labour issues

The main question is whether employment and labour issues should be criteria for contract awarding.

EMPLOYMENT ISSUES

Labour-based contracting is a strategy to create employment, and as such should be supported by governments. This should be done by assigning weight to employment intensive tenders and dividing large contracts into small contracts, to suit small scale contractors. Designs, contract documents, tender regulations and procedures should facilitate this approach.

LABOUR ISSUES

Labour laws should be obeyed, especially in areas that are of mutual benefit to the client, contractor and workers. These areas include child labour, occupational health and safety, and workers’ compensation.
Labour laws therefore need to be reviewed to identify and, if necessary, ratify those laws that should be applicable to labour-based contracting.

Compliance with labour laws should be ensured by special measures. This includes publishing laws and regulations, and specifying labour issues in contracts.

DISCUSSION

In the discussion, the following points were raised:

- Contractors cannot employ machine-based methods, since the contract will specify labour-based methods. This protects small labour-based contractors from competition from machine-based contractors.

- Compliance with labour laws can be promoted by including labour laws in the contract, setting penalties if these laws are violated.

The chart presented by Group 1 is given overleaf.
6.3 Group 2: Contract documentation

Contract documents are very complicated, and should be simplified and standardised. This raises three questions:

- Do we need different documents for different types of contracts?
- Do we need special documentation and specifications for labour-based contracting?
- To what extent can contract documentation be simplified, while ensuring the protection of clients and contractors?

To answer these questions, the content of a contract document and the factors involved need to be identified.

CONTENT OF A CONTRACT DOCUMENT

A contract should include:

- Definitions
- Client and contractor
- General obligations
- Starting and completion dates
- Payments and additional payments
- Assignment of sub-contractors
- Statutory obligations
- Liability and insurance
- Disputes
- Price variations

FACTORS INVOLVED

Contract documents list the rights and obligations of the client and contractor, and as such protect them. Simplification and standardisation should not lessen the protection.

Other factors which influence the required specifications of the contract are the size of the works, activities involved, conditions, risks, and the choice of technology. These factors are especially important in a system of competitive bidding.

ACTION

The ILO and ASIST should prepare guidelines for contracts on minor works, considering the above mentioned factors. The ILO can appoint consultants with donor funding to study standardisation and simplification, while ASIST can write circulation papers and network. Technical staff of governments can be engaged through country committees to modify contracts to local conditions.

DISCUSSION

The discussion raised the following points:
• Labour-based works are a high risk activity for small scale contractors.

• To promote protection of small scale contractors, contracts need a lot of specifications, which would make them bulky. Contracts may however be simplified by adopting a standard contract document, with an explanatory document attached. Specific tender contracts can then adjust the standard contract to the specific conditions. It must be ensured, however, that the contracts hold up in court.

The chart presented by Group 2 is given alongside.
6.4 Group 3: Cost and quality comparison

In making a technology choice, cost and quality are the main variables. However, comparing costs for the same quality of road is difficult, since various factors are involved in the comparison. There are other factors that affect the technology choice as well.

FACTORS INVOLVED IN THE COST COMPARISON

In the cost comparison, the construction costs, social, economic and environmental costs ought to be considered. Relative costs of labour and equipment tend to differ for each country and region, complicating comparison.

Items which need to be equal before the costs of two roads can be compared include, among others, the quality of the road, the terrain, material used and earthworks per kilometre.

FACTORS AFFECTING TECHNOLOGY CHOICE

Factors which affect the choice of technology include the availability of labour and equipment, and the time frame in which the work should be finished. Risk of labour disruption, and the estimated social, economic and environmental impact of the works (such as employment creation) are other considerations.

ACTION

Universities, in collaboration with road departments, should monitor the costs of labour-based works and recalculate theoretical costs for labour- and machine-based roads.

DISCUSSION

The discussion highlighted the following issues:

- A cost comparison between individual projects is impossible, as too many items should be equal. A more suitable method might be to compare costs of a large number of road works. This would balance the various items and allow broad, macro economic conclusions.

- Quality should be compared as well, and the comparison might be based on the funds spent on maintenance. However, such a comparison is not possible when no maintenance takes place. Differences in maintenance costs are furthermore not only caused by the technology choice, but also by the quality of the designs.

- To reduce the cost of roadworks, routine maintenance is more effective than road rehabilitation.

The detailed presentation of group 3 is given on the following page.
6.5 **Group 4: Contractor-client relationships**

The relationship between contractors and clients is often based on confrontation. To move from confrontation to partnership, contractors, their associations, and client’s representatives have to play a role. To a lesser extent, procurement procedures influence the relationship as well.

**ROLE OF CONTRACTORS’ ASSOCIATIONS**

The confrontational relationship is caused by various problems relating to the contractors. These problems range from inadequate contractors’ performance to inadequate contract procedures, and from bad treatment of workers to contractor’s negative perception of clients.

Each problem is caused by a number of factors, including the dependency of contractors and their lack of knowledge, experience and dialogue (see chart).

Solutions to these problems include strengthening the contractors’ association and the dialogue between contractors’ associations and the client; educating contractors; and improving contract documentation.

**ROLE OF CLIENT’S REPRESENTATIVE**

Problems related to clients that affect their relationship with the contractor include: late payment, the client’s negative perception of contractors, and inadequate capacity and management structures of the client.

Several factors contribute to these problems, such as: jealousy of the perceived financial rewards of contractors; negative attitude towards labour-based methods; corruption; inadequate funds; lack of training; inefficiency and resistance to change.

These problems may be addressed through various actions, which aim at increasing the efficiency, effectiveness, awareness, motivation and resources of the client, and at improving the relationship with contractors.

**PROCUREMENT PROCEDURES**

Due to lack of time, this issue was not addressed.

**DISCUSSION**

The discussion highlighted two additional methods to improve the relationship between contractors and clients:

- The contractors’ association can assist in the selection of contractors by setting guidelines together with the client.
• The client should improve the remuneration of its staff. The levels of salaries should be set in collective bargaining, to adjust wage levels to the local situation.

More detailed information on the relation between the client and the contractors is presented in the two charts on the following pages.
6.6 Group 5: Sustainability, growth and diversification of labour-based contracting

To promote sustainability, growth and diversification of labour-based contracting, the main questions are as follows:

- How much support should contractors get? For how long?
- When should competitive bidding be introduced? How? Between whom?
- Is sustainable growth of small scale labour-based contractors possible?
- What are the strategies for diversification?

The group tackled the first two questions.

Support to contractors

Support can be provided indirectly and directly. Indirect support entails creating an enabling environment through effective procedures, steady contracts, committed clients and other mechanisms. Direct supports comprises training, coaching, quality control, credit facilities and other forms of support aimed at starting and improving a contracting business.

Direct support should not be excessive, but relate to the needs, since excessive support creates dependency by the contractors. Equipment should be provided to start a business, while training and credit should be available on a continual basis.

Initially, training should be given and paid by the client. Thereafter, contractors should contribute towards the cost of training, to increase their commitment. A training fund can be established from funds received from the registration of contractors in order to create a sustainable system.

Competitive bidding

Competitive bidding should be introduced for all contractors after they repay their loans. Contractors should be introduced to competitive bidding in three stages, with the end stage being that all labour-based and machine-based contractors can bid for the same contract.

Discussion

The discussion raised the following issues:

- Competitive bidding should be introduced, as this system is considered to be sustainable. But will labour-based contractors and labour-based methods survive? The answer should be yes, if Government wants to support labour-based methods to create employment. Trained and equipped labour-based contractors
should be competitive, but new contractors will continue to need assistance.

- Will the client be able to provide a sufficient number of contracts for contractors, if the donors withdraw support? Government commitment towards employment creation then becomes even more important. The government may also consider providing other options, beside roadworks, for labour-based contractors.

- Contractors should try to diversify into other sectors, and/or loan out their equipment when they do not need it. This lessens their dependency and their overhead costs.

- In a system of competitive bidding, designs should be neutral for labour-based and machine-based methods.

- Contractors and clients need to be trained in competitive bidding before it can be introduced.

The detailed presentation of Group 5 is in the chart on the facing page.
6.7 Group 6: Should contractors be equipped?

Contractors need equipment to perform their job. However, do clients need to equip the contractors? Opinions in the group were divided, with six people saying yes, and five saying no. What the client definitely needs to do, however, is to create an enabling environment for labour-based contractors to equip themselves.

The question is what kind of equipment is needed, what the risks are, and what issues are involved.

Equipment Needed

How much and what kind of equipment is needed depends on the location. The minimum equipment need of contractors is one pedestrian roller, one pick-up, and one tractor with two trailers, or one tipper. More equipment may be provided, but then the question is how labour-based a labour-based contractor should be.

Risks of Equipping the Contractor

The risks include:

- Non-recovery of funds
- Contractors moving up-market or into other markets
- Contractors going bankrupt
- Contractors becoming machine-based

Issues

The main problems that need to be addressed to effectively equip contractors, and/or to create an enabling environment for contractors are the following:

- Lack of government commitment to equip labour-based contractors
- Lack of ability of the contractors to repay their loans
- Unsuitability of equipment
- Lack of institutions to manage equipment loans

Discussion

- By ensuring regular contracts, repayment of loans by contractors is promoted.

- The main question is no longer “how can we equip contractors?”, but “how can we create an enabling environment for contractors to equip themselves?” This represents a major change in attitude, which is applicable to the training of contractors as well. Such an enabling environment includes providing loans. Experience in Ghana suggests that most contractors will repay their loans, though interest rates are a determining factor.
The presentation of Group 6 is in the chart alongside.
6.8 Group 7: Training approaches for contracting

Training is needed to introduce clients, supervisory agents and contractors to labour-based works and new developments, and to improve their skills in order to enhance effectiveness and efficiency of labour-based works. The training differs for the three parties, since each party has its own role in the contracting process.

**Training of Clients and Supervising Agencies**

Engineers, supervisors, and private consultants need to be trained to be able to plan, manage and supervise labour-based works. Training should start before the project commences and, for consultants, before the tendering process begins. The benefiting agency (clients or consultants) should pay for their own training.

**Training of Executing Agency (Contractor)**

All staff of the contractor, from the managing director to the labourers, require some form of training to enable a smooth functioning of labour-based contracting. Generally, the contractor should pay for this, though in some cases the client may co-finance. In the long run, a loan system may be developed for the training requirements.

**Discussion**

The discussion highlighted the following issues:

- Different target groups require different trainers. They can be accredited trainers, as in South Africa, or experienced contractors, as in Ghana.

- Labour-based contracting should be included in the curriculum of universities.

- Training methodology should include training sessions and field work.

- Induction courses and courses aimed at creating awareness among contractors on the use of labour-based approaches should be paid for by the client. In the long run, however, this is not a viable option, and these courses should then be funded from a training fund or a training loan.

The presentation of Group 7 is in the charts on the following two pages.
7 Annexes

7.1 Annex 1: Regional Seminar Agenda

MONDAY 22 APRIL

0800 - 1030 Registration and transport to Golden Tulip Hotel

1030 - 1130 Opening ceremony
Chairperson: Dr A. Quarshie, Honourable Minister for Roads and Highways
Opening address by Mr D.S. Boateng, Honourable Minister for Employment and Social Welfare, Ghana
Administrative briefing by Mr A. Twumasi-Boakye, Deputy Director, Department of Feeder Roads, Ghana

1130 - 1200 Refreshments

1200 - 1245 Bus return to seminar venue

1245 - 1400 Lunch

1400 - 1445 Scene setting: presentation and discussion
Chairperson: Mr C.D. Antwi, DFR, Ghana
The objectives of the seminar, by Mr D. Mason, Training and Information Services Expert, ILO/ASIST, Nairobi
The role of the ILO, by Mr J. de Veen, Senior Expert, ILO, Geneva
The role of ASIST, by Mr D. Stiedl, Director, ILO/ASIST, Harare

1445 - 1615 Paper 1: presentation and discussion
Chairperson: Mr C.D. Antwi, Director, DFR, Ghana
Labour-based contracting - practice & prospects, by Mr A Twumasi-Boakye, Deputy Director, DFR, Ghana

1615 - 1645 Refreshments

1645 - 1730 Paper 2: presentation and discussion
Chairperson: Mr. C.D. Antwi, Director, DFR, Ghana
The development of labour-based contracting for roadworks, by Mr J. de Veen, Senior Expert, ILO, Geneva

1830 - 2000 Cocktail party
TUESDAY 23 APRIL

0800 - 1000  **Papers 3 and 4: presentation and discussion**
Chairperson: Mr R.D. Little, Senior Lecturer, University of Natal, South Africa

*The client / contractor relationship in labour-based construction & maintenance* by Mr D. Miles, Director, Institute of Development Engineering, Loughborough University of Technology, UK

*A comparison of the Ghanaian & Kenyan approaches to contracting*, by Mr G. Taylor, Director, I.T. Transport, UK

1000 - 1030  Refreshments

1030 - 1200  **Papers 5 and 6: presentation and discussion**
Chairperson: Mr M. Hmensa, Deputy Director, DFR, Ghana

*A study of the field performance of selected labour-based contractors in Ghana*, by Dr K. Ampadu & Dr Y. Tuffour, UST, Kumasi, Ghana.

*Enhancing equipment loan repayment for small-scale labour-based contractors*, by Mr E. Opoku-Mensah, Director, OPM Construction Works Ltd, Ghana

1200 - 1400  Lunch

1400 - 1445  **Paper 7: presentation and discussion**
Chairperson: Mr T. Essilifie, Deputy Director, DFR, Ghana

*Progress on the 'MART' initiative*, by Mr. D. Miles, Director, & Mr P. Larcher, Research Associate, Loughborough University, of Technology, UK

1445 - 1600  **Panel discussion: Ghanaian contractors**
Chairperson: Mr E.N.K. Ashong, Labour-based Coordinator, contractor, Ghana

Panel: Mr E. Opoku Mensah; Mr A.J.K. Mensah; Mrs L. Gbedemah; Mr S.K. Tandoh; Mr B.K. Arthur

*Video: "Feeder road maintenance: the Ghana experience."

1600 - 1630  Refreshments

1630 - 1800  **Identification of key issues for group discussion**
Chairperson: Mr J. de Veen, Senior Expert, ILO, Geneva
WEDNESDAY, 24 APRIL

0800 - 1800 Field visit
Visit to three Feeder Roads in Eastern Ghana (Amanasa-Budu; Tetekassum-Budu; and Amanfrom Jn-Kwesi Darko); the Labour-Based Training School at Kofiriduo; and Akosombo dam
Lunch at Akosombo

THURSDAY, 25 APRIL

0830 - 0845 Proceedings for group discussions: presentation
Chairperson: Mr D. Mason, Training and Information Services Expert, ILO/ASIST, Nairobi

0845 - 1000 Group discussions

1000 - 1030 Refreshments

1030 - 1200 Group discussions (continued)

1200 - 1400 Lunch

1400 - 1530 Panel presentation of group discussions
Chairperson: Mr D. Jennings, Senior Training Adviser, KTC, Kenya

1530 - 1600 Refreshments

1600 - 1730 Panel presentation of group discussions: continued
Chairperson: Mr D. Jennings, Senior Training Adviser, KTC, Kenya

FRIDAY, 26 APRIL

0830 - 0930 Seminar summary, conclusions and action plan
Chairperson: Mr D. Stiedl, Director, ILO/ASIST, Zimbabwe

0930 - 1000 Refreshments

1000 - 1030 Seminar summary, conclusions and action plan
Chairperson: Mr D. Stiedl, Director, ILO/ASIST, Zimbabwe

1030 - 1130 Closing ceremony
Chairperson: Mr K. Abbey Sam, Chief Director, Ministry of Roads and Highways, Ghana

Closing address by Dr. A. Quarshie, Honourable Minister for Roads and Highways

1130 - 1330 Lunch

1330 - 1700 Shopping

2000 - Closing dinner
### Annex 2: List of participants in alphabetical order of surname

<table>
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<tr>
<th>No.</th>
<th>Surname</th>
<th>Initial</th>
<th>Title</th>
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7.3 **Annex 3: Opening Ceremony**

**PROGRAMME**

10.20a.m. Participants seated  
10.25a.m. Arrival of Ministers, Dr. Ato Quarshie & Mr. D.S. Boateng  
10.30a.m. Introduction of chairperson by Mr. Alex Twumasi-Boakye, Deputy Director (planning), DFR  
Welcome address by Mr. C.D. Antwi, Director, DFR  
Keynote address by Mr. D.S. Boateng, Hon. Minister of Employment & Social Welfare  
Chairperson's remarks  
Vote of thanks  
Administrative briefing  
Group photographs/tea break

**KEYNOTE ADDRESS DELIVERED BY THE HONOURABLE MINISTER FOR EMPLOYMENT AND SOCIAL WELFARE, MR. D.S. BOATENG**

Mr. Chairman, Distinguished Participants, Resource Persons, Ladies and Gentlemen: it is indeed a great pleasure and honour for me to be invited to open this important seminar.

As the Minister responsible for Employment and Social Welfare, I cannot but commend the organisers of this seminar for the prospects and expectations they are going to open up for employment opportunities in the country. Allow me therefore, to add my voice of welcome to you all, especially those who have come from other countries. I hope you will enjoy our traditional Ghanaian hospitality.

Mr Chairman, in a globalised economic environment in which sweeping changes are striking at employment opportunities, I consider the theme of your seminar, Labour-Based Contracting: Practice and Prospects, as not only appropriate and relevant but also timely. For at a time most developing countries like Ghana are restructuring their economies for accelerated development and growth, the provision of effective infrastructural transport facilities like good roads, railways and telecommunications cannot be ignored nor postponed. Thus in the face of dwindling national budgetary allocations and donor support for such programmes, this seminar which seeks to introduce less capital intensive techniques for roadworks provides a challenging alternative for our urgent consideration.
It is therefore gratifying to note that the seminar is being held to achieve among others the following goals:

a) Proper labour-based contracting practices for developing countries
b) Job creation in this Programme
c) Future challenges in the Labour-based Contracting Industry

In Ghana, for instance, the Ministry of Roads and Highways proposes to implement a policy which is maintenance-based under the Highway Sector Investment Programme (Credit). Furthermore, the Ministry is trying to improve upon the Labour-based Programme to maintain most of our feeder roads as demand for good roads to open up the hinterland is increasing coupled with an increase also in vehicular traffic in the country. The Ministry hopes, after careful evaluation of the programme, to extend it to cover the trunk roads in the country too.

Mr Chairman, Distinguished Participants, I wish to urge the seminar to welcome this Labour-based Contracting Programme as a challenging and viable alternative road construction strategy and vigorously examine its ramifications for our developing economies. This is because the programme would not only lower the cost of construction but more importantly, it is going to introduce local communities to a simple road maintenance culture, which hopefully might reduce dependence on Central Government and the Donor Communities for assistance. And for me, the most exciting aspect of the programme is the opportunities it would provide for employment in the rural communities thereby minimising the drift to the urban centres with its attendant socio-economic pressures.

Mr. Chairman, it is my hope therefore that participants who come from various countries, organisations and universities will take a critical look at how best we can involve more of the local communities in simple but effective road maintenance practices. This will not only assure us of good roads all the time for vigorous economic activities, but will also lessen our dependence on Central Government and Donors.

I see the future for this Programme to be bright; in that most communities in this part of Africa are becoming conscious of community initiative programmes. This can be seen in the efforts certain communities are making in the procurement of certain basic infrastructural facilities like roads, electricity, potable water, schools, hospitals, etc. in Ghana.

Mr Chairman, Participants, Ladies and Gentlemen, let us as policy makers, professional intellectuals and non-governmental organisations use this seminar to discuss and come out with appropriate technological measures for use by communities to build and maintain their roads. Deliberations should also touch on how to design and manufacture simple but effective implements at our
mechanical workshops for use by labour-based contractors. We should attempt to answer questions like how best this Programme can be integrated into the District Assemblies or Local Councils development programme in our communities.

Ladies and Gentlemen, most of the roads built in our communities some years ago have deteriorated to zero levels beyond patching. These roads cannot be maintained if not reconstructed again. Hence millions of dollars have to be siphoned into these roads to bring them back to life. This could have been avoided if we had adopted the maintenance culture long ago. Indeed, the period when road construction and maintenance was the preserve of only Central Governments is long past. I am therefore happy that both road researchers and policy makers on the one hand and the Donor Community on the other, have seen the need for the adoption of this Programme.

It is my fervent hope therefore that our professionals and experts gathered here will not only look at issues pertaining to the engineering point of view of labour-based contracting techniques, but will also examine issues pertaining to the dignity of labour and how this can be adequately rewarded and protected. This is because most of the work will be carried out by human labour and those involved should be assured of job security, reasonable remuneration and protection.

People slated for training as labour-based contractors should be carefully examined and selected to make sure they are not only interested in monetary gains but have the interest of this Programme at heart and are prepared to sacrifice their time and energy to inculcate this labour-intensive maintenance culture into the communities they will be working with.

Mr Chairman, Distinguished Participants, the hosting of this seminar in Ghana is not only for the fact that we need to share our road maintenance experience with our sister countries in the sub-region in order to accelerate economic development and integration in the region, but we also see it as a forum for the review of our programmes. After nine years of adoption of this technology, we should be in a better position to impart our experience to our neighbours and also benefit from research findings.

Mr Chairman, Distinguished Participants, Ladies and Gentlemen, on behalf of the people of Ghana and on my own behalf, I wish to extend our commendations to the Donor Community with particular reference to USAID, ODA, DANIDA and the Japanese Government for the assistance they have given to this Programme over the years and to urge them not to cut their support but to continue assisting it until we can all attest that the Programme has come to stay and made its desired impact.
On this note, I wish to declare this seminar officially opened, and wish you all fruitful discussions. Thank you and may God Bless you all.

OPENING ADDRESS DELIVERED BY THE DIRECTOR OF THE DEPARTMENT OF FEEDER ROADS, MR. C.D. ANTWI

Mr Chairman, Distinguished Guests, Ladies and Gentlemen, I wish to express my sincere gratitude to the organisers of this seminar for inviting me to give a welcome address on this very important occasion, to take a critical look at matters relating to the labour-based small scale contracting industry in general.

I would also wish to take this opportunity to welcome those of you who have travelled from far and near to attend this august seminar, which is dear to the hearts of the Government of Ghana, the Ministry of Roads and Highways and the Department of Feeder Roads.

As you are all aware, the objective of the seminar is to provide detailed recommendations on the action plan regarding the production of a document setting out guidelines for intermediate equipment for labour-based small scale contracting for the road sector.

The scope of the ensuing document should cover both the rural and urban centres. This is the first attempt at providing a document to provide uniform guidelines to the much touted labour-based small scale industry relating to equipment.

Mr. Chairman, Ladies and Gentlemen, I find the objective of this seminar very appropriate especially as related to the guidelines affecting intermediate equipment for labour-based small-scale contracting industry, at this time in our development, and for that matter all developing economies.

Mr Chairman, Distinguished Ladies and Gentlemen, in the transfer and absorption or adaptation of any type of technology there are certain factors that should be taken into consideration. These factors may include the following:

1. the new technology should not interfere with or contradict the cultural pride and patriotic urges of the beneficiaries.
2. the technological changes should be reasonably ambitious and progressive in character.
3. the technological changes should avoid fragmentation of human faculties and promote creativity,
4. the technological changes should be supported by appropriate organisation and socio-economic factors.
5. technological growth should not lose sight of small and medium scale industries. And this I believe is what this seminar eventually aims at.
Ladies and Gentlemen, transfer and assimilation of technology is an integral part of national development involving the same basis and infrastructures. The successful transfer and assimilation of technology is directly related to the absorptive, reproductive and innovative aspects of the national technological framework.

It should be acceptable and also conform to the general national vision, aspirations and objectives.

A technological framework is, however, sustained by a socio-economic framework, particularly its all-important human elements. When therefore one talks about intermediate technology for developing economies, this becomes very relevant in the context of acute shortage of capital and surplus unemployed labour.

In many of the developing economies, technological excellence could be maintained by substituting capital with labour up to a technically feasible break-even point. Beyond this, the employment of too many people begins to take its toll upon the technical efficiency and profitability.

Every type of technology has a saturation point for effective and economic use of labour. In selecting equipment in the contracting, the human element and the capacity to adapt and adopt should not be overlooked.

Mr Chairman, Distinguished Guests, Ladies and Gentlemen, I have made an attempt to point out some of main criteria for technology transfer. I would wish to make a cursory remark that Ghana is poised to accept and assimilate the appropriate intermediate technology so as to enhance the development of roads in the country.

Development of roads to all intents and purposes is a capital-intensive venture as those of us in the current age have seen over the years. Therefore, in an economy like ours we need to find a mean between intense capitalisation and surplus labour.

At this juncture, I wish to share briefly the Ghanaian experience with you. Ghana as a Country has created the enabling environment to accept both small and medium scale technology in the road sector. The institutions are available, the skills are there and the political will is also assured. Ghana's experience in this area could therefore be exploited for the preparation of this document.

Mr Chairman, Ghana, like many developing countries, is characterised by the problem of deteriorating economic conditions, a crippling scarcity of foreign exchange and an abundant supply of cheap labour. Efforts have consequently been directed to developing and disseminating technologies which made more effective use of local resources (particularly human resources).

As part of its efforts to improve rural access in Ghana, the Department of Feeder Roads has adopted the labour-based
technology. This strategy involves training and equipping small and medium sized local contractors to enable them to undertake road rehabilitation and maintenance activities using a mix of selected plant/equipment and employing a lot of labour.

In our efforts to adopt the appropriate technology for the enhancement of our developing economy, the UNDP, through the ILO, has been of much assistance in this direction. Mr Chairman, Ladies and Gentlemen, we salute them.

Mr Chairman, Ladies and Gentlemen, the UNDP and the ILO have been the major agencies which have propelled the labour-intensive programme to its present status.

Under the pilot project, the World Bank also provided the funding for the light construction equipment to be used by the contractors, as well as the costs of the project. The Government of Ghana contributed local costs and provided the counterpart and support staff for the project.

This Pilot Project was first established in 1986 in the forest areas of the Western Region with Sefwi Wiawso as the centre of operations.

This is a major cocoa growing area producing around 100,000 tonnes annually. The severe climatic and topographic conditions ensure some of the worst feeder roads in the country. This is a very high rainfall area with usually only two dry months. If the project succeeded in this very difficult terrain, then it would work anywhere.

The project did succeed and other areas were also taken up. I therefore pause to state that the merits and demerits of Western Region experience in Ghana could be analysed in detail to assess the type of equipment that were used in the difficult terrain. This study is important to enable us to avoid all the pitfalls and capitalise on the positive aspects.

The labour-intensive programme has been so successful that over 1,400km of roads have been constructed whilst more than 93 small-scale contractors have been trained of which 54 are fully equipped. Meanwhile, there are 356 applicants on waiting to participate in the programme. Other contractors registered with the Ministry of Works and Housing have realised the importance of the labour-based programme, and expressed interest in having their staff trained.

Mr Chairman, it must be noted that the training included the use of light equipment.

After completion of the contractors' training, the ILO team together with the DFR Engineers continued to provide technical advice and close supervision of the trainees' work until 1990 when they handed over completely to our Local Engineers.

The Department of Feeder Roads still has an ILO Training Adviser with us helping with our general training and development programmes.
Mr. Chairman, Distinguished Guests, Ladies and Gentlemen, the relevance of this seminar can be seen through the lenses of the Ghanaian success story. Although the programme has seen marked improvement, one cannot claim excellence; there is still room for improvement. It is assumed that when there is improvement in equipment and tools, the modus operandi of the system will also assume the same dimension.

Mr Chairman, those gathered here are mostly professionals who have a common objective to improve the prevailing labour-based system.

Participants from other countries and with national experiences will have serious bearing on the outcome of this seminar. I entreat you to interact freely without reservations or hiding anything under the carpet.

Fortunately, the experiences we have are mostly in the African region where work cultures are not diametrically opposite but are closely interrelated. These are the advantages that we have to exploit to come up with a more cogent and futuristic document which will stand the test of time and be acceptable internationally.

The other point worthy of notice is that this seminar should recommend equipment that may be easily maintained and managed, with the least of skills.

You should also relate to equipment that may have a local capacity for production and maintenance in terms of availability of plants.

The seminar may consider improvement of existing hand tools, simple implements and even other non-motorised means of transport so as not to come into conflict with other traditional norms that may hinder the progress of the labour-intensive programme.

Mr Chairman, I wish all participants who have travelled from outside the country to attend this seminar a happy stay. It is my wish that they will have a good sampling of the proverbial Ghanaian hospitality.

I wish you all the best in your deliberation and hope that in the end, we all have a lasting document to guide us in the provision and management of intermediate equipment in the Industry.

Thank You.
7.4 Annex 4: Closing ceremony

PROGRAMME

1020 am Participants seated
1025 am Arrival of the Honourable Minister for Roads and Highways, Dr Ato Quarshie
1030 am Introduction of chairperson by Mrs May Obiri-Yeboah.
Chairperson: Mr K. Abbey Sam, Chief Director of Ministry of Roads and Highways.
Address by Mr David Stiedl, ILO/ASIST, Harare
Address by Mr C.D. Antwi, Director, DFR
Closing Address by Dr Ato Quarshie, Honourable Minister of Roads and Highways.
Vote of thanks by Mrs Paulina Agyekum-Boamah.

CLOSING ADDRESS

Unfortunately, the Closing Address is not available.
7.5 Annex 5: Full text of the discussions

THE ROLE OF THE ILO, BY J. DE VEEN

Q. Did the World Bank Meeting on rural transport (April 1996) address rural transport planning in addition to physical transport?

Yes, planning aspects and rural accessibility are concerns of the World Bank as well. However, it has to be kept in mind that whatever policy has been discussed during the meeting has to find its way to implementation by the local staff. Local staff thus have to be convinced of the issues.

The World Bank is presently implementing the “Sub-Saharan Africa Transport Program” (SSATP). SSATP has produced four papers on transport in Africa, which give an insight into its activities.

Q. Should contracts for contractors be standardised or not, and/or should they be simplified?

Contracts cannot be standardised, as objectives of contracts may differ. The objectives may be road maintenance, or minor or major rehabilitation, which require different kinds of contract. Contracts may be simplified, however, though they should still offer well-documented protection to the contractor and the client. The ILO is presently preparing guidelines on this issue.

LABOUR-BASED CONTRACTING: PRACTICE AND PROSPECTS, BY A. TWUMASI-BOAKYE

Remark: It was noted that the paper makes some omissions in regard to the Kenya Contractor Training Project and the Uganda Labour-based Programme.

The omissions in regard to the Kenya Contractor Training Project include:

- Selection criteria for contractor training include other variables besides the educational qualifications of contractors, such as the ability of contractors to provide supervisors
- Competitive bidding is not open to all contractors, but is restricted to trained and registered contractors
- Tenders are limited, as expressed in the paper, but it should be noted that this is accepted by all parties concerned
- It was noted that the project selects in first instance those contractors who can provide supervisors with some experience
In regard to the Uganda labour-based programme, it was noted that the main problem is that the Ghanaian experience was duplicated in Uganda without any consideration of different local circumstances. This has caused various problems in the project.

**Q. On average, fifty percent of all contractors fail. What is being done to prevent failure? Is there an early warning system?**

In Ghana, the Department of Feeder Roads maintains personal relations with the contractors to identify and discuss the problems of the contractors. If a contractor is making losses, the Department analyses the causes and tries to help. Some contractors, however, cannot be helped and will still fail.

Communications and good client-contractor relations are essential in ensuring the success of contractors.

**Q. The paper did not compare costs per kilometre, or size and value of contracts across the region. Why?**

These issues are difficult to compare, especially at an international level, as the local conditions are never exactly the same. First of all, the objectives of projects may differ, as projects may be directed to routine maintenance or minor or major rehabilitation works. This, in turn, affects the size of the project. Secondly, the working environment may differ. The environment may for example be rural or urban, requiring different working methodologies and specifications. Thirdly, the relative and absolute cost of labour and machines is likely to differ between countries and regions, affecting costs per kilometre, and the size and value of contracts.

Comparison between projects on the basis of costs per kilometre, or of the size and value of contracts, is thus very difficult, since different conditions may have caused the differences in costs, size or value (see also paper five and the discussion).

**Q. How can we make use of the international experience in contracting? Can this forum come up with interim guidelines, while we wait for the ILO guidelines?**

The ILO is preparing guidelines on contracting, which are expected to be finalised in 1997. However, experience gained and documented should be adapted and utilised where appropriate. This forum offers the possibility of exchanging ideas in this regard.

**MANAGING LABOUR IN LABOUR-BASED ACTIVITIES: AN APPROACH FOR SUSTAINING LABOUR-BASED CONTRACTING, BY DAVID TAJGMAN**

**Q. Should we uphold the minimum wage or not? In areas of high unemployment, workers are willing to work for less than the legislated minimum wage, and contractors may be tempted to do so. What policy is advisable?**
The question raised a serious debate, with some people maintaining that we should always uphold the minimum wage, since it is initiated for a reason, and some people more doubtful. Arguments included that: lower wages may result in more employment generation; higher wages may result in jeopardising farm work; legislative minimum wages disrupt the labour market; and contractors should not exploit labour.

It was argued that the level of pay should depend on the project. On the one hand, self-help and poverty relief works tend to pay below the minimum wage, while on the other hand productivity-oriented works performed by contractors tend to pay higher wages. In this regard, the question was raised whether poverty relief work was actually forced labour, exploiting the need for income.

The appropriate wage level was considered to depend on the local situation. Contractors should be allowed to work cost-effectively, while labour should receive a "fair" payment. Contractors ought to be made aware of the issues involved in setting wage levels to be able to set realistic wage levels.

Wage levels can be set in collective bargaining agreements between contractors’ and workers’ organisations.

Q. Can we monitor the payment of minimum wages?

Labour inspectorates in most African countries are not monitoring the payment of minimum wages efficiently and effectively. Other solutions thus ought to be considered. Two options are:

- to include wage levels in contracts, and include monitoring of wage levels in the monitoring of the works; and
- to promote setting and monitoring of wage levels by contractors’ and workers’ associations.

Q. What is the opinion of the ILO on appropriate wage levels?

Appropriate wage levels depend on the local situation, and should thus be flexible, without exploiting labour. However, the ILO is not in a position to provide advice in this area, as this is an area in which a lot of study still needs to be done.

THE CLIENT-CONTRACTOR RELATIONSHIP IN LABOUR-BASED CONSTRUCTION AND MAINTENANCE, BY DEREK MILES

Remark: In South Africa, contractors were forced to spend 12 percent of their contract on training, in an attempt to promote an active role of contractors in local development. This did not work, mainly because the decision was made unilaterally and at a late stage of the negotiations. Contractors are now free to decide how to contribute to local development.
Q. How can equal and trustful relationships develop between clients and small, emerging contractors?

Systems must be developed to foster equality between small scale contractors and clients. These systems should be directed to develop, strengthen and empower local contractors.

It was suggested that the formation of a contractors’ association may tackle the problem. In Ghana, for example, the contractors’ association established a good and continuing dialogue with the client (Department of Feeder Roads).

In South Africa, there is a reluctance to accept contractors outside the area where the public works are implemented.
Q. How can small scale contractors compete with large scale contractors?

Clients are often more willing to contract large contractors, since it is considered that they are more likely to deliver the product. A solution to the problem may be to promote joint ventures between large scale and small scale contractors. Though the risks in joint ventures are largely borne by the small scale contractors, profits are shared.

Q. Would contractors survive if they did not receive any assistance after training?

Most participants agreed that contractors required some form of assistance. The question then is what kind of assistance should be given, how much, and for how long.

In Ghana, contractors are assisted with orders and equipment (on loan) after their training. A personal relation between the department and the contractor further helps to identify contractors with problems, and subsequently tackle these problems. The question is: how sustainable is this system of support? Will the contractors survive when competitive bidding is introduced?

FORCE ACCOUNT OR CONTRACTORS? A COMPARISON OF KENYA AND GHANA, BY GARY TAYLOR

Q. How important is government policy on choice of technology?

It was argued that government policy is essential for the sustainability of labour-based projects, since governments have to develop an enabling environment for small scale labour-based contractors. Bureaucracy supresses the development of labour-based small scale contractors and should be avoided.

However, technology choice depends first and foremost on local economic conditions, such as the relation between labour and equipment costs. If the relative labour costs are too high, then labour-based technology is not cost-effective and a policy to promote labour-based technology will not be effective. A related point of debate was how the government can actually implement such policies.

Q. Can the government influence how funds are spent (labour- or machine-based), considering the importance of donor funding?

The government can decide how local funds should be spent, but not donor funds, should be spent. In this regard, government policies on public works should not only consider technical and financial issues, but also employment creation. South Africa has developed a project evaluation system based on job-creation.
Donor funds, including funds from the World Bank, are more difficult to influence by governments. The main problem is that a large percentage of these funds remain in the donor countries. There is a need to influence donors, and especially the World Bank, to change these policies and promote expenditure of donor funds in the receiving countries and on labour-based projects.
A STUDY OF THE FIELD PERFORMANCE OF SELECTED LABOUR-BASED CONTRACTORS IN GHANA, BY SAMUEL K. AMPADU

Q. Are labour-based road works cheaper than machine-based approaches, delivering the same quality of work? Is research done or needed?

The question of cost-effectiveness of labour-based methods is very important. It requires considerable research, especially in the design phase of projects, where we need to make an economically sound technology choice.

However, cost comparison is difficult, as no two roadworks are similar. International comparisons are particularly difficult, since the ratio of labour and capital costs differs between countries. Furthermore, the kind of work may differ from one project to another (routine maintenance; minor or major road rehabilitation), or the local circumstances may differ (urban versus rural; hilly versus flat). All these differences between projects influence costs, and make conclusions such as “labour-based is cheaper than machine-based” difficult.

One way to compare costs may be to compare costs of a large number of labour-based roadworks with a large number of capital-based roadworks.

However, research in Ghana and South Africa indicates that labour-based roadworks are often cheaper than machine-based. The research in South Africa is particularly important, since labour in South Africa is relatively expensive. In Ghana, research indicates that costs of labour-based methods are about 15 to 20 per cent lower than machine-based methods, though in some activities, such as gravelling, labour-based methods can be more expensive (research performed in 1991).

ENHANCING EQUIPMENT LOAN REPAYMENT FOR SMALL SCALE LABOUR-BASED CONTRACTORS, BY E. OPOKU-MENSAH

Q. In Ghana, labour-based contractors are equipped with three tractor heads and one tipper. Are they over-equipped?

Several people argued that the contractors in Ghana were over-equipped, arguing that contractors use tippers only 20 percent of the time. Wheelbarrows and trucks can provide the same output with less investment in equipment and more employment generation. If contractors really need tippers, it was argued, they should buy them themselves.

The contractors’ association of Ghana, however, claims that labour-based contractors require tippers. Tippers, it was argued, are more cost-effective than tractors, wheelbarrows and trucks for long distances. Furthermore, tippers enable contractors to grow.
Q. Why do banks need collateral and do they charge high interest rates on loans?

For contractors to purchase equipment without assistance from the client, they require a loan. Banks, however, demand collateral, which starting contractors do not have. Banks also charge high interest rates, which demand a high return on investment, resulting in a high risk on investments. This limits the effectiveness and growth of contractors.

The representative of the Agriculture Development Bank in Ghana defended the situation by arguing that banks need collateral to ensure payment. The value of the collateral is less than the value of the loan (about one third), which is very reasonable. Equipment cannot function as collateral, since the bank cannot control the equipment.

Interest rates, the representative continued, are not controlled by the bank, but determined by international and national economic trends, such as inflation levels, exchange rates and economic growth rates. In Ghana, the banks try to offer reasonably low interest rates (40 percent). The system of 'Diminishing Balance' promotes high repayment schedules at the onset, when the equipment is still new, and lower repayment towards the end of the period of the loan.

**PROGRESS ON THE MART INITIATIVE, BY DEREK MILES AND PAUL LARCHER**

Q. Has a proposal been written for a guideline on contractor development?

Funds are currently being sought.

Q. It has been said that there are motorised wheelbarrows in South Africa. Is this true, have you heard of it?

Nobody had heard of these. However, it was argued that we should concentrate on developing and promoting appropriate technology that is absolutely essential, and not just fun, or interesting.

**PLENARY SESSION: GHANAIAN CONTRACTORS**

Q. Of the contractors represented, how many are employing both labour-based and machine-based construction methods?

Two out of five contractors are using both methods.

Q. For contractors employing both labour-based and machine-based methods: how much time do you spend on site for the management of labour-based projects, as opposed to machine-based projects?

Labour-based projects require a lot of management, for which the contractors employed qualified supervisors. The supervisors are able to manage the projects with little assistance. For machine-based projects, the contractors do not employ supervisors who are qualified
in management. The directors thus have to assist in the management of machine-based projects. Therefore, machine-based projects require more time from the directors.

Q. What are the major weaknesses of labour-based contracting, and how are they addressed?

According to the panel, the major weakness is the low public awareness of labour-based methods at grassroots level. Roads are perceived to be rehabilitated and maintained by machines. Labour-based methods are considered as ‘inferior’, and thus less beneficial for local development than machine-based methods.

The contractors now address the participation of people through the chiefs.

Q. Are education and public awareness necessary for people to participate in labour-based works? Is the salary not high enough to motivate people?

Money is a motivator, but if people understood labour-based approaches and saw the road as contributing to their development, they would be even more motivated. To promote participation and long term maintenance, the negative perception of labour-based approaches needs to be addressed.

Q. How much influence does the Labour-based Contractors’ Association in Ghana (LABCA) have on the Department of Feeder Roads and the contractors?

LABCA influences the Department and contractors in the following ways:

- conflict resolution between contractors and the department, among contractors, and between contractors and workers
- training of contractors
- technical issues, through its technical committee (for example: LABCA stresses the need for labour-based contractors to have tippers)
- negotiation of contracting rates (LABCA negotiates the rates with the Department).

Q. After ten years of experience with labour-based contracting in Ghana, are you still small scale contractors, or have you expanded and become large scale contractors?

In Ghana, the law defines contractors applying labour-based methods as small scale industries. The labour-based contractors are thus small scale contractors by law. However, the industry has advanced and developed some characteristics of large scale industries. Labour-based contractors have learnt, for example, how to deliver on time.
Contractors are however still guaranteed work, and thus protected from competitive bidding.

Q. In the future, competitive bidding will be introduced. What is your opinion on competitive bidding?

At present, there is no free market in labour-based contracting in Ghana. Trained contractors are given preference in awarding contracts, and rates are set in negotiations between LABCA and the Department of Feeder Roads. With a system of competitive bidding, competition will be introduced (though the Department of Feeder Roads will be the only customer, resulting in a dependency relation).

It was noted that competition is no problem for contractors who have paid off their loans. They are considered to be competitive. Furthermore, contractors who are not awarded contracts may subcontract from those who are, or use their equipment and personnel otherwise.

A problem may exist for contractors who have not paid off their loans, as competitive bidding would introduce the risk of non-repayment.

Bidding procedures also take time, and contractors may thus find themselves without work between contracts. Workers still have to be paid however, and machines continue to require maintenance. Who will pay these costs?

Q. Will competitive bidding make the contractors’ association redundant?

No, co-operation between labour-based contractors remains useful in areas such as training, conflict resolution and political lobbying.

Competitive bidding also creates needs for an association. Contractors may need assistance in developing and strengthening negotiating skills and budgeting systems.

Q. Is a system of competitive bidding better than a system with fixed rates?

Competitive bidding is “just a headache”, according to one of the contractors. However, it was also felt that competitive bidding will make contractors more competitive, since they have to continuously increase their efficiency and effectiveness to compete successfully. A system of competitive bidding may thus be more sustainable.

Q. If you would receive another loan of US$150,000., would you re-invest in labour-based road construction?

On this question, the opinions of the contractors were divided. Two said yes, they would invest in labour-based contracting again, since they have a deep insight into this field and contracts are available. One contractor, however, would not invest in this field again, since it involves “too many headaches”. The remaining two contractors did not answer the question.
Q. Labour-based contracting is a high risk business due to the climatic season and strikes. How do these affect your operations?

Contractors in Ghana plan only ten months a year, to allow for work stoppages during the rainy season. During the rainy season, furthermore, task rates are adjusted, the work starts earlier (it tends to rain in the afternoon), and productivity-related pay systems are introduced to promote fast work.

If the work is delayed due to rains, the contractors report this to the client. The client may check the validity of the report, by asking for a weather report from the Meteorological Department. One contractor felt this was unfair, since the Meteorological Department does not know the rainfall in that specific location, while the contractor was on the site. The client should trust the contractor.

Strikes are not a problem in Ghana.

Contractors may face cash problems, which can be prevented through planning. A bank may provide overdraft facilities.
Q. For how long were you trained? What were the subjects?

In Ghana, contractors are trained for 18 weeks on technical and management issues.

Q. How do you foresee the future of small scale contractors? Do you encourage the accumulation of equipment, which may lead to moving towards equipment-intensive works?

Labour-based works are a mix of equipment and labour, with labour being central to the work. Certain pieces of equipment are necessary and appropriate to the work. It is therefore not a question of accumulation of equipment, but one of selection of appropriate equipment.

Q. How do you attempt to use tools as effectively and efficiently as possible?

Contractors recognise that to make profits, the correct tools must be used correctly. The contractors association performed a study in this regard and determined that tools should be replaced three times a year to maximise productivity. The contractors attempt to follow these guidelines.

Q. Do the contractors at DFR diversify into other areas of work, using the equipment they have been provided, when there are no contracts on labour-based roadworks?

The situation has not occurred in Ghana, since contracts follow each other without gaps. The situation may occur if competitive bidding is introduced, and does occur in other countries at the end of the year, when the client runs out of money.
7.6 Annex 6: List of group members

**GROUP 1**
Moderator: D. Jennings

**GROUP 2**
Moderator: P. Bentall

**GROUP 3**
Moderator: G. Taylor

**GROUP 4**
Moderator: T. Rwebangira
Participants: A. Twumasi-Boakye, A. Kidanu, L. Gbedemah, T. Levy Nteko, W. Musumba, D. Miles, J. de Veen

**GROUP 5**
Moderator: E.N.K. Ashong

**GROUP 6**
Moderator: B.G. Ariga
Participants: M. Shone, W. Higenyi, B. Seetsa, M. Oloivi-Yeboah, A. Uriyo, H. Danso, B. Illi, P. Larcher, E. Yamoah, J. K Afankwah, J. Hamper

**GROUP 7**
Moderator: S.K. Ampadu
7.7 **Annex 7: Results of the evaluation questionnaire**

On the last day of the Regional Seminar for Labour-based Experts in the Road Sector in Sub-Saharan Africa the participants were asked to fill in a questionnaire. Out of 103 participants, 73 answered the questionnaire. The outcome of the questionnaire was as follows:

<table>
<thead>
<tr>
<th>Average score</th>
<th>Number of participants for each score</th>
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<tbody>
<tr>
<td><strong>Hotel Accommodation</strong></td>
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<tr>
<td>Room facilities</td>
<td>2.9</td>
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<tr>
<td>Laundry services</td>
<td>3.0</td>
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<tr>
<td>Leisure facilities</td>
<td>2.4</td>
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<tr>
<td>Breakfast</td>
<td>2.9</td>
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<tr>
<td>Value for money</td>
<td>2.8</td>
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<tr>
<td><strong>Seminar Venue</strong></td>
<td>3.5</td>
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<td>Facilities</td>
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<td>Refreshments</td>
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<td>Lunches</td>
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<td>Visual Aids</td>
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<tr>
<td><strong>Seminar Presentations</strong></td>
<td>3.7</td>
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<tr>
<td>Chairpersons</td>
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<td>Paper presenters</td>
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<td>Papers themselves</td>
<td>3.6</td>
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<td>Group facilitators</td>
<td>3.8</td>
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<tr>
<td>Use of pinboards</td>
<td>3.6</td>
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<tr>
<td><strong>Seminar Organisation</strong></td>
<td>3.8</td>
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<tr>
<td>Choice of venue</td>
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<td>Secretariat support</td>
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<td>Registration</td>
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<td>Publication display</td>
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<td>Pinboard display</td>
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<tr>
<td>Plenary sessions</td>
<td>3.7</td>
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<tr>
<td>Group sessions</td>
<td>3.8</td>
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</tbody>
</table>

Score: 1 = poor; 2 = fair; 3 = good; 4 = very good; 5 = excellent

**Seminar presentations**

- The themes were appropriate, felt all 72 respondents.
- The number of papers was too few, felt eight respondents; right, said 47 respondents; and too many, said 12 respondents.
- The length of the papers was right, felt 50 respondents; and too long, felt 11 respondents.
Seminar organisation
- The seminar was too short, felt three participants; right, said 60 participants; and too long, felt five.
- The number of participants was too small, according to one participant; right according to 45; and too many, said 19 respondents.
- The balance between papers and groupwork was right, according to 37 respondents; 20 respondents felt that there were too many papers; and four that there was too much groupwork.

Comments on hotel accommodation
- All participants should stay in the same venue, mentioned one respondent. Participants should have a wide opportunity on type of accommodation, mentioned another.
- One participant gave in socks with holes and got brand new ones back.
- Tea break should serve more kinds of refreshment; while the food range was too small, and breakfast was monotonous, mentioned five respondents.
- The venue was too far from town, stated two respondents.

Comments on seminar venue
- Water should be served on all tables, and include mineral water, mentioned one respondent.
- The conference room did not allow the effective use of visual aids (two respondents), lacked tables too write on (two respondents), and had inadequate air conditioning (one respondent).
- The conference room was too small, mentioned many respondents.

Comments on seminar presentation
- The group facilitators should be more experienced, or better prepared, according to three respondents.
- More visual aids should be used (one respondent).
- Some presented papers were good, others poor; several were too general (two respondents).
- More time should be allocated to plenary and paper discussions, mentioned three respondents.
- Papers should be more scientific, mentioned one respondent; but more practical according to two others.
- Papers should have a maximum number of pages, according to one respondent.
- Information/papers should be send to the participants in advance (four respondents).
- Some presentations were too long, and the chairperson too lax (one respondent).
- A (parallel) session should be organised on technical issues (one respondent).

Comments on seminar organisation
- The maximum number of participants should be 120 (one respondent).
Comments on seminar transport
• For the site visit, the buses need microphones (one respondent).
• There was lack of information at the airport (one respondent).
• Drivers for city transport should not drink before driving back (one respondent).
General comments

- Many respondents complimented DFR on the excellent organisation.
- More suppliers, manufacturers, contractors and consultants should be invited, said two respondents.
- ILO/ASIST should be more involved in the organisation (two respondents).

The future

Venue of the next seminar: 19 respondents suggested Kenya; 18 respondents Uganda; and seven Botswana. 11 other countries were mentioned, of which three were outside Africa.

Themes of the next seminar: Sixteen different themes were suggested. Most popular were:

- Contractor development (eight respondents)
- Contract documentation (seven respondents)
- Sustainability of labour-based works (seven respondents)
- Appropriate technology (six respondents)
- Maintenance (six respondents)
- Quality/cost comparison (six respondents)
- Quality control (five respondents)
- Labour issues (five respondents)

Most respondents felt that the seminar should address one theme, or a maximum of two themes, with no more than six topics.

Outside activities: 39 respondents wanted outside activities; nine not. Outside activities should be site visits and/or tourism and shopping. A city tour and/or night tour would be welcomed by several respondents. Many participants remarked that Ghana has set a good example. One participant suggested an exhibition of appropriate technology; another participant suggested a more elaborate photo exhibition.