

**PRIVATE SECTOR DEVELOPMENT
AND INSTITUTION BUILDING:**

A Select Bibliography
and Literature Review

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MART Working Paper 6

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Preface

The MART Initiative

The Management of Appropriate Road Technology (MART) initiative aims to reduce the costs of constructing, rehabilitating and maintaining road infrastructure, and vehicle operations in economically emerging and developing countries (EDCs). It is based on a research project funded principally by the Department for International Development (DFID), formally the British Overseas Development Administration (ODA) under its Technology Development and Research (TDR) provision. The initiative is led by the Construction Enterprise Unit of Loughborough University's Institute of Development Engineering, in association with two UK-based specialist consultants Intech Associates and I.T.Transport. The MART programme is currently implementing its initial 3 year programme.

The MART programme is concerned with supporting sustainable improvements in road construction and maintenance in developing countries. This implies the effective use of local resources, particularly human resources and readily available handtools and intermediate equipment (especially wheeled agricultural tractors and related ancillary equipment). To optimise the use of scarce financial resources, it also requires the effective mobilisation of the indigenous private sector (particularly small domestic construction enterprises), and the application of good management practices in both contracting and employing organisations.

The current phase of the MART programme will *inter alia* draw together existing expertise in labour - and intermediate equipment-based technology and the development of private construction enterprises to produce a series of guidelines on the four priority topics of:

- handtools;
- intermediate equipment;
- private sector development; and
- institution building.

The MART initiative is strongly research-based, and both the DFID and the MART partners see its main impact as providing analysis and codification to support practical project initiatives. Thus much of the output will be in the form of journal papers and other formal publications suitable as reference material and providing an independent and reliable record of the advancing state of the art.

MART welcomes dialogue with engineers, equipment designers and manufacturers regarding designs, products or experience of intermediate equipment with the objective of the promotion of a sustainable road sector technology and management approach for EDCs.

1. Introduction

This bibliography contains publications that the author believes are relevant to the component topics of the Management of Appropriate Road Technology (MART) initiative. It comprises a wide range of publications including books, papers, project reports and textbooks. Some of the items listed in the bibliography are not formally published, but have been included as they may be available by contacting the organisation that produced them. The previous major contributors in this field have been the International Labour Organisation (ILO) and the World Bank. While this bibliography includes items produced by these organisations the search for relevant material has not been limited to these sources.

Each entry, apart from listing author, title and publisher etc., contains a short review of the work. It is hoped that this may be useful for those wishing to use the bibliography to choose the items which will address their particular need or problem.

The literature has been compiled into 3 sections:

- Expanding Private Sector Capacity
- Institution Building
- Small Scale Contractors

The category 'Small Scale Contractors' includes publications that are predominantly aimed at owners or employees of small scale contracting firms or are training material for contractors. Publications have, in general, been compiled into one category where they make the largest contribution. Publications that make a significant contribution to more than one category have been listed twice, in both categories, but a review only appears under the first entry. Appendix 3 lists the contact details for publishers or suppliers of material listed in this bibliography.

The MART programme aims to disseminate its findings as widely as possible. The majority of its output is in the form of journal and conference papers and other formal publications. A list of current and proposed MART publications is included in appendix 2

The ILO's ASIST programme has compiled a database of over 7200 items of literature relevant to labour based road construction and other labour based construction activities. A short review of the project and database is contained in appendix 1. Some items contained in the ASIST library are available for loan.

2. Glossary

ACSP	Association of Collegiate Schools of Planning (USA)
ADP	Asian Development Bank
ASIST	Advisory Support Information Services and Training for labour based roadworks (ILO project)
CIB	International Council for Building Research Studies and Documentation
CIP	Construction Information Paper
DFID	Department for International Development (former ODA)
ed	edited by
EDC	Economically emerging and Developing Countries
GTZ	Gesellschaft fur Technische Zusammenarbeit
ILO	International Labour Organization
IYCB	Improve Your Construction Business
KRARP	Kenyan Rural Access Roads Programme
MART	Management of Appropriate Road Technology
MoW	Ministry of Works
NICMAR	The Indian National Institute of Construction Management and Research
NTRC	National Transport Research Centre (Pakistan)
ODA	Overseas Development Administration (now Department for International Development)
OUP	Oxford University Press
PIARC	World Road Association (previously: Permanent International Association of Road Congresses)
pp	Pages
PTRC	Planning and Transport Research and Computation International Association
RMI	Road Maintenance Initiative
ROMAR	Road Maintenance and Regravelling
SSATP	Sub-Saharan Africa Transport Programme
SWK	Scott Wilson Kirkpatrick
TDR	Technology, Design and Research (DFID research projects)
TRL	Transport Road Research Laboratory
UNESCO	United Nations Education, Scientific and Cultural Organisation
Vol.	Volume
WB	World Bank
WEP	World Employment Programme (ILO)
WP	Working Paper

3. Private Sector Development

**Austen A., Neale R. (ed) (1984) Managing Construction Projects: A guide to processes and procedures, ILO, Geneva
pp158**

This book is aimed at those involved with planning and controlling civil engineering projects in developing countries. It reviews the implementation process from conception to completion, using examples from, and addressing problems commonly encountered in less developed countries.

**Bentall P., et al (1995) Labour based contracting: A study to develop guidelines for project formulation and implementation (Vols. 1-3), (unpublished), ILO, Geneva
pp350 (approx)**

This report was compiled following a study of labour based contracting projects in 6 African countries. It gives information about each of the projects under the headings of; project preparation, training, contract documentation and detailed implementation. The study was carried out as an information gathering exercise to assist in the production of guidelines. The report therefore does not review each project but contains a large amount of factual information.

**Ganesan S. (1982) Management of Small Construction Firms, Asian Productivity Organisation, Tokyo
pp236**

This book examines the construction industry in six countries of Asia; Sri Lanka, Singapore, Hong Kong, Thailand, The Philippines and Japan. It reviews through case studies the development and future prospects of the construction industry in these countries. The main problems experienced by contractors is discussed and three action items are proposed to assist the development of the smaller enterprises;

1. Strengthening their weak technical, manpower, financial and managerial structures
2. Rationalising their role in order to be more effective
3. Ensuring that there is a long term role for small contractors within a policy for the construction sector.

**Garnier P., Imschoot M. (1993) The administration of Labour intensive works done by contract, ILO, Geneva
pp130**

This report discusses the operational aspects of undertaking labour intensive works using small and medium scale enterprises. It covers the issues relating to selection, evaluation and supervision and payment of contractors. There are large sections of the

report containing example contracts, specifications and forms of tender which have been used on labour intensive contracts

Harral C., et al (1986) An appraisal of Highway maintenance by contract in Developing countries, World Bank pp43+12

This paper reviews the experiences of nine countries that have opted to use private contractors for routine road maintenance. The countries are drawn from different geographical areas and levels of income. Although some of the case studies are of medium to large scale contractors the information is still applicable to small scale contractors. The authors discuss each of the projects' successes and failures and highlight the lessons learnt.

Jones T., Petts R. (1991) Maintenance of Minor Roads using the Lengthman Contractor System, 5th International Conference on Low Volume roads, USA

This paper describes the principles of the lengthman system for road maintenance and the specific project undertaken in Kenya to maintain their minor road network. The paper describes the 2 phases of the Kenyan project, firstly to train suitable lengthmen and obtain average work rates. The second phase addresses the level of maintenance required for different sections of road based on traffic, rainfall, gradients and surface materials. The paper concludes that work rates are not significantly affected by age, sex or regional areas. Tables are presented offering possible work rates for work undertaken by the lengthman system.

Kirmani S., Blaxall J. (1988) The Construction Industry in Development: A strategy for Bank assistance, World Bank pp50

This report explains the problems that have been encountered with the World Bank's support of construction industry development projects. These problems were mainly due to a too heavy focus on individual projects and contractors rather than a more global assistance to the industry. The report also discusses a 5 point strategy to improve the business environment of the construction industry.

Lantran J. (1990) Developing domestic contractors for road maintenance in Africa (Contracting Out of Road Maintenance Activities Vol. 1), World Bank pp31

This report assesses the type of work which may be undertaken by small private contractors and highlights their availability and capacity. It discusses the issues that should be taken into account in the preparation of a development programme and gives examples of how programmes have already been implemented. The report also explains

the need for forming public and private institutions and creating an enabling environment through regulatory reforms.

Lantran J. (1991) Contracts for road maintenance works agreements by direct labour (Contracting Out of Road Maintenance Activities Vol. 2), World Bank pp48

This report provides guidance on the managing of road maintenance contracts, to achieve improved work implementation and more efficient control of the work. It explains the need for highway authorities to be better prepared for issuing work by compiling a road condition register. The issues addressed include; identifying and prioritising work, contract preparation and award, contract supervision and setting up agreements with direct labour. The paper also contains 2 examples of routine maintenance contracts, lists of itemised work units for bill of quantities and road register sheets

Lantran J., Lebussy R. (1991) Setting up a plant pool (Contracting Out of Road Maintenance Activities Vol. 3), World Bank pp52

This paper explains how to transform a Construction Equipment Division of a Ministry of Public Works into a commercial equipment renting firm. As governments seek to privatise road maintenance their public works department plant pools become redundant, unless they can be made accessible to the private contractors who are competing for road maintenance contracts. Lantran and Lebussy discuss the rationale for setting up the plant pool and criteria for success. They explain how the commercial plant pool should be organised and managed to be economically viable, with a well maintained and useful equipment fleet. The procedures to be adopted in the transformation to privatisation are also discussed.

Lantran J. (1994) Managing small contracts: Practical guidance on how to manage small contractors for public works and services (Contracting Out of Road Maintenance Activities Vol. 4), World Bank pp106

This report describes the institutional problems which currently inhibit the efficient contracting out of small maintenance work contracts. It explains the reforms that should be adopted and how they may be implemented. Finally Lantran suggests how these small contracts could be managed and the changes necessary within the government departments.

Levitsky J. (1993) Innovations in the financing of small and microenterprises in developing countries, ILO, Geneva pp124

This report, prepared for the Small Enterprise Development Programme of the ILO, discusses the methods of financing small businesses. It explains the problems of obtaining finance and the roles of the formal, informal and semi formal sectors can play in providing finance. There are extensive case studies from Africa, Latin America and Asia which examine the linkages that exist, in different countries, between each sector and discuss each programme's successes and problems.

Lemunge N. (1980) Financial Constraints on development of Small Contractors in Eastern and Southern African Countries, ILO, Geneva
pp29

This workshop report highlights some of the problems faced by small contractors that are due to financial constraints and suggests possible solutions. Although the report is fairly old it contains a useful paper, by a bank manager, giving the bank's viewpoint on lending to contractors.

Miles D. (1990) The Construction Industry in Nepal: Practices, problems and needs, ILO (CIP/2), Geneva
pp40

This report was written following a seminar held in Nepal in November 1990 that looked at the state of the nation's construction industry. Two of the four papers presented at the seminar are described in the report; "A review of problems, prospects and opportunities", by East Consult and "Nepalese contractors and their problems", by the Contractors Association of Nepal. The report also addresses the changes required to improve the performance of the industry and the participants' outline proposals for a Centre for Construction Management Development (CCMD).

Miles D., Ward J. (1991) Small Scale Construction Enterprises in Ghana: Practices Problems and Needs, (CIP/1) ILO, Geneva
pp52

This report was produced as part of the IYCB programme of the ILO. 44 problems facing contractors are presented with possible solutions and/or action items to be addressed. As a result of a survey of contractors' perceived training needs a draft 6 module training programme is proposed.

Miles D. (1993) The Impact of the ILO Construction Management Programme on the Development of Small Construction Enterprises, (CIP/6) ILO, Geneva
pp20

This report reviews the experience of the ILO's Construction Management Programme focusing on the Improve Your Construction Business (IYCB) Project carried out in Ghana. It explains the 4 stage approach which was used, commencing with a survey of the needs of small scale contractors. The project then developed and delivered modular

training packages in 3 key construction areas; Pricing and Bidding, Site Management and Business Management. This training was assisted by technical and managerial support services and the promotion of measures to remove policy constraints.

Miles D, (1996) A Decade of Small Contractor Development in Asia: Lessons from project experience, Vol1 No.3, Public Works Management and Policy
pp9

This paper examines through a series of eight case studies international technical assistance projects which aim to introduce labour-based techniques and/or improve the performance of small scale domestic contractors. The case studies are taken from countries with a range of different business environments. Miles concludes by explaining that balanced assistance must be offered in the fields of technical and business management.

Neale R. (1987) Construction Management and Technology: A bibliography for Developing Countries, Gower, UK.
pp122

A book that contains short reviews of approximately 120 books and papers relevant to the construction industry in the developing world. Subjects covered include; appropriate technology, roads and transport, management techniques and small contractors. This publication was compiled for the ILO.

Relf C. (1987) Guidelines for the Development of Small Scale Contractors, ILO, Geneva
pp136

This book discusses the problems facing small scale contractors in developing countries. Solutions to these problems and/or institutional changes required are presented and assessed. A large part of the text deals with the setting up and possible roles of a contractor development agency.

Stock E. (1996) The Problems facing labor based road programs and what to do about them. Evidence from Ghana, (SSATP wp24), World Bank
pp38

This report is based on field work carried out in Ghana to evaluate the labour based contractor development programme. It highlights the two main problems experienced by labour based contractors; the management of large labour forces and delayed payments. Stock explains methods that the Ghanaian contractors have implemented to mitigate the impact of these problems.

**Taylor G. (1996) Force Account or Contractors?: A comparison of Kenya and Ghana 5th ASIST Regional Seminar, Accra
pp8**

This paper compares and contrasts the labour-based programmes in Kenya and Ghana. The principal experiences of these two programmes with fundamentally different approaches are drawn together into a series of recommendations for the design of future labour based programmes.

World Bank. (1995) Commercializing Africa's Roads: Transforming the Role of the Private Sector, www.worldbank.org/AFTDR/findings/english/find32.html

This information note summarises some of the findings of the World Bank's Road Maintenance Initiative (RMI). It explains some of the underlying causes of poor road maintenance and gives four factors that must be addressed in order to tackle the current problems.

**Young R. (1993) Policy biases, small enterprises and development, Small Enterprise Development. Vol 4 No 1, IT Publications, London
pp11**

This paper addresses the policy issues which affect the development of all small enterprises in Asia and Africa. It explains that government policies may either be biased for or against small enterprises and that few policies benefit medium scale companies. The paper also explains some of the factors which must be taken into account when formulating policies for the development of small scale enterprises.

4. Institution Building

**Abbott P. (1985) Technology transfer in the Construction Industry: Infrastructure and Industrial development (Special Report no.223), Economist Publications Ltd, London
pp76**

This report examines ways in which technology transfer can be achieved between construction and consulting firms from high income countries to low income countries. It explains that joint venture projects offer the best opportunities for both parties and indicates how these projects may be carried out. It also explains the pitfalls and concerns which may be encountered by the donor or recipient organisation and how these may be overcome. There is an extensive collection of case studies discussing how technology transfer has previously been achieved in both infrastructure and industrial projects.

**Auerhan J. (1985) Institutional development in education and training in Sub-Saharan African countries, World Bank
pp110+12**

This discussion paper examines the problems facing education ministries, universities, management development institutions and vocational training organisation. It indicates that the problems facing these educational institutions are not solely financial but a lack of ability in resource management. The paper's findings are based on a survey of problems in five countries, representing a cross section of Sub Saharan Africa and the institution building experiences of the World Bank, UNESCO and the ILO. Recommendations are made to strengthen and support the different educational sectors and organisations.

**Capitanio A. (1991) The EDF and African Roads, The ACP-EEC Courier, No. 123 Jan-Feb 1991, Commission of the European Communities, Brussels
pp 60-63**

This article looks at the problems facing African countries with the construction and maintenance of their road networks. Capitanio explains that there is an inconsistency between countries' regulations regarding the maximum axle loads of traffic, a significant factor in road deterioration. The article also describes the problems landlocked countries face in getting goods to sea ports and how these countries have signed agreements laying down common regulations.

Cooper L. (1984) The Twinning of Institutions: Its use as a Technical Assistance Delivery System, World Bank
pp 46

This technical paper discusses the role of institutional twinning for the transfer of management capability, staff training and knowledge. It explains how twinning arrangements work and the factors that must be considered regarding the compatibility of two organisations entering a twinning agreement. The paper also discusses contractual agreements and the processes involved in setting up a twinning agreement.

Coukis B. (1983) Labor-based construction programs: A practical guide for planning and management, World Bank
pp374

This book, in two parts, covers many of the issues associated with labour based construction programmes. The first part deals with the principles of labour based construction, describing the advantages and prerequisites for a successful programme. It offers advice on how to prepare and evaluate a pilot programme and then implement a full scale programme. The second part of the book deals with the management of the full scale programme covering topics including site planning, management and engineering. There are also many appendices which give recording and monitoring proformas and other background information. This information includes data on handtools, construction methods and productivity data. Unfortunately Coukis only addresses the use of force account operations and does not discuss the issues of using private contractors.

deVeen J., Karlsson L. (1981) Guide to the Training of Supervisors for labour based construction and maintenance, ILO, Geneva

This course is intended for general technical training of supervisors of labour based road construction. It consists of an instructors manual which gives information on the structure and planning of a course and a two volume trainees manual which contains the detailed training material for the course.

Edmonds G., Miles D. (1984) Foundations for Change, Intermediate Technology Publications Ltd, London
pp143

This book looks at the evolution of the construction industry and discusses how it has arrived in its present form in developing countries. The factors constraining the development of the construction industry in developing countries is discussed in general. Two chapters present case studies to illustrate the problems in two developing countries, Sri Lanka and Ghana. The authors suggest changes which need to be made to these countries' institutional frameworks in order for their indigenous construction industries to develop.

Harper M., (1984) Small Business in the Third World, Wiley & Sons, Chichester pp212

This book reviews the different initiatives which have been implemented to assist the development of small businesses. It highlights the pitfalls that have been encountered and explains the factors which have not been taken into account when programmes have been developed. Harper offers practical advice, illustrated with case studies, to programme designers who may be involved in the implementation of a small business development programme.

Hagen S., Relf C. (1988) District road improvement and maintenance programme in Malawi, ILO, Geneva pp96

This book analyses the development and organisation of the DRIMP (District Road Improvement and Maintenance Programme) in Malawi. It contains useful information on the planning and execution of labour based road programmes and technical standards and specifications. As the DRIMP project utilised direct labour gangs to undertake work there is no information on contractual management or financial accounting.

Hernes T. (1988) Training Contractors for results: A guide for trainers and training managers, ILO, Geneva pp114

This book offers guidance to trainers who are preparing contractor training programmes. It explains the problems that need to be overcome and issues that should be addressed when designing and implementing a training programme. Different training approaches that can be adopted and how they should be delivered are also discussed.

**Hernes T. (1987) Interactive Contractor Training, ILO, Geneva
Vol. 1 Estimating and Tendering
Vol. 2 Project Planning
Vol. 3 Site Productivity**

These training modules were produced to accompany the book, Training Contractors for Results. They offer resource material to trainers who are preparing training courses in the three contracting disciplines.

ILO. (1983) Management Training for the Construction Industry in Developing Countries, ILO, Geneva

pp46

This report reviews the problems associated with construction projects and highlights the stakeholders involved in managing them. It also discusses the training needs of the different stakeholders and how this training may be implemented.

**ILO. (1992), Skill requirements, training and retraining in the building, civil engineering and public works industries, ILO, Geneva
pp52**

This report was prepared as a discussion document for the ILO Committee on Building, Civil Engineering and Public Works. It reviews the current state of training within the industry in developed and developing countries and also discusses factors causing changing requirements. The report suggests and reviews some methodologies for providing training support and lists issues to be discussed and resolved. An extensive bibliography is included in the report.

**Levitsky J. (1992) Private sector membership associations and support for SME's, Small Enterprise Development Vol 3 No 1, IT Publications, London
pp22-34**

This paper examines the role that membership/trade organisations can play in the development of small and medium enterprises. It explains the problems that can occur with publically run organisations and the benefits of private sector organisations. Some of the problems and issues facing these organisations are examined and possible solutions proposed.

**Miles D. (1995) International experience in developing private sector infrastructure capacity ACSP-Detroit Conference
pp10**

This paper examines the 5 S's to promote private sector infrastructure capacity; split responsibility, subsidiarity, sustainability, small enterprise focus and system support. It also explains how both the client's and contractor's staff must be trained to fulfil their new roles.

**Miles D. (1995) Training across boundaries: promoting international small enterprise development Cross Cultural Management Vol 2 No. 3
pp39-46**

This article indicates the need for assistance and training targeted at small businesses to support the current emphasis on developing the private sector. It reviews training projects that have been undertaken by various organisations, particularly focusing on the ILO's Improve Your Construction Business (IYCB) programme.

**Miles D. (1996) Effective Technical Co-operation for Construction Industry development, 1996 CIB Beijing International Conference
pp8**

This paper explains the need for multi-disciplinary consulting and advisor projects rather than discrete infrastructure projects to achieve sustainable developments in the construction industry. It discusses through the use of case studies four different types of international technical assistance which can be offered to assist the development of a country's construction industry.

**Miles D. (1996) The Client/Contractor Relationship in Labour-based Construction and Maintenance 5th ASIST Regional Seminar, Accra
pp8**

This paper emphasises the importance of equitable contract documents to improve the productivity of labour based contracts. It explains that the best contracts are as simple as possible, providing they clearly apportion risks between the client and contractor. The common risks encountered on labour based projects are identified.

**Miles D., Neale R., (1991) Building for Tomorrow: International Experience in Construction Industry Development, ILO Geneva
pp240**

This book reviews the role of institutions in the development of an indigenous construction industry. It examines, through four case studies, the role institutions in four countries have played in the development of their construction industries. These case studies are used to highlight criteria for success of these and future institutions and the role external assistance can play in this success. Miles and Neale offer an action plan for implementers involved in establishing or improving institutions working within the construction sector.

**Neale R. (1987) Construction Management and Technology: A bibliography for Developing Countries, Gower, UK.
pp122**

See review above

**Nelson R. (1986) Entrepreneurship and Self-Employment Training, Asian Development Bank, Manila
pp320**

This book was prepared as the proceedings of a workshop that aimed to improve the quality and effectiveness of development programmes in Asia and the Pacific region. The initial papers, in the book, provide an overview of the potential and economic roles of the small enterprise sector and characteristics of small enterprise development

schemes. The papers in the second half of the book deal training and development, covering issues of the role of credit organisations, training youth and education institutions.

**Relf C. (1987) Guidelines for the Development of Small Scale Contractors, ILO, Geneva
pp136
*See review above***

**Riverson R., et al (1991) Rural Roads in Sub Saharan Africa: Lessons from World Bank Experience, World Bank
pp138**

This book analyses a selection of road projects in which the World Bank has been involved over the past 25 years. It discusses a number of different issues under the headings of; planning, design, resource mobilisation, sectorial organisation, institutional performance and management. It draws lessons from past experience and highlights areas where changes in policy or emphasis are required. The most important lessons learned are firstly the need for a co-ordinated approach rather than an individual project cost benefit analysis. Secondly the need for a central organisation for policy formulation and funding and separate decentralised autonomous organisations for planning and maintaining rural roads.

**Shah V. (1993) Building her future: Guidelines for encouraging women's participation in construction industry development projects in India, (CIP/7) ILO, Geneva
pp40**

This report draws on information contained in previous Construction Management Programme reports (CIP/3 & CIP5) to review the NICMAR project in India and assess its' benefit to women. It also looks at the future opportunities that a further project may offer to women working in the construction sector. The report concludes with a series of guidelines for encouraging women's participation in construction industry development projects. Although these guidelines are specifically targeted towards India they can be applied with minor modifications to projects in other countries.

**Stock E., de Veen J. (1996) Expanding Labor-based Methods for Road Works in Africa, World Bank
pp 68**

This report reviews the existing use of labour based methods and highlights problems associated with more widespread use of the techniques. It discusses the reforms and interventions which are necessary to expand labour based schemes, highlighting the two most important reforms of reliable funding and decentralised project administration. Stock and de Veen also examine the different delivery mechanisms for undertaking labour based roadworks, including force account, developing small scale contractors or using larger established contractors. The problems and advantages of each option and criteria for choosing a delivery mechanism are discussed.

Thompson J. (1991) The EDF and African Roads, The ACP-EEC Courier, No. 123 Jan-Feb 1991, Commission of the European Communities, Brussels pp 67-68

This 2 page article attributes the causes of road deterioration and poor maintenance in African countries to four factors; difficulty in predicting traffic density, axle loading, financial constraints and institutional problems. Thompson suggests that these problems may be overcome by effective axle inspection units and provision of better axle loading publicity. "Management Information Systems" should be established to ensure efficient use of the scarce resources for road maintenance.

World Bank, (1984) The Construction Industry: Issues and Strategies in Developing Countries, World Bank pp116

This book highlights the importance of the construction industry and explains how it has a strong influence on development. Different factors affecting the construction output and how they may be improved are discussed. Issues covered by the book include; government policies, personnel development and finance.

World Bank, (1994) World Development Report: Infrastructure for Development (pp37-51), OUP, Oxford, UK

This article in the 1994 World Development Report discusses commercialisation of public organisations. It reviews the problems experienced by these organisations and offers different solutions. The issues of management accountability, financial independence and contracting out of services are examined as possible options for improved productivity.

5. Small Scale Contractors

Andersson C-A. et al (1994) Improve Your Construction Business: Pricing and Bidding (handbook and workbook), International Labour Office, Geneva pp98 & 102

First in a series of three textbooks to assist small contractors in developing countries to improve the management of their business. The accompanying workbook contains exercises, with worked answers, based on the textbook chapters. These books deal with the preparation of a tender submission.

Andersson C-A., et al (1996) Improve Your Construction Business: Site Management (handbook and workbook), International Labour Office, Geneva pp102 & 148

Second in a series of three textbooks to assist small contractors in developing countries to improve the management of their business, focusing on managing the construction site. The accompanying workbook contains exercises, with worked answers, based on the textbook chapters.

Andersson C-A., et al (1996) Improve Your Construction Business: Business Management (handbook and workbook), International Labour Office, Geneva pp112 & 128

Third in a series of three textbooks to assist small contractors in developing countries to improve the management of their business, focusing on managing the enterprise. The accompanying workbook contains exercises, with worked answers, based on the textbook chapters.

Andersson C-A et al, (1996) Road Maintenance and Regravelling (ROMAR) Handbook and Workbook, IT Publications pp298 & 196

This handbook and workbook are designed to offer the technical background required by small labour-based road maintenance contractors, thus complementing the Improve Your Construction Business (IYCB) series. The initial chapters of the first part introduce the reader to the standards, techniques and terminology use in road maintenance. These chapters lead into the choice and design of equipment and handtools and the organisation of labour based roadworks. The second part of the books dealing with the practices of ROMAR begins with a chapter on road maintenance, covering in general the different maintenance systems and management techniques. This chapter is followed by two chapters which cover in detail the activities involved in maintenance and regravelling. The final two chapters cover pricing and bidding and managing people.

**Antoniou J., Guthrie P., de Veen J. (1990) Building Roads by Hand, Longman, UK
pp44**

A simple illustrated textbook aimed at the supervisor of road construction projects. Each chapter deals with a particular aspect of construction from clearing to gravelling. There are also chapters on site organisation, planning and project control.

**Austen A., Neale R. (ed) (1986) Managing Construction Projects: A guide to processes and procedures, ILO, Geneva
pp158**

See review above

**Dickson D, (1988) Improve Your Business: Handbook and Workbook, ILO, Geneva
pp130 & 84**

These two books are aimed at retailers, manufacturers and owners of tertiary service companies. Although they do not cover many topics relevant to small construction enterprises, they discuss the broad issues associated with running a small business. Each chapter deals with a different topic including; bookkeeping, marketing and planning.

**Guthrie P. (1983) Labour Construction Unit Technical Manual, Government of Lesotho, Ministry of Works (Roads), Scott Wilson Kirkpatrick & Partners, UK
pp124**

This manual was prepared by Scott Wilson Kirkpatrick for the MoW Labour Construction Unit in Lesotho. It is aimed at the supervisor of labour based construction projects and assumes negligible previous experience. The procedures of road construction and maintenance are explained and the order of executing the work is described in a simple step by step format. There are also chapters describing the activities involved in setting out, site organisation and setting productivity rates

**Heap A. (1987) Improving site productivity in the Construction Industry, ILO, Geneva
pp124**

This textbook, aimed at small scale contractors, explains how to carry out time and motion studies. Examples are based on activities carried out in labour intensive construction. The book also deals with the ways of implementing, monitoring and assessing the proposed improvements.

**ILO, (1981) Guide to Tools and Equipment for labour based road construction,
ILO, Geneva
pp380 (approx)**

The first chapter of this manual gives details of the design and specifications for general handtools required for labour based construction. Following chapters cover each of the operations required for road construction, indicating the best tool for each task. Further designs and specifications are given in each chapter for tools and intermediate equipment which is required specifically for that task. The names of suitable suppliers and manufacturing information are also given for each item of equipment.

**Intech Associates (1994) International Road Maintenance Handbook: Vols. 1 - 4,
Transport Research Laboratory (for the World Road Association (PIARC)), UK
Vol. 1. Maintenance of Roadside Areas and Drainage
Vol. 2. Maintenance of Unpaved Roads
Vol. 3. Maintenance of Paved Roads
Vol. 4. Maintenance of Structures and Traffic Control Devices**

These four handbooks are aimed at the supervisors of road maintenance contracts. They explain the causes and the measures required to prevent road deterioration. Each maintenance task is addressed in turn with simple text and illustrations to show the labour and tools required to carry out each task.

**Meredith G., Nelson R. and Neck P, (1992) The Practice of Entrepreneurship,
ILO, Geneva
pp194**

This book is aimed at managers and small company owners in order to assist them to develop entrepreneurial skills. The initial chapters discuss the personal attributes required to be an entrepreneur including risk taking, leadership and time management. The issues of financial resources, control and planning are discussed including the development of a financial plan. Finally the roles outside assistance can play in the development of the business are highlighted.

**Miles D, (1978), Accounting and Book-keeping for the Small Building Contractor,
IT Publications
pp190**

This book, the first in a series of three volumes, covers the basic principles of accounting that are required by a small contractor. Topics covered include keeping records, analysis sheets, depreciation, balance sheets and profit/loss accounts. The examples used to illustrate ideas are all based on small building contractors.

**Miles D, (1979), Financial Planning for the Small Building Contractor, IT Publications
pp188**

This book builds on the knowledge gained from the first in the series to introduce the ideas and principles of: work planning and programming, controlling cash flow, investment and resource planning and monitoring progress.

**Miles D, (1980), The Small Building Contractor and the Client, IT Publications
pp270**

The third in a series of three books aimed at the small building contractor. This book covers the management issues of running a small construction business. It concentrates on the techniques of estimating in order to price and bid competitively for work. Additional chapters cover topics on marketing, safety, dealing with clients and legal issues.

6. Summary List of all Publications

Author(s)	Year	Title	Publisher
Abbott P	1985	Technology transfer in the Construction Industry: Infrastructure and Industrial development (special report no.223)	Economist Pubs
Andersson C-A. et al	1994	Improve your Construction Business: Pricing and Bidding	ILO, Geneva
Andersson C-A. et al	1996	Improve your Construction Business: Site Management	ILO, Geneva
Andersson C-A. et al	1996	Improve your Construction Business: Business Management	ILO, Geneva
Andersson C-A et al	1996	Road Maintenance and Regravelling (ROMAR) Handbook and Workbook	IT Publications
Antoniou J, Guthrie P	1990	Building Roads by Hand	Longman, UK
Auerhan J et al	1985	Institutional Development in Education and Training in Sub-Saharan African Countries	World Bank
Austen A, Neale R (ed)	1986	Managing Construction Projects: A guide to processes and procedures	ILO, Geneva
Bentall P et al	1995	Labour based contracting: A study to develop guidelines for project formulation and implementation (Vols. 1-3)	ILO, Geneva
Capitanio A	1991	The EDF and African Roads, The ACP-EEC Courier, No. 123 Jan-Feb 1991,	CEC, Brussels
Cooper L	1984	The Twinning of Institutions: Its use as a Technical Assistance Delivery System	World Bank
Coukis B	1983	Labor-based construction programs: A practical guide for planning and management	World Bank
deVeen J., Karlsson L.	1981	Guide to the Training of Supervisors; for labour based construction and maintenance	ILO, Geneva
Dickson D	1988	Improve Your Business: Handbook	ILO, Geneva
Dickson D	1988	Improve Your Business: Workbook	ILO, Geneva
Edmonds G., Miles D	1984	Foundations for Change	IT publications
Ganesan S.	1982	Management of Small Construction Firms	Asian Productivity Organisation, Tokyo
Garnier P., Imschoot M	1993	The administration of Labour intensive works done by contract	ILO, Geneva
Guthrie P	1983	Labour Construction Unit Technical Manual, Government of Lesotho	SWK unpublished
Harper M.	1984	Small Business in the Third World	Wiley & Sons
Hagen S., Relf C.	1988	District road improvement and maintenance programme in Malawi	ILO, Geneva
Harral C. et al	1986	An appraisal of Highway maintenance by contract in Developing Countries	World Bank
Heap A.	1987	Improving site productivity in the Construction Industry	ILO, Geneva
Hernes T	1988	Training Contractors for results: A guide for trainers and training managers	ILO, Geneva
ILO	1983	Management Training for the Construction Industry in Developing Countries	ILO, Geneva

Author(s)	Year	Title	Publisher
ILO	1992	Skill requirements, training and retraining in the building, civil engineering and public works	ILO
Intech Assoc.	1994	International Road Maintenance Handbook: Vols. 1 - 4	TRL/PIARC
Jones T., Petts R	1991	Maintenance of Minor Roads using the Lengthman Contractor System	PTRC Conf.
Kirmani S., Blaxall J	1988	The Construction Industry in Development: A strategy for Bank assistance	World Bank
Lantran J	1990	Developing domestic contractors for road maintenance in Africa	World Bank
Lantran J	1991	Contracts for road maintenance works agreements by direct labour	World Bank
Lantran J	1991	Setting up a plant pool	World Bank
Lantran J	1994	Managing small contracts: Practical guidance on how to manage small contractors for public works and services	World Bank
Lemunge N.	1980	Report of workshop on Financial Constraints on Development of Small Contractors in Eastern and Southern African Countries	ILO, Geneva
Levitsky J	1992	Private sector membership associations and support for SME's :Small Enterprise. Dev. Vol3 No1	IT publications
Levitsky J	1993	Innovations in the financing of small and microenterprises in developing countries	ILO, Geneva
Meredith G, Nelson R & Neck P	1992	The Practice of Entrepreneurship	ILO, Geneva
Miles D, Vaid K.	1991	A Strategy for the China International Contractor's Association: CHINCA	ILO, Geneva
Miles D, Ward J	1991	Small Scale Construction Enterprises in Ghana: Practices Problems and Needs	ILO, Geneva
Miles D	1979	Financial Planning for the Small Building Contractor	IT Publications
Miles D	1978	Accounting and Book-keeping for the Small Building Contractor	IT Publications
Miles D	1980	The Small Building Contractor and the Client	IT Publications
Miles D	1990	The Construction Industry in Nepal: Practices, problems and needs, (CIP/2)	ILO, Geneva
Miles D	1995	Training across boundaries: promoting international small enterprise development, Vol. 2 No. 3	Cross Cultural Management
Miles D., Neale R.	1991	Building for Tomorrow: International Experience in Construction Industry Development	ILO Geneva
Miles D.	1993	The Impact of the ILO construction Management Programme on the Development of Small Construction Enterprises	ILO, Geneva
Miles D.	1995	International experience in developing private sector infrastructure capacity	ACSP-Detroit Conference
Miles D.	1996	Effective Technical Co-operation for Construction Industry development	Conf. Paper
Miles D.	1996	The Client/Contractor Relationship in Labour-based Construction and Maintenance	5th ASIST Regional

Author(s)	Year	Title	Publisher
Miles D	1996	A Decade of Small Contractor Development in Asia: Lessons from project experience, Vol1 No.3	Seminar, Accra Public works Management and Policy
Neale R.	1987	Construction Management and Technology: A bibliography for Developing Countries	Gower, UK
Nelson R	1986	Entrepreneurship and Self-Employment Training	ADB, Manila
Rausch E	1994	Road Contractor Promotion and Employment Generation in Africa	GTZ, Eschborn
Relf C, Austen/Miles	1987	Guidelines for the development of small scale construction enterprises	ILO, Geneva
Riverson R et al	1991	Rural Roads in Sub Saharan Africa: Lessons from World Bank Experience	World Bank
Shah V.	1993	Building her future: Guidelines for encouraging women's participation in construction industry development projects in India	ILO, Geneva
Stock E.	1996	The Problems facing labor based road programs and what to do about them. Evidence from Ghana, SSATP wp24	World Bank
Stock E, deVeen J	1996	Expanding Labor based Methods for Road Works in Africa	World Bank
Taylor G.	1996	Force Account or Contractors?: A comparison of Kenya and Ghana	5th ASIST Regional Seminar, Accra
Thompson J	1991	The EDF and African Roads, The ACP-EEC Courier, No. 123 Jan-Feb 1991, pp63-68	CEC, Brussels
World Bank	1994	Development Report: Infrastructure for Development	OUP, UK
World Bank	1984	The Construction Industry: Issues and Strategies in Developing Countries	World Bank
Young R	1993	Policy biases, small enterprises and development: Small Enterprise Development. Vol4 No1	IT Publications

Appendix 1

ILO/ASIST — Objectives and Role

Background

ASIST stands for Advisory Support, Information Services and Training. The ASIST project evolved from the post of the ILO Regional Roads Adviser, based in Nairobi, Kenya. The first phase of ASIST was set up to run from July 1991 to August 1994, with funding from the Government of Norway, the Swedish International Development Authority (SIDA) and the Swiss Development Cooperation (SDC). The same three donors have continued funding for the second phase which runs from September 1994.

The project is operated under the auspices of the ILO's regional structure for Africa with technical support from the Development Policies Branch (POL/DEV) in Geneva, and in close cooperation with the ILO's Multi-Disciplinary Advisory Team in Harare, Zimbabwe.

Development objective

The development objective of ASIST is to achieve a wide-scale adoption of employment-intensive approaches in national transport and infrastructure investment policies and programmes.

This is within the context of the ILO's programme to promote employment-intensive investment policies as a strategy to alleviate poverty.

Immediate objective

The increased use and efficiency of labour-based methods to carry out road construction and maintenance activities in the project's area of influence.

Structure

In order to meet the immediate objective, the project was divided into three components, as implied by its acronym: advisory support (technical and policy advice, and project backstopping), information services (networking, technical enquiry service, publications, research), training (international courses for engineers, senior technicians and trainers).

ASIST Database

One of the project's tasks has been to assemble a library of any relevant books, studies, reports and articles on any aspect of labour based roadworks. This library, which is housed in Nairobi, currently contains approximately 7300 items consisting of material collected from around the world. It is catalogued in their commercially available database called ASISTDOC which has a wide range of search facilities. Each database entry has been extensively keyworded, therefore as the collection is very specialist a careful search is necessary to obtain a realistic number of relevant titles. For example there are 629 entries which contain "labour based" in their title and 31 entries which have information on wheelbarrows. A detailed search criteria needs to be established

in order to obtain a realistic list of titles on a particular subject which can be carefully reviewed.

ASIST currently has two offices in Harare and Nairobi (where the library is held). Their addresses are:

Nairobi: PO Box 60598, Nairobi, Kenya
Fax: +254 2 566234

Harare: PO Box 210, 9th Floor NCR House, 65 Samora Machel Av.
Fax +263 4 748346

Appendix 2.

MART Publications

Working Papers

1. Towards Guidelines for Labour-Based Contracting, Miles D (ed.), Inst. of Development Engineering (ISBN 1 900930 00 5), 1996
2. The Use of Intermediate Equipment and Small Scale Contractors for Labour-Based Roadworks, Larcher P & Petts R, Inst. of Development Engineering, 1997
3. Working papers 3 and 4 have been published as a book
4. entitled '*Labour Based Roadworks: A state of the art review*'
5. Workshop on Intermediate Equipment for Labour-Based Roadworks, Larcher P, Miles D, Petts R, Inst. of Development Engineering (ISBN 1 900930 05 6), 1996
6. Private Sector Development and Institution Building: A select bibliography and Literature Review, Larcher P, Inst. of Development Engineering, 1997
7. Tractors in Roadworks, Petts R, DRAFT,
8. Handtools Questionnaire, Dennis R, DRAFT,
9. Handtool Productivity, IT Transport, DRAFT,
10. Handtool Literature Review, Dennis R, IN PREPARATION
11. Towed Graders, Intech, PROPOSED
12. Compaction, Intech, PROPOSED
13. Haulage, Intech, PROPOSED

Journal and Conference Papers

- A Decade of Small Contractor Development in Asia: Lessons from Project Experience, Miles D, Public Works Management and Policy Vol. 1 No.3, 1996
- Training across boundaries: promoting international small enterprise development, Miles D, Cross Cultural Management Vol. 2 No. 3, 1995
- International experience in developing private sector infrastructure capacity, Miles D., ACSP-Detroit Conference, 1995
- The Client/Contractor Relationship in Labour-based Construction and Maintenance, Miles D., 5th ASIST Regional Seminar, Accra, 1996
- Force Account or Contractors?: A comparison of Kenya and Ghana, Taylor G., 5th ASIST Regional Seminar, Accra, 1996
- Promoting small contractors in Lesotho: privatisation in practice, Miles D, ICE Civil Engineering ISSN 0965 089 X, 1996

- Effective Technical Cooperation for Construction Industry Development, Miles D., CIB Beijing International Conference, 1996
- A Decade of Small Contractor Development In Asia: Lessons from project experience, Miles D., Public Works Management and Policy (USA), 1996
- The Development of L-B contracting for Roadworks: Lessons from Ghana, Mozambique and Lesotho, Miles D, deVeen J & Clifton J, Int. Workshop on Rural Infrastructure (World Bank / EDI), 1997
- International Initiatives to Promote Contractor-based Road Construction and Maintenance, Miles D & Larcher P, International Conference on Managing Pavements, Durban 1998
- Tractors in roadworks and the MART Initiative, Petts R, Landwards, Institution of Agricultural Engineers, 1997
- Management of Appropriate Road Technology (MART), Miles D & Petts R, Routes / Roads - PIARC, July 1997

Books

- Improve Your Construction Business: Pricing and Bidding (Handbook & Workbook.), Andersson C, Miles D, Neale R and Ward J , ILO Geneva ISBN 922 108738-7 & 748-4, 1994
- Improve Your Construction Business: Business Management (Handbook & Workbook.), Andersson C, Miles D, and Ward J , ILO Geneva ISBN 922 108755-7 & 756-5, 1996
- Improve Your Construction Business: Site Management (Handbook & Workbook), Andersson C, Miles D, Neale R and Ward J, ILO Geneva ISBN 922 108753-0 & 754-9, 1996
- Road Maintenance and Regravelling (ROMAR) Using Labour-based Methods (Handbook and Workbook), Andersson C, Beusch A & Miles D., IT Publications ISBN 1 85339 348 7 & (Workbook) ISBN 1 85339 349 5, 1996
- Labour Based Roadworks: A state of the art review, Larcher P , IT Publications, 1997
- Rules for Roads: Towards a sustainable market for labour-based road contracting, Larcher P and Miles D, IN PREPARATION
- Intermediate Equipment Handbook, Petts R, IN PREPARATION
- Guidelines on Handtools for Construction, Taylor G and Dennis R, IN PREPARATION

Appendix 3

Publishers Sales Addresses

Institute of Development Engineering, Loughborough University, Loughborough, LE11 5TU, UK.

Asian Development Bank, PO Box 789, Manila, Philippines

The ACP-EU Courier, Commission of the European Community, 200 Rue de la Loi, 1049 Brussels, Belgium

Gower Publishing Company Ltd, Gower House, Aldershot, Hampshire, GU11 3HR, UK

GTZ, Energy and Transport Division, PO Box 5180, D-65726, Eschborn, Germany

ILO Publications, International Labour Office, CH-1211, Geneva, Switzerland

ILO - ASIST, PO Box 60598, Nairobi, Kenya

IT Publications, 103-105 Southampton Row, London, WC1B 4HH, UK

Oxford University Press, Walton St, Oxford, UK

Transport Research Laboratory (TRL), Overseas Centre, Old Wokingham Road, Crowthorne, Berkshire, RG45 6AU, UK

World Bank, 1818 H Street, N W, Washington DC, 20433, USA