

Seventh Regional Seminar for Labour-based Practitioners

**Ministry of Works and Supply, Zambia
in collaboration with ASIST**

**Lusaka, Zambia
3rd – 7th May 1999**

Labour-based Technology A Review of Current Practice

PROCEEDINGS OF THE SEVENTH REGIONAL SEMINAR

Theme of the seminar:

Contracting in Employment-intensive Works

Compiled by

Les Sampson

Sampson Consulting

and

Pat Loots

Executive Focus

Edited by

ASIST Nairobi, Kenya



International Labour Organisation

**Advisory Support, Information Services and Training (ASIST)
Nairobi, Kenya and Harare, Zimbabwe**

Copyright © International Labour Organisation 1999

Seminar papers Copyright © Authors of the papers

Publications of the International Labour Organisation enjoy copyright under Protocol 2 of the Universal Copyright Convention. Nevertheless, short excerpts from them may be reproduced without authorisation, on condition that the source is indicated. For rights of reproduction, adaptation or translation, application should be made to the ILO/ASIST Information Service, PO Box 60598, Nairobi, Kenya, or to ILO Publications Branch (Rights and Permissions), International Labour Office, CH-1211 Geneva 22, Switzerland. The International Labour Office welcomes such applications.

ISBN: 111869-X

First published 1999

Final edit by Angela Kabiru-Kangethe, Violet Kwanda, David Mason of ILO/ASIST

ASIST publications can be obtained direct from the ASIST Information Service, PO Box 60598, Nairobi, Kenya, Tel +254-2-572555, Fax +254-2-566234, email: iloasist@iloasist.or.ke, WebSite: <http://iloasist.csir.co.za>; or from Employment-Intensive Investment Branch, ILO, 4 route des Morillons, CH-1211 Geneva 22, Switzerland

The designations employed in ILO publications, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the International Labour Office concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers. The responsibility for opinions expressed in signed articles, studies and other contributions rests solely with their authors, and publication does not constitute an endorsement by the International Labour Office or the opinions expressed in them. Reference to names of firms and commercial products and processes does not imply their endorsement by the International Labour Office, and any failure to mention a particular firm, commercial product or process is not a sign of disapproval.

This is not an official ILO document

Printed in Kenya



Abbreviations and acronyms

ASIST	Advisory Support, Information Services and Training
AUN	African Universities Network
BOQ	Bill of Quantities
CARNS	Community Access Road Needs Study
CBO	Community-based Organisation
CDA	Community Development Association
CPP	Community-Partnered Procurement
CSO	Civil Society Organisation
DANIDA	Danish International Development Agency
DISS	Department of Infrastructure and Support Services
EEOA	Economic Expansion in Outlying Areas
EIP	Employment Intensive Programme
FASE	Food for Assets and Sustainable Employment
FIDIC	Federation Internationale des Ingenieurs-Conseils
FINNIDA	Finnish International Development Agency
GDFI	Gross Domestic Fixed Investment
ICE	Institution of Civil Engineers
IDA	International Development Agency
IHE	Institute of Highway Engineering
ILO	International Labour Organisation
IMT	Intermediate Means of Transport
IRAP	Integrated Rural Accessibility Planning
LBT	Labour-based Technology
LCU	Labour Construction Unit
MLGH	Ministry of Local Government and Housing
MoWHC	Ministry of Works, Housing and Communication
MoWS	Ministry of Works and Supply
NDF	Nordic Development Fund
NEC	New Engineering Contract
NGO	Non-government Organisation
NORAD	Norwegian Agency for Development
NRB	National Roads Board



Abbreviations and acronyms (continued)

PWP	Public Works Programme
PUSH	Programme Urban Self Help
RDC	Resident Development Committee
RDTS	Roads Department Training School
REEF	Rural Economic Expansion Facility
RMI	Road Maintenance (now Management) Initiative
ROADSIP	Road Sector Investment Programme
SACII	Southern Africa Construction Industry Initiative
SARCIC	Southern Africa Regional Council for Construction
SATCC	Southern Africa Transport and Communications Commission
SFD	Social Fund for Development
SSATP	Sub-Saharan Africa Transport Program
TNA	Training Needs Assessment
TRP-FRC	Transport Rehabilitation Project; Feeder Roads Component
ZNCC	Zambia National Council for Construction



Table of Contents

1	INTRODUCTION.....	8
1.1	Background to the seminar	8
1.2	Structure of the report.....	9
2	SEMINAR PROCEEDINGS.....	10
2.1	Seminar objectives.....	10
2.2	Seminar Structure	10
2.2.1	Plenary sessions.....	11
2.2.2	Parallel workshops	11
2.2.3	Field visit	11
2.3	Seminar participants	12
2.4	Evaluation	12
2.5	Acknowledgements	13
3	OVERVIEW OF CONTRACTING.....	14
3.1	Trends in Employment-intensive Programmes	14
3.1.1	Discussion Highlights.....	17
3.2	Contracting Development	18
3.2.1	Key Issues.....	18
3.2.2	Key Issues for the Future.....	20
3.2.3	Discussion Highlights.....	22
3.3	Contracting in Zambia	23
3.3.1	Developments with the Zambia National Council for Construction. 23	
3.3.2	Contracting in Zambia: The Zambia National Roads Board — Its Role in Sector Management.....	25
3.3.3	Discussion Highlights.....	27
4	SUMMARY OF PARALLEL WORKSHOPS	28
4.1	Workshop 1: Credit Facilities and Appropriate Investments for Contractors	28
4.1.1	Credit Facilities for Contractors.....	28
4.1.2	Uganda Transport Rehabilitation Project; Feeder Roads Component	30
4.1.3	Summary of Working Group Discussions	31



4.2	Workshop 2: Contract Documentation and Tendering Procedures	35
4.2.1	Contract Documents for Small Scale Contracts in the Road Sector..	35
4.2.2	An Approach to the Preparation for and Submission of Tenders for Competitive Labour-based Construction Contracts.....	36
4.2.3	Summary of Working Group Discussions	37
4.3	Workshop 3: Labour Policies and Practices in Contracting.	41
4.3.1	Employment...?? yes, but quality employment with fair working conditions.....	41
4.3.2	Summary of Working Group Discussions	43
4.4	Workshop 4: Accessibility and Rural Transport.....	44
4.4.1	Improving Access and Management of Intermediate Means of Transport in Sub-Saharan Africa	44
4.4.2	Stakeholders Participation in Rural Access Road Prioritisation – the South African Experience	45
4.4.3	Summary of Working Group Discussions	48
4.5	Workshop 5: Capacity Building and Contract Management Issues	50
4.5.1	Labour-based Works in Lesotho: Capacity Building and Development of Construction Industry	50
4.5.2	Contracts with Works Paid by Km and Contractors in Three Levels	52
4.5.3	Summary of Working Group Discussions	53
4.6	Workshop 6: Sustainability, Growth and Diversification of Contractors	55
4.6.1	Sustainability, Growth and Diversification of Contractors	55
4.6.2	A Case Study for Labour-based Contractor Training in Egypt	57
4.6.3	Summary of Working Group Discussions	58
4.7	Workshop 7: The Role of the Client, Contractors and Consultants Associations	61
4.7.1	The Role of the Client, Contractor and Consultant Associations on the Labour-based Road Programmes in Zambia; ‘Where Do We Go From Here’?.....	61
4.7.2	Southern Africa Construction Industry Initiative (SACII); Status Report (1993 – 1999)	62
4.7.3	Summary of Working Group Discussions	64
4.8	Workshop 8: Urban Upgrading and Community Contracting	65
4.8.1	Infrastructure Procurement Strategies to Benefit the Urban Poor ..	65
4.8.2	Stakeholders Participation in Urban Infrastructure Design and Implementation: Experiences and Challenges	67
4.8.3	Community Contracting in Zambia	68
5	FIELD VISIT	73
5.1	Introduction	73
5.2	Site 1: Chanda	73
5.2.1	Summary of Site Visit	73



5.2.2	Highlights of the Discussions	75
5.3	Site 2: Chongwe - Kanakantapa	76
5.3.1	Summary of Site Visit.....	76
5.3.2	Highlights of the Discussions	78
5.4	Site 3: Kasisi - Ngwerere	78
5.4.1	Summary of Site Visit.....	78
5.4.2	Highlights of the Discussions	79
6	FINAL SUMMARY AND CONCLUSIONS OF THE SEMINAR	81
7	ANNEXES	87
7.1	Annex 1: Seminar Programme.....	87
7.2	Annex 2: List of Participants	93
7.3	Annex : Seminar Evaluation	107
7.3.1	Questionnaire	107
7.3.2	Results	109
8	ANNEX 5: OPENING SPEECH.....	119
8.1	Speech Delivered by Hon. Godden K. Mandandi, MP – Minister of Works and Supply at the Official Opening of the Seventh Regional Seminar for Labour Based Practitioners. Pamodzi Hotel, 3rd – 7th May – 1999	119
9	ANNEX 6: CLOSING SPEECH.....	123
9.1	Speech Delivered by the Permanent Secretary – Ministry of Works and Supply at the Closing of the Seventh Regional Seminar for Labour Based Practitioners 7th May 1999 Pamodzi Hotel	117



1 Introduction

1.1 BACKGROUND TO THE SEMINAR

The Seventh Regional Seminar for Labour-based Practitioners took place from 3 – 7 May 1999, in Lusaka, Zambia. It was jointly organised by the Ministry of Works and Supply (MoWS) in collaboration with the ILO/ASIST programme. The theme of the seminar was “Contracting in employment-intensive works”.

ILO/ASIST has previously initiated six successful regional seminars, where labour-based practitioners from Sub-Saharan Africa, and beyond, have met to review developments in labour-based technology. Previous seminars have been held in the following countries:

- 1st Mbeya, Tanzania, 26 – 28 February 1990
Topics covered: low cost structures, haulage, training, road maintenance, labour management
- 2nd Mhales Hoek, Lesotho, 2 – 6 March 1992
Topics covered: road maintenance, contracting, compaction, labour standards
- 3rd Harare, Zimbabwe, 27 September – 1 October 1993
Topics covered: tools and equipment, small-scale contractor development, involvement of women in labour-based roadworks, ASIST Technical Enquiry Service
- 4th Johannesburg, South Africa, 16 – 20 January 1995
Theme: urban infrastructure development, education and training
- 5th Accra, Ghana, 22 – 26 April 1996
Theme: labour-based contracting.
- 6th Jinja, Uganda, 29 September – 3 October 1997
Theme: the right tool for the job – a review of tools and equipment for labour-based infrastructure works.

The seminar was structured for both plenary and parallel working group sessions to provide an opportunity for the mainly African stakeholders in labour-based infrastructure works to share their experiences and debate specific issues and problems related to the theme of the seminar. The outcome of the plenary and working group discussion sessions were summarised in the form of recommendations and conclusions for agreement by delegates on the final day of the seminar.



2 Seminar Proceedings

2.1 SEMINAR OBJECTIVES

The objectives of the seminar were:

- To provide a forum for practitioners in labour-based and employment-intensive infrastructure works to exchange experiences
- To update participants on employment-intensive activities in Africa
- To specifically investigate the use of labour-based technology in the sectors of rural roads, rural transport and urban infrastructure for low-income settlements
- To promote cost-effective and sound engineering practice for labour-based methods
- To promote the generation of local employment opportunities and minimise the foreign capital drain implicit in the use of equipment-intensive methods
- To identify and discuss issues related to contracting in employment-intensive works.

The first two objectives were common to all previous regional seminars, the third objective was included in the 6th regional seminar, while the other three objectives were specific to this seminar.

2.2 SEMINAR STRUCTURE

The organisation of the seminar was under the control of a Steering Committee, chaired by Mr Daniel Mulonga and comprising primarily representatives from the Ministry of Works and Supply and the Ministry of Local Government and Housing in Zambia. The Harare and Nairobi offices of ILO/ASIST provided ongoing advice to the Steering Committee and a seminar manager/moderator was appointed by the Steering Committee to manage and organise the day-to-day running of the seminar and compile the summary of proceedings.

In order to achieve the seminar objectives, the programme was structured to allow for a mixture of formal presentations and discussions in plenary sessions, parallel workshops sessions for more in-depth discussions on specific topics, and a field visit to observe labour-based initiatives being undertaken in Zambia. Exhibition space was also available for use by participants and included exhibitions of IMTs, an ASIST bookstand and an exhibit from the Roads Training School in Zambia. The full programme for the seminar is given in Annex 1.



2.2.1 Plenary sessions

The plenary sessions were mainly confined to Days 1 and 5 of the seminar. Day 1 comprised formal presentations related to the theme of the seminar to set the scene for further discussions during the week. General issues related to trends in employment-intensive programmes and key issues for contracting development were presented and discussed followed by more specific issues related to contracting in Zambia.

The plenary session of Day 5 was confined to discussing and amending the draft summary of the seminar for finalisation and distribution prior to the closure of the seminar and departure of delegates.

2.2.2 Parallel workshops

Parallel workshops were used to allow for specific topics to be discussed in greater detail. The topics were:

Day 2 am

Workshop 1: Credit facilities and appropriate investment for contractors

Workshop 2: Contract documentation and tendering procedures

Day 2 pm

Workshop 3: Labour policies and practices in contracting

Workshop 4: Accessibility and rural transport

Day 4 am

Workshop 5: Capacity building and contract management issues

Workshop 6: Sustainability, growth and diversification of contractors

Day 4 pm

Workshop 7: The role of the Client, Contractors and Consultants associations

Workshop 8: Urban upgrading and community contracting.

The parallel workshops were structured to allow for formal presentations of papers relevant to the topic, followed by facilitated discussion sessions and plenary feedback from the discussion groups. The facilitated discussion sessions were designed to stimulate open communication and allow for all delegates to participate and express their opinions.

A moderator was allocated to each workshop, with the responsibility of structuring the workshop, within general guidelines, and reporting back the results of the discussions to a plenary feedback session.

2.2.3 Field visit

The field visit was organised for Day 3 of the seminar, and was located around projects close to the Great East Road within 50 km of Lusaka. Further details related to the site visit are given in Chapter 5.



2.3 SEMINAR PARTICIPANTS

The seminar was attended by 175 delegates from stakeholders in both the public and private sectors represented by a range of organisations such as government ministries, non-governmental organisations (NGOs), donors, research institutions, universities, consultants, contractor organisations and suppliers. A total of 17 countries were represented: Cambodia, Democratic Republic of Congo, Egypt, Ethiopia, Ghana, Kenya, Lesotho, Mozambique, Namibia, South Africa, Sudan, Switzerland, Tanzania, Uganda, UK, Zambia and Zimbabwe.

The complete list of participants is shown in Annex 2.

2.4 EVALUATION

The seminar was evaluated by means of a written questionnaire (Annex 3) which was completed by 113 delegates. The questionnaire was completed as part of the plenary session on the final day.

In terms of the overall seminar organisation and presentation, it was rated as good to excellent and the majority of participants were very satisfied with the secretariat support, group discussions, exhibitions, seminar duration and parallel workshops. The hotel facilities were also rated as good to excellent in the majority of cases.

The vast majority of delegates (94 to 99%) felt that the main theme papers were relevant and interesting and the seminar addressed the correct topics. The parallel workshops proved to be a very successful change in structure from the previous seminar in that 96% found the workshops interesting, although there was some criticism of the report back from the parallel sessions. Most delegates felt that the length of papers was just right (82%). However, the number of papers may need consideration for future seminars. While 67% of the delegates felt the number of papers was just right, 14% felt there were too few papers and 15% felt there were too many. There was an overwhelming majority of the delegates that felt that the current structure of the seminar should be retained in the future.

The field visit was generally rated as good to excellent and most delegates were very appreciative of the organisation and presentations at the three sites visited. There was some criticism of the seminar transport and packed lunches, but this appeared to be from a minority of the delegates.

In reply to the question related to the next seminar, 55 delegates (50.5% of respondents) felt that Egypt should be the next venue, 12% voted for Mozambique and 8% for South Africa, with the rest voting for various other countries. The majority felt that one, or possibly two main themes should be addressed and various choices of themes were suggested. The most popular themes were “labour-based technology outside the road sector” and “contractor development”.

The complete analysis of the questionnaire, as well as the relevant comments provided by the respondents, are shown in Annex 4.



2.5 ACKNOWLEDGEMENTS

The Organising Committee of the Seventh Regional Seminar wishes to express its thanks to the Government of the Republic of Zambia, and specifically the Ministry of Works and Supply (MoWS) for its role in organising and co-ordinating the Seminar. This was done through the Roads Department Training School under the control of the Director of Roads. The Steering Committee is also grateful to the Deputy Minister of Works and Supply, Hon. Gibson Mululu, for opening the Seminar on behalf of the Minister, and the Director of Planning, Mr C H Mhango for closing the Seminar on behalf of the Permanent Secretary of MoWS.

The full texts of the opening and closing speeches are in Annexes 5 and 6.

The Committee also wishes to extend its thanks to ILO/ASIST, Harare and Nairobi offices for a tremendous job done before and during the Seminar in assisting and supporting the Steering Committee on the multitude of issues (too numerous to mention) pertaining to the seminar.

Last but not least, special thanks are given to the following persons for their outstanding contribution (before and during) to a very successful seminar:

- Mr Daniel Mulonga, Committee Chairman, Roads Department Training School
- Mr Carl-Eric Hedstrom, Chief Technial Adviser, Roads Department Training School
- Mr Charles P Mushota, Principal, Roads Department Training School
- Ms Francesca Imutowana, Seminar Logistical Officer
- Mr Les Sampson and Ms Pat Loots for their consultancy services in facilitation, moderation and organisational management during the seminar
- All moderators, facilitators, presenters and participants for their contributions and attendance.



3 Overview of Contracting

The plenary session of Day 1 was designed to give delegates an overview of the trends and key issues being experienced with contracting in employment-intensive works. This was followed by presentations from the Zambia National Council for Construction and the Zambia National Roads Boards on specific issues and experiences related to contracting in Zambia.

3.1 TRENDS IN EMPLOYMENT-INTENSIVE PROGRAMMES

Terje Tessem, Programme Director, ILO/ASIST

The presentation was directed at providing some indications on recent trends in Employment-intensive Programmes (EIPs) in the different infrastructure sectors covered by ASIST. However, as part of the introduction, clarity was first provided on the definition of employment-intensive work as provided by ILO. It was pointed out that employment-intensive projects are those projects where labour is the dominant resource. ILO emphasises the sustainability of labour-based or employment-intensive approaches by optimising (as opposed to maximising) the use of labour, and ensuring that employment-intensive approaches do not deteriorate into 'make-work' approaches where cost effectiveness and quality are ignored.

EIPs form an integral part of most countries' developmental efforts and are implemented with the fundamental aim of counteracting the trend of increasing poverty. To this end, donor agencies have set an ambitious target of 'eradicating poverty by the year 2015'. As part of their fight against poverty, most countries tend to turn to public works investment programmes for generally short-term solutions to increasing local employment. However, the presentation questioned whether these types of investment programmes were contributing sufficiently to employment creation and poverty reduction. An optimal use of local resources must be established to ensure that maximum benefits to the target population, and the economy, are gained.

It was pointed out that in order for EIPs to have substantial impact on the social and economic development of a country, investment in infrastructure should not, in itself, be a goal. Infrastructure investment should be seen as the facilitator in providing priority social and economic services which people could take advantage of and ultimately which could assist in the fight against poverty. In this regard, donor agencies have been pursuing similar policies and strategies for some time. However, there appears to be an important shift by organisations such as the World Bank who are now placing poverty reduction at the top of their priority list, with the development of comprehensive development frameworks to address this. Hence, funds will be made available for general development purposes and sectoral investments will only be approved providing they fit in to the overall development framework. The presenter considered that these developments would invariably lead to an increase in employment-



intensive strategies as infrastructure would be an integral part of most development frameworks.

Rural accessibility, as opposed to rural transport, was suggested as more appropriate terminology when related to the provision of access to basic and socio-economic services and facilities, as this considers the concept of mobility and location of services. In this regard, accessibility problems can only be identified at a local level with the full involvement of the communities. Hence, greater emphasis is being placed on 'community participation' in development strategies. Decentralisation of responsibility and authority to local authorities for rural development will also increase the need for active community participation and stakeholder involvement.

To address the identification of poor access, it was stated that ILO has been working with its partners to develop the Integrated Rural Accessibility Planning (IRAP) tool which involves communities and authorities in a partnership in developing local level planning options. It was felt that accessibility, and in particular rural accessibility, is an area that will gain significantly from the new decentralisation policies. However, it will be important to ensure that adequate managerial and financial resources are available to drive the process. The trend is now to improve financial regulations to allow for much greater flexibility in the utilisation of loans and grants. Therefore, the use of planning tools such as IRAP will dictate that there will be a shift from a focus on provision of infrastructure to a focus on provision of services. Hence, the ability to improve access must be given priority if poverty is to be reduced.

The implications of the shifts in development strategies and investments will be that increased capacity will be needed at local level to plan, implement and operate new infrastructures. For employment-intensive strategies, this development is seen as a benefit that should be capitalised on. With the shift to poverty alleviation and employment generation, there will now be greater likelihood of labour-based contracting being used. A further move to spot improvement techniques will also favour the use of small-scale local contractors.

With regard to rural roads and infrastructure, employment-intensive approaches for building and maintaining roads have been used for some time. It was noted that currently more than 18 African countries are now working with small-scale indigenous contractor development programmes, mainly in the roads sector, with a focus on the use of appropriate technology. In addition, there is now significant investment in other rural infrastructure such as irrigation, water supply, soil conservation and forestry.

It was also mentioned that ILO has produced a guide for 'Employment-Intensive Infrastructure Programmes: Capacity Building for Contracting in the Construction Sector'¹ which covers

¹ Peter Bentall, Andreas Beusch and Jan de Veen. 1999. *Employment-Intensive Infrastructure Programmes: Capacity Building for Contracting in the Construction Sector*. Geneva, International Labour Office



operational issues of contracting development programmes and is based on global experiences in labour-based contracting. Common issues related to EIPs were identified in the presentation and dealt with briefly as an introduction to further discussions and presentation during the seminar. These were:

- Stagnation of employment-intensive programmes
- Constraints to contracting
- Capacity for contract management
- Availability of local consultants
- Expansion of labour-based technologies to areas outside community works
- Diversification and growth of contractors
- Appropriate engineering standards.

In terms of urban infrastructure, it was pointed out that while the type of work may be different to rural infrastructure works, the principles applied are similar, with the focus on low-income areas, mainly unplanned or informal settlements. The main features of these programmes are that they do not focus on labour-based approaches only and include an extensive community involvement where partnerships between authorities and communities are developed. Community contracting was identified as an important tool in formalising such partnerships.

The current focus of ASIST in the urban sector is to develop sufficient documentation of experiences and training material for use in assisting agencies with integrated approaches to urban infrastructure development. The training material will be mainly for technical staff in urban councils, NGOs and the private sector, and will entail training on labour-based approaches to work implementation. As part of the training, increased emphasis will be placed on the way one approaches and completes projects with urban communities, and the regularisation of their communities.

The presenter indicated that in his opinion, much of the development work at national provincial and district level has been failing largely due to the lack of appropriate national policies. Hence, adequate policy development was identified as one of the necessary pillars on which to base development programmes. Appropriate decentralisation policies were considered essential to facilitate structured, meaningful work on accessibility. The complementary development of rural transport and accessibility policies is considered a necessity in order to agree on common targets for access interventions so that planning tools such as IRAP will work efficiently.

It was stated that observatories of employment, EIP policy units or labour-based policy promotion units, which have been established in some countries, are crucial for the support of policy development and the expansion of employment-intensive programmes. The development of such units is seen to be essential for the full potential of labour-based technology to be realised.



The availability and performance of labour was identified as a key success factor in the use of labour-based technology. It was also pointed out that with the move to private sector, labour-based contracting and away from work by force account, the need to guide employers, labour and unions will be accentuated and the likelihood of labour abuse could be increased. Steps need to be taken to keep this to a minimum and it is in this context that the 'Labour Policies and Practices Guide'² was developed.

The presentation concluded with comments related to the role of universities. Lack of awareness and understanding of labour-based technologies by policy makers, managers and engineers was identified as a major constraint to these technologies being fully accepted at policy and operational levels. In this respect, it was stated that future engineers and leaders have not been confronted by the issues and trained in employment-intensive technologies during their tertiary education. To address this issue in the longer term, it was suggested that universities and technical colleges should be encouraged to introduce technology choice into their curricula.

It was also stated that several universities from a number of countries throughout Africa have now joined the African Universities Network (AUN). The aim of the AUN has been to share information and experiences, introduce employment-intensive technologies into the curricula and promote research work at the different member institutions. ILO has provided materials for undergraduate and postgraduate courses in partnership with the IHE (University of Delft). In addition, IHE also runs an annual orientation course targeted at decision makers and planners in national institutions and development agencies.

Parallel work is also underway with regional and urban planning departments at a number of universities. However, currently, this does not form part of the responsibilities of AUN. The focus of this initiative is to share information on the development of rural accessibility policies, programmes and tools, and to involve the universities in such development work in the various countries.

3.1.1 Discussion Highlights

Eradication of poverty In reply to a question asked about the donors' commitment to eradicate poverty, it was pointed out that partnerships in developing comprehensive strategies for eradication of poverty were considered essential and that targets for this must be developed by those having and/or owning the problem. This approach has been attempted by recent donor and lending agency programmes and the methodologies discussed in the presentation were intended to support this.

² David Tajgman and Jan de Veen. 1998. *Employment-Intensive Infrastructure Programmes: Labour Policies and Practices*. Geneva, International Labour Office



Success stories for labour-based programmes The presenter briefly summarised some experiences with national programmes, both in force account operations and with contracting. However, he reiterated the problems referred to in the paper, in taking programmes generally at project level to the level of full-scale national programmes.

Political and economic platforms and environments It was emphasised that there was a need for a conducive political and economic environment for labour-based policies and strategies to succeed. However, this will also require a supportive legal framework to anchor the programmes. The presenter responded by supporting the statement and referring to the section of the paper that deals with labour-based forums and employment-intensive promotion units. He underscored the need to work towards enactment of the findings and recommendations of the work undertaken in these units.

3.2 CONTRACTING DEVELOPMENT

3.2.1 Key Issues

Peter Bentall, Consulting Engineer, UK

The introduction to the paper presented a historical background of labour-based activities in Sub-Saharan Africa. As part of the efforts to disseminate the ideas and lessons learned from the various projects, the ILO initiated the first regional seminar in 1990 in Mbeya, Tanzania. In 1995, ILO commissioned a six-nation Africa study of fact finding and data collection to look at the various similarities and differences within the various contractor development programmes with the objective of highlighting common issues and problems. The study was intended to be the first phase of a project which would ultimately produce a 'guideline document' to assist and encourage those who are involved in labour-based technologies, and in the development of the private sector.

The original document was proposed to be in two volumes covering (i) institutional issues and (ii) operational issues. However, financial constraints dictated that the findings of the original study would be consolidated into a single guideline document entitled, 'Employment-Intensive Infrastructure Programmes: Capacity Building for Contracting in the Construction Sector'³, which was introduced by the presenter/joint author as a recent document published by ILO. It was stated that the Guideline concentrated more on the practical issues, drawing widely from the experiences of the many projects in Africa, Asia and Central America.

A brief overview of several projects was presented in the paper to highlight the accumulated experience from which the Guideline

³ Peter Bentall, Andreas Beusch and Jan de Veen. 1999. *Employment-Intensive Infrastructure Programmes: Capacity Building for Contracting in the Construction Sector*. Geneva, International Labour Office



document had been developed. The key issues concerning labour-based contracting, as summarised in the Guideline document were presented at the seminar as the author's perception of the current position. It was pointed out that any publication relating to an ongoing and continuously evolving situation is soon outdated and quickly superseded by new events. However, until there is a major shift from project-based implementation to a national policy approach, most of the key issues will remain relevant. The issues are discussed fully in the Guideline document and illustrated with as much project experience as was available.

The key issues summarised in the paper were as follows:

Political will

This remains the single most important issue as most countries are still only paying political lip service to developing their full potential for labour-based contracting with all its economic and social benefits. Most activities are still project orientated, rather than being part of a national programme.

Enabling environment

The construction industry has a major role to play in the economic development of all countries; and labour-based technology needs to be seen as a viable, integral part of the industry and not, as is so often the case, a specialised, separate activity confined to 'minor' works.

Client capacity

There is still very much a 'one Client' situation (while the technology operates almost entirely in rural roads), with the capacity and traditional (force account orientated) attitudes of Client organisations being a serious constraint to the wider development of labour-based contracting.

Donor attitudes

Much of the development implementation remains donor-funded with its associated conditionality; such that government officials often appear to be ruled by donor demands. In most cases, this is because governments have no established policy on labour-based construction, which could be readily supported by donors.

Engineers' training

Traditional training for engineers at tertiary educational institutions has generally been slow to adapt to the wider implications of an 'appropriate technology' approach.

Role of local consultants

The major emphasis to date has been on contractor development and training programmes, with little attention being given to the development of local consultants. With the commercialisation of the road sector, downsizing of client organisations and establishment of 'Road Agencies', the role of local consultants will become increasingly important.

Expanding the work base



Despite its potential for involvement in many areas of development, labour-based technology has remained primarily in the rural roads sector. Some urban infrastructure, irrigation, agriculture, and forestry inventions have been attempted but the horizons need to be expanded.

Contractor support

Views of the level of support needed by small-scale contractors within the development programmes vary. Areas for support include:

- Contractor selection
- Access to credit, tools, equipment and continuity of work
- Competitive bidding and the open market
- Contract documentation including issues of bonds/guarantee
- “Technology-neutral” design and construction approach
- Targeted procurement policies
- Labour policies and practices.

Training interventions

Most of the contractor development projects have included a heavy investment in formalised training using at least a 3-phase approach. There is a view which suggests that the private sector should take care of its own training needs and that the task of government is to create the environment in which enterprises can flourish. Labour-based technology is still largely seen as a specialist activity for the few rather than one of the necessary construction skills of the many.

In conclusion, it was pointed out that labour-based contractor development had an encouraging start, and initially there was an expansion of activity throughout many Sub-Saharan African countries and into Asia. However, lessons and experiences learned from previous projects have not always been applied. In many instances, pilot projects have been formulated to prove the viability of using small-scale contractors, when this has been well established for years. Similarly, training materials and manuals have often been written ‘from scratch’, when so much material already exists. In addition, individuals and external consultants providing technical support tend to promote their own favourite approaches to practical implementation with insufficient emphasis on changing the political climate and creating an enabling environment. The need to concentrate on ‘selling’ the labour-based concept was highlighted.

3.2.2 Key Issues for the Future

Hamish Goldie-Scot, Scott Wilson Kirkpatrick, UK

This paper was presented as a companion paper to the Key Issues identified in the previous summary. However, in contrast, this paper looked forward to the resolution of the key issues and presented a broader view of possible future scenarios. The paper suggested that labour-based technology (LBT) had not been successfully ‘sold’ to clients, and a framework for identifying and understanding the conflicting facets of future trends was presented. Within this context,



a case was presented for the promotion of an approach centred less around the distinctive 'features' of LBT and more around the resulting practical benefits to key decision makers.

In order to put such an approach into practice, it was suggested that some labour-based practitioners would need to acquire and develop new skills and vision necessary to look beyond the current limited horizons and learn to relate comfortably with a much wider range of people and ideas. If this is achieved, there will be scope for greatly increasing the role that labour-based contracting can play in meeting the ambitious targets for poverty reduction set by the international community for the 21st century.

The presenter pointed out that enormous effort has been devoted to applying LBT on rural roads, but relatively little work has been done in applying LBT in the more complex, but ultimately more significant urban context. In addition, it was suggested that many client bodies are blindly following and adopting the latest donor requirements to ensure financial support, without full consideration of the implications and long-term effects.

In terms of the future, the approach adopted by leaders attending the World Economic Forum and the Southern African Economic Summit was suggested. This entails the use of a framework within which to better understand and prepare for the future. It uses the six facets of a cube to describe a complex future that is simultaneously:

Fast

Throughout the world, technological, social, economic and political change is occurring at an accelerating rate in all aspects of society and will require planning processes to be flexible for more rapid response to the changing environments. It is expected that Public Works programmes will be rushed through; there will be less rigid definitions of labour-based construction; there will be larger contracts to achieve progress and more community contracts to improve targeting.

Urban

Within the next year, 50% of the world's rapidly rising population will be living in cities. In many African cities, half of the urban population already lives in unplanned low-income settlements with no formal access to basic services. Hence, there will be a growing demand for urban infrastructure, formal recognition of currently informal settlements, more cross-sectoral engineering and a growing demand for communication skills.

Tribal

There will be greater acceptance of the need for everyone to have a sense of identity and belonging. Consequently, there is likely to be growing influence from pressure groups, an increase in stakeholder participation, a reduced tolerance for 'remote' government and new demands on technical staff.

Universal



Improved international communications will dictate that information becomes more readily available. However, a great degree of discretion will be required in the application of the available information to any specific situation and environment. It is likely that this will lead to growing interdependence of the experience of others, growing accountability of government, a need for better communication of 'best practice' and increased risk of inappropriate solutions.

Radical

With the centralisation of political views and the diminishing power of central governments, single-issue radical groups are likely to wield increasing power in many countries. Because of universalism, a radical group operating in one country can now have a profound influence on working practices in another. It can be expected that new radical agendas will be developed in areas such as environmental protection, cancellation of some unpayable debts, donor conditionality and increased influence of NGOs.

Ethical

There will be an increased desire in many areas to see a more ethical approach to the way in which people relate within and between communities, organisations and countries. It is also expected that there will be increased activity to alleviate the growing poverty. In this regard, donors will give more attention to the poorest countries; there will be increased demands for transparency to counteract the current corruption in many countries; there will be increased spending on health and education; and there will be renewed emphasis on workers rights.

The implications for labour-based practitioners will be that they will need to prepare for the future in terms of the new demands highlighted previously and broaden the scope of debate on labour-based construction while maintaining their practical edge. Labour-based construction will need to be sold better, and practitioners will need to learn to listen to the needs of the client and focus on the benefits, not the features. It was suggested that clients will be better influenced if practitioners take time to understand each situation and allow clients to identify their own problems and needs.

In conclusion, it was felt that there was still a lot to learn, and that the future for labour-based contracting would be complex and demanding. Practitioners would need to improve their sales techniques and need to start to equip themselves with the new skills that will be required to achieve this.

3.2.3 Discussion Highlights

Implementation of labour-based technology It was observed that there is still resistance to labour-based technology amongst technocrats, as nothing is currently included in their engineering training. This was considered to be a very important area requiring urgent attention from tertiary training institutions.



Public sector investment, mainly through donor funded projects, are concentrated on rehabilitation of public infrastructure, such as roads, schools and health centres. However, due to the lack of capacity of the large Zambian contractors who traditionally carried out these works and the lack of locally based small contractors, activity by Zambian companies is limited and largely confined to the main centres of population. The larger contracts for road rehabilitation of the urban and inter-provincial roads require a large outlay of capital and suitable plant and equipment from the contractors bidding for the work. Most Zambian contractors fail to qualify on the grounds of lack of bid security, lack of qualified staff, track record and lack of plant and equipment. Foreign companies therefore usually undertake the work.

With this as a background, the paper was directed at initiatives being co-ordinated by the Zambia National Council for Construction (ZNCC) to promote the successful participation of Zambian contractors in all types of work in Zambia. However, it was also stated that membership of the Council, which was currently confined to Engineers, Architects, Surveyors, large building contractors and government, should be expanded to encompass small contractors, manufacturers, suppliers and training institutions.

The following constraints and possible solutions were summarised.

Access to information

Information on all aspects of construction is not readily available. The ZNCC has currently been tasked with centralising, collating and publishing information on a regular basis to assist local contractors, consultants, manufacturers and suppliers in providing a better service to clients. Typical information would be on future projects for tender, availability of local products and services, availability of funds to assist building contractors, legislation affecting construction and availability of training skills.

Legislation affecting business start up

Concerns were expressed related to company registration and the imposition of first world taxation systems on an emerging third world economy. It was stated that a grace period for formal registration and tax is essential to allow smaller companies to form and grow. A further problem is the level of duty on imported materials, plant equipment and spare parts that does not benefit the Zambian contractor, especially when foreign companies are normally allowed duty free status on imported items.

Tendering procedures

Tendering procedures in Zambia often disadvantage local companies and a request was made for their simplification to allow small and medium contractors to participate in the bidding process. Discussions began with the Tender Board in May 1998 to sort out many of the problems with the tendering procedures. Suggestions of improvements were made by the ZNCC to the Tender Board and discussions are continuing.



Capacity building

There has been a request that a review is made of the current stringent conditions required by donors for foreign funded projects in an effort to foster greater participation by Zambian companies.

Training

Training in construction in Zambia was considered to be inadequate to meet the needs of the industry. However, the present system where government is largely responsible for training is to be changed and Management Boards from the private sector will be set up to run colleges and training centres. In addition to construction training, support in business administration and accountancy will be essential to encourage new companies to enter the market.

Access to capital

Construction is considered to be a high-risk activity by local commercial lending institutions. Coupled with the very high interest rates, it is almost impossible to raise sufficient capital to allow companies to form and develop. This problem is particularly acute for small and medium sized companies who are generally expected to grow on the basis of profits generated from their own turnover.

3.3.2 Contracting in Zambia: The Zambia National Roads Board — Its Role in Sector Management

Raymond Jhala, Chairman, National Roads Board, Zambia

The paper highlighted the problems with the deterioration of the road network in Zambia through neglect of maintenance, inadequate funding and inadequate institutional arrangements. By the early 1990s, only 20% of the paved road network in Zambia was considered to be in good condition and at that time, road maintenance expenditure was only 12% of the estimated needs. Since the elections in 1991, the Zambian government has been implementing an ambitious reform policy in an effort to stimulate the private sector and diversify economic activity away from copper production. In the roads sector, the World Bank, through the Road Maintenance (now Management) Initiative (RMI) supports the reform process, under the Sub-Saharan Africa Transport Program (SSATP).

The results have been the re-establishment of the Road Fund, the creation of the National Roads Board (NRB), a ten-year investment programme supported by the donors, and reorganisation of institutional management arrangements.

The Road Fund will provide a source of sustainable funding for the maintenance of the road network, linking revenue with road use through a levy on fuel. Upgrading and the construction of new roads fall outside the remit of the Road Fund and are funded from other sources such as donors. Currently, there is still a wide gap between revenues generated from the fuel levy and the estimated annual requirements to meet maintenance needs, and it is recognised that the revenue base must be extended in order to meet the needs.



The Zambian NRB was set up in 1994 through a statutory Act of Parliament, primarily to manage the Road Fund. It does not have executive powers and acts in a largely advisory role to the Ministry of Communications and Transport and to the Ministries designated as Highway Authorities for the various classes of roads in Zambia. The composition of the NRB is seven private sector representatives and four public sector representatives, of which only the private sector has a vote, and its core responsibilities are:

- Definition of maintenance policy
- Allocation of financial resources
- Monitoring of implementation
- Management of the Road Fund.

In addition, the NRB is also responsible for the co-ordination of the Road Sector Investment Programme (ROADSIP).

In terms of the NRB's role in contracting, it has responsibility for approving work programmes for funding and allocating financial resources to the programmes. It also agrees strategies for packaging contracts, applying quality management procedures to contract preparation, tendering and implementation, and technical and financial monitoring.

The following objectives for ROADSIP were highlighted:

- Bring the Core Network of roads into a maintainable condition
- Improve the network to at least 50% good condition and no more than 10% poor condition;
- Strengthen technical and managerial capacity;
- Create employment opportunities in the road sector
- Improve road safety and reduce accidents by at least 20%
- Improve environmental management in the road sector
- Improve road transport services in rural areas
- Develop a framework for the management of community roads.

In terms of ROADSIP and the promotion of labour-based methods, it was stated that there was a specific requirement for the development of the local contracting capacity with targets of 300 contractors to be developed country wide with the creation of 30 000 jobs. ROADSIP would support labour-intensive methods for both urban and rural roads and would support formal training at the Road Training School, currently under the control of the Ministry of Works and Supply. It would also ensure that trainees from the school are supported through contract works and that contracts are packaged to encourage the participation of labour-based contractors.

In conclusion, it was stated that the Road Agencies are working hard to improve their contract management procedures. The NRB Secretariat is providing assistance to Agency staff to help improve contract documentation and train staff in contract administration.



Systems are being developed within the NRB to help improve contract monitoring. As the network is gradually returned to a maintainable condition, there will be an expanding workload for small local contractors, both on maintenance contracts and also through sub-contracts to larger firms. The build-up will be a gradual process, as much needs to be done to improve the eroded skills and resource base of local firms.

3.3.3 Discussion Highlights

Contracting In reply to a question related to contract management, it was pointed out that the NRB does not enter into contracts, but provides procurement guidelines to ensure transparency and accountability. All agencies and local councils have the guidelines and NRB checks on contract administration on a regular basis.

Annual maintenance requirements A delegate from Namibia pointed out that in their system, the fuel levy for the particular financial year will vary, depending on the funds required to complete all the maintenance needs for that year and questioned how Zambia decided on their annual maintenance budget. In reply, it was pointed out that recovery from the fuel levy was insufficient to meet annual maintenance needs and the Road Fund was seen as supplementing the funds from Central Treasury. Funds were allocated, based on economic prioritisation of the core road network and multi-criteria analysis for feeder roads.

Payments for completion of works A question was asked, related to late payments for completion of works and the strategies being applied to shorten the time between certification and payment. In reply, it was stated that the NRB had a policy to pay within fourteen days for labour-based contracts, where the correct certification is received. Larger contracts pay within 30 to 40 days. In some situations, contracts have not been paid, because they had not been registered as a legitimate project.

Stimulation of the local industry It was pointed out that according to the presentation of ZNCC, the Zambian construction industry was still in rapid decline despite the NRB and its stated objectives to stimulate the local industry. In reply, it was stated that NRB had initially appointed local contractors for maintenance works in Lusaka, which had been unsuccessful due to poor quality of work. It was hoped that, with the formation of ZNCC, both they and the NRB could work together to ensure better stimulation of the local industry through appropriate packaging of contracts. It was also agreed that increased local capacity was required to enable local contractors to undertake more contracts.



4 Summary of Parallel Workshops

4.1 WORKSHOP 1: CREDIT FACILITIES AND APPROPRIATE INVESTMENTS FOR CONTRACTORS

Moderator: Barnabas Ariga

SUMMARY OF PAPERS PRESENTED

4.1.1 Credit Facilities for Contractors

Peter Rademaker, ILO, Switzerland

The paper focused specifically on the financial services needed by small contractors for investment in equipment. Although labour-based works did not normally require huge investments in equipment, there is still a need for a basic fleet to execute the work. Without this basic equipment, the quality and productivity of labour-based contractors is likely to be significantly reduced.

As an example, small contractors will typically have to make investments of between US\$7 000 and US\$50 000 for equipment such as tractor, trailer, small compactor, truck (possibly) and tools. This type of equipment will have an economic life of between 4 to 7 years and may represent between 15% and 50% of annual turnover. However, the reimbursement capacity of most small contractors will fluctuate between 10% and 20% of annual turnover.

For any type of financial services to be viable, the enterprise itself must be viable and make regular profits. For this to happen, the paper identifies the need for the following pre-requisites:

- The company needs to be properly managed
- There must be a stable market for its services
- Payments for executed works must be regular to avoid cash-flow problems.

Different financing options for the acquisition of equipment for labour-based contractors are briefly discussed in the paper and their overall advantages and disadvantages to the small contractors are outlined. The options were:

- Direct purchase in cash
- Rental of equipment
- Bank loan
- Hire-purchase agreement
- Leasing arrangements.

In terms of developing appropriate financial services for small contractors, the paper suggests that the services should be cost-



effective to allow their businesses to operate and develop, and that the services are provided in a sustainable manner to make the contractor economically viable.

The paper draws tentative conclusions from a limited number of small contractor development programmes.

Reliable demand for services

Most programmes build up contractors through a series of trial contracts to assess performance and provide training. However, to access financial services, the contractor must have the ability to obtain contracts covering more than one year. The guaranteed cash flow of these contracts will enable contractors to convince financial institutions that they will have the ability to repay loans or lease agreements.

Regular cash flow

Very often, payments for finished works are made late for various reasons. This results in uncertain cash flow, liquidity crises and defaults on loans. It was suggested that rationalising payment of contracts and the possible introduction of buffer funds to account for shortages of cash on the government side will improve cash flow forecasts of the contractor and allow for a better assessment of repayment capacity.

'Fungibility'

Some programmes develop 'captive' contractors that are only supposed to work for the roadworks they are contracted for, using equipment provided to the contractor as part of the programme. The paper considers that this approach does not prepare the contractor for the real business world and prevents the contractor from taking advantage of other potential business opportunities. It is therefore suggested that contractors with activities in various fields are more flexible to optimise the use of their resources and are therefore likely to be more stable financially.

Separation of functions

In many programmes, there has not been a clear separation between contracting and supervision of roadworks on the one hand, and support services in terms of training or facilitating the acquisition of equipment on the other. This leads to conflict of interests and makes it difficult to identify the respective costs of these services.

Contractor knows best

The assets for which the contractor needs finance must be selected by the contractor and will need to take into account issues such as alternative use of the equipment, availability of spare parts, experience in the use of the equipment, maintenance skills and resale value. While most programmes foresee the acquisition of new equipment, second-hand equipment may be the preferred solution to the contractor because of costs. The paper suggests that investment could be made in the creation of a local capacity to maintain second-



hand equipment, instead of bringing in new equipment, to the benefit of the small contractor.

Mutual guarantee associations

It is suggested that the establishment of associations of contractors to combine their resources may be viable in some cases. From the financial standpoint, mutual guarantee associations could be attractive and under such schemes a group of contractors would contribute to a guarantee fund which would help individual contractors to obtain bank loans. From the bank point of view, this scheme would lower the credit risk resulting in easier approval of loans and possibly more attractive interest rates.

4.1.2 Uganda Transport Rehabilitation Project; Feeder Roads Component

John Otemo, Uganda Transport Rehabilitation Project; Feeder Roads Component (TRP-FRC)

TRP-FRC is a pilot road rehabilitation and maintenance project implemented by the Ministry of Works, Housing and Communication (MoWHC) with funding from IDA, NDF, the Government and District Administrations of the participating Districts, with a project cost of US\$16.52 million. The pilot project is designed to introduce labour-based roadworks and technologies into Uganda using local contractors.

The initial four years of the project commenced in January 1995 and is set to rehabilitate 680 km of road and maintain 880 km. In addition, it will select, train and equip local contractors and key district administration staff, whilst strengthening the capacity of MoWHC to plan, manage and monitor the national feeder road network. The project period has been extended to the end of December 2000.

Ten contractors were successfully trained and equipped with light roadworks equipment and have executed the first standard contracts in addition to some intermediate contracts. A second batch of contractors is awaiting approval for the award of trial contracts. Also, all relevant line staff in the district administration and the local district council have been trained in their respective capacities.

In executing the first standard contracts, a number of problems to contractor development were observed. Serious cash flow constraints sometimes interrupted civil works on site because contractors were not promptly paid and therefore could not pay their workers on time. This also affected the ability of the contractors to meet their lease obligations.

The paper observes that the size of equipment package is causing serious utilisation and management problems to many contractors in addition to the crippling lease obligations. In an effort to ease the burden on the contractors, the project management sought to obtain approval to reallocate the excess equipment to the second batch of candidate contractors.



The paper recommends the following basic set of equipment requiring a typical total investment of about US\$70 000 by the contractor:

- Two pedestrian rollers
- One tractor
- Two non-tipping trailers
- One water bowser
- One water pump
- One motor cycle

Where haulage distances are more than 6 km, a tipper truck would replace the tractor/trailer combination. Weather-related equipment such as the water bowser and water pump, that are not required on a daily basis in countries with evenly distributed rainfall pattern, could be eliminated from the list and hired as and when required. The motor cycle proved to be essential for daily site supervision.

The paper concluded that careful selection of both contractors and their supervisors had a significant effect on training time and outputs. Two foremen and four headmen, properly trained, were considered adequate technical site staff for an efficiently managed labour-based contract. Similarly, a well-trained accounting assistant and a secretary are essential administrative staff. The smooth implementation of works will be dictated by prompt payments to the contractor to ensure a consistent cash flow. Where equipment leasing is concerned, issues of cash flow become even more critical.

Although TRP-FRC did not insist on provision of collateral for equipment leased, the paper considered that this is a necessary condition to ensure commitment from the contractor and prevent diversion of funds to other activities. It is also important that the currency of lease repayment must be the same as the equipment loan currency, and preferably in local currency. Provision of continuous roadworks must be ensured to allow for timely lease repayments.

4.1.3 Summary of Working Group Discussions

Working Group 1A – Facilitator: Barnabas Ariga

Question: *Should contractors be equipped?*

Yes, but the composition of equipment should depend on the specific environment. It was also felt that equipment should be provided if no equipment was available.

Question: *What kind of equipment is needed?*

The feeling was that contractors should be equipped for the specific tasks they are carrying out, e.g. routine maintenance, recurrent maintenance or rehabilitation. The basic equipment required would be hand tools and equipment for transport supervision and compaction. The government in consultation with the beneficiaries should ultimately decide the composition of the equipment to be used. The



financiers may be included on decisions related to the make of the equipment.

Question: *Does the choice between tipper and tractor-trailers depend solely on haulage distance?*

It was felt that a tipper should be used for longer haulage distances, provided the contractor is able to pay for the tipper. Other factors, which will dictate the use of a tipper, are the volume of work and the availability of tippers on the open market.

Question: *Are there any constraints in the national training programmes for contractors and consultants?*

The working group identified that political will, good facilities and resources, and appropriate training expertise were essential requirements for an effective national training programme. It was felt that insufficient international training material was available to countries and this needed to be collected and collated by an organisation such as ILO/ASIST for distribution to countries requiring material of this nature. There was also agreement that government and the beneficiaries of training should be responsible for payment of the training. The government, in association with the private sector was considered to be the best qualified to handle contractor/consultant training requirements.

Working Group 1B – Facilitator: Kwaku Osei-Bonsu

Question: *What are the financial options to equip contractors?*

The workgroup identified the following viable financial options for equipping contractors:

- Pay in cash
- Rental
- Bank loans
- Hire-purchase
- Leasing
- Venture capital
- Suppliers credit.

The advantages and disadvantages of the various options were summarised as follows:

RENTAL

Advantages:

- No long term commitment
- No payment if equipment not used
- Access to equipment
- No maintenance responsibilities
- Equipment in good condition
- No storage required

Disadvantages:

- Higher rates
- No ownership of equipment
- Problems in controlling the operator
- Non-availability of equipment when required
- Contractor has to pay rental if equipment not fully utilised



No up-front payment

BANK LOAN

Advantages:

Provides access to investment capital
Contractor eventually owns equipment
Flexibility
Relatively cheaper option
Controlled by contractor
Improves credit worthiness

Disadvantages:

Risk of equipment break down
High interest rates
Stringent bank requirements
Difficult access for new entrants
Foreign currency risks
Loan has to be paid even if equipment is not used

Bank assistance in financial management Restricts access to other credit

HIRE-PURCHASE

Advantages:

Contractor eventually owns equipment
Low initial investment
Controlled by contractor
Keeps contractor in business

Disadvantages:

Limited choices
Expensive
Risk of repossession

LEASING

Advantages:

No collateral required
Lower initial investment
Option of ownership
Flexibility

Disadvantages:

Non-availability of equipment
Expensive

VENTURE CAPITAL

Advantages:

Risk is shared
Relatively lower cost option

Disadvantages:

Ownership is shared
Reduced decision-making powers
Initial investment needed

SUPPLIERS CREDIT

Advantages:

Availability of equipment
Back-up support services

Disadvantages:

Collateral required
Expensive
Obsolete spare parts

Question: *What would be appropriate terms of lease/credit for contractors?*

The group felt bank loans should be provided to contractors with guarantees from government. The structure of the bank loans in terms of interest rates, repayment schemes, collateral, currency of agreed payment and tax concessions would be country specific and no specific recommendations were provided from the group discussions.



However, it was felt that loans should be provided in the local currency.

Question: *Should government or the private sector manage the lease/credit systems?*

There was a general feeling that, where possible, the private sector should manage the systems as they had the appropriate experience and it would prepare the contractor for operating in the “real world”. However, it was also stated that many banks are government banks, which are managed under contract to the private sector. In these instances, independent, private sector management would not be possible.

Question: *Would private equipment hire pools work?*

It was felt that the initial risk for the development of private equipment hire pools would be too high, although this would provide the contractor with a better choice of equipment for use.



4.2 WORKSHOP 2: CONTRACT DOCUMENTATION AND TENDERING PROCEDURES

Moderator: Les Sampson

SUMMARY OF PAPERS PRESENTED

4.2.1 Contract Documents for Small Scale Contracts in the Road Sector

David Stiedl, Independent Consultant, UK

The paper was written as a contribution to the private sector development programme and looks at the currently available contract documentation for works for civil engineering construction and comments on their suitability for use by road agencies with respect to local, small or 'emerging' contractors. To put this in context, the planning and implementation of roadworks in developing countries has until recently been the responsibility of government force account operations with contracting out of works normally restricted to large scale operations usually involving foreign contractors.

With the decline of force account operations and the move towards commercial, contract orientated implementation of roadworks this will place an increased burden on the private sector to deliver. However, it is an unfortunate fact that the local private sector in many developing countries is in no better shape than the government roads departments it seeks to replace. Local consultants and contractors usually lack experience outside the building sector, contractors are poorly equipped and the whole sector has limited access to private finance. The situation is compounded by the client, usually a government agency, being unfamiliar with modern contracting procedures.

In general, the introduction of procedures for large scale contracts such as upgrading and rehabilitating major highways is more or less in hand. However, most road agencies have a pressing need to contract out works on their gravel and earth road network. This type of work is ideal for the small contractor, and the risks are relatively low for the client, but it is this area that has received little attention in the past. Hence, the focus of the paper presented.

A number of forms of contract have been developed for different agencies and governments directed at small labour-based contracts. However, the tendency has been to either add clauses to already complex documentation or customise 'simplified' documents that could have doubtful legal standing or omit important key contractual clauses. The paper emphasises that appropriate contract documents alone cannot solve the problem which is broadly defined as 'creating a conducive environment for small contractor development'. They are, however, seen as an essential component.



The paper does not present a detailed outline of all available contract documents. It does, however, highlight some general aspects that affect both the small, inexperienced contractor and a road agency unused to administering small contracts. The following pre-requisites are identified:

- The contract document must protect the interests of the client and ensure that the contractor produces work of the required quality in the stated time at the agreed price
- The position of the contractor must be secure, and it is essential that the contractor has some chance of discussing and negotiating claims and/or complaints on more equal terms. The concept of 'compensation events' which can be referred to a neutral adjudicator, was suggested
- Employees of small contractors should be protected through the provision of suitable clauses for wage rates and conditions of labour.

The following contract documents are discussed in the paper:

- FIDIC Conditions of Contract for Works of Civil Construction, Parts I and II, 4th Edition, 1987
- The World Bank Procurement of Works, Smaller Contracts, 1995
- ICE Conditions of Contract, Minor Works, 2nd Edition, 1995
- FIDIC Short Form of Contract, 1998
- The NEC Engineering and Construction Short Contract (Draft 1998).

From the analysis of the various available contract documents, the paper concludes that both the FIDIC Short Form of Contract and the NEC Short Contract offer attractive alternatives to the full FIDIC Conditions of Contract for the development of small and labour-based contractors in the road sector. The World Bank Procurement of Works for Smaller Contracts is not significantly less complex than FIDIC and is mainly geared to international competitive bidding procedures. The ICE Minor Works contract is considered too limited in scope for the type of work envisaged. Thus, the choice of contract appears to be between FIDIC and NEC. From the perspective of the most cost-effective approach, the paper recommends that efforts should be concentrated on the FIDIC Short Form with the inclusion of a set of Particular Conditions that would be appropriate for small contractor development.

4.2.2 An Approach to the Preparation for and Submission of Tenders for Competitive Labour-based Construction Contracts

James Crosswell and Robert McCutcheon, Directors, Employment Intensive Engineering Consultants (Pty) Ltd, South Africa



The significant growth in the use of labour-based construction methods in urban areas, particularly for the installation of essential services has dictated that procurement procedures focus on private sector contractors. Consequently, tender documentation has been prepared with a view to inviting tenders from a range of competitive contractors. The scope of many of the contracts is relatively small, which has made them attractive to emerging contractors who are often unfamiliar with tender procedures, and in some cases, have difficulty in completing both the pricing component and the formalities related to competitive tenders. The paper offers some guidance to the preparation of a tender submission in the form of a priced bill of quantities, and suggests ways in which the pricing can be more accurately determined using techniques which optimise the use of labour during contract implementation.

It is pointed out that in contracts involving installation of essential services, the detailed structure and organisation of the contractor is important for the optimisation of productivity. In addition, where workers are paid on a task basis (i.e. for work complete) there is a need to ensure continual employment for all labourers on a site and the concept of 'team balancing' was recommended. This concept acknowledges that the volume of a particular operation, which is functionally linked to another operation, may differ and that the production expected for different operations should determine the number of workers allocated to a particular operation. For example, it is commonly accepted that the task size required for back-filling a trench is of the order of half that which is required for the excavation operations. In simple terms, this would dictate that there would need to be twice as many workers excavating a particular trench than back-filling, to achieve team balance.

Team balance ensures that workers are fully engaged and have continual access to work. This also reduces idle time caused by other workers not having completed a preceding operation. A form for arriving at a balanced team size for functionally linked operations was proposed and demonstrated, along with guidelines on how the form should be utilised. The paper also provides some general guidelines related to the involvement of small contractors in general tendering processes.

The guidelines presented in the paper were prepared to assist potential entrants in the contracting field and also act as a framework for the preparation of contract documentation. The guidelines address the particular needs of potential tenderers at the time of tendering. Based on the South African experience, it was proposed that education be offered to prospective tenderers along the lines of the guidelines in the paper as a standard part of the pre-tender process.

4.2.3 Summary of Working Group Discussions

Working Group 2A – Facilitator: Jane Tournée

Question: *What contracts are currently in use?*



Of the countries represented, most were using FIDIC 4th edition contract documentation (some with country adaptation). There was some use of the World Bank Procurement for Small Works, and some countries are using the Institution of Civil Engineers (ICE) documents (The New Engineering Contract - NEC). Namibia, Zambia, Zimbabwe and South Africa are also using their own general conditions of contract.

Question: *Do current documents favour the client or the contractor?*

Of the group represented, 26 felt that the client was favoured, 6 were neutral and 4 felt that current documents favoured the contractor. The majority of the group felt that the client was favoured for the following reasons:

- Contractors carry too many of the risks
- The contracts are written by the client
- Client obligations under the contract are difficult to enforce.

Question: *Are problems experienced with the current documentation?*

The problems identified were that contracts are too complex, they are written in legal language that is difficult to understand and there is an expensive recourse for legal advice for the small contractor if problems arise.

Question: *Should special clauses be included for labour-based works or does it confuse the issue?*

The majority of the group felt that there had to be special clauses for labour-based works and it was stated that they are already in use in several countries. Some delegates felt that special clauses should not be included in the contract documentation, but provided in a separate supporting document.

Question: *The independent adjudicator – is this a useful concept?*

The majority of the group felt that this was a useful concept and good experiences were reported from Tanzania and Uganda. Some concerns were expressed regarding the expense in that as a free service, the facility would be overused and open to abuse. It was also felt that an adjudicator should be appointed at the start of a contract as in NEC contracts.

Question: *Should the FIDIC short contract be universally adopted?*

The majority of the delegates showed interest in the new FIDIC short contract. Delegates would like to access copies of the contract to study it for themselves before it could be universally adapted. It was suggested that a task group or workshop could be used to evaluate the documents applicability and suitability once the document had been studied. A minority in the group wished to remain with national documentation.

Working Group 2B – Facilitator: Les Sampson

Question: *What assistance could be given to small contractors to facilitate the tender process?*



The following items and sub-items were identified to assist contractors in the tendering process:

Training

- Knowledge of pricing
- Tendering procedure
- Filling-in of documents
- Understanding the legal aspects of contracts
- Office management
- Mentorship
- Estimation of productivity rates.

Funding

- Provision of loan facilities
- Access to credit
- Removal of bond requirements
- Reduced security.

Information

- Simple understandable documents
- Publication of the tender process
- Transparency
- Pre-tender briefing
- Availability of indicative rates for work.

User-friendly documentation

- Develop simple formats
- Simplify tendering procedure
- Longer tender period
- Uniformity of the process
- Facilitated the calculation of Bill of Quantities
- Link the process of objectives and achievement.

Packaging of contracts

- Encourage sub-contracting through large contractors.

Question: *How should the labour content be accurately estimated for different infrastructures?*

While the estimation of the labour content of road projects was considered to be reliable, the accuracy for other types of infrastructure was questioned. Project-specific and/or historic data was required to improve the accuracy of the estimates, and to assist in the



development of well-defined measurement criteria. The use of an appropriate method of estimating was recommended.

Question: *What are the specific attributes required, to become a contractor?*

The group felt that contractors need to be primarily entrepreneurs prepared to take a risk and have the ability to manage people. They must have business acumen, be well-networked and good communicators and negotiators. Determination and commitment, allied to the ability to be trainable, were also considered to be important attributes.



4.3 WORKSHOP 3: LABOUR POLICIES AND PRACTICES IN CONTRACTING

Moderator: David Stiedl

SUMMARY OF PAPERS PRESENTED

4.3.1 Employment...?? yes, but quality employment with fair working conditions

Jan de Veen, ILO, Switzerland

The paper presented was based on the document recently published by ILO (1998) entitled, 'Employment-intensive Infrastructure Programmes: Labour policies and practices' by David Tajgman and Jan de Veen. The implementation and use of this document formed a predominant part of the discussion session that followed the presentation of the paper.

With regard to the paper, this looked at the approach that the ILO has developed, involving both the public and the private sector, in reorienting investments in infrastructure towards:

- Increased participation by communities, contractors and consultants
- A more systematic use of local resources
- The creation of quality employment.

During the latter half of the 1980s, there was a significant shift towards increased involvement of the private sector, particularly related to civil works. Many countries initiated contractor development projects, while at the same time establishing an agency capacity to manage and monitor the contract works. As a consequence, it soon became evident that constraints to the use of labour-based techniques by the private sector had more to do with general problems faced by the contracting agencies and small-scale contractors than with the basic difficulties with the techniques themselves. The constraints identified in the paper were:

- Contracting agencies generally have little experience and capacity in designing, awarding, supervising and administering contract works of this nature
- Contractors have problems with obtaining credit, maintaining an adequate cash flow, being paid on time and operating within the contractual regulations.

The paper also identifies reasons why the use of small-scale contractors has been successful in carrying out labour-based irrigation and rural roadworks. These were:

- Use of locally available resources



- Limited capital investment required for heavy equipment
- Programmes were aimed at establishing a reasonable working environment in terms of:
 - i. timely and regular payments for work done
 - ii. appropriate packaging of contracts
 - iii. facilitating credit for essential light equipment
 - iv. provision of technical and management training.

However, it is pointed out that if programmes of this nature are to expand to a national level and remain sustainable, it will be vital that a long-term approach is developed. There will need to be:

- Relevant, national training programmes for both public and private sector trainees
- Procurement of tools and light equipment, and mechanisms established to make these available to the small contractors
- Productivity and cost data to set acceptable unit rates
- Agreed minimum wage levels
- Sufficient, sustainable local and external funds to replicate pilot operations on a larger scale.

Worker conditions are highlighted as a major area of concern and it is suggested that if labour-based programmes are to grow and expand, it will be essential to give the right priority to labour issues and to introduce regulations to avoid worker exploitation. The best guarantee for large-scale and sustainable labour-based programmes is a motivated and fairly treated workforce, as well as implementers (government ministries, contract agencies, consultants and contractors) who are aware of the principal labour issues and interested in applying fair standards and working conditions. Important issues for consideration related to working conditions were identified as:

- The avoidance of child labour and forced labour through the application of labour legislation
- The payment of a fair wage, at least equal to the minimum wage
- Timely and regular payment of wages
- Establishment of a minimum level of social protection
- Equal treatment of male and female workers
- Definition and enforcement of basic minimum working conditions on site.

The paper recognises that the development of such a fair working environment will take time and effort. However, it is considered indispensable for labour-based programmes to survive and for local labour-based contracting firms to have a long-term future. The involvement of representatives of government, employers and workers



in defining appropriate standards, conditions and regulations is important and for this reason, ILO strongly encourages the formation of contractors' and workers' associations. The 'Labour Policies and Practices Guide' mentioned earlier presents the current experience on how these issues may be dealt with in the project environment.

In conclusion, the paper emphasises the growing need for institution and capacity building in the use of labour-based technologies. Should this be neglected, and the working environment not modified to allow for the effective use of new methods, the results inevitably will be inferior, leading to failure in the longer term. Policies on technology choice and on creating an enabling environment for labour-based road contractors to compete effectively in an open-market economy will need to be developed and implemented. At the same time, initiatives are required to expand the knowledge of alternative technological approaches within universities and other learning institutions.

4.3.2 Summary of Working Group Discussions

Working Group 3A – Facilitator: David Stiedl

As only one paper was presented, it was decided to facilitate the discussions in one working group. Delegates were split into country groupings to obtain feedback to some of the questions on a national level.

Question: *What have been the principal problems encountered on the project sites with the application of relevant labour standards and the introduction of fair working conditions? How have these been dealt with?*

In general, it was stated that there were no national labour-based policies and strategies and workers were not represented in negotiations and not aware of their rights. The problem areas identified for discussion were levels of wages and timeliness of payment, accidents, conditions of work, recruitment and child labour, and the use of incentive schemes.

Wages

In several countries, delays in payment of two to three months were common, with wage levels of US\$1 to US\$2 per day (except South Africa and Namibia). There are also different minimum wage applications in Lesotho. For payment in kind, e.g. food-for-work, there is only a general agreement between the ILO and the World Food Programme (WFP) and no national regulations have been developed.

Accidents

Generally, accidents were not taken seriously, although some first aid provision was made on some sites, but this was not systematic and invariably not checked for completeness. If accidents were of a serious nature, an *ad hoc* arrangement between victim and contractor was made. Minor accidents were not reported. In terms of worker insurance, countries with major mining risks, such as Mozambique and Cambodia, have had compulsory worker insurance since 1998.



Lesotho also has a scheme of worker compensation, supplemented by compulsory insurance.

Conditions of work

Countries reported little evidence of strikes. Participants attributed this to the workers overriding need for some level of income. The most common reason for strikes was late payment, which, in some cases, could lead to the contractor losing worker confidence and in extreme cases, company property. Protective clothing was generally not provided to workers.

Recruitment and child labour

Recruitment and child labour laws exist in all countries and are generally applied, although problems of determining actual age was experienced in several countries, especially in East Africa. The group felt that there was generally no discrimination against women, although women were perceived by some to be able to do less heavy work. Cultural constraints were identified, which in some cases do not favour women's access to work. Examples, such as problems with husbands and wives working together, were identified.

Incentives

Task work, piece work and bonuses were generally applied in most countries.

Question: What now?

It was recommended that national and regional policies and strategies for labour issues should be developed through consultation with all relevant stakeholders (i.e. workers, employers and government ministries).

4.4 WORKSHOP 4: ACCESSIBILITY AND RURAL TRANSPORT

Moderator: Victor Meshak

SUMMARY OF PAPERS PRESENTED

4.4.1 Improving Access and Management of Intermediate Means of Transport in Sub-Saharan Africa

Jeffrey Maganya, Intermediate Technology Development Group, Kenya

The paper points out that the focus of transport planning in rural Sub-Saharan Africa has been related to road construction with the implicit assumption that there would be sufficient motor vehicles on the road to justify the investment. However, in recent times, analysis of rural transport issues has revealed the complex nature of the problem, and how this contributes to the now acknowledged limited impact of investment in the transport sector. One facet of the problem identified in the paper is that the transport demands and patterns of people in the rural areas where roads traverse do not influence investment decisions on roads. In particular, no attention is paid to the means of



transport by which rural people can take advantage of the transport infrastructure available to them.

Studies have shown those rural families, and particularly women, spend a considerable amount of time and energy in transport activities related to the basic needs of water and energy. In addition, significant effort is spent on journeys related to economic activities such as trips to market for buying and selling purposes. These trips are often made on foot and little attention is paid to simple means of transport such as bicycles and animal carts, even in areas that would be suitable for their use.

Conversely, motorised transport has demonstrated little relevance to the transport activities and patterns of rural people. Evidence suggests that current transport demands in rural areas be for low speed, low volume, and short-distance trips. Journeys sufficiently long to justify the use of motor vehicles are infrequent and the cost outlay can only be justified in occasional situations.

The paper therefore explores the concept of intermediate means of transport (IMT) and looks at ways in which IMTs can be managed. The definition of IMTs provided in the paper is 'those means of transport that match operational scale and needs, transport patterns and investment capacity of the majority of the people in rural areas'.

It is concluded that IMTs have real and potential benefits in rural areas of developing countries and there should be greater encouragement for their use. The adoption of appropriate policies, measures and development assistance would contribute to addressing current constraints and stimulate the wider recognition of IMTs as important vehicles in improving access in many rural areas in developing countries. There is a general policy environment that overlooks the choice of efficient low-cost technologies employed in small-scale enterprises and greater preference is given to bigger, capital intensive ventures. Relative to the potential importance of IMTs, policies that encourage their use are inadequate, mainly due to the implicit nature of access problems. It is suggested that one way of dealing with the access problems in rural areas is by increasing access for IMTs and to provide an increased capacity to manage them.

4.4.2 Stakeholders Participation in Rural Access Road Prioritisation – the South African Experience

Vivienne Lipman, Senior Policy Advisor, National Department of Transport, South Africa and presented by Fatemeh Ali-Nejadfard, ILO/ASIST, Zimbabwe

The demand for rural access roads in South Africa is far in excess of what can be supplied in the face of limited resources. It is therefore essential for authorities to have a uniform approach that enables them to compare roads and to rank them in an order of priority that can be defended. Thus, a methodology that is both scientifically robust, and transparent to the needs of the community, has to be used. The paper outlines the methodology adopted in two rural access



projects, which involved community consultation in the priority process. The projects were the KwaZulu Natal provincial Community Access Road Needs Study (CARNS) and the Eastern Cape Access Road Study.

It is pointed out that the roads included in the studies were not those which could be evaluated and justified for upgrading in terms of an economic cost/benefit analysis since they would generally give negative results because of the low traffic volumes. Some 80% of South Africa's rural population reside in villages and dense rural settlements and most of the roads in these areas can only be justified from a social perspective. As part of the long-term strategy for transport in South Africa (Moving South Africa), an attempt was made to provide guidelines to the extent that the country should invest in providing basic access roads and which communities should receive priority.

From the information collected for Moving South Africa, an attempt was made to quantify the rural road needs. However, the figures in the various studies differed widely and were considered unreliable in assessing rural road needs for the country. It was therefore decided to develop and test a methodology for identifying and prioritising rural access road needs with the premise that the rural road network was in a reasonable condition and therefore, the methodology would not prioritise the network itself, but rather community and village access to the network.

In looking at the various local and international methodologies available for identification and prioritisation of rural access road needs, the Moving South Africa team considered the work undertaken as part of CARNS to be the best methodology for modification and use. This methodology combined community consultation with transparency and robustness to satisfy the professionals. Various adaptations were made to the methodology by the Moving South Africa team, most of which have since been adapted by CARNS in recalculating their priorities. The modified CARNS methodology was then applied in the Eastern Cape study.

The methodology described in the paper is divided into two parts. The first part explains how roads were prioritised in the study within each of the 37 districts covered in the Eastern Cape. The second explains the methodology for allocating funds between the 37 districts.

The paper also discusses appropriate design standards for rural access roads that are often referred to as 'non-engineered' roads, generally relying on the experience of the road builder to meet reasonable design standards. The following issues were identified for consideration in the development of appropriate standards:

- All weather accessibility
- Restricted budgets
- Labour-enhanced construction and maintenance possibilities
- Low traffic volumes
- The need to reach as many communities as possible.



Any road improvements should be assessed and planned to meaningfully connect into the formal road network and where possible, continuity should be established to open up areas and to link up communities. The proposed standards should be discussed with local communities before commencement of construction to avoid any misunderstandings related to the standards.

The paper recommends that for optimal returns on rural investment, it is vital that all the various functional authorities involved in rural investment co-ordinate and integrate their planning processes. In addition, the participation of communities in the planning process to identify and meet the needs of rural communities is vital. The cost of public participation should be budgeted as part of the cost of service provision.

Finally, it was stated that the methodology used in the Eastern Cape Rural Access Road Study and the CARNS study have been accepted by all the provincial road authorities in South Africa. In addition, the Department of Public Works has awarded poverty relief funds for road construction, based on the findings of the two studies.



4.4.3 Summary of Working Group Discussions

Working Group 4A – Facilitator: Victor Meshak

Question: *What role does the road play in development?*

The group considered roads to be crucial for development and without roads there will be no development. They were seen as crucial to politicians when seeking re-election and also, as providing important access to markets and for tourism. However, roads were considered less important than foot trails and tracks for accessibility to social services. Roads should be seen as a facilitator for development.

Question: *Is the focus on accessibility an important factor for priority setting in infrastructure development work?*

Focus on accessibility was considered to be an important factor in the justification of investment. Accessibility should lead to an enhanced standard of living and will favour economies of scale. It was also felt that any development requires infrastructure, and accessibility enables planning and implementation of development projects. Spot improvement will allow for economic use of funds.

Question: *Who are the stakeholders in rural infrastructure use and provision?*

The following users were identified:

- Road users
- Farmers
- Transporters
- Tourist organisations.

Organisations considered to be users and providers of infrastructure were:

- Timber extracting, mining firms, etc.
- Farmers and resort owners
- Communities
- Governments
- Investors, donors and funders
- Contractors
- Consultants.

Question: *How can we bring stakeholders together in a planning process?*

It was considered that stakeholders should be involved in all stages of planning, implementation, monitoring and evaluation of a project. In terms of the planning process, they should be involved at the problem identification stage, using participatory methodologies to develop prioritisation. Preparation and prioritisation of projects should include



data analysis by experts, followed by feedback seminars and meetings at the relevant levels. Involvement in the mobilization of funds was also considered necessary.

Question: *What prioritisation criteria/methodologies could be used for the planning of rural infrastructure?*

The following criteria were identified:

- Human development index
- Population density
- Availability of social services, provision of basic social services
- Political interest
- Lack of access, wet weather access
- Project costs
- Development potential (population, agriculture, services along the road, agricultural surplus production, production centres)
- Equalisation of service distribution
- Poverty level, economic and social factors and safety considerations.

Question: *What methodologies could be used for fund allocation within districts and between districts?*

It was felt that funds should be allocated according to prioritised access data at fixed rates and the allocation should be based on outcomes of the planning methods used.

Due to the scientific approach used for planning and prioritisation, accountability is enhanced. In addition, the use of planning methodologies becomes an important tool for motivating and raising funds. Socio-economic and environmental considerations, rather than economic factors alone, take priority. The need to prioritise will diminish for an infinite amount of money. However, due to the limited availability of funds, prioritisation for different types of infrastructure becomes essential.

Working Group 4B – Facilitator: Jan Fransen

Question: *What are the transport needs for the rural population?*

The group felt that rural transport is required by the population to gain access to essential services such as water, fuel, food, education, health, employment, information, social visits, markets and agricultural supplies.

Question: *Which needs would be catered for by transport and non-transport interventions including IMTs?*

Needs such as transport, location of services, infrastructure development and funding provision would be catered for by transport and non-transport interventions. The type of interventions would need to be decided by the communities and approved as part of an integrated planning process.



Question: *Why are projects not successful?*

Four reasons for the lack of success of projects were identified:

- Projects are ‘imposed’ on communities and are often irrelevant to their needs, not culturally acceptable and generally too sophisticated
- Local resources are not available in that there is a lack of skills and spare parts
- Poor regulatory framework
- No credit available.

It was recommended that the regulatory framework should be improved, community participation should be encouraged and integrated planning was required. Local ideas and resources should be used along with the appropriate skills training. The cost of using IMT’s should be compared with conventional modes of transport.

Question: *Who are the stakeholders of IMTs and what are their respective roles?*

The working group identified the following stakeholders for IMTs and their respective roles:

Banks	To provide credit
Central/local government	To provide an enabling environment
Community-based organisations (CBOs)	To facilitate community participation
	To provide linkage between community, Government and donors
Bilateral donors/development agencies	Increase flexibility in donor funding and projects
NGOs	To provide assistance to CBOs
Private sector	Development and manufacture
	Partners in development.

4.5 WORKSHOP 5: CAPACITY BUILDING AND CONTRACT MANAGEMENT ISSUES

Moderator: David Stiedl

SUMMARY OF PAPERS PRESENTED

4.5.1 Labour-based Works in Lesotho: Capacity Building and Development of Construction Industry

Celestina Pama, Ministry of Works, Labour Construction Unit, Lesotho



The paper outlined the initiatives being taken in Lesotho for capacity building and development of the construction industry, with specific attention being paid to labour-based activities. Increase in poverty levels in Lesotho is characterised by problems such as inaccessibility, unemployment and underemployment. In addition, all road construction works were in the past carried out by international contractors and consultants using machine-intensive construction methods, routine maintenance by force account was inefficient and ineffective, and there was a continuous drain of qualified technical staff.

As a result of the above problems, in 1991, the government of Lesotho began to adopt policies to reduce poverty through social, economic and environmental projects, based on a community-led approach. In this regard, a number of strategies were developed, of which those relevant to the paper are:

- Development of the private sector to establish it as the growth engine of the economy
- Creation of employment in all activities that could be carried out by labour
- Development of the construction industry through the use of local consultants, suppliers and contractors
- Privatisation of all activities which could be carried out efficiently by the private sector.

The paper provides details on the Labour Construction Unit (LCU) which was established in 1977 as a force account operation, with the objective of creating employment for retrenched mine workers from South Africa. In 1993, the LCU was given the responsibility to develop small-scale contractors. Under an agreement with IDA, 20 contractors were trained for a two-year period between 1993 and 1996. In 1996, a second phase was instigated with a plan to train 36 contractors of which 24 have been trained to date and 12 contractors began their training in February 1999.

Currently, all road rehabilitation, periodic and routine maintenance works are carried out by contractors. Routine maintenance contracts are allocated to the trained contractors, using a ballot system with the purpose of increasing capacity for contractors. Rehabilitation works and periodic maintenance are allocated to contractors through standard bidding procedures. Force account teams carry out all road construction and upgrading projects.

In the present environment, the main challenges facing LCU are insufficient capacity to implement additional funded road projects and the low rate of construction, compared to the plans. To counter this, LCU has increased its capacity to implement the programme by orienting and using local consulting firms, developing small-scale contractors in road construction and maintenance and training more force account technicians. The orientation and development of local consultants is receiving a major concentration of effort and the paper outlines details of Lesotho's initiatives in this regard.



The paper concludes that LCU has been meeting a number of challenges and implementing some of the government policies. In addition, it is hoped that the use of local consultants will increase capacity to manage and expand the programme.

4.5.2 Contracts with Works Paid by Km and Contractors in Three Levels

Manoel Noronha, Project Co-ordinator at Zambezia and Tete Provinces and Michael Madanha, Project Co-ordinator at Nampula Province, Mozambique

The paper describes a contract payment method used in Mozambique in which contractors are paid by the kilometre of work completed; and also provides information on the three levels used to categorise contractors during their development.

Contracts paid by kilometre are extremely simple contracts, encompassing finished work with prices determined for completed entities within each kilometre. The priced entities are:

- Formation or construction of the road which includes all the tasks needed for completion of the road
- Gravelling of the road
- Construction of masonry aqueducts.

Due to historical reasons, traditional pricing methods have proved difficult to implement and the fixed unit price per kilometre has proved the most effective. In addition, the generally low levels of education makes the process of measuring quantities an almost impossible task. The following advantages and disadvantages of using the proposed method are identified in the paper:

Advantages

- Easy measurement of works
- Avoids conflict with the contractors, as there is no mistake in measurement
- Measurement can be agreed quickly between the contractor and the client, or the agent
- One person can take responsibility for all the works on the client side.

Disadvantages

- The contractor often underestimates the volume and the difficulty of works to be carried out when signing the contract and becomes dissatisfied with the payment rates once works have begun.

To counteract the disadvantage, contingencies are added to the contract value to accommodate extra works.

In terms of determining the cost per kilometre, evaluations were carried out in different terrain during the first two years of the pilot



project using standard equipment and a fixed number of people for similar tasks. From this information, reasonable and acceptable costs were calculated for various activities in different terrain. Tables are also shown in the paper, which give typical numbers of people required for specific terrain-related tasks.

Three levels of contractors are shown, based on the experience over a three-year period, with level one contractors having no experience and level three contractors entering their final (3rd) year of training and development. In the fourth year of development, the contractor is expected to obtain work through tendering procedures and will not receive any advance payments once he signs contract documents.

4.5.3 Summary of Working Group Discussions

Working Group 5A – Facilitator: David Stiedl

Question: *Why do we need consultants' inputs in labour-based work?*

Consultants will become increasingly more important in these types of work as government's structural adjustment policies take effect and reduce in-house capacity to manage and oversee projects. This is also in line with the privatisation policies common in most countries. It was also felt that if the use of labour-based contracting was to be expanded, there would be no choice but to increase the involvement of consultants.

Question: *What are the exact duties we could expect consultants to do and what should it cost?*

Consultants could be involved in planning, design and supervision of works and different consultants could be involved in various training aspects. It was also suggested that different types of consultants could be appointed at different levels for more or less complex works (e.g. road construction versus road maintenance). In terms of cost, there was a difference of opinion within the group in that some delegates felt that traditional costing methods for consultants on a percentage basis were not appropriate, especially for small contracts.

Question: *Do consultants need to be experienced in labour-based technology and what should they know?*

Again, there was a difference of opinion within the group in that some considered that consultants should be experienced and others considered that orientation in labour-based methods would be adequate. Despite these differences of opinion, it was generally accepted that there was very limited experience of labour-based works in the consulting fraternity, even with foreign consultants. It was suggested that local consultants could be developed in parallel with small-scale contractors, and there would be a need to distinguish between large established consultants and the new emerging ones.

Question: *How should consultants gain experience and who should pay?*



The group felt that training courses and seminars should be used to increase the experience of consultants, and there was an equal split of opinions in that some felt the consultants themselves should pay to gain experience and others felt the clients should pay. A cost-sharing compromise was also proposed. On the one hand, it was pointed out that if consultants identify a potential market for their services, payment for training could be seen in a favourable light; on the other, the government/client was responsible for creating an enabling environment and small, local consultants were unlikely to emerge without assistance.

Question: *Is there scope for different grades of consultant?*

The solution was thought to be country-specific. However, university training was considered essential and there would need to be positive encouragement for the use of local consultants. Specific consultant development projects may need to be promoted.

Working Group 5B – Facilitator: Kwaku Osei-Bonsu

Question: *What are the advantages and disadvantages of using the simpler ‘Mozambique’ method to cost and pay for labour-based works compared with the commonly used BOQ approach?*

The group identified the following advantages and disadvantages:

Advantages

- Less work in tender preparation leading to quicker implementation of projects
- Gives a guide to expenditure and provides a basis for proper and directed planning
- Easy to formulate and understand
- Adaptable to local conditions
- Emergency projects can be implemented quickly
- Good solution for road maintenance contracts.

Disadvantages

- In some cases, it may not provide fair measurement for both the contractor and the client
- Contractor takes too much of the risk
- Not easy to draw up a very accurate budget
- Too general to take into account the specific site conditions
- May not allow flexibility on variations
- Not usually suitable for major construction works.

The group also felt that the normal BOQ approach was more structured and most of the advantages/disadvantages of the ‘Mozambique’ approach could be reversed for the BOQ approach.



It was proposed that further action be taken by ILO/ASIST to evaluate the 'Mozambique' approach and possibly modify/improve the method for more general use.

Question: *Does stage development (mentorship) minimise the risk?*

The group felt that the stage development approach does minimise risk and mentorship was strongly supported by the group. The number of stages in the development should be country specific, as should the duration of the stages.

Question: *Should the Client be heavily involved in contractor development and support?*

Yes, the client should be involved in contractor development. It was suggested that the Client should guarantee work for a considerable period and capacity building should be included as part of a labour-based contract.

Question: *What alternatives to client support have been tried?*

Alternatives to client support are that large contractors could sub-contract work to the small-scale labour-based contractors. NGO support could also be provided. It was also suggested that clients should be urged to develop policies for prompt payment to emerging/growing contractors for better sustainability.

4.6 WORKSHOP 6: SUSTAINABILITY, GROWTH AND DIVERSIFICATION OF CONTRACTORS

Moderator: Barnabas Ariga

SUMMARY OF PAPERS PRESENTED

4.6.1 Sustainability, Growth and Diversification of Contractors

Gawie Burger, CHEBO Training, South Africa

The paper presented provides suggestions on sustainability, growth and diversification of contractors, based on the South African experience. Currently in South Africa, construction (comprising building and civil engineering sectors) contributes about 35% to gross domestic fixed investment (GDFI) and, according to future projections, could double within the next five to ten years. Government, as one of the biggest clients in the construction industry, is in an ideal position to create business opportunities for emerging contractors through their infrastructure development plans. Hence, government has the responsibility to create an enabling environment for emerging contractors to operate and grow in.

The need to understand the operating environment is emphasised and the unique characteristics of the construction industry are highlighted, along with the challenges faced by contracting businesses.



In terms of expanding and growing contracting businesses, the paper considers that this could open up many new opportunities, but also points out certain disadvantages which need to be taken into account, when adopting a growth strategy. The advantages and disadvantages are:

Advantages

- The contractor can negotiate better deals with suppliers
- The banks will offer better packages and options
- It will be easier to obtain credit
- The business will have greater access to projects
- The contractor will be able to sustain his workforce better and provide training and development for the workers
- The business becomes more valuable.

Disadvantages

- The business running expenses are likely to increase
- The business is under constant pressure to obtain more contracts to pay for the higher expenses
- Increased difficulty in sustaining the cash flow
- The contractor must rely on others to do the work
- The potential for non-payment of invoices is greater
- The business needs more financial support.

The paper considers that there are definite benefits to expanding a business. However, a growth strategy will only be successful if the business has a sound financial and resource base from which to work. One way in which a business may increase its turnover and business opportunities is by diversification or expansion, but this is not always easy. Expansion involves obtaining work in areas/market segments that are new to the business and should a contractor wish to diversify to grow, the following points should be considered:

- Current competition in the market
- The size of the target market and its ability to accommodate a new entrant
- The skills and capacity of the company to diversify into the target market and the ability to obtain the skills, if unavailable in the existing company
- The cost of diversification into the new market.

Joint ventures were also discussed as a possible option for assisting smaller contractors in diversifying their activities and potentially growing their businesses.

Should contractors not wish to expand by diversification, many generally medium-sized contractors have been successful using a



specialisation strategy. In other words, they work on particular types of project, deliver a quality product and become experts in their particular field. Contractors who operate in this way tend to become very good in their specialist area and capable of taking on more of the same type of projects. In this way, they increase their turnover, and this leads to a growth in their business.

The paper outlined three case studies as examples of possible growth and diversification options following which it was concluded that the only route for a business to survive and grow is through customer satisfaction. The benefits of good customer service were highlighted and the costs of poor service were also identified.

4.6.2 A Case Study for Labour-based Contractor Training in Egypt

Hany Attalla, Social Fund for Development, Public Works Programme, Egypt

The Egyptian Public Works Programme (PWP), as one of the five core programmes of the Social Fund for Development (SFD), was highlighted as the programme primarily responsible for generating employment opportunities in labour-based Public Works projects. It was aimed at providing temporary jobs for skilled and unskilled labour during implementation of the projects and also, longer-term employment through ongoing operation and maintenance activities. The by-product of the capital investment programme is the improvement of basic services in rural areas and low-income urban sectors, where many deprived and vulnerable target groups are concentrated.

During the second phase of the SFD, its role changed to that of a local development institution responsible for the well being of the rural poor and unemployed in Egypt. As a consequence of this role change, the PWP was required to concentrate on its service delivery system, rather than a primary financier of infrastructure projects in rural Egypt. The aim of the PWP is now to institutionalise its services and make them more sustainable and responsive to the needs of the communities it serves.

In an attempt to establish the labour-based concept as the preferred method for infrastructure project implementation, the PWP (with funding from Danida) instigated a labour-based contractor-training programme for local youths. The paper presented summarises the labour-based contractor training currently being undertaken as part of the PWP in Egypt.

The PWP commissioned a local training firm (in association with a Danish technical assistance team) to train 150 candidates to become labour-based contractors. The training module is divided into three sections using theoretical and practical methods over a two-year period. When completed, small labour-based contractors will be available throughout rural Egypt, to efficiently maintain and implement social infrastructure projects. They will also be available to



employ and train other workers in the utilisation of labour-based methods. In addition to the small contractors, selected local public officials, along with local Civil Society Organisation (CSO) leaders are also being trained. The PWP is also training 30 established contractors to enhance their capabilities in utilising labour-based methods and to forge apprenticeships with small-scale contractors.

Although the paper recognises that the appointment of a local training firm may have constraints in the initial stages in terms of technical expertise and know-how to carry out training of the magnitude desired, this action was a deliberate strategy to ensure the labour-based concept was sustained within local parameters. International labour-based consultants are commissioned on an *ad hoc* basis by the training firm to support their expertise.

The PWP is funding the implementation of several types of social infrastructure projects. During each ten-month training module, trainees are first exposed to the theoretical aspects of labour-based construction, followed by the practical aspects. Each group will go through both aspects on a general basis and are then subdivided into the various infrastructure types, based on their particular area of interest (e.g. potable water, waste-water, the environment or roads).

In conclusion, it was stated that the PWP is currently negotiating plans to help register the successful graduates in the National Contractors' Union and hopefully assign them as sub-contractors to some of the large, local contracting firms. The decision to adopt the contractor training concept was to assist in institutionalising the labour-based concept in Egypt, and such a decision was taken to ensure a sustainable developmental effort in the fight against poverty and unemployment. The diversification of the training in various infrastructure project types is considered to be unique in terms of labour-based training within the region.

4.6.3 Summary of Working Group Discussions

Working Group 6A – Facilitator: Barnabas Ariga

Question: *What are the elements required for a conducive environment and what part has training to play?*

The elements required for a conducive environment were identified as:

- Political will
- Economic to provide a source of funding
- Social to take into account cultural differences
- Institutional capacity
- Inter-linkages between the sectors and stakeholders involved.

Training was considered important but it was stressed that it was necessary to understand the environment before training programmes are initiated.



Question: *Should part of the market be reserved for emerging small-scale contractors?*

It was felt that part of the market should not be reserved specifically for small contractors. However, immediate and longer-term strategies needed to be developed to identify potential contractors and facilitate their entry into the open market.

Question: *Many national labour-based training institutions only offer training in roadworks. Should they offer training in other sectors, and if so, how can they do this and what sectors should be targeted first?*

The group recommended that the entry point for training packages should be the core field with the largest potential market. In most countries in Sub-Saharan Africa, this would be roadworks, although it was accepted that in Egypt, this would be wastewater works. Related fields such as housing and irrigation should be added later to the training programme. It is also essential that Training Institutes need to be sustainable and need the best available material for the core training as well as materials for other specified fields.

Working Group 6B – Facilitator: David Mason

Question: *What are the barriers to sustainability, growth and diversification of labour-based contractors?*

The following barriers were identified:

- Fear of competition
- Limited market for work
- Limited skills
- Limited financing
- Poor market information.

Question: *How can the barriers be overcome?*

The group felt that the barriers could be overcome by:

- Setting up mentorship programmes
- Organising study tours
- Packaging work specifically for small-scale contractors
- Advertising the work better
- Providing more diverse training
- Providing better packaging of the training workload
- Improving access to credit
- Setting up loan schemes targeted at small-scale contractors.

The work group also suggested a set of actions. In terms of finance, details of loan systems such as the Social Fund Development (SFD) loans should be disseminated to contractor associations, training institutions, donors and relevant government departments. Existing financing/credit schemes should include labour-based contracting in their portfolios, and any new schemes developed should include provision for labour-based technologies at the design stage. The best practices from successful SFD-type financing schemes should be



evaluated and disseminated through publications such as the ASIST bulletin.

The group also recommended that a realistic strategy needed to be defined and established to implement national policies. However, this does assume that there is already a policy to promote labour-base technology at national level in place.

In terms of creating more diverse opportunities for labour-based contractors, the following suggestions were made:

- Broaden labour-based practitioners' outlook to sectors other than roads
- Focus more on non-roads issues in regional seminars and organise tours to non-roads projects
- In, for example, agricultural projects, build in labour-based methods for the delivery of the infrastructure components and sensitise planners of financing ministries and donors to this possibility
- Ensure that training institutions offer a broad range of labour-based options.

Finally, it was felt that client governments should insist that donor and funding agency project planners consider appropriate technology options, including labour-based technology, in their project proposals.



4.7 WORKSHOP 7: THE ROLE OF THE CLIENT, CONTRACTORS AND CONSULTANTS ASSOCIATIONS

Moderator: Barnabas Ariga

SUMMARY OF PAPER PRESENTED

4.7.1 The Role of the Client, Contractor and Consultant Associations on the Labour-based Road Programmes in Zambia; 'Where Do We Go From Here'?

Henry Musonda, Projects Director, Kiran & Musonda Associates Ltd, Zambia

The paper attempts to challenge the past practices in Zambia related to the road sector, while acknowledging that the situation is now changing through the implementation of the ROADSIP programme. However, it is also suggested that some of the lessons of the past should not be repeated. Professional Conduct and Ethics for engineers are questioned and the issue of corruption in the road sector is highlighted.

It was stated that there was a need for urgent action in Zambia due to the lack of accountability for the deterioration of the road network and road safety, lack of community participation, poor training standards, lack of encouragement for entrepreneurs and a change in cultural attitudes. In the opinion of the presenter, merely educating and training engineers could not meet the current demands in Zambia. Rather, they should be developing large numbers of skilled entrepreneurs with the ability to manage, allied to a grasp of road engineering. The success of a labour-based road rehabilitation programme will be led by individuals and small contractors fuelled by a keen entrepreneurial spirit, trying their hardest to raise their technical standards and make a success of their businesses.

With regard to cultural change, it is suggested that this will only happen if there is a fundamental reappraisal of the training and educational establishments. Contractor/Consultant Associations should insist on representation on the curriculum development committees of training and educational institutions to influence and accelerate the change.

In conclusion, the paper suggests that unless the country makes fundamental changes in the road sector, there will be very little change from the past, and all stakeholders must be involved in the change process. The government's long-term role is identified as the most important in that it will be their responsibility to effect the cultural changes suggested. Individuals representing Government and Contractor/Consultant Associations must conduct their business professionally and ethically and there should be visible investment in establishing moral standards for politicians and the country.



4.7.2 Southern Africa Construction Industry Initiative (SACII); Status Report (1993 — 1999)

Les Sampson, Sampson Consulting, South Africa

Additional Presentation (paper not included in Volume 2)

Although not originally part of the official programme of the seminar, the initiatives taken by Swaziland in 1993 to co-ordinate the southern African construction industry were considered relevant to the working group session. As such, a member of the SACII Secretariat was requested to present a summary of the current status of the initiative. In most countries of southern Africa, the deliberations of the two SACII regional seminars have had a significant influence on the establishment of national construction councils, co-ordinating relevant construction industry stakeholder associations at national level and defining potential strategies for enhancing local participation in national industries.

The following objectives of SACII were given:

- To identify constraints to the development of local, national Construction Industries in the region
- To identify specific policy reforms to improve the enabling environment for local construction industry growth and development
- To implement reforms in those countries with government and donor commitment to local construction industry development.

Initially, ten countries were involved in the initiative and were generally representative of the SADC region, with the exception of Tanzania and Mauritius. The first regional seminar in Swaziland in 1993 identified the following substantive areas into which most of the industry constraints could be classified:

- Access to capital
- Capacity building and human resource development
- National/Regional unification of the industry
- Promotion of the national/regional industries
- Standardisation of practices.

At this time, the seminar stressed that industry unification at national level, along with an operating structure at regional level was the key success factor to making the national and regional construction industry more competitive.

At the second regional seminar in Johannesburg, South Africa, in February 1996, the organisational structure for the operation of a Southern Africa Regional Council for Construction (SARCIC), along with recommendations and actions in the four substantive areas (excluding national/regional unification) mentioned earlier were developed. The following benefits of a regional council were suggested:



- Unification and co-ordination of national construction industries
- Establishment of a regional economic entity
- Lobbying group to donors, financiers and governments
- Facilitate access and flow of information between member countries
- Standardisation of regional training for capacity building
- Common regional standards
- Equitable *modus operandi* for cross-border construction, consulting services and allied activities
- Optimal use of regional resources
- Co-funding of major projects.

The first meeting of SARCIC was held in Lusaka, Zambia in May 1996 at which it was reiterated that the private sector should ultimately drive the initiative, although a strong interface should be developed with SADC as the co-ordinating body for national governments within the southern Africa region. It was agreed that Tanzania and Mauritius would be invited to join the Council. However, since the first SARCIC meeting, very little progress has been made and the following barriers to progress were identified:

- No source of sustainable funding identified to operate a permanent or semi-permanent Secretariat
- Delegates attending the SARCIC meeting were in some cases not mandated to make decisions
- Co-ordination in substantive areas was unsuccessful
- Information gathering from the countries was difficult
- Two distinct sub-sectors (roads/civils and buildings) with different solutions to the constraints
- Unclear understanding of roles and responsibilities between Government and the private sector stakeholder associations.

In conclusion, it was stated that identification of constraints and problems for the development of local contractors and consultants are relevant to all sectors of the construction industry. However, the implementation of action plans identified in the substantive areas has been difficult, both at national and regional level for two main reasons. Firstly, sustainable funding has not been identified to drive the initiative and secondly, different actions are required for implementation in the different sub-sectors of the industry. The establishment of officially recognised national councils with a mandate to represent their countries at regional level is essential for the initiative to succeed, and in this regard the relationship between government and private sector needs to be clearly defined.

Finally, it was stated that the Southern Africa Transport and Communications Commission (SATCC) were now looking to build on



the foundation laid by SACII/SARCIC and focus specifically on the development of the regional road contracting industry in line with the SATCC protocol for the regional road sector. The SATCC Road Contracting Industry workshop of June 1998 provides resolutions and recommendations on possible ways forward for the industry, and specifically the roads sector.

4.7.3 Summary of Working Group Discussions

Working Group 7A – Facilitator: Barnabas Ariga/Terje Tessem

Question: *Do clients, construction councils and contractor/consultant associations have a role to play in the construction industry and if so, what role should they play?*

It was generally accepted that clients, construction councils and contractor/consultant associations had a role to play in the development of their national construction industries. The following roles were identified:

Clients

- Governments to ensure standards of work, safety, sustainable funding and an enabling environment
- Commitment to building local capacity
- Harmonise legislation and the various roles of the stakeholders.

Construction Councils

- Control registration of contractors
- Set standards for the industry
- Act as a pressure group to government to influence legislation
- Create an enabling environment
- Take responsibility for conditions of contract.

Contractor/Consultant Associations

- Develop and control codes of conduct
- Provide representation of constituents to clients, suppliers, insurance agencies, politicians, media, national councils etc
- Lobby for projects and credit facilities
- Mobilise resources.

Question: *Should labour-based contractors/consultants form their own associations?*

There was a majority feeling that independent labour-based contractors/consultants associations should be formed to give special attention to the needs of emerging contractors and consultants. This would also provide them with a stronger presence in a larger forum. The alternative opinion was that there should be one association for all contractors and one association for all consultants, co-ordinated by a national council.



Question: Do existing associations/councils cater for the inclusion of new entrants?

According to the group, labour-based contractors have their own class (es) in some countries, and are free to move from these classes when growing. However, there were some constraints for some labour-based associations to be recognised by umbrella bodies. In some countries, it was stated that the entry level was too high and this needed to be lowered and 'group' memberships established.

Question: What exists in your respective countries with regard to construction councils, contractor associations and consultant associations?

- Construction Councils: Lesotho, Malawi, South Africa, Tanzania and Zambia
- Contractors Associations: Ethiopia, Ghana, Lesotho, Mozambique, Namibia, South Africa, Tanzania, Uganda and Zambia, Zimbabwe
- Consultant Associations: Ethiopia, Ghana, Lesotho, Mozambique, Namibia, South Africa, Tanzania, Uganda, Zambia and Zimbabwe

Question: Should professional engineers be taking their role in the construction industry as a 'calling' or a 'humanitarian endeavour'?

It was felt that engineers should practice their profession as a 'calling' in order to gain respect from society. However, the social and economic considerations and implications of technology choice should be at the forefront.

Question: What role, if any, should engineering training have on professional discipline and principles?

An Engineering Act should be established to determine codes of conduct. Ethics and principles related to the codes of conduct should be introduced as part of the formal education and training of engineers. The legal aspects of engineering should be handled in a similar way. The Engineers Registration Board should enforce the codes of conduct.

4.8 WORKSHOP 8: URBAN UPGRADING AND COMMUNITY CONTRACTING

Moderator: Victor Meshak

SUMMARY OF PAPERS PRESENTED

4.8.1 Infrastructure Procurement Strategies to Benefit the Urban Poor

Sohail Khan, WEDC, Loughborough University UK, and Wilma van Esch, ILO/ASIST, Kenya



The objective of the presentation was to introduce delegates to community-based infrastructure procurement strategies in low-income urban communities. The presentation provided an overview of the investigation and analysis of the mechanisms that have been adopted in efforts to deliver improved services to the urban poor and also included community-partnered procurement (CPP), a part of which is community contracts. Focus is given to assimilation and institutionalisation of good practices.

The involvement of communities in procurement was highlighted. For example, communities could represent the client and be involved in planning design and tendering procedures, or communities could act as a contractor and actually implement the work under contract to a client. In community-partnered procurement, a community is one of the partners in the procurement process and this is identified as an ideal way of achieving real participation from the beneficiaries. Reasons for involving the community in procurement have been identified from work in Africa and Asia and include:

- The avoidance of conflict and demands for compensation
- The creation of employment opportunities
- The improvement of skills and capacity of the local people
- The formalisation of relations between government and the community
- The lack of municipal capacity
- Political pressure from national and international organisations.

The term Community Partnering is proposed in the paper as a concept to embrace the variety of roles and responsibilities of the various players involved in improving the infrastructure and services in a particular area. In the broadest sense, it reflects the continued involvement of the people who are demanding and benefiting from the infrastructure. Partnering implies non-adversarial and equitable power relationships between the parties and is a way of defining the participation of the beneficiaries in the process. It is stressed that communities should not be forced to enter into partnering relationships.

The options for conventional procurement procedures generally used in Public Works departments were summarised and it was pointed out that in all cases, the contractor needs to have a legal status to be able to tender for work and open a bank account. The contractor also needs to be registered. In community-partnered procurement, the community can operate as a contractor without requiring registration. However, in the case of community contractors, the need for registration and a clear legal status will remain.

The paper also identifies the type of work that would be potentially suitable for community-partnered procurement. Broadly speaking, there are two issues that need to be considered before a decision is taken to involve the community in the implementation of works. These are the identification of the type of work suitable for community



involvement and the role or combination of roles that community groups could play. Ideally, the community should participate in the decision making process. The kind of work suitable for community partnering should:

- Not be a high risk or hazardous
- Not be technically or managerially complex
- Not be very mechanised
- Not be capital intensive
- Be of a routine nature
- Not require special skills or equipment.

Keeping track of whether the contract is meeting its objectives was considered to be important. One way of achieving this would be to develop performance indicators for monitoring and evaluation. Operational definitions of some performance indicators were presented in the paper and illustrated the use of ratios to compare cost-related data without normalisation. It was stated that detailed performance indicators for urban infrastructure procurement would be available in the near future.

In conclusion, it was again emphasised that partnering with the community is an appropriate and socially sensitive procurement strategy for the procurement of tertiary infrastructure in low-income urban communities.

4.8.2 Stakeholders Participation in Urban Infrastructure Design and Implementation: Experiences and Challenges

Wilbard Kombe, University College of Lands and Architectural Studies, Tanzania

The paper describes the participation of the users in Hanna Nassif community-based infrastructure improvement project in Dar-es-Salaam, Tanzania. The steps in which key actors in the community (community development association member, sub-ward leaders and other members of the community) participated in the design and implementation of basic infrastructure were presented. Despite the deficiencies of delays, slow execution of tasks and variation in quality, an in-depth examination of the entire process shows promising results.

Unlike the conventional upgrading of squatter camps, the community-based approach shows high potential for inducing norms for sustainability as well as enhancing local capacity. The technical skills transferred, local resources mobilised, reduction of future public management needs and not least, the employment generated have consolidated the well-being of households and improved the overall power at grass roots level.

A plea was made for more attention to be given to the concept of community participation. Improvements such as the development of communication tools for stakeholders, rationalisation of the process



and evolution of structures to facilitate wider stakeholder participation were suggested.

The participation of users in the design of infrastructure services is a fairly new approach and the challenges, which had to be faced, are summarised in the paper. In terms of the lessons learned, the following key issues emerged from the project:

- The involvement of an experienced local organisation, such as the Community Development Association (CDA) has significantly influenced the high level of participation achieved
- Residents were motivated to participate in decision making pertaining to the design and implementation of the project in order to influence the location of roads, drains and water systems to their benefit
- It was difficult to limit stakeholder participation to any definite stage of the process
- An experienced and widely accepted community leadership was of great assistance in leading discussions among the residents and mobilising resources
- Stakeholder participation began during the project formulation stage and played an active role in defining and prioritising the problems
- Stakeholder participation in design of basic infrastructure is often an expensive process that invariably demands time and patience.

In conclusion it was stated that norms and behaviours which are conducive to sustainability of the improved infrastructure had been consolidated through stakeholder participation. Mistakes which could have developed at the design stage have been avoided because the views and experiences of the users were taken into account at the decision making stage.

4.8.3 Community Contracting in Zambia

Barbara Collinson, Economic Expansion in Outlying Areas Programme, Zambia

The paper outlines the role played by the Economic Expansion in Outlying Areas (EEOA) programme in community upgrading of infrastructure in Zambia. The EEOA programme is a 'facilitation' programme that encourages dialog, discussion and learning with local communities to help improve their understanding of local economic opportunities and how to exploit them profitably. The outcome of the facilitation process is an increased number of rural entrepreneurs in sustainable farming and business enterprises.

A component of the EEOA programme is the Rural Economic Expansion Facility (REEF) that provides the means to help communities upgrade their infrastructure. It was however explained that assistance is not necessarily through the provision of funds but could be in the form of management training and capacity building of



the various stakeholders involved in the infrastructure upgrading. The types of infrastructure currently being rehabilitated under the umbrella of REEF are roads, bridges, culverts, weirs, dams, irrigation canals, markets, dip tanks and processing plants. In each case, the rehabilitation is targeted at providing an enabling environment for economic expansion to take place. In other words, the infrastructure provided is not an end in itself, it is a means to an end, which is identified as dynamic, economic development.

It was pointed out that the EEOA approach is an integrated and holistic one with a number of facets of which four were identified in the paper. These were:

- That there are always three processes going on in parallel during the life of the REEF project, as illustrated in figure 1 of the paper. A reputable contracting firm, who has tendered in the normal way, is appointed to carry out the project implementation. In terms of the tendering process, the company's ability to work with a local community is considered second only to its technical capability
- That there is a partnership in place with the community for the duration of the REEF project. Community involvement and commitment at all levels is identified as a critical factor. Once the community identifies a project and a positive economic appraisal has been obtained, the community enters into a partnership agreement with the EEOA programme which spells out the mutual obligations and responsibilities of the two partners
- That a technical consultant is appointed who, in addition to ensuring technical competence of the contractor, will have responsibilities for technical procedures, provision of technical advice to non-technical decision makers, building technical capacity in the local small-scale contracting firms and capacity building of the REEF committee members (who represent the community)
- That capacity building is built in to the programme at various levels.

In conclusion, the role of the EEOA in community contracting in Zambia was summarised as follows:

- EEOA and the Community are a Partnership
- The Partnership contracts the contractor
- EEOA contracts the Technical Consultant
- The Technical Consultant supervises the contractor
- The Technical Consultant advises the Partnership
- The contractor trains the community in maintenance techniques
- The District Council advises the Partnership in matters local and legal



- The Government department advises the Partnership in matters which relate to the department's special expertise e.g. Fisheries, Public Works
- The Partnership networks with the business community to ensure that it will exploit possible business opportunities.

SUMMARY OF WORKING GROUP DISCUSSIONS

Working Group 8A – Facilitator: Victor Meshak

Question: *Why should the community be involved in the design of urban infrastructure projects?*

The group felt that community participation in the design stage was essential to establish the appropriate level of service for which they can pay. Participation will also create and enhance a sense of ownership in the project and reduce the risk of disputes or stoppages. To ensure participation, the group felt that the onus was on the consultant to achieve this. The terms of reference of the consultant needed to be very specific and the client needed to be careful in selecting consultants with the appropriate experience and staff. The following possible methods were suggested to better assist the community to understand the proposed design and participate in its modification:

- Use drawings, 3-D and scale models
- Simple videos
- Clear communication to explain options during site visits.

It was also stated that all approaches to community participation would need to be flexible, with an acceptance of a degree of uncertainty by community representatives.

Question: *The conventional consultancy approach to design is too expensive and not effective when many community stakeholders are involved. What alternative options do we have?*

The following alternative options were identified:

- Develop a multi-disciplinary team for the work
- Investigate alternative forms of payment for the consultant
- Use local council officials
- Package/separate tasks appropriately
- Foreign consultants should train local consultants to do the job
- Ensure effective project management
- Communities should brief the consultants about their expectations
- The cost implications should be clearly explained to the community.

Question: *How can we reduce the learning curve of stakeholders in community-participation projects?*



The group felt that effective project management using experienced managers should be provided and stakeholders should be educated as an integral part of community-managed projects. However, it was pointed out that attempts should not be made to reduce the learning curve on community-managed projects, as the learning curve was the whole point of the project.

Working Group 8B – Facilitator: David Stiedl

Question: *What proportion of people in your cities live in informal settlements and how are urban services provided for them?*

Based on examples from Pakistan, Kenya, Uganda, Ethiopia, Philippines and Lesotho, the group estimated that approximately 50% of urban people live in informal settlements. Of these, between 30% and 80% have no services, and those who do are serviced by NGOs or self-help schemes.

Question: *What role can communities play in the provision of urban services at different stages of procurement?*

People within the community should be encouraged to form groups to participate in the planning, design and implementation of infrastructure projects, as well as influencing policy. It was recommended that assistance be given to people setting up their own community-base organisations (CBOs). The community could also become involved in financing projects (e.g. through cash, income generation and labour) whereby community financing can act as 'gearing' for projects in terms of cost sharing.

Question: *What are the barriers to community-involvement in the provision of urban services?*

The following barriers were identified:

- Negative attitudes from those in power and unfavourable policies
- Land tenure problems in that people do not own the land they live on and have no security
- Communities have problems in becoming organised in that:
 - Community leaders lack organisational skills or are not sincere
 - There is a lack of resources
 - There is a lack of awareness of the benefits of community participation
 - There is often no sense of a community.
- People are too poor to help themselves and too busy with immediate priorities to improve their conditions.

Question: *What actions should be taken to support community involvement in the provision of urban services?*

The group proposed the following actions:

- Assistance should be given to communities in setting up their own CBOs



5 FIELD VISIT

5.1 INTRODUCTION

The field visit was organised for day 3 of the seminar and visited three sites in the vicinity of the Great East Road between Lusaka and Chongwe. The three sites visited were:

Site 1: Chainda

Presenter: Simon Kunda

- Urban infrastructure for low-income settlements.

Site 2: Chongwe – Kanakantapa

Presenter: Chali Nondo

- Highway maintenance by labour-based contractors
- Visit to a labour-based demonstration road focusing on drainage structures
- Interviews with labour-based contractors.

Site 3: Kasisi – Ngwerere

Presenter: Richard Kasongo

- Demonstration foot bridge
- Demonstration of appropriate equipment
- Fully rehabilitated demonstration road
- Grading using towed grader.

154 delegates attended the field visit. Each delegate was given a field visit guide, which is included in its entirety in Volume II and summarised below.

5.2 SITE 1: CHAINDA

5.2.1 Summary of Site Visit

The Chainda site showed an example of a community-based group, forming part of a labour-based practical training programme in the construction and upgrading of urban gravel roads of different carriageway widths. Participants were employed/trained on a food-for-work basis for the first six months, following which, the formation of community-based contractual groups was encouraged. At least two groups consisting of 20 members per group were targeted in each project area for community-based contractual work. The participant who acted as the gang leader in the food-for-work programme was appointed as the supervisor in each work group. Programme Urban Self Help (PUSH) as the implementing NGO for the urban food-for-work programme assists in the formation of contractual work groups.



The groups identified and formed are registered with PUSH and called the Community Based Contractual Groups for specific settlements. Currently, five work gangs have been formed in the Lusaka districts.

Plans are underway to draft a common constitution for all the community-based contractual groups and register them in the Zambian Register of Societies. The contractual groups are also recognised by community-based organisations such as the Resident Development Committees (RDCs) which co-ordinate development activities in each squatter settlement.

The community contractual groups have not yet attained a level where they can operate independently. Therefore, PUSH sources contracts of works and prepares tender documents. The work gangs are sub-contracted by PUSH to implement the works and ensure that quality workmanship is achieved and the activities of works are completed within the specified time frame.

Since labour-based technology is applied in most of the works, 60% of the total cost of the contract is for labour costs and this is the amount paid out to the sub-contractor on successful completion of the contract. 30% of the costs is for operating costs and the remaining 10% goes to PUSH for administration and supervision costs.

Apart from training the members of the work groups in labour-based technology, tools and basic equipment pools are provided in each project area where the groups are able to borrow tools whenever they are sub-contracted to do work within or outside the project area. Currently, no charge is made for using the hand tools and subsidised rates are payable for use of equipment such as tractors, water bowsers and vibrating rollers.

The main clients, with which PUSH tenders for contracts, are the local authorities. Other potential clients are local estate landlords and the farming community on the outskirts of cities and towns.

Most of the community-based groups have no capital base to secure their own tools and hire equipment at commercial rates. Therefore, PUSH is facilitating the linkage between work groups and lending institutions to allow them to borrow money and procure the required assets. Members of the group who have attained a primary level of education will be sponsored by PUSH to attend training courses in contract management and supervision. By building capacity and sustainability of the community-based contractual groups, it will allow them to increase their financial base and become independent contractors, capable of competing realistically with other commercial contractors.

PUSH is striving hard to limit the period of sub-contracting community-based contractual groups to six months. However, this is subject to each group being awarded at least four contracts and that there are adequate resources to transform the work groups to more self-sustainable contractual groups.



5.2.2 Highlights of the Discussions

Generally, most delegates thought that implementing a labour-intensive programme using food-for-work strategies would create a sense of dependency and as such, projects would not be sustainable in that they were driven by the incentive of the food offered. A few delegates felt strongly that community-based programmes would be better executed through voluntary community participation.

In reply, it was pointed out that the urban food-for-work programme has been implemented in Zambia since 1991 and the major pitfalls of the programme were realised in the first six years. This led to transformation of the food-for-work programme to Food for Assets and Sustainable Employment (FASE). In this programme, the issue of dependency does not arise since the participation period of the programme has been reduced to six months, unlike the food-for-work programme where beneficiaries remained on the programme as long as they could. Also, during the same six-month period, participants are trained in labour-based skills to enable them to secure sustainable employment on the commercial market.

It was also stated that the activities to be implemented are devised from needs assessment studies and the design of any activity implemented under the FASE programme includes community inputs. Provision for maintenance of any activity or project is incorporated at the design stage. The communities, through their respective RDCs; are given the responsibility of maintaining all the assets created through the FASE programme. The decentralisation of responsibility by the Ministry of Local Government legally empowers the RDCs to represent the local authorities at community level. To ease the burden of sustaining the infrastructure, all the tools and light equipment are handed over to the RDCs at the end of the project.

In response to a question about selection of participants, it was stated that the target age group of beneficiaries of the programme is 18 to 60 years and vulnerable, female-headed households that are unable to meet basic needs are given preference. At least 60% of the work group must be female and the community plays a leading role in identifying the target group.

Since wages are paid in kind for these types of community-based programmes, some delegates enquired as to the monetary monthly value of the food basket. In reply, it was stated that the value of the food basket varies between US\$18 and US\$20 per month for inputs of work at four hours per day. This compares favourably with cash for work projects which stand, at a minimum US\$40 per month for work input of eight hours per day.

Some delegates felt that more permanent drainage structures such as culverts were preferred in the urban situation, compared to loose stone masonry drifts. In this regard, it was stated that the problem was inadequate counterpart funds from government to procure materials such as cement and pipes. This reason was also given for not providing access slabs across the side drains to individual plots in



the community, and hence the observed tendency by residents to block the roadside drains in the provision of access to their houses.

It was pointed out that the quality of the gravel used for stabilising the running surface of the road was poor. The reason for this was that well-graded gravel pits are located 12 to 15 km from the project and haulage costs are relatively high. The gravel used on site was provided from an alternative site 2 km from the project area.

One delegate observed that the tractor/trailer used for carting away waste material was too high for labour-intensive works. In reply, it was pointed out that the donor provides the equipment used on site and they also depend on pledges in many cases. This dictates that optimal equipment cannot always be provided for every site and work groups have to be flexible in accommodating equipment that may not be totally suitable.

5.3 SITE 2: CHONGWE - KANAKANTAPA

5.3.1 Summary of Site Visit

The visit to this site was characterised by two distinct activities. Firstly, there was an example of how labour-based contracts are being used for the routine maintenance of 200 km of the major trunk road (T4) between Lusaka and Chipata on the Malawi border. The second part of the visit showed examples of how labour-based spot improvements, mainly to the storm-water drainage of the road, had provided all-weather access to a road that was virtually impassable in previous rainy seasons.

Maintenance Trial Contract on the T4 from Lusaka International Airport Turn-off to Luangwa (200 km)

The primary objective of the trial contracts is to enable contractors to implement the skills and knowledge obtained during their training at the Roads Department Training School (RDTS) in a real contracting situation. The contracts are carried out under the close advisory supervision of trainers from RDTS to ensure productivity, quality and profit as well as assessing performance to evaluate the suitability of the contractors for future works. The road was reconstructed in 1997 and the first routine maintenance contract began in 1999 using four labour-based contractors trained by RDTS.

Traditionally, labour-based methods have been used in the construction and maintenance of unpaved roads. However, with the move away from force account works in favour of private sector contracting, the Government of Zambia through the Roads Department and the National Roads Boards (NRB) decided to promote private sector participation in road maintenance of highways. The current work involves mainly off-pavement activities such as vegetation control to improve sight distance, grubbing shoulders, erosion repairs to drains, desilting drains and culverts, reshaping discharge drains and repairs to aprons, wings and headwalls.



Eventually, activities will be gradually extended to include the routine maintenance of shoulders and the paved area of the road.

RDTs is acting as the Project Manager for the contracts, with NRB as the financing agency and Roads Department as the client. The contractors are expected to go through all the various contract phases such as bidding, contract implementation and measurement of completed work as part of their training. The contracts are negotiated as unit price Bills of Quantities (BOQ) and each contractor has been given 50 km of routine maintenance. All hand tools have been supplied on loan and the tool loan is recovered from monthly deductions of the contractor's interim payment certificates. The average contract size is US\$22 000 over a 10-month period.

The current BOQ approach will be used as a basis for calculating and planning performance standard contracts (Activity Schedule Contracts). This will allow future contracts to be awarded as lump sum contracts to ease the burden of carrying out rigorous measurements of work done at the end of every month. These contracts will also include an escalation clause. The introduction of performance contracts is also expected to encourage uniformity of execution of maintenance activities.

Chongwe-Kanakantapa Loop

The road was first rehabilitated in 1990 using machine-based activities, but did not complete the last 9 km of the loop, and the communities within the area serviced by this section had general accessibility problems. The labour-based section of RDTs began rehabilitation of the 9 km section in December 1996 with completion in 1997. The site was opened as a demonstration/training site for small-scale contractors attending labour-based courses in rehabilitation, spot improvements and maintenance.

The section crosses hilly terrain with a number of stream crossings. Prior to rehabilitation the road was in an extremely poor condition and virtually impassable during the rainy season due to inadequate/non-existent drainage structures along the road. Hence, the major focus was given to drainage improvements, with the riding surface of the road improved by using some of the *in situ* material from the side drains and side slopes, and some by the importation of gravel. Following rehabilitation of the road to a feeder road standard with a 5 metre carriageway width, the traffic volumes have increased from 10 vehicles per day prior to rehabilitation to the current levels of 20 to 30 vehicles per day.

The production data for the section is shown in the field visit guide in Volume II. Specific attention was given to the vented drift (piped causeway) at Kapete which was constructed in 1997 at a cost of US\$19 000 (US\$10 200 material costs; US\$8 800 labour costs) and used 5 397 worker days.



5.3.2 Highlights of the Discussions

The general impression of participants of the trial contracts on trunk road T4 was very good and they were impressed with the stage development approach being adopted for contractor development. There were however concerns expressed, related to sustainability of work and the assessment of the contractors for future work by the trainers. Should the trainer recommend that the contractor be precluded from future work, it was felt that this would be a wasted investment on behalf of the client or sponsor. Some participants were also of the opinion that contractors should be exposed to competitive bidding during the trial phase of the contract.

With regard to the drainage structures on the Chongwe-Kanakantapa loop, delegates were generally impressed at the quality of structures and river crossings demonstrated. However, some concerns were expressed regarding the high cost of construction of the vented drift at Kapete. It was explained that these costs also included a training component, which partly accounted for the higher than normal costs.

5.4 SITE 3: KASISI - NGWERERE

5.4.1 Summary of Site Visit

The site showed an example of road rehabilitation and maintenance works undertaken by RDTS as a demonstration and training site for labour-based contractors. The road section ended at a newly constructed pedestrian timber bridge over the Ngwerere river which had also been built as a RDTS training activity.

Since the rehabilitation of the section, traffic volumes have grown from 50 vehicles per day (1996 count) to 100 vehicles per day (April 1999 count). However, the increased traffic has also led to a quicker deterioration of the riding quality of the road through the formation of corrugations with the consequent demand for increased maintenance through grading and dragging. This was particularly evident on the first 6 km of the section where a Towed Grader is now used for maintenance activities.

One of the spin-offs of the activities is that interest has been expressed by the Catholic Mission located close to the road (and one of the main beneficiaries of the road) to undertake towed grading activities on completion of the RDTS initiatives. Personnel from the Mission have been receiving training with the tractor/towed grader combination and agreement between RDTS and the Mission has been reached.

At the site camp for the footbridge construction over the Ngwerere river, the prize winning equipment developed by RDTS was demonstrated. The equipment included tractor/towed grader combination, locally built water bowser, dead weight rollers for compaction and customised trailers for transporting the rollers.



In the past, much of the training and demonstration projects carried out by RDTS have concentrated on road rehabilitation and maintenance and the provision of adequate drainage. However, as part of the Training Needs Assessment (TNA) results, it was identified that individuals also needed to be trained in the erection of structures to solve stream-crossing problems. The footbridge over the Ngwerere river was identified as an ideal site as it combined the training needs of RDTS with an example of community participation in this type of activity.

Throughout the construction of the pedestrian bridge and rehabilitation of the 13 km of road, the local population has been actively involved. This was done to give employment and skills training to the locals who were not formally employed at the start of the works and to generate cash resources to improve the basic living conditions of the community.

A bridge/road committee has been formed consisting of the Headmen, political party leaders and other community leaders to safeguard the infrastructure that has been developed in the area. It will also serve as a caretaker of the road and footbridge when the RDTS activities come to an end. Neighbourhood Watch groups will be used to prevent vandalism to the bridge and the road, and ensure that the local population will adhere to the allowable maximum load on the bridge.

5.4.2 Highlights of the Discussions

Most participants were impressed by the quality of the road rehabilitation and maintenance works done by labour-based methods. While the use of a towed grader was considered standard practice by some, this was new to others and further details were requested to enable participants to use the method in their countries. The benefits of tractor-based technologies were also appreciated by those not conversant with its use.

The adjustable towing bar on the dead weight rollers was seen as a very innovative solution to many of the problems associated with manoeuvring this type of roller and added much greater flexibility for compaction operations.

In general, the formation of a bridge/road committee by the community was seen as a positive step. However, certain concerns were raised related to the community actually taking ownership of the bridge, as they had made no financial or 'in kind' contribution to the bridge. This aspect will need to be monitored when the benefits and performance of the bridge are evaluated in the future.

Some delegates felt the footbridge was constructed to too high a standard for what was required and a vented drift or causeway could have been built. However, it was pointed out that this was a demonstration project and also used for labour-based training in various aspects of bridge construction. Hence, the higher standards than may have normally been used. In addition, the high water levels



in the rainy season would have precluded the use of drifts and causeways.

It was also questioned whether a limited access vehicle bridge for ox carts would not have been better. It was pointed out that a vehicle bridge was being planned 500 m downstream from the pedestrian bridge, specifically for vehicular access to the community, and there is also an existing vehicular bridge 5 km away. The footbridge was intended to give pedestrians on either side of the river, direct, all-weather access.

It was suggested that the timber supports were vulnerable to damage from debris surcharge at times of flooding and high water volumes and a suggestion was made that a barrier/rack should be placed upstream to trap the debris and prevent damage to the timber piers.

Questions were asked, related to the placing of the heavy Bluegum bearing members on the bridge. It was stated that no lifting equipment had been used and all movement and placing of the members had been done manually by the labourers.

The overall impression of participants was that the Ngwerere footbridge was a good prototype for rural transport and community access, and as such, should be encouraged where possible.



6 Final Summary and Conclusions of the Seminar

Comments, conclusions and recommendations were summarised from the proceedings of the first four days of the seminar and presented to participants in draft form for their consideration and modification in the plenary session of the final day. The following statements are a summarised record of the conclusions reached during the seminar and agreed by the delegates.

Opening Session

- Commitment from donors is required to reduce poverty and partnerships will be required to develop comprehensive strategies in this regard, with targets developed by those having or taking ownership of the problem. Recent programmes of donor and lending agencies have been developed in support of this approach.
- Problems were identified in developing action plans to take current programmes and pilot projects into full-scale implementation at a national level and this still remains a major challenge for practitioners.
- The need for a conducive political and economic environment, supported by an appropriate legal framework was emphasised to support employment-intensive programmes. In this regard, labour-based forums and employment-intensive promotion units were identified as suitable vehicles to promote programmes of this nature.
- It was suggested that employment-intensive programmes should preferably be based on priorities developed by communities. However, community participation fatigue was highlighted as a constraint. There are also many opportunities for applying employment-intensive approaches in major donor supported projects as well as in regular government programmes, such as highway maintenance works or large scale irrigation schemes, etc. Efforts should be made to define such opportunities and insert them at the project design and implementation stage.
- NGO's were identified as a powerful pressure group and improved communication with these organisations was recommended to enhance their understanding of what constitutes labour-based technology.
- An organised sales strategy using an approach such as SPIN (Situation; Problem; Investigation; Need) was suggested.
- In many instances, local consultants and contractors (many of them single-person) are perceived to have no depth of experience, technical support and financial backing, and are therefore not trusted and/or used by clients. Training and capacity building is therefore a specific need.



- The resistance to labour-based construction by technocrats and professional engineers will need to be addressed at policy and training levels.
- The National Roads Board in Zambia reiterated its commitment to developing the local construction industry, especially the labour-based sector. However, the poor performance of local contractors on larger contracts in the past has dictated that foreign contractors were still obtaining a major proportion of the work. The Zambia Association of Building and Civil Engineering Contractors highlighted this as a major concern and better packaging (unbundling) of contracts was suggested to allow the small contractors to compete.

Investment levels and training programmes

- The need to make equipment available for contractors where no equipment is available locally was supported. The type of equipment would be dependent on the prevailing needs in terms of routine maintenance, recurrent maintenance and rehabilitation. The client in consultation with the financiers and beneficiaries would decide the actual composition of equipment. However, basic requirements for any project would be hand tools, haulage equipment, transport for supervision and appropriate means of compaction.
- Political will, long-term commitment, adequate facilities and equipment, sufficient human and financial resources and relevant expertise are required for the successful development of national programmes for contractor/consultant development.
- International training materials need to be made available at all levels including training institutions, provinces, districts, etc. It was also felt that relevant national material should be made more easily accessible internationally.
- Finance for training should be secured by government/private sector, and beneficiaries should be made to contribute where feasible. Government and/or the private sector would co-ordinate the training.
- The universities, technical colleges and tertiary training institutions have a responsibility to educate engineers/technicians at various levels to expand capacity. It was recommended that more of these institutions introduce labour-based construction into their curricula/courses.

Credit and lease facilities

- Financial options such as cash payments, equipment rental, bank loans, hire-purchase agreements, equipment leasing, venture capital and supplier credit, were identified for equipping contractors. However, the advantages and disadvantages of each option have to be acknowledged.
- Bank loans are not readily available for emerging contractors without government's support. Hence, bank loans with guarantees from government were suggested as appropriate terms of credit



support, and the bank loans should be structured to the prevailing national conditions. The existence of well-developed financial institutions and the provision of loans in local currency would also assist contractors in obtaining lease and credit facilities. The management of these facilities is likely to be country-specific, depending on the governmental control of banks. However, private sector management of the facilities would be preferred.

Tendering procedures

- Tendering procedures are considered to be a stumbling block for emerging contractors; assistance should be provided in terms of appropriate training, funding, information provision, simplification of documentation, and packaging of contracts.
- While the estimation of the labour content of road projects was considered to be reliable, the accuracy for other types of infrastructure was questioned. Project-specific and/or historic data was required to improve the accuracy of the estimates, and to assist in the development of well-defined measurement criteria. The use of an appropriate method of estimating was recommended.

Contract documentation

- Of the countries represented, most were using FIDIC 4th edition contract documentation (some with country adaptation). There was some use of the World Bank Procurement for Small Works, and some countries are using the Institution of Civil Engineers (ICE) documents (The New Engineering Contract - NEC). Namibia, Zambia, Zimbabwe and South Africa are also using their own general conditions of contract.
- It was felt that current contract documentation, in general, favoured the client, in that the client prepares the contracts, client obligations under the contract are difficult to enforce, and contractors have to carry too many risks.
- Current contract documentation was considered to be too complex, with difficult legal language making small contractors incur generally high, unforeseen expenses in the event of contractual disputes.
- The majority felt there was a need for the addition of special clauses for labour-based activities, and in several countries these are already in use. Some delegates felt the special clauses should not be included in the actual documentation but rather placed in supporting documentation.
- The use of an independent adjudicator was considered useful and should be appointed at the start of a contract. Concerns were expressed by delegates that if the client paid the cost of the adjudicator, this would lead to abuse of the service by the contractor.
- The majority of the delegates showed interest in the new FIDIC short contract. Delegates would like to access copies to study for themselves before it could be universally adopted. A minority in the group wished to remain with national documentation.



Labour policies and practices in contracting

- No national labour policies and strategies were available for labour-based works in any of the countries represented and, in general, workers were not represented in negotiations and not aware of their legal rights.
- General wage levels are US\$1 to 2 per day in all countries represented (except South Africa and Namibia). For payment in kind (e.g. food for work), there is only a general agreement between ILO and WFP, and no national regulations have been developed. Delayed salary payments in several countries were a major concern.
- In most cases, accidents on site were treated in an ad hoc manner without adequate provision for first aid support.
- Countries reported little evidence of strikes. This was attributed to an overriding need for some level of income by workers. The most common reason for strikes was late payment, which, in some cases, could lead to the contractor losing worker confidence and in extreme cases, company property.
- Recruitment and child labour laws exist in all countries and are generally applied, although indications were given that determination of age is sometimes difficult.
- It was felt there was generally no discrimination against women in their countries, although women were perceived by some to be able to do less heavy work. Cultural constraints were identified, which in some cases do not favour women's access to work. Examples, such as problems with husbands and wives working together, were identified.
- It was recommended that national and regional policies and strategies for labour issues should be developed through consultation with all relevant stakeholders (i.e. workers, employers and government ministries).

Accessibility and rural transport

- Access to basic social and economic services was identified as a primary requirement to overall development, and would require transport and infrastructure interventions, service location, and funding, depending on community priorities.
- Programme failures were attributed to under-utilisation of local resources and lack of credit, poor regulatory framework, and irrelevant, culturally unacceptable projects being imposed on the community. It was recommended that an improved regulatory framework, community participation, integrated planning, use of local resources and improved training should be provided to improve the success rate of projects.
- It was recommended that all stakeholders should be included in the entire planning process, and prioritisation criteria and methodologies were identified to assist the process.

Role and development of consultants in labour-based works

- There was general acceptance that consultants have to become more involved in labour-based work, as the policies of privatisation in the road sector take effect. Their involvement would include



planning, design, and supervision of work. Consultants should be provided with training in conjunction with training initiatives for contractors. It was suggested that different types of consultants could be appointed for different levels of complexity of works (e.g. road construction as opposed to road maintenance).

- Payment of consultants on a percentage of contract basis was considered to be inappropriate, especially for smaller contracts. Alternative methods of payment should be considered.
- Consultant capacity, in terms of the number with the appropriate technical knowledge in labour-based works, was considered to be limited. Their capacity would need to be developed in line with proposed contractor development programmes.
- Government/client bodies should take responsibility for creating an enabling environment for small, emerging consultants.

Contractor development

- The suitability of the simplified approach for project preparation and management adopted by World Vision in Mozambique, should be assessed by ILO/ASIST for possible wider application.
- The concept of a stage development (mentorship) approach for small contractors to minimise risk was strongly supported, with the number and duration of stages being country specific.
- It was recommended that clients should be involved in contractor development and should guarantee work to the contractor for a considerable period. Capacity building should be included in construction contracts to support local construction industry development.

Sustainability, growth and diversification

- Barriers to growth and diversification were identified as fear of competition, limited market for work, limited skills, limited financing and poor market information. To overcome the barriers, the following actions were suggested:
 - Set up mentorship programmes;
 - Arrange study tours for contractors;
 - Package work specifically for small-scale contractors;
 - Improve advertising of work;
 - Provide more diverse training;
 - Consider loans for training;
 - Improve access to credit;
 - Set up loan schemes targeted at small-scale contractors.
- Governments, as the client, should insist that donor and funding agency project planners consider appropriate technology options, including labour-based technology, in their project proposals.
- Immediate and long-term interventions need to be identified to facilitate the entry of small contractors into the open market to ensure their sustainability.

Contractor/consultant associations and national councils

- It was generally accepted that clients, construction councils and contractor/consultant associations had a role to play in the development of their national construction industries.



- There was a majority feeling that independent labour-based contractor/consultant associations should be formed to give special attention to the needs of emerging contractors and consultants. The alternative opinion was that there should be one association for all contractors and one association for all consultants, co-ordinated by a national council.

Urban upgrading and community contracting

- People within the community should be encouraged to form groups to participate in the planning, design and implementation of infrastructure projects. It was recommended that assistance be given to people setting up their own community-based organisations (CBOs), with formal recognition given in terms of land ownership and other legal rights.
- It was felt that the status of informal settlements should be assessed and recognised. Improvements to their infrastructure should be promoted.
- Community-based projects will require a careful selection of consultants with appropriate staff and flexibility to work within the communities.
- The learning curve of stakeholders in community participation projects could be reduced by interventions such as the development of multi-disciplinary teams, use of local council officials, appropriate packaging of tasks, training of local consultants by expatriate counterparts, and effective project management.
- Barriers on policy level, procedures, regulations, capacity, attitudes, land tenure and limitations for communities to organise themselves limit the effective upgrading of low income areas.
- Possible actions to remove the barriers are: facilitating in the establishment of Community Based Organisations (CBOs), setting up demonstration projects, developing appropriate technology and standards and developing community procurement procedures.

Field visit

- The performance and value to the community of the footbridge at Kasisi should be evaluated by the Road Department Training School (RDTS).
- The use of labour-based contracting for routine off-road maintenance on major trunk roads demonstrated that labour-based work need not be confined to rural, low-volume, gravel roads. Additional routine maintenance tasks such as patching and crack sealing could also be considered for labour-based works.
- Delegates generally felt that the implementation of labour-intensive programmes using the “food-for-work” payment method would create a sense of dependency. The delegates support that programme beneficiaries should not be engaged for a longer period than six months to avoid such dependency. Otherwise such methods would not be sustainable. Skills training to enable individuals to secure sustainable employment should be encouraged.



7 ANNEXES

7.1 ANNEX 1: SEMINAR PROGRAMME

Seventh Regional Seminar for Labour-Based Practitioners 3-7 May 1999

Pamodzi Hotel, Lusaka, Zambia, 3 - 7 May, 1999

Monday 3rd May 1999

08.00 – 10.00	Registration	
10.00-10.30	Opening Session	Chairperson : J Mwila, DoR, MoWS
		Speakers: J de Veen ILO; PS, MoWS; Minister of Works & Supply
10.30-10.45	Introduction to Seminar	L R Sampson
10.45-11.00	Group Photo	
11.00 – 11.30	Tea	
11.30 – 12.30	Trends in Employment Intensive Programmes	T Tessem, ILO/ASIST
	Discussion	L R Sampson
12..30-14.00	Lunch	
	Key-note Papers	
14.00-15.30		
	Contracting Development - Key Issues	P Bentall, Independent Consultant UK
	Contracting Development - Key Issues for the future	H Goldie-Scot, Scot Wilson Kirkpatrick, UK
	Discussion	L R Sampson
15.30 – 16.00	Tea	
16.00-17.30	Contracting in Zambia Development with the Zambia National Council for Construction	P Turner, NCC Zambia
	Contracting in Zambia, The Zambia National Roads Board - Its Role in Sector Management	R Jhala, NRB Zambia
	Discussion	L R Sampson
18.00	Cocktail at the Pool Area	

Tuesday 4 May 1999

Workshop 1		Workshop 2	
08.15 – 09.15: Mupani 2: Barnabas Ariga		08.15 – 09.15: Club Lounge: Les Sampson	
Topic: Credit Facilities and Appropriate investments for contractors		Topic: Contract Documentation and Tendering Procedures	
Credit Facilities for Contractors Uganda Transport Rehabilitation Project (UTRP), Feeder Roads Component	<i>P Rademaker, ILO</i> <i>J Otemo, UTRP</i>	Contract Documents for Small Scale Contracts in the Road Sector An Approach to the Preparation for and Submission of Tenders for Competitive Labour-based Construction Contracts	<i>D Stiedl, Independent Consultant</i> <i>J Crosswell/ R McCutcheon, EIEC, SA</i>
09.15 – 11.30 Club Lounge: Group 1A: Barnabas Ariga	09.15 – 11.30 Baobab: Group 1B: M. Meshak	09.15 – 11.30 Mupani 2: Group 2A: Jane Tournée	09.15 – 11.30 Mupani 1: Group 2B: Les Sampson
11.30 – 12.30 Mupani 2: Reporting back from workshops 1 and 2			
12.30 – 14.00 Lunch			
Workshop 3		Workshop 4	
14.00 – 14.30: Mupani 2: David Stiedl		14.00 – 14.30: Club Lounge: M Meshack	
Topic: Labour Policies and Practices in Contracting		Topic: Accessibility and Rural Transport	
Labour Policies and Practices in Contracting	<i>J de Veen, ILO</i>	Improving Access and Management of Intermediate Means of Transport in Sub-Saharan Africa Stakeholders Participation in Rural Access Road Prioritisation –The South African Experience	Jeff Maganya, ITDG, Kenya <i>F Ali-Nejadfard, ILO/ASIST (Author: Vivienne Lipman)</i>
14.30 – 16.30 Mupani 2: Group 3A: David Stiedl	14.30 – 16.30 Mupani 1: Group 3B: Barnabas Ariga	14.30 – 16.30 Club Lounge: Group 4A: M Meshack	14.30 – 16.30 Baobab: Group 4B: Jan Fransen
16.30 – 17.30 Mupani 2: Reporting back from workshops 3 and 4			



Wednesday 5th May 1999 Field Trip

08.15 – 08.35	Introduction to the site visits, C. E. Hedström
09.00 – 13.00	Visit to two sites
13.00 – 14.00	Lunch at the Barn Motel
14.00 – 16.00	Visit to third site
16.00 – 17.00	Return to Pamodzi Hotel

The participants were divided into three (3) groups and departed from Pamodzi Hotel at 08:45 to 3 different sites namely:

1. Chainda

Presenter: Simon Kunda

Urban infrastructure for low income settlements

2. Chongwe-Kanakantapa

Presenter – Chali Nondo

Highway maintenance by labour-based contractors

- Visit to labour-based demonstration road with focus on drainage structures
- Interview with L-b contractors

3. Kasisi-Ngwerere

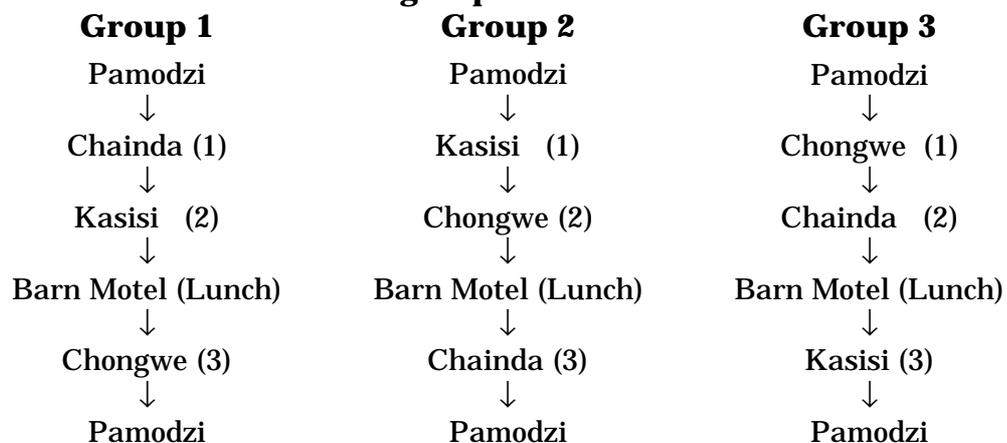
Presenter – Richard Kasongo

Demonstration foot bridge

- Appropriate equipment
- Demonstration road – fully rehabilitated
- Grading using towed grader

Note: All three sites including Barn Motel are along Great East Road i.e. Lusaka to Chipata (T4)

Travel schedule for individual groups



Group 1		Group 2		Group 3	
08:45 Depart to Chainda 09:05 Arrive Chainda		08:45 Depart to Kasisi 09:30 Arrive Kasisi		08:45 Depart to Chongwe 09:30 Arrive Chongwe	
Presentation (1) 09:05-10:30	Chainda	Presentation (1) 09:30-11:00	Kasisi	Presentation (1) 09:30-11:00	Chongwe
10:30 Depart to Kasisi 11:15 Arrive Kasisi		11:00 Depart to Chongwe 11:45 Arrive Chongwe		11:00 Depart to Chainda 11:30 Arrive Chainda	
Presentation (2) 11:15-12:30	Kasisi	Presentation (2) 11:45-13:00	Chongwe	Presentation (2) 11:30-13:00	Chainda
12:30 Depart to Barn Motel 13:00 Arrive Barn Motel		13:00 Depart to Barn Motel 13:30 Arrive Barn Motel		13:00 Depart to Barn Motel 13:20 Arrive Barn Motel	
Lunch 13:00 – 14:00		Lunch 13:30 – 14:30		Lunch 13:20 – 14:30	
14:00 Depart to Chongwe 14:30 Arrive Chongwe		14:30 Depart to Chainda 15:00 Arrive Chainda		14:30 Depart to Kasisi 15:00 Arrive Kasisi	
Presentation (3) 14:30-16:00	Chongwe	Presentation (3) 15:00-16:30	Chainda	Presentation (3) 15:00-16:30	Kasisi
16:00 Depart to Pamodzi 16:45 Arrive Pamodzi		16:30 Depart to Pamodzi 17:00 Arrive Pamodzi		16:30 Depart to Pamodzi 17:15 Arrive Pamodzi	

Tour – Guides

Group (1) Lead Bus: Charles P. Mushota Principal – RDTS Bus 2: Davison Sakala (Field Instructor – RDTS)	Group (2) Lead Bus: Daniel Mulonga Executive Engineer – RDTS Bus 2: Paul Kalinda (Field Instructor – RDTS)	Group (3) Lead Bus : Andrew Mwale Training Officer – RDTS) Bus 2: Terry Mukumi (Training Officer – RDTS)
---	--	--

Thursday 6th May 1999

Workshop 5b		Workshop 6	
08.15 – 09.15: Mupani 2: David Stiedl		08.15 – 09.15: Club Lounge: Barnabas Ariga	
Topic: Capacity Building and Contract Management Issues		Topic: Sustainability, Growth and Diversification of Contractors	
Labour-based Works in Lesotho Capacity Building and Development of Local Construction Industry Contracts with Works Paid by Km and Contractors in Three Levels	<i>C Pama, MOW LCU, Lesotho</i> <i>M Noronha/M Madanha, World Vision, Mozambique</i>	Sustainability, Growth and Diversification of Contractors A Case Study for Labour-based Contractor Training in Egypt	<i>G Burger, CHEBO Training, SA</i> <i>H Attalla, SFD, Egypt</i>
09.15 – 11.30 Mupani 2: Group 5A: David Stiedl	09.15 – 11.30 Mupani 1: Group 5B: Osei Bonsu	09.15 – 11.30 Club Lounge: Group 6A: Barnabas Ariga	09.15 – 11.30 Baobab: Group 6B: David Mason
11.30 – 12.30 Mupani 2: Reporting back from workshops 5 and 6			
12.30 – 14.00 Lunch			
Workshop 7		Workshop 8	
14.00 – 14.30: Mupani 2: Barnabas Ariga		14.00 – 14.30: Club Lounge: M Meshack	
Topic: The Role of the Client, Contractors and Consultants Associations		Topic: Urban upgrading and Community Contracting	
The Role of the Client, Contractor and, Consultant Associations on the Labour Based Road Programmes in Zambia	<i>H Musonda, Kiran & Musonda Associated, Zambia</i>	Infrastructure Procurement Strategies to Benefit the Urban Poor Stakeholders Participation in Urban Infrastructure Design and Implementation: The Case of Hanna Nassif, Dar-es-Salaam Community Contracting in Zambia	<i>S Khan, WEDC & W van Esch, ILO/ASIST</i> <i>Dr P Kombe, UCLAS Tanzania</i> <i>Ms B Collinson EEOA</i>
14.30 – 16.30 Mupani 2: Group 7A: Barnabas Ariga	14.30 – 16.30 Mupani 2: Group 7B: Terje Tessem	14.30 – 16.30 Club Lounge: Group 8A: M Meshack	14.30 – 16.30 Baobab: Group 8B: David Stiedl
16.30 – 17.30 Mupani 2: Reporting back from workshops 7 and 8			



Friday 7th May 1999

08.15 – 11.00	Summary of recommendations and conclusions from the seminar	L R Sampson
11.00 – 11.45	Tea and evaluation of seminar	
11.45-12.30	Closing of Seminar	Chairperson C Mushota
	Overview of the seminar	D Mulonga, RDTS Zambia
	The future of the Regional Seminar For Labour-based Practitioners	T Tessem, ILO/ASIST
	Closing of Seminar	PS, MoWS
18.00	Cocktail at the Pool Area	

7.2 ANNEX 2: LIST OF PARTICIPANTS

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
1.	Richard Kofi	Abban	Department of Feeder Roads	Dept. of Feeder Roads, P.M.B, Ministry Post Office, Accra	Ghana	233	21-668314	21-663047	dfr@ncs.com.gh
2.	Mustafa	Ajuga	Norconsult International AS	PO Box 2257, Mbale,	Uganda	256	45-33109 or 34044	45-34515	trp@imul.com
3.	Obi	Ajuruchukwu	UNV/UNDP	UNDP, P O Box 301 Maseru 100	Lesotho	266	313790	310042	ajuruchukwu.obi@undp.org
4.	Zekaria	Ali	ILO Project ETH/95/01M/ITA	ILO/AO, Box 2788 Addis Ababa	Ethiopia	251	01/03 517200 or 114423	114424	ilotrrp@telecom.net.et
5.	Fatemeh	Ali-Nejadfard	ILO/ASIST	P O Box 210, Harare	Zimbabwe	263	263-4-748345-7	4-759427	alinejadfard@ilo.org
6.	Dr. Samuel K.	Ampadu	University of Science and Technology	Dept. of Civil Engineering U.S.T., Kumasi	Ghana	233	051-60226	051-60226	ampad@ighmail.com
7.	Collins Darkwa	Antwi	Department of Feeder Roads	P.M.B, Ministries Post Office, Accra	Ghana	233	21-662125	21-663047	drf@ncs.com.gh
8.	Barnabas	Ariga	Kenya Institute of Highways and Building Tech. MOPW &H	Box 57511 Nairobi	Kenya	254	530282	534890	kihabt@form.net.com
9.	Johan	Asell	SIDA Transport & Energy	23 Woodholm Road Emerald Hill, Harare	Zimbabwe	263	4-702960	4-335448	jasepost@africaonline.co.zw
10.	Nii Klemesu	Ashong	Dept. of Feeder Roads	Dept. of Feeder Roads, P.M.B, Ministries, Accra	Ghana	233	21-663047	21-663047	dfr@ncs.com.gh
11.	John Obeng	Asiedu	Department of Feeder Roads	Dept. of Feeder Roads, P.M.B, Ministries Post Office, Accra	Ghana	233	071-22157	071-22157	dfr@ncs.com.gh
12.	Charles Olivu	Assedri	Min. Works, Housing & Comm	P O Box 19 Fort Portal	Uganda	256	483-22253/22111/4	256-483-22330	-

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
13.	Hany	Attalla	Social Fund for Development	8 Al Aanab Street Mohandeseen, Giza	Egypt	202	3380971	3380970	zawaya@ritsec3.com.eg
14.	George Otieno	Ayon	Welfare Advisory Committee (WAC)	P O Box 58078, Nairobi	Kenya	254	02-787831	02-787831	
15.	Petros	Banda	Care International (Z) Ltd	P.O. Box 620038. Kalomo	Zambia	260	032-65054/5	032-65359	-
16.	Gawie	Burger	Chebo Training	P O Box 2742,Durbanille	South Africa	27	021-968057	9751277	chebocpt@privest.co.za
17.	Peter Hamilton	Bentall	Consultant	43 Cliddesden Road Basingstoke RG21 3EP	U.K.	44	1256-475547	1256352242	phbentall@hotmail.com
18.	Joan	Bijl	DNEP - Mozambique	P O Box 1617, Mutare	Zimbabwe	263	258-51-23812	258-51-23812	jan.bijl@teledata.mz
19.	Frans	Blokhuis	CTA - Feeder Roads Project	P.O. Box 510032 Chipata	Zambia	260	062-21107/21759	062-21177	blokhuis@zamnet.zm
20.	Italo	Boeri	International Labour Office	c/o ILO A.O. P O Box 2532 Addis Ababa	Ethiopia	251	01-517200	01-513633	ilotrrp@telecom.net.et
21.	Carlos	Braz	ILO, DNEP - (DEP Zambezia)	National Directorate of Roads and Bridges, 1225, Maputo	Mozambique	258	1-476163 /7	475533	
22.	Leiv	Bustnes	Ministry of Works and Supply Roads Department	P.O. Box 50003 Lusaka	Zambia	260	1-252787	1-252787	leinroads@zamnet.zm
23.	Jacob	Byamukama	Kibaale District Local Government	Box 2, Karungunza c/o Irish Aid	Uganda	256	075-642063	-	jbkb@arvmuk.ac.ug irishaid@starcom.co.ug
24.	Bayou	Chane	Addis Ababa University	P O Box 385, Addis Ababa	Ethiopia	251	1-124505	1-552601	
25.	Obadiah J.N.	Chege	Urban Development Dept. Min. of Local Authorities	P O Box 30004 Nairobi	Kenya	254	212798/3409 72	221600	-
26.	Jose D.	Chembeze	Eduardo Monolane University Faculty of Engineering, Vem.	AV. De Mozambique, CM 15 C.D. 257, Maputo	Mozambique	258	1-475317	475312	chembeze@zebra.uem.mz

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
27.	Veyara	Chhieu	International Labour Org.	8 St. 352, Norodom, BLVD. Box 877, Phnom Penh 12302	Cambodia	2302	855-23-428210	855-23-427632	ilo@bigpond.com.kh
28.	Florence	Chibwasha	PUSH	Box 50294, Lusaka	Zambia	260	1-251076	1-253738	
29.	Alexander	Chileshe	Care International (Z) Ltd	P.O. Box 620038, Kalomo	Zambia	260	03-324354/65054	032-65359	Ckalomo@zamnet.zm
30.	Bento David	Chiloveque	DNEP - Mozambique	National Directorate of Roads and Bridges, 1225	Mozambique	258	01-475528	1-475038	chilo@informat.uem.mz
31.	Erasmus M.	Chilundika	Ministry of Works and Supply Roads Department	P.O. Box 50003 Lusaka	Zambia	260	1-241766 /246496	1-241765	
32.	Ida Tsitsi	Chimedza	ILO/ASIST	P O Box 210, Harare	Zimbabwe	263	4-748344-7	759427	chimedza@ilo.org
33.	Doris	Chingozho	Intermediate Technology Development Group	PO Box 1744, Harare	Zimbabwe	263	4-496745 or 496746 or 496749	4-496041	it@gazaland.icon
34.	Patrick	Chinyama	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
35.	Kingston	Chirwa	Min. of Local Government and Housing	P O Box 50027 Lusaka	Zambia	260	1-251128 /751866	252204	
36.	Annabel	Chite	ILO/ASIST	P.O.Box 60598 Nairobi	Kenya	254	2-572580/555	2-566234	iloassist@iloassist.or.ke
37.	Able	Chiteshe	Min. of Local Government and Housing	P O Box 50027 Lusaka	Zambia	260	1-251128	1-252204	
38.	Sulanji F.	Chituta	University of Zambia Department of Civil Engineering	P.O. Box 32379 Lusaka	Zambia	260	1-290982	1-290962	chituta@eng.unza.zm
39.	Willem	Colenbrander	Busiku Consultants for Development	P.O. Box 60694 Livingstone	Zambia	260	3-322468	3-322468	bcd@zamnet.zm
40.	Barbara	Collinson	Economic Expansion in Outlying Areas(EEOA)	P.O. Box 50181, Lusaka 331 Independence Av.	Zambia	260	01-253523	01-253523	eeoa@zamnet.zm

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
41.	James Alfred	Crosswell	EIEC	Box 480, Rivonia 2128	South Africa	27	11-484-1062	11-484-1706	
42.	Jan	de Veen	ILO	c/o ILO POLDEV CH 1211, Geneva 22	Switzerland	41	22-7996414	22-7996489	deveen@ilo.org
43.	Getachew	Demissie	Urban Food Assistance Facility	P O Box 22330, 1000 Addis Ababa	Ethiopia	251	167921		ufaf@telecom.net.et
44.	Liliana	Djifarova-Vassileva	University of Zimbabwe Department of Civil Engineering	P.O. Box 167 Mount Pleasant Harare	Zimbabwe	263	303211 Ext. 1382		-
45.	Arjen	During	ILO /Lusaka	Box 32181 Lusaka	Zambia	260	1-228071/72	1-223277/84	during@ilo.org
46.	John	Eie	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
47.	Arne	Engdahl		Ostergade 45, DK-3250, Gilleleje	Denmark				arne.engdahl@get2net.dk
48.	Adriaan	Esterhuizen	AFRICON	P.O. Box 3145 Kisumu	Kenya	254	35-44057	35-44088	adriaane@net2000ke.com
49.	Jan	Fransen	ILO/ASIST	P.O.Box 60598 Nairobi	Kenya	254	2-572555 /580	254-2-566234	iloasist@iloasist.or.ke
50.	Eltayib	Gadain	UNDP/ILO "LEC AL-Agib Group"	Care of Walid Ibraheem, UNDP P O Box 913, Khartoum,	Sudan	249	11-230669 Res.	783764	c/o walid.ibrahim@undp.org
51.	N.	Gananadha	National Roads Board	P O Box 50695 Lusaka	Zambia	260	1-253145	1-253154	nrb@zamnet.zm
52.	Fithanegest	Gebru	UN World Food Programme	P.O. Box 5580 Addis Ababa	Ethiopia	251	1-515188	1-514433	fithanegest.gebru@wfp.org
53.	Robert	Geddes	Scott Wilson	P.O. Box 3143 Harare	Zimbabwe	263	4-487107	4-487101	swmobile@africaonline.co.zw

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
54.	Hamish Neil	Goldie-Scot	Scott Wilson	Scott House, Basing View, Basingstone, Hans	U.K.	44	1256-461161	816835	hamish.goldie.scot@swkensope.com
55.	Tony	Greening	Transport Research Laboratory	P.O. Box CY 38 Causeway	Zimbabwe	263	4-726723	4-726631	tony@internet.co.zw
56.	Dagama	Gumunyu	Zimbabwe L-B Contractors Association (ZLBCA)	Box AC844 Bulawayo	Zimbabwe	263	9-79992		
57.	Mohammed H.	Hamid	State Ministry of Engineering Affairs, SDS	Director General, State Ministry of Engineering Affairs, South Darfur State, P O Box Nyala	Sudan	249	711-32437/32035	32894	-
58.	Carl-Erik	Hedstrom	Ministry of Works and Supply Roads Dept. Training School	P O Box 32181 Lusaka	Zambia	260	1-245746 1-264255 (Res)	1-247264	carleric@zamnet.zm
59.	Joseph Kobina	Hewton	L-B Contractors Association (LABCA), Kumasi	P O Box SE 1903 Kumasi	Ghana	233	21-304915	21-663047	-
60.	Truls	Hjortnaes	Roughton International	20 Otim Tom Road, PO Box 179, Lira	Uganda	256	473-20090		
61.	Martin	Hmensa	Department of Feeder Roads	Dept. of Feeder Roads, P.M.B, Ministries Post Office, Accra	Ghana	233	021-667336 027-544185	21-663047	dfr@ncs.com.gh
62.	Walid A.	Ibrahim	UNCDF/UNDP	c/o UNDP P O Box 913, Khartoum	Sudan	249	11-783-820/ 783755	78764 /773128	walid.ibrahim@undp.org
63.	Bruno	Illi	Norconsult A.S, Kenya	P.O. Box 48176 Nairobi	Kenya	254	2-337771	2-337703	norcon@form-net.com
64.	Milad Ibrahim	Jacaub	Chemonics Egypt (A Gaber & Associates)	6 Dokki Street, Dokki, Giza	Egypt	202	360-0764		

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
65.	Raymond	Jhala	National Roads Board	P O Box 50695 Lusaka	Zambia	260	1-253145	253158	nrb@zamnet.zm
66.	David Cecil	Johnson	Jeffares & Green (Zambia) Ltd.	P.O. Box 37378, Overport, South Africa/ P O Box 38869, Lusaka	South Africa/ Zambia	27/ 260	31-2098642/ 231945	31- 2094936/ 231944	Jgdba@yebo.co.za/ jglusaka@zamnet.co.zm
67.	Stephen	Kamuhuza	Association for Small-Scale Labour-Based Road Contractors	C/o P/Bag 544X, RW, Lusaka	Zambia	260	1-286894	-	-
68.	Richard	Kasongo	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
69.	Mpayo	Kasure	Dar Es Salaam City Commission	Box 31400 Dar Es Salaam	Tanzania	255	51-48330 (Res).		
70.	Emmanuel	Kaunda	National Roads Board	P O Box 50695 Lusaka	Zambia	260	1-253145	1-253154	nrb@zamnet.zm
71.	Asfaw	Kidanu	Swedish National Road Consulting AB	P.O. Box CY 263 Causeway, Harare	Zimbabwe	263	4-722195	4-700706	asfawkid@iafrica.com
72.	Badru M.	Kiggundu	Makerere University of Kampala	Dept. Civil Engineering Box 7062, Kampala	Uganda	256	41-530-686	41-530-686	civil@starcom.co.ug
73.	Elisifa	Kinasha	National Construction Council	P O Box 70039	Tanzania	255	51-131321, 110301	51-118887	ncc@twiga.com
74.	Hermann	Klem	Sole Director of CC in the Process of Recustra Town	P O Box 217 Hilton, S.A. 3245	South Africa	27	3245-0331- 431999		
75.	Clement	Kombe	Association for Small-Scale L-B Road Contractors	C/o P/Bag 544X, RW Lusaka	Zambia	260	1-226246	1-226246	
76.	Wilbard J.	Kombe	UCLAS - University of Dar es Salaam	P.O. Box 35176 Dar es Salaam	Tanzania	255	51-75448	75448	ihshr@ud.co.tz
77.	Tesfaye	Kunbi	Care - Ethiopia	P O Box 4710	Ethiopia	251	613422		care.eth@telecom.net.et

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
78.	Simon	Kunda	Programme Urban Self Help (PUSH)	P.O. Box 50294 Lusaka	Zambia	260	1-252043 /253738	1-253738	pushprog@zamnet.zm
79.	Laurent M.	Kyombo	Min. Works of Works	Box 9423 Dar Es Salaam	Tanzania	255	51-110350 /118650	51-113018 /9 51- 118651	mfugale.bms@raha.com
80.	Mario	Leeflang	World Food Programme	Box 31966, Lusaka	Zambia	260	1-254332	1-252955	
81.	Sophia	Lemma	World Food Programme	P.O. Box 5580 Addis Ababa	Ethiopia	251	1-515188	1-514433	sophia.lemma@wfp.org
82.	Robert Dryden	Little	University of Natal	Sch. of Civil Eng., Surveying & Construction Durban, 4041	South Africa	27	31-260-1059	27-31-260-1411	little@eng.und.ac.za
83.	Justine	Liyali	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
84.	Mumbuwa	Liyungu	Ministry of Works and Supply, Roads Training School	PO Box 30918, 10101 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
85.	Henry	Loongo	Care International (Zambia) CULP	Care International P O Box 71850, Ndola	Zambia	260	2-610112	2-620205	ccbelt@zamnet.zm
86.	Nigel James	Lowe	Construction Employment Dev. Forum (CEDF)/DBSA	P O Box 1234 Halfway House 1685	South Africa	27	11-313-3432	11-313-3086	nigel@dbsa.org
87.	Peter	Lubambo	Min. of Local Govt & Housing (ZAMPIP/MAFF)	P.O. Box 35218 Lusaka	Zambia	260	1-252204	1-252204	
88.	Brighton K.	Lugangila	Community Infrastructure Prog.	P O Box 75034 Dar Es Salaam	Tanzania	255	51-137561	51-114014	cip@raha.com
89.	Nicholas	M'susa	PUSH Lusaka District Lusaka City Council	Peri-Urban Section P/Bag 175X, Lusaka	Zambia	260	1-252043	1-253738	

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
90.	Raphael	Mabenga	National Roads Board	Box 50695, Lusaka	Zambia	260	01-253145	1-253154	
91.	Michael	Madanha	World Vision International	No. 6 Rua De Inhambane P O Box 826, Nampula	Mozambique	258	6-216835	6-215291	michaelmadanha@wvi.org. internet
92.	Mubyedi C.	Madinda	Ministry of Works	REO, Box 1022 Lindi	Tanzania	255	0525-2145 /2195	525-2710	
93.	Jeffrey O.	Maganya	Intermediate Technology Dev. Group	Box 2260, Kisumu	Kenya	254	35-22486	35-22125	itkisumu@africaonline.co.ke maganya@hotmail.com
94.	Siphiwe C.	Majola	Department of Transport KZN	Private Bag x 9043 Pietermaritzburg 3200	South Africa	27	0331-3558702	0331-3558090	
95.	John	Makadho	LBDV-Dept of Roads Min of Transport & Energy	P.O. Box CY595 Causeway Harare	Zimbabwe	263	04-726663	4-726631	jmakadho@gta.zw
96.	Oliver	Makungu	Social Recovery Project	P.O. Box 50268 Lusaka	Zambia	260	1-252519/253723	1-252522	
97.	Edna	Maluma	Economic Expansion in Outlying Areas(EEOA)	P.O. Box 50181 331 Independence Av. Lusaka	Zambia	260	01-253523	01-253523	eeoa@zamnet.zm
98.	Isaac P.	Manda	Eastern Prov. L-B Contractors	Chipata	Zambia	260	-		
99.	Ulf	Martz	GITEC Consult./MLG&H	Box 50027, Lusaka	Zambia	260	1-250345 Ex 107	1-252454	
100	Leslie	Masamba	Economic Expansion in Outlying Areas(EEOA)	P O Box 50181 Lusaka	Zambia	260	1-253523	1-253523	-
101	David	Mason	ILO/ASIST	P.O.Box 60598 Nairobi	Kenya	254	2-572555 /580	254-2-566234	mason@iloasist.or.ke
102	Roger	Matara	Min. of Local Authorities, Kenya	P O Box 30004 Nairobi	Kenya	254	02-340972	221600	

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
103	Severin	Materu	Contractors Registration Board	P.O. Box 13374 Dar Es Salaam	Tanzania	255	51-137962/3	51-137964	
104	Mbungu T.	Matondo	UN Office for Project Services	P O Box 13084, Kin 1 Kinshasa	DR Congo	871	761-485 125	761-485 126	
105	Mkhalelwa	Mazibuko	Public Works Department	Box 4447 King Williams Town	South Africa	27	040-6094479	040-6350103	-
106	Victor M.	Meshack	University College of Lands & architectural Studies	P O Box 35176 Dar Es Salaam	Tanzania	255	51-461583 /75004	51-75448	tujenge@telbot.net / ihsbr@ua.co.tz
107	Frederick	Mlaponi	Ministry of Works	P.O. Box 1957 Mbeya	Tanzania	255	065-2755	065-2755	
108	Thabo Andrew	Mokone	Northern Province S.A. Dept of Works	Private Bag 9490 Pietersburg 0700	South Africa	27	015-2930711	-015-2931754	-
109	Ukende Lazaro	Msengesi	Ministry of Works	P.O. Box 9423, Dar Es Salaam	Tanzania	255	51-110350	51-113018	mfugale.bms@raha.com
110	Joshua Maswi	Mugasa	Contractors Registration Board	P O Box 12758 Dar Es Salaam	Tanzania	255	51-137963/131169	51-137964	
111	Terry C.	Mukumi	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
112	Cledwin	Mulambo	Min. of Local Government and Housing	P.O. Box 50027 Lusaka	Zambia	260	1-251128	1-251128	
113	Daniel	Mulonga	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	26	1-245746	1-247264	rts@zamnet.zm
114	Lawrence L.	Muludyang	Care International in Zambia (CULP)	P.O. Box 71850 Ndola	Zambia	260	620112/3	621205	ccbelt@zamnet.zm
115	Wallece	Mumba	Lusaka City Council	Engineering Services P O Box 30251 Civic Centre, Lusaka	Zambia	260	1-253759	1-253759	

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
116	Charles P.	Mushota	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
117	Henry	Musonda	Kiran & Musonda Associates	P O Box 70944, Ndola	Zambia	260	02-617371/620663	620242	musonda@zamnet.zm
118	William E.	Musumba	Min of Works, Housing & Comm	P O Box 10 Entebbe	Uganda	256	41-320125	256-41-320135	twins@imul.com
119	Peter	Muswero	KZN Dept. of Transport	P/Bag x7072, Old main Road Estcourt 3310	South Africa	27	3310-036323184	0363-335484	muswerop@dot4b.kzntl.gov.za
120	Joseph B.	Mutabazi	Min. of Works, Housing & Communication	P O Box 10 Entebbe	Uganda	256	41-285834	256-041-320135	lappcom@starcom.co.ug
121	Gerald	Mutumhe	LBDV-Dept of Roads Min of Transport & Energy	P.O. Box CY595 Causeway Harare	Zimbabwe	263	04-700991 ext. 2262	04-700706	-
122	Francis	Muwowo	Sustainable Lusaka Programme	Box 31966 Lusaka	Zambia	260	1-251482	1-251475	slp@zamnet.zm
123	Andrew C.	Mwale	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
124	Fredrick	Mwalusaka	Feeder Roads Project	P.O. Box 510032 Chipata	Zambia	260	062-21107/21759	062-21177	eproads@zamnet.zm
125	J. M.	Mwewa	Ministry of Works and Supply Roads Department	P.O. Box 50003 Lusaka	Zambia	260	1-253088	1-253404	roadshq@zamnet.zm
126	Jere D.	Mwila	Ministry of Works and Supply Roads Department	P.O. Box 50003 Lusaka	Zambia	26	01-253088	-253405	roadshq@zamnet.zm
127	Kyaw Htwe	Myaing	ILO (Proj MOZ/96/013)	c/o UNDP, Proj MOZ/96/013) P O Box 4595, Maputo	Mozambique	258	1-475045	1-475221	frp@virconn.com

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
128	Doris	Nalumbwe	National Savings & Credit Bank	Box 30067, Lusaka	Zambia	260	1-223293	1-223296	
129	John	Ndemi	Norconsult A.S, Kenya	P.O. Box 48176 Nairobi	Kenya	254	2-225580	2-337703	norcon@form-net.com
130	Mandla Jones	Ndlovu	Construction Industry Confederation (Chairman)	P O Box 1765 Pretoria	South Africa	27	12-3465033	12-460046	
131	Watson	Ng'ambi	Ministry of Works and Supply Roads Department	P.O. Box 50003 Lusaka	Zambia	260	1-253088	1-253404	roadshq@zamnet.zm
132	Alves F.	Nhumaio	DNEP (DEP Gaza)	Ave. Mozambique 1225 National Directorate of Roads	Mozambique	258	1-476163 /7	1-475533	
133	Chali	Nondo	Ministry of Works and Supply Roads Dept. Training School	P.O. Box 30918 Lusaka	Zambia	260	1-245746	1-247264	rts@zamnet.zm
134	Manoel A.	Noronha	World Vision International	P O Box J23, Quelimane	Mozambique	258	4-212746	-	mnoronha@teledata.mz
135	Edward	Opoku-Mensah	OPM Construction Works Ltd/ LABCA - Chairman	P.O. Box 4856 Accra	Ghana	233	21-308079	21-663047	
136	Henry O.	Orwa	Norconsult International A.S.	P O Box 2257 Mbale	Uganda	256	45-34515	256-45-34515	Ugatr@imul.com; hoorwa@hotmail.com
137	Samuel Oyoo	Orwa	ILO/ASIST	P.O.Box 60598 Nairobi	Kenya	254	2-572555 /580	254-2-566234	iloassist@iloassist.or.ke
138	Augustus	Osei-Asare	Norconsult International AS	PO Box 2257, Mbale	Uganda	256	45-33109/34044	45-34515	trp@imul.com
139	Kwaku D.	Osei-Bonsu	ILO EAMAT	ILO, P.O. Box 2532 Addis Abba	Ethiopia	251	1-517200 ext 34409	1-513633	iloaddis@telecom.net.et
140	John S.	Otemo	Min. of Works, Housing & Comm	P O Box 2237 Mbale	Uganda	256	45-34515/6	45-34515	ugtrp@icom.imul

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
141	Celestina	Pama	Ministry of Work Labour Construction Unit	Box 0052, Maseru West 105	Lesotho	266	316269/ 314514	310508	
142	Sean Douglas	Phillips	Dept. of Public Works, Northern Province,	P O Box 272 Haenertsburg 0730	South Africa	27	015-293-0711	015-293- 1918	-
143	Derek	Phiri	EEOA, PO Box 450101	Lusaka	Zambia	260	04-370480	04- 370482	
144	Maria	Prieto	ILO (POLDEV)	4, Route des Morillons CH - Geneva	Switzerlan d	41	22-7997263	22- 7996489	prieto@ilo.org
145	Peter	Rademaker	ILO	P O Box 500 1211 CH, Geneva	Switzerlan d	41	22-7998287	22- 7996172	-
146	Sosthenes	Rugaiganisa	Road Rehabilitation & Maint. / FINNROAD	P O Box 1074 Lindi	Tanzania	255	525-2058	2724	
147	Justin	Runji	Dept. of Transport - Namibia	Private Bag 12005 Windhoek	Namibia	264	61-2082030	61- 233786	jrunji@namib.com
148.	Theophile	Rwebangira	University of Dar es Salaam	PO Box 35131, Dar es Salaam	Tanzania	255	51-410501-8	51- 410029	root@mce.udsm.ac.tz
149.	Silamba A.	Sakwiya	MLGH - Feeder Roads Project/ District Development Project	P O Box 510032 Chipata	Zambia	260	062- 21177/21107	062- 21177/21 759	eproads@zamnet.zm
150.	Kumbwaeli W.	Salewi	National Income Generation Prog.	P.O. Box 1721 Dar Es Salaam	Tanzania	255	51-124942 51- 134446	51- 115536	nigp@raha.com
151.	Les	Sampson	Sampson Consulting cc	Postnet Suite 285, P/Bag X 4, Menlo Park, Pretoria, 0102 64 Elveram Street Lynnwood Glen, Pretoria 0081	South Africa	27	12-348-0865 +82 447 6241	12-348- 0863	lsampson@iafrica.com
152.	Gamelihle	Sibanda	ILO/ASIST	P O Box 210, Harare	Zimbabwe	263	4-748345-7	759427	gama@ilo.org
153.	George	Sibanyama	Micro Projects Unit	Box 50268, Lusaka	Zambia	260	01-252519/ 253723	252522	

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
154.	Phosile Tracy	Sichinga	YWCA	Box 50115, Lusaka	Zambia	260	1-252726	254751	
155.	George K.	Simba	TES Consultants	P O Box 240, Buru Buru Nairobi	Kenya	254	2-797015	254-2-566234	
156.	Melvin M.	Siwale	Economic Expansion in Outlying Areas(EEOA)	P.O. Box P O Box 450101 Mpika	Zambia	260	04-370482 04-370080	04-370482 370482	eeoa@zamnet.zm
157.	Muhammad	Sohail	Loughborough University	Libro, LE71 3TU	U.K	44	01509-222885	211079	m.sohail@lboro.ac.uk
158.	Tomas	Stenstrom	ILO/ASIST	P O Box 210, Harare	Zimbabwe	263	4-748344-7	759427	stenstrom@ilo.org
159.	David	Stiedl	Consultant	12 Thorne Passage Barnes London SW13 0PA	U.K.	44	0181 8785130		rashi@globalnet.co.uk
160.	Mukombo J.	Tambatamba	University of Zambia	P.O. Box 32379 Lusaka	Zambia	260	293869	293869	
161.	Filip Parkins	Taylor	Wits University, Dept. of Civil Engineering	Private Bag 3 Wits 2050	South Africa	27	11-716-4423	11-339-1762	filip@civen.civil.wits.ac.za
162.	Hailay	Teclu	Tigray Rural Roads Authority	P.O. Box 14 Mekelle, Tigray	Ethiopia	251	03-400907	404477	
163.	Tsegaye	Tefferi	Ethiopian Roads Authority	P O Box 1770, Addis Ababa	Ethiopia		517170 / 513187	-	
164.	Simon	Tembo	ILO / Feeder Roads Project	P.O. Box 510032, Chipata	Zambia	260	062-21107/21177	062-21107 /21177	eproads@zamnet.zm
165.	Terje	Tessem	ILO/ASIST	P O Box 210, Harare	Zimbabwe	263	4-748344-7	759427	tessem@ilo.org
166.	Jane M.	Tournée	ILO/ASIST	P O Box 210, Harare	Zimbabwe	263	4-748344-7	759427	tournee@ilo.org
167.	Dr. Yaw	Tuffour	University of Science & Tech.	Dept. of Civil Engineering U.S.T., Kumasi	Ghana	233	51-60226	51-60226	ampad@ighmail.com

No	Forenames	Surname	Organisation	Postal Address	Country	Code	Telephone No.	Fax No	E-mail Address
168.	Philip	Turner	Assoc. of Building & Civil Eng.	Box 320062, Lusaka	Zambia	260	274777	274776	
169.	Arend	van der Goes	ILO	ILO Geneva (POL/DEV)	Switzerland	41	22-7996414	22-7996489	vandergoes@ilo.org
170.	Wilma	van Esch	ILO/ASIST	P.O.Box 60598 Nairobi	Kenya	254	2-572555 /580	254-2-566234	vanesch@iloassist.or.ke
171.	John	van Rijn	ILO	P O Box 9212	Tanzania	255	51-666024	-	-
172.	Frederick M.	Were-Higenyi	LAPPCOM/ILO	P O Box 24814 Kampala	Uganda	256	41-254489	41-254244	lappcom@starcom.co.ug
173.	Graham A.	Williams	National Roads Board	P O Box 50695 Lusaka	Zambia	260	1-253145	253154	graham2@zamnet.zm
174.	Vath	Yin	International Labour Org.	8 St. 352, Norodom, BLVD. Box 877, Phnom Penh 12302	Cambodia	2302	855-23-428210	855-23-427632	ilo@bigpond.com.kh
175.	Ashraf	Zaki	Ashraf & Salah Consultants	S A Consultant Engineers P O Box 10171, Khartoum	Sudan	249	11-227436/7	11-221592	



7.3 ANNEX : SEMINAR EVALUATION

7.3.1 Questionnaire

INSTRUCTIONS

Please indicate a number in the boxes below to evaluate the **quality** of the seminar. Use a scale of 1 to 5 (1 = poor, 2 = fair, 3 = good, 4 = good, 5 = excellent). For multiple choice questions, ring round your choice.

1 Hotel Accommodation

Room facilities Laundry facilities Leisure facilities
Breakfasts Value for money

Comments and suggested improvements:

2 Seminar Venue

Facilities Refreshments Lunches Visual aids

Comments and suggested improvements:

Seminar Organisation

Seminar as a whole Parallel workshops
Facilitated group discussions Plenary sessions/discussions
Duration of Seminar Choice of Venue
Secretariat support to participants Registration
Exhibitions Availability of Documentation
The field visit as a whole Visit to road works (Chongwe)
Visit to foot bridge (Kasisi) Visit to urban works (Chainda)
Exhibition of equipment (Kasisi) Packed Lunch
Lunch Venue Seminar transport

Comments and suggested improvements:



4 Seminar Presentations

Chairpersons Paper presenters The papers themselves

Facilitated group discussions Plenary discussions

Use of pinboard, charts, LCD and overhead projector

Was the main theme interesting? Yes/No

Were the papers relevant to the main theme? Yes/No

Were the parallel workshops interesting? Yes/No

Were the right topics addressed? Yes/No

Were the plenary reports of parallel sessions interesting? Yes/No

The *number* of papers were Too few/just right/too many?

The *length* of papers were Too short/just right/too long?

Comments and suggested improvements:

5 The Future

Which country would you suggest to host the next seminar?

What themes would you suggest for the next seminar?

How many main themes should a seminar address?

Do you prefer a seminar for (please tick one)

All practitioners in Sub-Saharan Africa Only the road sector

Urban transport only Rural transport only

Should more attention be given to:

Rural roads Yes/No

Rural transport Yes/No

Urban infrastructure Yes/No

Should the current structure of the seminar be retained? Yes/No

If no, what changes would you suggest?

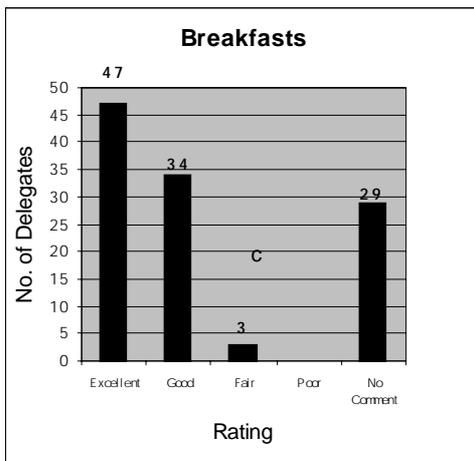
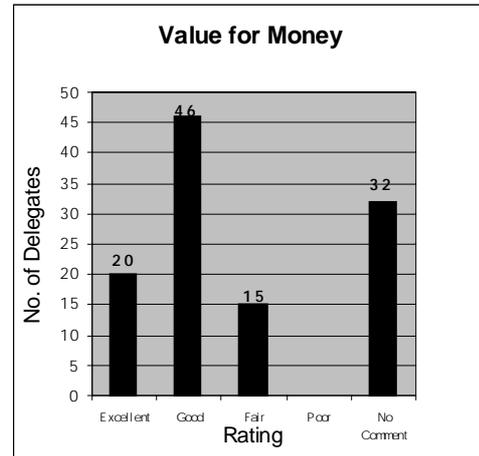
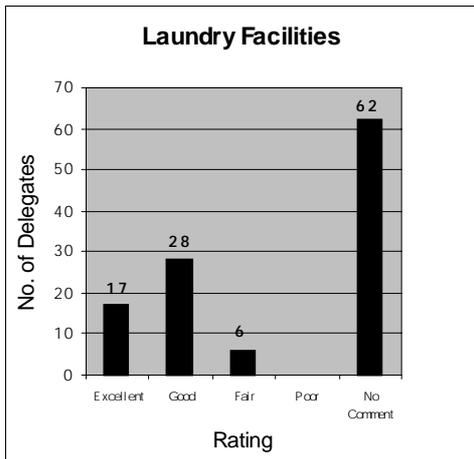
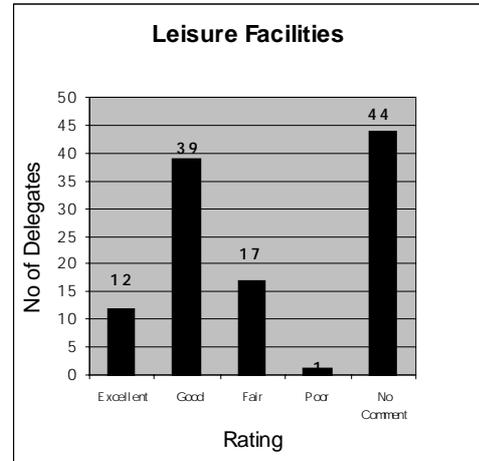
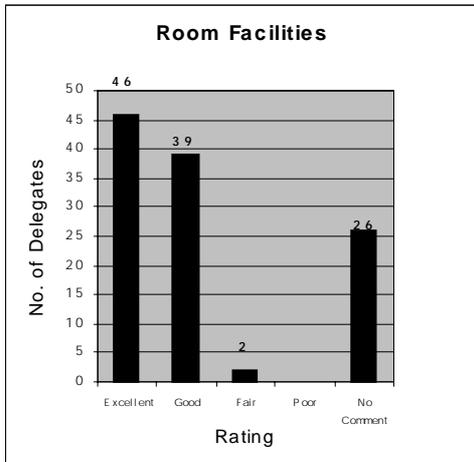
Any other comments or suggestions:

.....



7.3.2 Results

Hotel Accommodation

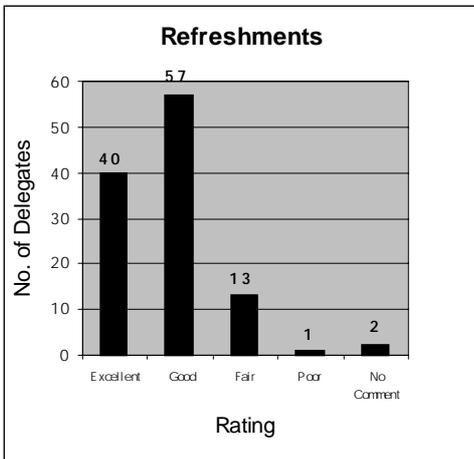
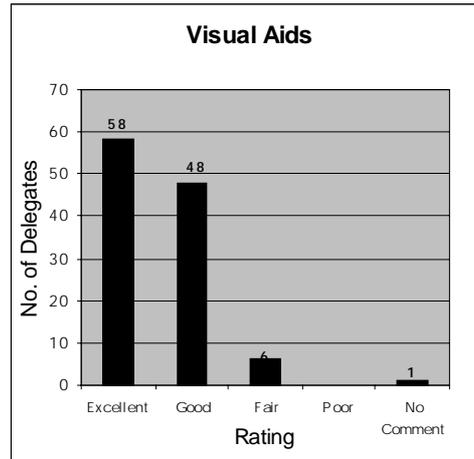
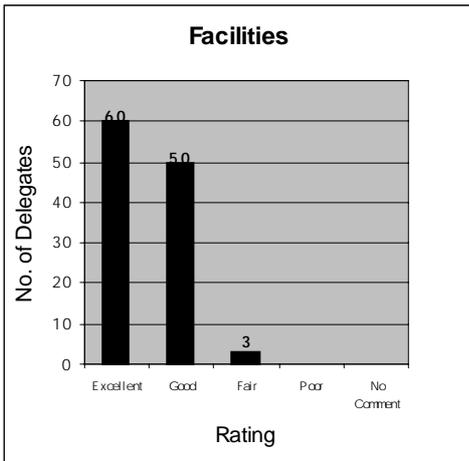


General comments on accommodation

- Entertainment and social activities should be organised for participants.

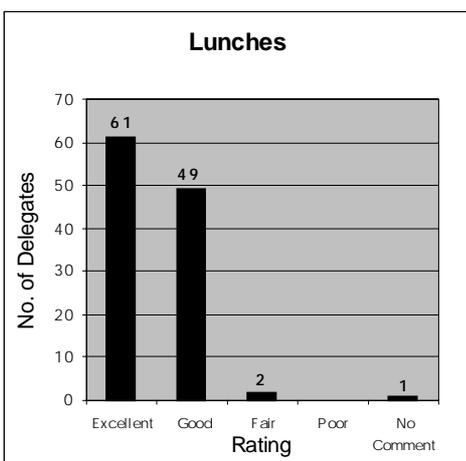


Seminar Venue



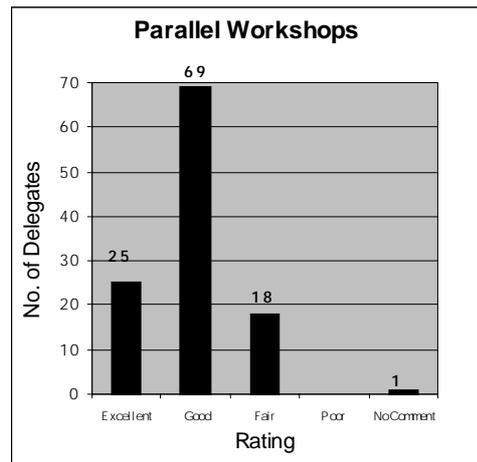
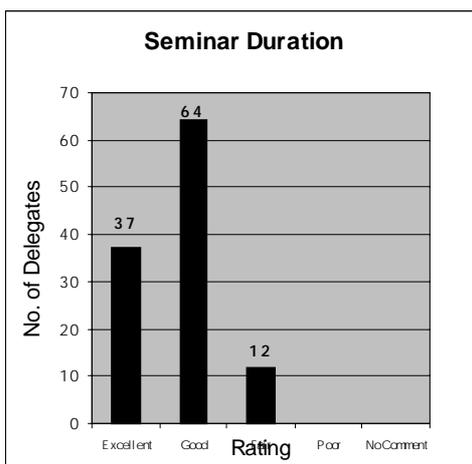
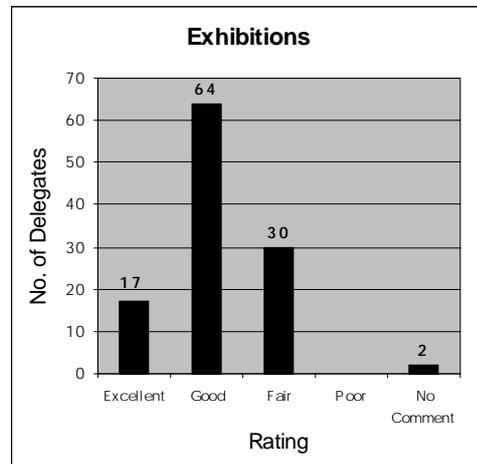
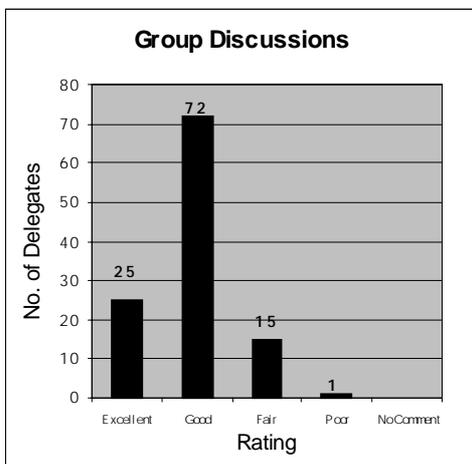
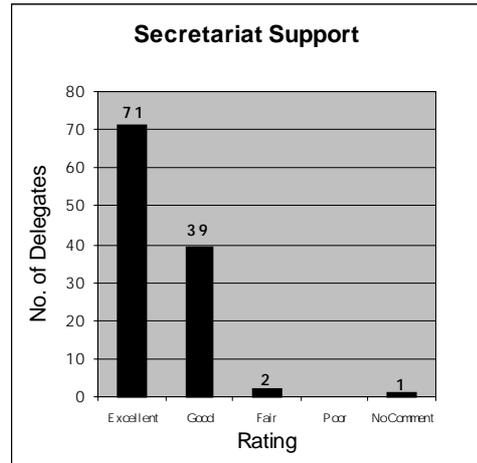
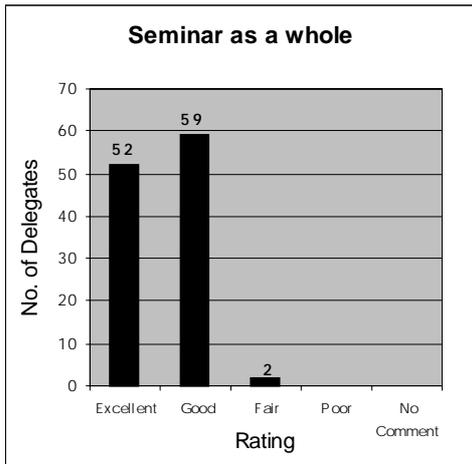
General comments on the seminar venue

- Juices and soft drinks should be offered as an option during refreshment breaks.
- More visual aids and microphones should be provided.
- Facilitators should be stationed at a central position.



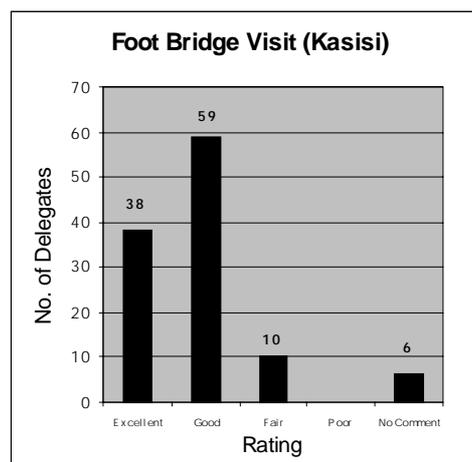
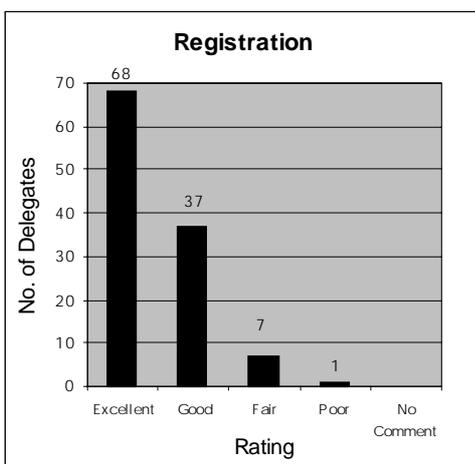
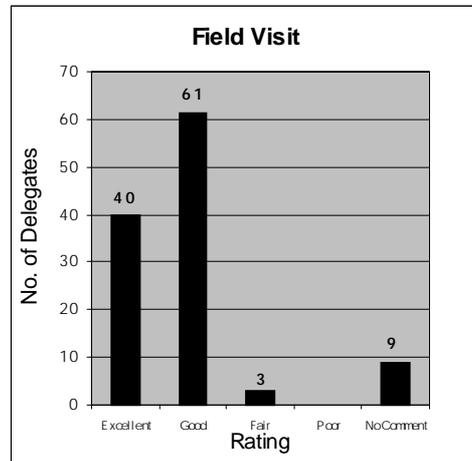
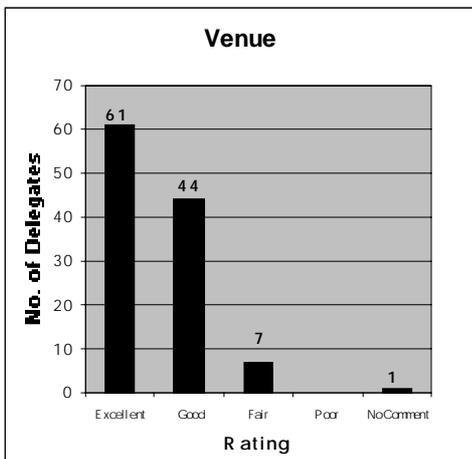
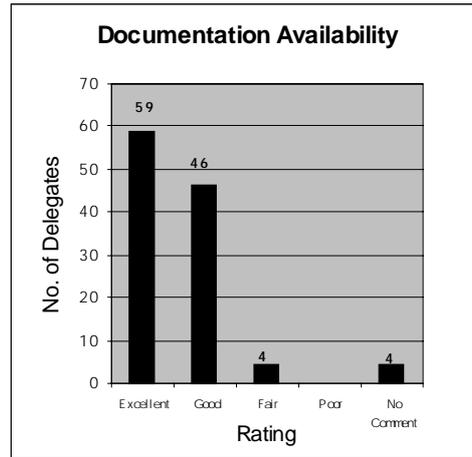
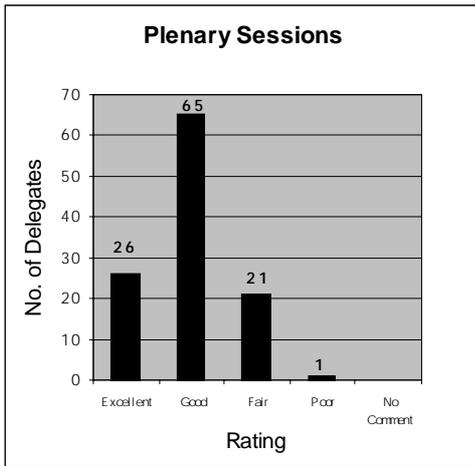


Seminar Organisation



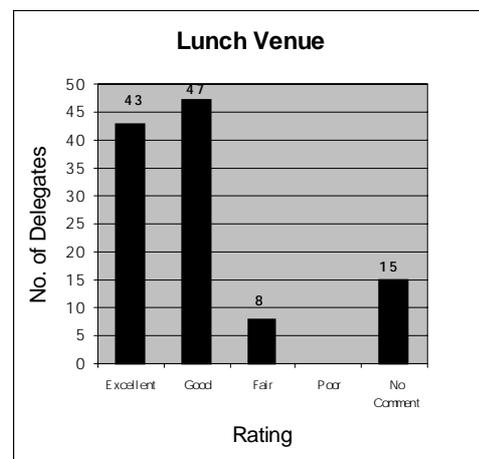
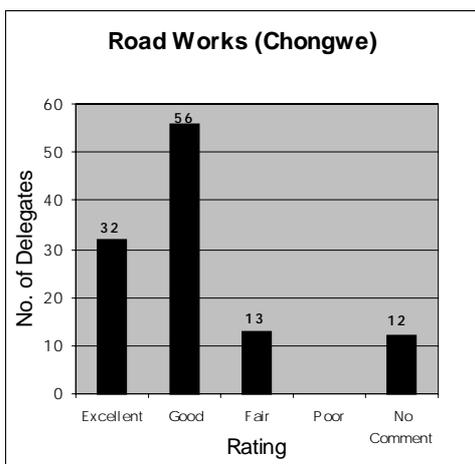
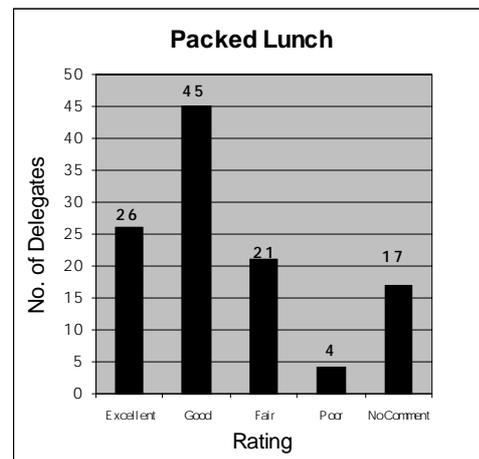
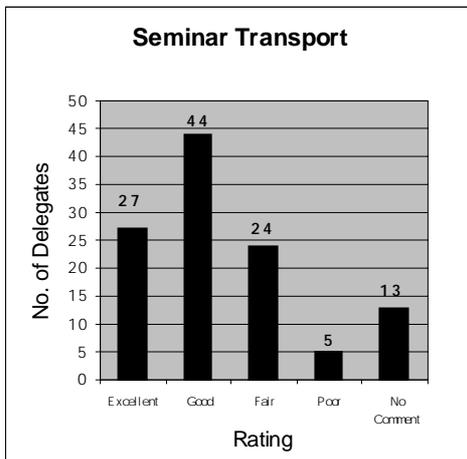
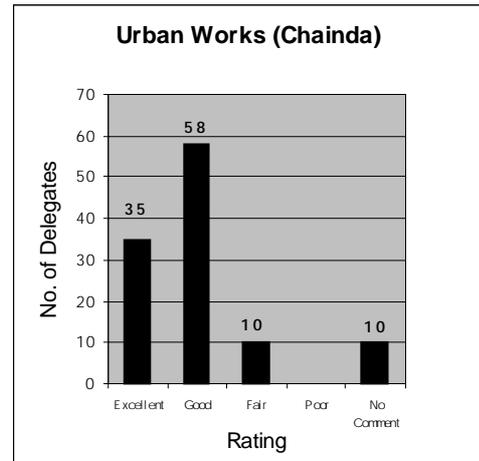
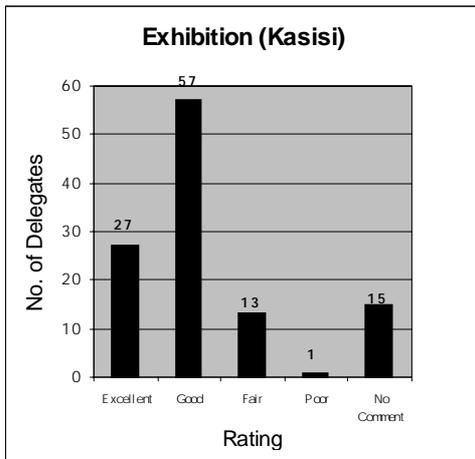


Seminar Organisation (Cont)





Seminar Organisation (Cont)

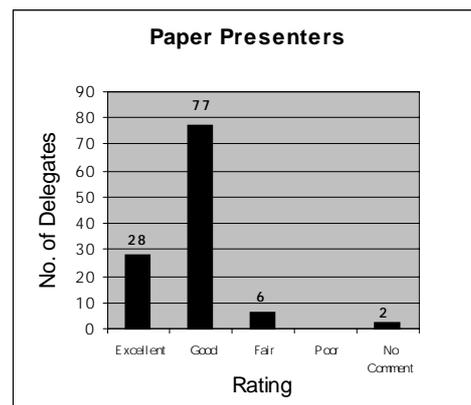
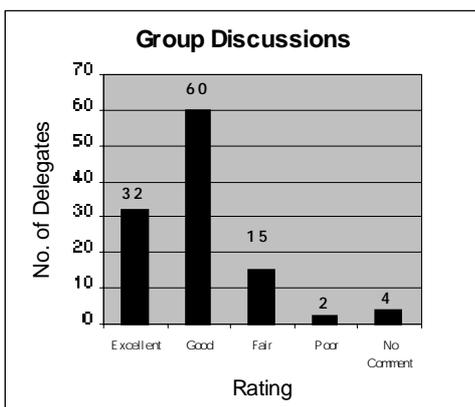
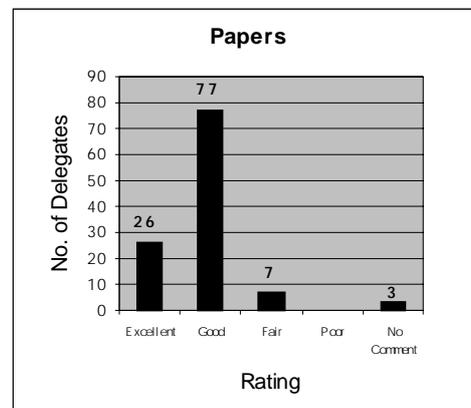
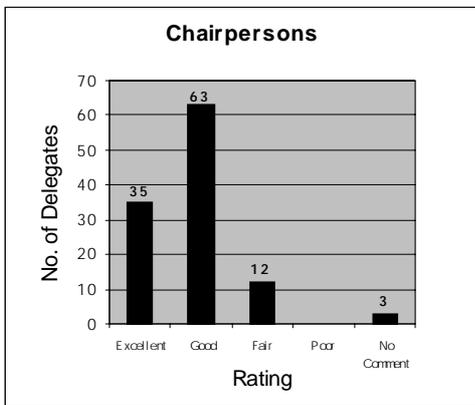




General comments on Seminar Organisation

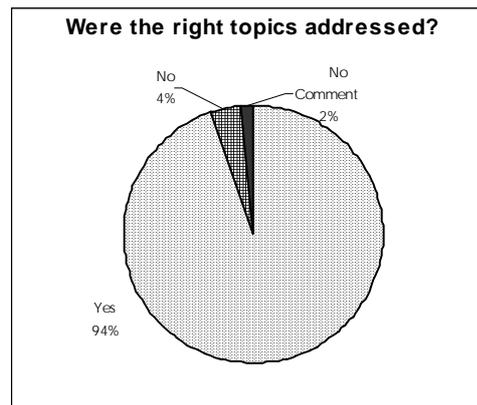
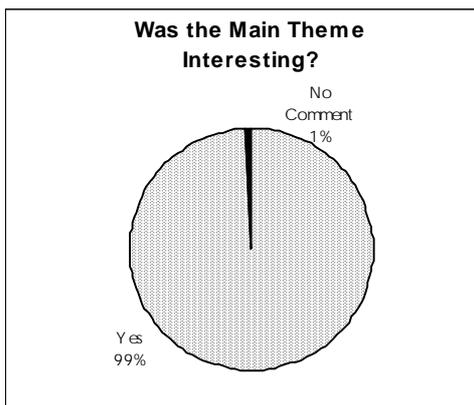
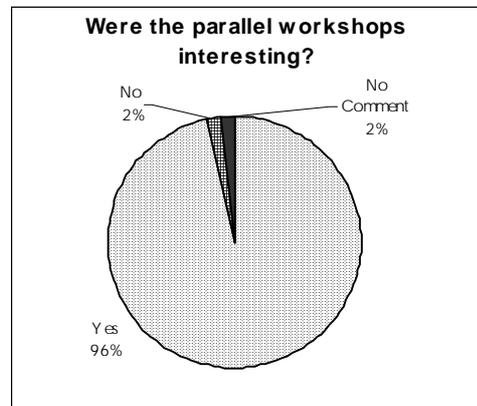
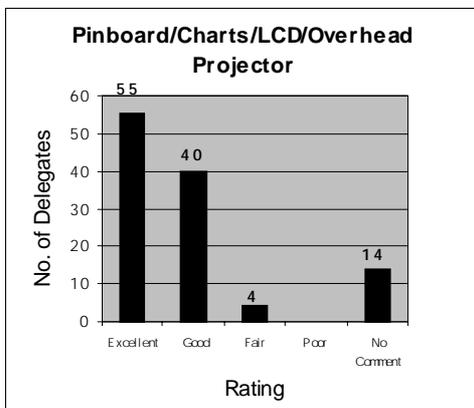
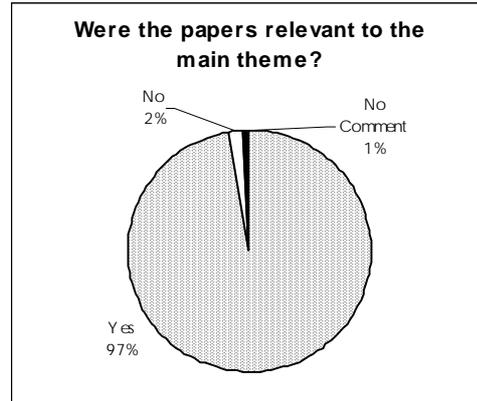
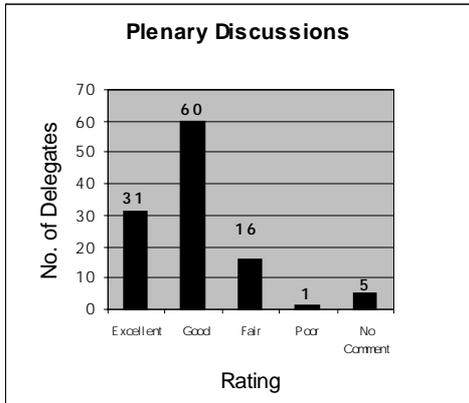
- More time should be allocated for group discussions, and there should be smaller groups.
- The number of participants should be regulated to a certain number per country.
- There should be a variety of facilitators to avoid monotony, and the number of topics for discussions should be kept to a minimum.
- Brochures and cost figures of the items on exhibition should be made available, and there should be more items on display.
- More time should be allocated for field visits, and better means of transport (bigger, air-conditioned buses) should be provided.
- The packed lunch should consist of more variety of foods. There should be an analysis and discussion of the field visit afterwards.

Seminar Presentations



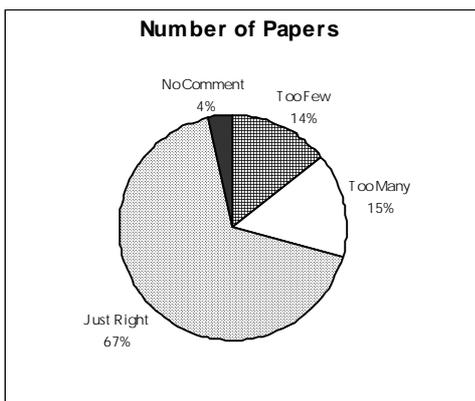
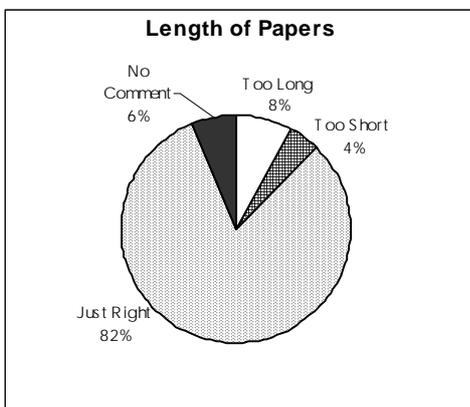
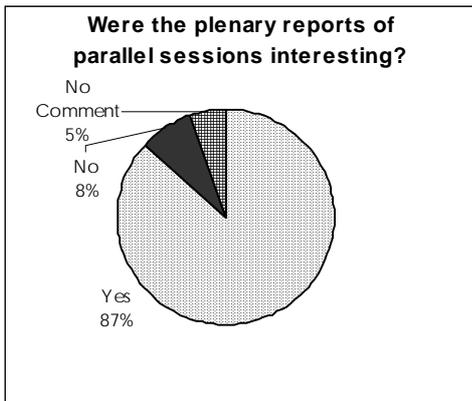


Seminar Presentations (Cont)





Seminar Presentations (Cont)

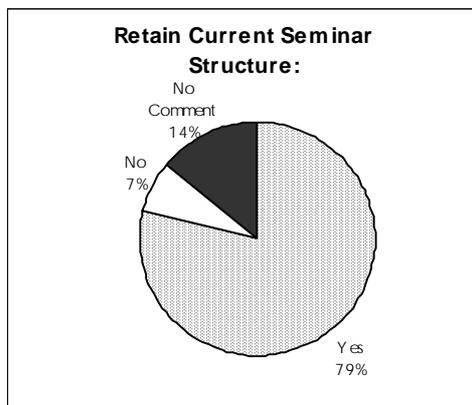
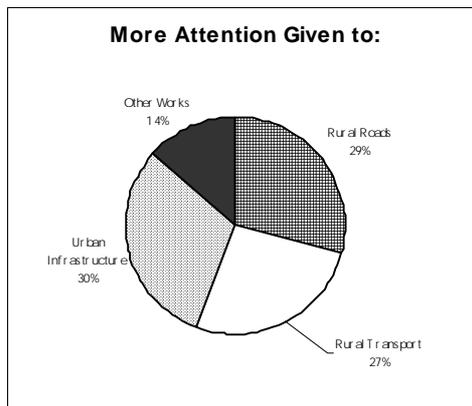
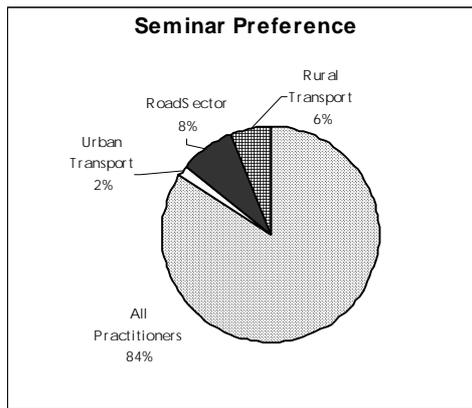


General comments on seminar presentations

- Some papers were not consistent with the theme and there should be papers reflecting the Asian experience.
- The theme should be broken down into sub-themes and the papers should be focused to these sub-themes in order to adequately address topics.
- A list of all papers should be made available, and there should be prior circulation of all papers.
- A few technical papers should be made available. There should be a separate evaluation of each session.
- There should be smaller workshop groups and more time should be given for discussion and feedback.
- Better rapporteuring of discussions is needed to capture key points, and there is a need for better facilitators.
- Question for discussion should not be prepared in advance as this puts a bias on the course the discussion will take. Instead, participants should decide what questions are to be discussed.



The Future



Choice of Country

Participants proposed the following
(Number of participants in parentheses):

Countries

Egypt	(55)
Mozambique	(13)
South Africa	(9)
Ethiopia	(7)
Other	(25)

Number of main themes a seminar should address

1 theme	(42)
2 themes	(17)
3 themes	(4)
4 themes	(2)

Choice of Themes

LBT outside the road sector	(15)
Contractor Development	(10)
LBT	(8)
Policies (including planning, finance and sustainability)	(7)
Rural Travel and Transport	(5)
Stakeholders' Participation (public and private)	(5)
Urban Infrastructure	(3)
Quality Control Standards	(3)
Site Management and Labour Productivity	(2)
Training	(2)
Capacity Building	(2)
Employment Creation	(2)
Informal Settlements	(2)
Poverty Alleviation	(1)
Environmental Themes	(1)



Any other comments or suggestions

- The seminar was generally well planned and well organised.
- Participation from Asian and Latin American countries should be encouraged. A few key Asian contributors should be brought into the next seminar.
- The number of participants to the seminar should be regulated in future.
- There should be a follow-up of proceedings from previous seminars. Evaluation of resolutions of previous seminars should be introduced.
- Papers should be invited early, and fees should also be paid earlier.
- More attention should be paid to other labour-based works.
- There were suggestions that the seminar duration should be shortened, and there were also suggestions that it should be lengthened.
- The host country should be more involved in the facilitation and general organisation of the seminar.



8 Annex 5: Opening Speech

8.1 Speech Delivered by Hon. Godden K. Mandandi, MP – Minister of Works and Supply at the Official Opening of the Seventh Regional Seminar for Labour Based Practitioners. Pamodzi Hotel, 3rd – 7th May – 1999

The Permanent Secretary, Director of Roads, Distinguished invited guests, Ladies and gentlemen

I am delighted to be at the opening session of the 7th Regional Seminar for Labour Based Practitioners from the Sub-Saharan Africa and beyond who have come to share knowledge, experiences and their expertise on the “theme” Contracting in Employment Intensive Works.

Policy reforms

Since the elections of 1991 which brought my government to power, the MMD government has been implementing an ambitious reform programme in order to re-align public institutions engaged in the road rehabilitation and maintenance operations. In order to stimulate both the public and private sector institutions and in addition to diversify economic activities away from copper dependant economy - the MMD government through an Act of Parliament established a National Roads Board (NRB) in 1993 which became operational in 1994.

The primary function of the NRB is to administer funds raised from the newly introduced fuel levy and tariffs. (Mr. Chairman, I am reliably informed that one of the papers to be presented at this week long seminar will be from the NRB – (chairman) who will spell out in detail the role of the NRB in the Zambian road sector, hence I don't want to pre-empt the NRB presentation).

Mr. Chairman, Distinguished guests, Ladies and gentlemen

The MMD government is currently and vigorously pursuing an innovative policy reform which aims at putting road rehabilitation and maintenance on a more sustainable basis not only in terms of funding for road maintenance through the fuel levy but also building a local contracting capacity through small scale contracting using mostly labour based methods. These reforms dear participants are guided by policy reforms being pursued by government as alluded to earlier. The intention here again is to enhance private sector participation in the public sector responsibilities and to maximise the use of locally available resources (both human and materials).

Mr. Chairman, Distinguished guests, Ladies and gentlemen

While discussing labour based technology in Zambia - we draw our experiences from the first two pilot projects in the use of labour based methods of road rehabilitation and maintenance:-



District road improvement and maintenance project carried out between 1987 – 1994 in the northern province of our country supported by NORAD which was executed under the Ministry of Local Government and Housing (MLGH) with the technical guidance from ILO.

Road maintenance project (pilot project) supported by FINNIDA between 1991 – 1993 and executed by the Ministry of Works and Supply – Roads Department (MWS – RD) Lusaka Province with the technical guidance from ILO.

The objectives of the two pilot projects were to:

- Demonstrate the cost effectiveness of using labour based methods in the construction and maintenance of roads especially feeder roads, rural roads and highway maintenance.
- Demonstrate and establish labour based methods of road construction and maintenance wherever appropriate.
- At the same time (pilot project) improve accessibility to agriculturally productive areas.
- Provide equal employment opportunities to both men and women in this field.

Mr. Chairman, Distinguished guests, Ladies and gentlemen

Since the initiation of the two (2) pilot projects and the results thereof and with liberalisation of the economy, the government through the MWS - RD supported by Norway through NORAD has not only carried out training for road sector personnel from both public and private sector institutions, the MWS - RD through Roads Department Training School (RDTS) has been in the forefront in propagating the promotion and supporting the application of the labour based technology vis a vis the development of a small scale contracting capacity for roadworks.

The RDTS has since 1994 accumulated considerable experience in training of road sector personnel in labour based methods for both force account and contracting works i.e. development of small and medium scale contractors. This is seen as a way forward for the country to ensure that the capacity to undertake contract work by small scale contractors is developed, which is very important for the country's development and in particular the road sector.

Mr. Chairman, Distinguished guests, Ladies and gentlemen

There is considerable potential for the development of a new small scale contractor sub sector for roadworks as there is currently very limited domestic (local) contracting capacity especially outside major cities and towns. Hence labour based methods for roadworks which maximise the use of local resources (labour – materials - locally manufactured light equipment etc) are seen as an appropriate strategy to mobilise domestic contractors and in addition to provide local employment opportunities.



My Government through ROADSIP - these policy reform efforts are intended to create about 30,000 new jobs for our people in the road sector mainly through labour intensive road maintenance using labour based small scale contractors.

Mr. Chairman, Distinguished guests, Ladies and gentlemen

The labour based contracting study carried out in 1995 estimated that about 15,000km of the road network could easily benefit from routine maintenance using small scale labour based contractors. This kilometrage would then increase year by year as the rehabilitation under ROADSIP progresses and should have doubled by the year 2002 i.e. end of phase I of the ROADSIP programme

Therefore the assumed employment opportunities for our people in the road sector through maintenance and rehabilitation works could be quantified as follows:

It is ascertained that the biggest immediate potential in terms of number of contractors is for routine maintenance. This means that an initial routine maintenance programme for example 15,000km of road network is suggested which will require mobilisation of 300 new small scale contractors throughout the country who will be assigned an annual contract to each maintain a 50km section of a road and further assumed that each contractor will employ about 30 to 60 workers.

Mr. Chairman, Distinguished guests, Ladies and gentlemen

May, I, however remind you that in order to ensure a sustainable-establishment and development of labour based methods and contracting capacity whether in Zambia or in your own countries (Sub-Saharan Africa) it is of utmost importance that an enabling environment conducive to the development of domestic contractors (small scale labour based road contractors) is put in place preferably before training of contractors commences (if training is envisaged) or at least in parallel to the contractors training programmes. It is critical for the effectiveness of the training programme and contractors within the road sector that they are able to work within a secured environment.

It is therefore, my Government's intention to ensure that through the road authorities – (namely RD in the Ministry of Works and Supply and (DISS) Department of Infra-structure and Support Services in the Ministry of Local Government and Housing (MLGH) ROADSIP and NRB the enabling environment for the development of small scale labour based contractors is put in place and sustained.

Cost effectiveness and sound engineering labour based methods whilst generating employment opportunities and minimising the foreign exchange drain implicit in the use of equipment intensive methods. This seminar – I am reliably informed will specifically address or look into the use of labour based technology in three sectors namely:

- Rural roads
- Rural transport



- Urban infrastructure for low income settlements

In view of the complex and diverse nature of the above issues and the problems confronting Zambia - Mr. Chairman - distinguished guests - ladies and gentlemen - this seminar theme: Contracting in Employment Intensive Works is well timed and comes at a time when the Government is seriously pursuing policy and institutional reforms to put the road sub sector on a sustainable basis.

The seminar will afford stake holders (local) chance to participate and learn from the array of experienced labour based professionals and eminent practitioners who have been drawn from both the private and public institutions within the region and beyond.

I am pleased to learn that ILO/ASIST has previously initiated and organised successfully six (6) seminars of this nature where labour based experts and practitioners from the sub Saharan Africa and beyond have met to review the development in the labour based technology.

During the next five (5) days you will examine particular problems associated with contracting development, you will, I hope, analyse policy options, for overcoming constraints and propose/recommend where practicable possible solutions to enable, put in place, a secure and enabling environment for the development of small scale labour based contractors.

Mr. Chairman, Distinguished guests, Ladies and gentlemen

I am reliably informed that during the seminar, carefully selected papers on the topics I mentioned earlier in my speech will be presented by experts in the field in plenary sessions, discussed in small facilitated groups, commented on and discussed generally. This Mr. Chairman will be of great benefit to all the participants local or foreign.

Finally let me take this opportunity to express my appreciation to the organising committee MWS/RD-ILO/ASIST for a job well done in organising and ensuring that the seminar is successfully held.

To our distinguished invited guests and presenters of various papers - we gladly value your presence in our country to participate in this Seventh Regional Seminar for Labour Based Practitioners.

Mr. Chairman, Distinguished guests, Ladies and gentlemen

It is now my pleasure and privilege to declare this Seventh Regional Seminar for Labour Based Practitioners with the "theme" – Contracting in Employment Intensive Works, officially open.

I wish you successful deliberations. Thank you for your attention. May God bless you all.



9 Annex 6: Closing Speech

9.1 Speech Delivered by the Permanent Secretary – Ministry of Works and Supply at the Closing of the Seventh Regional Seminar for Labour Based Practitioners 7th May 1999 Pamodzi Hotel

Invited Distinguished Guests, Ladies and Gentlemen,

It is my privilege to address you at the end of your very useful deliberations which started on Monday 3/5/99 when the Deputy Minister – MWS, Honourable MULULU opened this very important Seminar for Labour based Practitioners with the Theme: Contracting in employment intensive works.

As my Minister alluded to in his opening remarks, the Seminar is important in the sense that it has come at a time when the Government of the Republic of Zambia is vigorously pursuing policy reforms not only in the road sector but the whole construction industry. This has been manifested dear participants by the creation of private sector driven institutions such as NRB, NCC etc. distinguished participants - I am reliably informed that during the past five days, the Seminar has discussed very important issues that impinge on – or what are perceived as barriers for development of the contracting industry in general and Small Scale Labour Based Contractors in particular.

The discussions – Ladies and Gentlemen - I am reliably informed have ranged from the development of the policy frame work at national level which should be in favour of the development of Small Scale Labour Based Contractor and how to sustain them to Labour policies and practices in the Contracting development process.

Distinguished Guests - capacity building and the role of training institutions in the development of the contracting industry sub sector is crucial to the sustainability of Small Scale Labour Based Contractors vis a vis the provision of the enabling environment in which to operate, such as political, economical, social, institutional as well as inter-linkages with other sectors such as agricultural.

As a host Ministry (MWS) and in the forefront of propagating the use of labour Based methods in all our road related works, it's incumbent upon us (MWS) to lead the way by:

- Including budgets in our annual budgets to be used in Routine maintenance operations by Small Scale Labour Based Contractors under our Provincial Road Engineers.
- Insist that large machine based contractors bidding for roadworks include in their bids a portion (20%) for engagement of Small Scale Labour Based Contractors.



- Lobby our donors at negotiating stage to include funds for the promotion of Small Scale Labour Based Contracting capacity.

This, Ladies and Gentlemen, we feel will facilitate the entry of Small Scale Contractor into the market and this will have an immediate and long term impact.

I am reliably informed that the Seminar has addressed some of the root causes of the problems associated with development of the contracting capacity in various countries especially in this region and beyond and have attempted to state solutions as regards policy options as a prerequisite to Contracting development.

Distinguished participants, I am aware that you have had a busy schedule and it's therefore not my wish to keep you longer than is necessary.

Let me conclude my remarks by acknowledging your significant contributions to the Seminar resolutions and recommendations which will no doubt have a far reaching positive impact in our endeavour to develop the contracting capacity (SCC) using Labour Based methods within in our country, sub Saharan Africa and beyond.

For these reasons, Mr. Chairman, distinguished participants I urge you to keep the momentum in your various countries (Africa/Asia) in efforts to overcome expected barriers that impinge on contracting development.

For us in Zambia moving from force account operations to contracting is not a matter of choice but a necessity and we shall closely study your deliberations in detail in order to come up with solutions to the development of the contracting capacity.

Ladies and Gentlemen - I will be failing in my duties if I did not pass a word of thanks to both the ILO-ASIST and the MWS through Roads Department and the Roads Department Training School in the excellent manner in which the two organisations have worked together to organise and host this successful Seminar.

As a Country in general and as Ministry of Works and Supply in particular - we are grateful to all those involved in the organisation of this seminar.

Ladies and Gentlemen it is now my privilege (on behalf of the Permanent Secretary – Ministry of Works and Supply) to officially declare the Seventh Regional Seminar for Labour based Practitioners with the Them: Contracting in Employment Intensive Works CLOSED.

I wish you all a safe journey back to your various countries.

Thank you. May God bless you all.

