

Local Resource-Based Approaches for Infrastructure Investment Source Book

International Labour Office
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Local Resource-Based Approaches for Infrastructure Investment – Source Book

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Preface

Unemployment and lack of functional infrastructure has been identified by many governments of developing countries as one of the main reasons for their under development and increased levels of poverty. These challenges have been clearly reflected in their national development agendas and national and sectoral policy documents. To address these challenges, countries have committed a significant proportion of their budgetary allocations towards development and upkeep of infrastructure. Globally, it is estimated that developing countries earmark about 40-60% of their development targeted resources towards infrastructure work.

Employment is one of the critical instruments towards poverty reduction and recovery from human-made and natural crises. It could also be a healing mechanism and social cohesion instrument that is essential for coming out of conflict situations and improves the path to peace building. Countries that are in the process of peace building from armed conflicts have used infrastructure rehabilitation and employment creation to be at the center of their recovery processes. This has been practically reflected in the cases of Liberia, Mozambique, Sierra Leone and South Sudan, among others.

To aid these processes, the ILO has developed various planning and implementation tools that facilitate and improve the creation of employment and business opportunities in the delivery of essential infrastructure and services to beneficiary communities, who are mostly low-income communities. The tools promote increased application of local resource-based methods of delivery and are being used in many countries in Africa, Asia and Latin America. Compared to that of the conventional way of delivery using equipment intensive approaches, local resource-based approaches have proven to be economically and financially competitive, socially beneficial and in the longer term, lead to national sustainable development. It is with this in mind that the ILO advocates that investment provisions made towards infrastructure have to contribute towards the national development agenda and well-being of the target group.

In promoting the above, the ILO with the support of development partners established the Advisory Support, Information Services and Training (ASIST) programme initially in Africa, which gradually expanded to Asia and Latin America. The ASIST team has supported member countries in introducing and up scaling of employment-intensive approaches in the delivery of infrastructure, aimed at creating employment and business opportunities for the beneficiary groups. ASIST has also participated in the development of various planning and implementation tools that respond to planning and implementation challenges faced by member states at the time. Assistance has also been provided to both public and private sector players in increasing their knowledge of employment intensive investment strategies, building their capacity to deliver planned interventions and streamlining employment creation through the establishment of suitable national institutions mandated to promote employment creation in the delivery of infrastructure.

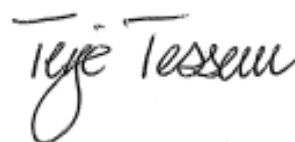
During its 98th Session in June 2009, the International Labour Conference adopted the Global Jobs Pact as the ILO's response to recovery from the financial crisis that started in 2008. Among the proposed responses to slowing down the impact of the crisis is: "supporting job

creation across sectors of the economy, using public works as a means to creating jobs, increasing investments in infrastructure ... etc." Influencing investments in infrastructure towards employment creation will be one of the important tasks for member states on their road to recovery.

This Source Book was compiled by the ASIST Africa team and will be a useful instrument in meeting current challenges of increased unemployment and high levels of poverty. It presents an alternative solution that is based on the increased application of locally available resources and beneficiary participation. The targeted users of this Source Book include practitioners, planners and designers in identifying and addressing key issues that need consideration in making employment central to the delivery of infrastructure and service provisions. The Source Book will equally be a useful reference guide to staff of public and private sector implementers, community groups, civil society organization and development partners that are active or are in the process of promoting local resource-based approaches.



Alphonse Tabi-Abodo
ILO Sub-Regional Office
Harare



Terje Tessem
Chief, Employment Intensive Investment Branch
Geneva

Abbreviations

AGETIP	Agence d'Exécution des Travaux d'Intérêt Public (French acronym for Public Works and Employment Agency)
ASIST	Advisory Support Information Service and Training Programme (ILO)
AU	African Union
CA	Contracting authority/agency
CBA	Cost-benefit analysis
CBO	Community-based organization
CDD	Community-driven development
CEA	Cost-effectiveness analysis
COSATU	Confederation of South African Trade Unions
CS	Contract supervisor
DAC	Development Co-operation Directorate (OECD Development Assistance Committee)
DANIDA	Danish International Development Agency
DBSA	Development Bank of South Africa (southern)
DFID	Department for International Development
DRIMP	District Roads Improvement and Maintenance Programme (Malawi)
EB	Equipment-based
EBA	Equipment-based approaches
EC	European Commission
ECA	Economic Commission for Africa
EI	Employment-intensive
EIA	Environmental Impact Assessment
EPM	Environmental planning and management
EPWP	Expanded Public Works Programme
ER	Employer's representative
ERS	Economic Recovery Strategy for Wealth and Employment Creation (Kenya)
ESAMI	Eastern and Southern African Management Institute
FAO	Food and Agriculture Organization
FRP	Feeder Roads Programme
GC	General Conditions
GDP	Gross domestic product
GTKP	Global Transport Knowledge Partnership

ICB	International Competitive Bidding
IDP	Internally Displaced Person
IFRTD	International Forum for Rural Transport and Development
ILO	International Labour Organization
IMF	International Monetary Fund
IRAP	Integrated Rural Accessibility Planning
IRR	Internal rate of return
ITC	ILO International Training Centre, Turin, Italy
LAPPCOM	Labour-based Policy Promotion Committee (Uganda)
LB	Labour-based
LBT	Labour-based technology
LCA	Least-cost analysis
LCU	Labour Construction Unit (Lesotho)
LED	Local Economic Development
LFA	Logical Framework Analysis
LRBA	Local resource-based approaches
LRBM	Local resource-based methods
M&E	Monitoring and evaluation
MCA	Multi-criteria analysis
MDG	Millennium Development Goals
MLGH	Ministry of Local Government and Housing
MoPWT	Ministry of Public Works and Transport (Lesotho)
MRP	Minor Roads Programme (Kenya)
NDP	National Development Plans
NEDLAC	National Economic Development and Labour Council (South Africa)
NGO	Non-governmental organization
NMT	Non-motorized transport mode(s)
NSGRP	National Strategy for Growth and Reduction of Poverty (Tanzania)
OECD	Organization for Economic Co-operation and Development
PC	Payment Certificate
PIARC	World Road Association
PIP	Public investment plan
PIRTP	Pilot Integrated Rural Transport Project (Malawi)
POVNET	Network on Poverty Reduction (OECD)
PPP-SA	Preferential Procurement Policy (South Africa)
PPP	Public-Private Partnership
PRA	Participatory Rural Appraisal
PRSP	Poverty Reduction Strategy Paper

RAPI	Rapid Appraisal of Poverty Impact
RARP	Rural Access Roads Programme (Kenya)
RBM	Results-based monitoring
RBM&E	Results-based monitoring and evaluation
ROADSIP	Road Sector Investment Programme (Zambia)
RTS	Rural Transport Study (Zimbabwe)
RTT	Rural travel and transport
SEED	ILO – Small Enterprise Development Department
SSATP	Sub-Saharan Africa Transport Programme
SWAP	Sector Wide Approach Programming
TP	Targeted Procurement
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
US\$	United States dollars
VDC	Village Development Committee
WEDC	Water Engineering and Development Centre (Loughborough University)
WHO	World Health Organization
ZOPP	Zielorientierte Projektplanung (German acronym for Objectives-Oriented Project Planning)

Glossary

Capacity-building, institution-building: Means by which skills, experience, technical and management capacity are developed within an organizational structure (contractors, consultants or contracting agencies) – often through the provision of technical assistance, short-/long-term training and specialist inputs. The process may involve the development of human, material and financial resources.

Capital-intensive technology: A project situation where most of the construction work is done by capital-intensive equipment supported by a small labour force.

Community-based work: Undertaken by clearly identified groups of people (usually with the help of a facilitating agency) for the benefit of the group as a whole. The assets created are owned, managed, used and maintained by the beneficiaries themselves.

Community contracting: A community with a direct beneficial interest in a project with responsibility for all or part of the infrastructure construction, rehabilitation or maintenance works under an appropriate contracting relationship, for example, with a local public authority

Community Driven Development (CDD): Broadly defined, CDD is an approach that gives community groups and local governments control over planning decisions and investment resources. CDD programmes operate on the principles of local empowerment, participatory governance, demand-responsiveness, administrative autonomy, greater downward accountability and enhanced local capacity. Experience has shown that – given clear rules of the game, access to information and appropriate capacity and financial support – poor men and women can effectively organize themselves in order to identify community priorities and address local problems by working in partnership with local governments and other supportive institutions.

Decent Work: ‘Decent Work’ is defined by the ILO, and endorsed by the international community, as productive work for women and men in conditions of freedom, equity, security and human dignity. Decent work involves opportunities for work that: (i) are productive and provide a fair income paid on time; (ii) provide security in the workplace and social protection for workers and their families; (iii) offer prospects for personal development and encourage social integration; (iv) give people the freedom to express their concerns, to organize and to participate in decision-making that affects their lives; (v) protect against exploitation of the under-age; and (v) guarantee equal opportunities and treatment for all.

Employment-intensive: Strategies, approaches, projects designed to optimize the employment creation potential where labour is the dominant resource for carrying out quality works while remaining cost effective.

Enabling environment: A positively engineered situation in which firms and/or community organizations of different sizes and experience can participate and develop financially and technically in the construction field. At times, this may require governments to review and modify legislation, regulations, systems and procedures.

Equipment-based: A technology or approach in which equipment, supported by a small amount of labour, is optimized to carry out works in a cost-effective manner to produce quality work.

Equipment-intensive: Approaches where the maximum use of equipment is made, though not necessarily in the most efficient manner, to carry out works.

Equitable growth: In the trade and development context, there are several asymmetries in the globalization process: firstly, many developing countries are marginalized in the process of trade liberalization; secondly, developing countries cannot freely access developed countries' markets; and, thirdly, there can be – in the short and medium term at least – adverse employment consequences of economic restructuring due to trade liberalization and investment decisions. These asymmetries need to be taken into consideration and to allow growth of trade contribute to more equal development, more employment creation and less poverty.

Full employment: The absence of involuntary unemployment or the availability of jobs for all active job-seekers.

Integrated Rural Accessibility Planning (IRAP): A multi-sectoral and integrated planning tool for rural access that: (i) takes into account all aspects of household access needs for subsistence, economic and social purposes; (ii) involves communities in different stages of the planning process; and (iii) is based on a data collection and analysis system that is thorough but easy to implement.

International Competitive Bidding (ICB): ICB is a procedure applied by international funding, donor agencies and national governments to provide all eligible prospective bidders with timely and adequate notification of the tender requirements and an equal opportunity to bid for generally sizable works or the supply of goods and services. ICB often precludes the participation of small and emerging contractors and/or community-based organizations (CBOs).

International Labour Standards: ILO standards take the form of Conventions and Recommendations. Conventions are treaties which can be ratified by a country; when ratified, they become legally binding upon that country, which must follow their content and be subject to monitoring and review by the ILO. Recommendations supplement Conventions and are not subject to ratification; they provide detailed and varied additional information that can assist a country in giving effect to a Convention. International labour standards most relevant to local resource based approaches include:

Freedom from forced labour: Work or service shall not be exacted from any person under the menace of any penalty. (Forced labour Convention, 1930, No.29)

Equality: Men and women shall receive equal pay for work of equal value. (Equal remuneration Convention, 1951, No.100)

Minimum wages: Minimum wages shall be established and enforced for groups of wage earners. (Minimum wage-fixing Convention, 1970, No.131)

Protection of wages: Wages shall be paid in cash money. Where wages are paid partially in the form of allowances in kind, such allowances should be appropriate for the personal use and benefit of the workers, and fair value shall be attributed to such allowances. (Protection of wages Convention, 1949, No.95)

Minimum age: No person under the age of 15 shall be employed or work. No person under the age of 18 shall be employed or work in hazardous circumstances. (Minimum age Convention, 1973, No.138)

Freedom of association: Workers and employers shall have the right to establish and join organizations of their own choosing, without prior authorization. These organizations shall be independent and voluntary in character, and shall be free from all interference, coercion or repression. (Rural workers organization Convention, 1975, No.141; Freedom of association and protection of the right to organize Convention, 1948, No.87; Right to organize and collective bargaining Convention, 1949, No.98)

Labour-based technology: A structured approach or method in which labour (preferably local) is optimized, where technically feasible, to carry out works in a cost-effective manner to produce quality works. Appropriate (light) equipment is used to supplement work for reasons of cost or quality, for example, for medium or long distance haulage, rock crushing or heavy compaction.

Labour-intensive: An approach where labour is maximized (though not necessarily efficient) in order to create as great an employment impact as possible. It is often preferred where income-generation and job-creation are the principal, short-term objectives – for instance, disaster relief or food-for-work projects.

Labour market: The system of relationships between the supply of people available for employment and the jobs available.

Local Economic Development (LED): A participatory development process based on integrated planning for a specific locality or territory (i.e., encompassing several communities). A territorial diagnosis to assess resources, potentials, economic opportunities that can stimulate productivity is carried out through a consultative process involving local stakeholders from the public and private sectors. The process seeks to raise local living standards by stimulating productivity and making an optimum use of available local resources and the competitive advantages of a locality. For example, it promotes the delivery of infrastructure through local small contractors and communities to further enterprise development and create employment.

Local-level planning: A locally-based planning system, implemented through local authorities and generally based upon decentralized decision-making and the use of local participation in defining a community's needs (such as community-based works) and priorities.

Local resource-based methods (LRBMs): LRBMs comprise work methods and technologies where the use of local resources (described below) is favoured and optimized in the delivery and maintenance of infrastructure assets. Local capacities and local materials are used to the greatest possible extent, but without adversely affecting the costs and quality of the specified works. Appropriate (light) equipment is used for support activities.

Local resources: Local resources include local labour, local materials, local knowledge, skills and culture, local enterprises (usually small- and medium-scale), local institutions (including local government, training institutions, trade unions and employers' organizations, Non-governmental Organizations (NGOs) and CBOs), locally produced tools and equipment and local social capital (traditional structures, solidarity and trust).

Millennium Development Goals (MDGs): The Millennium Development Goals were adopted unanimously by the Millennium Summit of the UN General Assembly in 2000. These goals are intended to promote human development in order to improve living conditions and address key global imbalances in poverty, hunger and disease by 2015.

National Development Plans (NDPs): National strategies for the integrated development of a country, usually drawn up with a five-year perspective by national governments.

Policy support units: Multi-sectoral policy support or coordination units with a mandate to promote and further develop local resource-based approaches in a country. Generally located within government ministries that are responsible for public works, they can play an essential role in providing continuity and sustained support to local resource-based works in different sectors. These technical units are often externally funded project- or programme-based initiatives that are not sustained beyond the life of the project or programme.

Poverty Reduction Strategy Paper (PRSP): A country-led, country-written document that provides the basis for assistance from the World Bank and the International Monetary Fund (IMF), as well as debt relief under the Heavily Indebted Poor Country initiative. A PRSP describes a country's macro-economic, structural and social policies and programmes to promote growth. It also summarizes the country's objectives, policies and measures for poverty reduction. A PRSP should be country-driven, comprehensive in scope, partnership-oriented and participatory.

Procurement: The process that creates, manages, and fulfils contracts to receive external services and goods.

Pro-poor growth: A pace and pattern of growth that enhances the ability of poor women and men to participate in, contribute to, and benefit from growth. Growth is classified as pro-poor when it results in distributional effects favouring the poor, where the poor gain proportionally more relative to the non-poor. Rapid and sustained poverty reduction requires pro-poor growth.

Public works: Works undertaken by central or local government agencies for the benefit of the population in general to create, operate, manage and maintain infrastructure assets.

Rapid Appraisal of Poverty Impact (RAPI): A methodology designed to establish baseline data for monitoring the impacts on poverty of employment – for example, intensive road works over time.

Results-based monitoring (RBM): A monitoring and evaluation process that goes beyond an emphasis on inputs and outputs, focus more strongly on outcomes and impacts.

Sector Wide Approach (SWAp): An approach to development where all funding agencies support the government policy and expenditure programme for a given sector instead of financing individual projects/programmes and adopt common approaches across the sector.

Social dialogue: Exchange of views among organized interest groups in the labour market.

Social protection: Defined by the ILO as the set of public measures that a society provides for its members to protect them against economic and social distress caused by the absence or a substantial reduction of income from work as a result of various contingencies (sickness, maternity, employment injury, unemployment, invalidity, old age or death of the breadwinner). Social protection includes the provision of health

care and benefits for families with children. The concept is reflected in the various ILO international labour standards and Conventions.

Targeted Procurement: Procurement that specifies socio-economic targets and standards that have to be met in the delivery process in addition to those that are purely technical or financial. For example, these may specify labour- and/or resource-based methods to optimize employment creation potential, maximize the use of local resources, or require training and contractor or community development components.

Technology: The blend of skill, knowledge, and experience of using labour, materials, tools and equipment to undertake tasks or works.

Underemployment: A condition where (a portion of) a community's or nations' population is employed but where individuals do not earn enough to maintain self-sufficiency. Such individuals usually work for fewer hours or in less desirable jobs than they would prefer and/or are qualified for.

Working conditions: Workers experience of work, including wages, hours of work, secondary benefits, etc. Minimum standards for working conditions are defined in each country. In developing countries the majority of workers, including many of those whose conditions are most in need of improvement, do not benefit from existing labour protection measures, for example, the urban informal economy. Other workers are deprived of effective protection because of weaknesses in labour law enforcement. This is particularly true for workers in small enterprises.

The Source Book

The purpose of this Source Book

Evidence from experience clearly shows that local resource-based approaches should be the obvious choice of technology for infrastructure investment in countries with high unemployment rates and high levels of available unskilled labour. It begs the question why the application of these approaches has not been mainstreamed. The principal reasons for this include insufficient political will and financial commitment, poor policy and legislative frameworks, lack of capacity and knowledge, vested interests, and prejudices in terms of cost and quality expectations. Access to knowledge and the benefit of experience and lessons learned is a prerequisite for overcoming these obstacles and mainstreaming application. It creates awareness, enables choice and informed decision-making and is a cornerstone for building skills and capacity for action.

This Source Book brings together knowledge and experience on the effective application of local resource-based approaches to infrastructure investments in labour-surplus in developing countries. It aims at guiding stakeholders and practitioners involved in infrastructure delivery through the project cycle by bringing out key issues and concerns as well as principles and options relevant to the effective application of local resource-based approaches. It gives guidance on:

- ❖ Formulating and implementing policies supportive of employment-intensive investment
- ❖ Planning and programming and its subsequent implementation
- ❖ monitoring and evaluating
- ❖ Local resource-based infrastructure investment programmes and/or projects
- ❖ paying due attention to cross-cutting issues such as advocacy, participation, gender and the environment.

The Source Book seeks to impart the knowledge and experience gained from the application of local resource-based methods in over 40 developing countries in Africa, Asia and Latin America over the last three decades. It brings together the experience, knowledge gained and best practices related to local resource-based infrastructure investments.

Structure of the Source Book

The Source Book is made up of five chapters:

1. Introduction
2. Policy
3. Planning and programming
4. Implementation
5. Monitoring, evaluation and impact assessment

Sub-topics in each chapter provide a logical sequence of the range of issues to be considered, and discusses challenges, best practices and options. Case studies and examples of good practice and relevant experience are provided. The sub-topics list references for further reading.

How to use this Source Book

The Source Book is designed to enable stakeholders or practitioners to quickly obtain information on particular issues they may be facing. The presentation of the contents allows its use as reference material or a training hand-out. It can also serve as a general guide to those new to the subject and those seeking to expand their knowledge of building and maintaining civil infrastructure using locally available human and material resources.

Whom this Source Book will be useful for

The Source Book aims at a wide range of stakeholders, mainly:

- ❖ The public sector: National- and local-level policy-makers, programmers, planners and project managers from ministries of finance, planning, treasury, technical ministries and regional and local government
- ❖ The private sector: small-, medium- and large-scale contractors and their associations; small, medium and large operators of infrastructure/service providers; construction industry worker associations; local consultants (engineers and architects) and their professional associations
- ❖ Civil society: community-based organizations (CBOs), non-governmental organizations (NGOs)
- ❖ Employers' and workers' organizations
- ❖ Academic and training institutions
- ❖ Development bodies and agencies
- ❖ Funding institutions and donor agencies.

Introduction

1.1 Poverty and unemployment levels

Poverty levels are increasing or have remained stagnant in developing countries despite government and development partners' efforts and investments. Even countries with positive economic growth and increased productivity have not been able to substantially reduce the growing number of unemployed and working poor. Clearly, development efforts and investments are not at the required scale and are not being optimized to yield the full potential impact on under- and un-employment and poverty.



It is estimated that in Africa 'between 2006 and 2015, the percentage of persons working but still living on less than US\$2 per person in the household per day will decrease from 78.6% to 76.4%, but the actual number will increase from 260.3 million to 316.7 million. Meanwhile, the percentage of working people living on less than US\$1 per day per family member will decrease from 46.2 to 44.1, but the actual number will increase from 152.8 million to 182.9 million'.¹ Therefore, creating decent and productive employment will remain Africa's greatest challenge to lifting her population out of poverty over the next decade.

Reference

ILO (2007). *African employment trends*.

1.2 Poverty, employment and infrastructure investment

It is now well recognized that poverty reduction can only come from scaling-up economic growth with equity. This can be achieved by ensuring that those living in poverty fully participate in economic and social development, and are given access to productive employment opportunities and social and economic services and processes. Creating such opportunities does, however, require investment in social and economic infrastructure.

Already a significant proportion (up to 60%) of national annual budgets of most developing countries goes towards public infrastructure works. Projections for the coming decades are that national governments and development partners will further increase this budget allocation and development assistance towards infrastructure. However, the impact of these investments on poverty reduction will critically depend on the delivery process. The realization of the massive potential of these investments requires the right investment decisions, policies, strategies, institutional and implementation frameworks.



Poor access – increases level of hardship on the community



Poor access – a barrier for sustainable development

Regional and national commitments towards fighting poverty through employment creation and infrastructure investment in Africa

- ❖ *African Union (AU) Heads of State and their governments identified investment in social and economic infrastructure as centrally important to creating employment, stimulating economic development, improving livelihoods and reducing poverty levels at the AU Extraordinary Summit on Employment and Poverty Reduction held in Burkina Faso in September 2004. The Heads of State and Governments further resolved to create an enabling environment for increased production and decent employment opportunities to achieve socio-economic development. The Summit Plan of Action defines a number of key priority areas. Among them is the utilization of key sectors with high employment potential (infrastructure, agriculture and rural development, environment conservation and transport) to generate more jobs and the allocation of resources for this purpose. The Plan specifies, among others, the promotion of public works programmes in infrastructural development, promotion of public and private sector reform for employment creation, and the creation of productive labour absorbing jobs through labour-intensive approaches as strategies to achieve this.*
- ❖ *The Commission for Africa in its March 2005 report identified investment in infrastructure, particularly in agriculture (rural access roads, water catchments and irrigation), as an essential component for poverty reduction. It notes that public sector investment such as in road building, slum upgrading and irrigation has a positive effect on employment that can be integrated into national poverty-reduction strategies. The Commission recommends an additional investment of US\$20 billion a year in infrastructure.*
- ❖ *The Poverty Reduction Strategy Papers (PRSPs) and National Development Plans (NDPs) developed by most developing countries prioritize employment creation through investment in infrastructure as one of the primary strategies to bring equitable growth.*
- ❖ *The South African Government became the first African government to programme to deliver 10% of its infrastructure investment through employment-intensive approaches. The multi-sectoral Expanded Public Works Programme (EPWP) will devote US\$2.2 billion to infrastructure delivery intended to provide employment opportunities in its five year programme period (2005-2009), training and enterprise development opportunities to at least one million unemployed people in its first five years.*

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1.3 Local resource-based approaches to infrastructure investment

1.3.1 What is a local resource-based approach?

A local resource-based approach applies a cost-effective use of local skills, enterprises, labour and materials in the infrastructure delivery process. The process optimizes the social and economic impact of investments in infrastructure by ensuring that these investments are channelled through the local economy, so creating job opportunities and stimulating local markets, entrepreneurship and industry while safeguarding cost-effectiveness, quality and sustainable asset delivery.



*Use of local resources to improve accessibility –
Masonry arch bridge – Lesotho*

Opting for local resource-based technologies is logical and suitable when:

- ❖ Government development objectives aim to generate employment and income opportunities for the local population and domestic construction industry
- ❖ The infrastructure concerned requires relatively modest investments, e.g., rural roads, secondary and tertiary irrigation channels and small and medium-scale structures
- ❖ Local resources including labour, skills, enterprises and materials are available
- ❖ Scarcity of foreign exchange makes the use of imported inputs an economically unattractive option
- ❖ A significant proportion of the population is un- or under-employed
- ❖ Wage levels are low.

1.3.2 Local resource-based approaches and the ILO

The ILO promotes local resource-based approaches to delivering public (and private) investments in infrastructure as a means of expanding employment opportunities for the unemployed, raising productivity, providing social and economic infrastructure assets and facilities, permitting trade and generally improving well-being. The ILO holds that:

- ❖ Given the relative scarcity of capital and skilled labour, and the relative abundance of unskilled labour, countries with low incomes can rapidly achieve pro-poor growth by applying employment-friendly technologies in as many sectors as possible. This would rapidly increase the demand for unskilled and low-skilled labour.

- ❖ Infrastructure investment programmes have a huge employment creation potential if delivered via employment-friendly technology and local enterprises. Investment in public infrastructure accounts for as much as 40 to 60% of national public investment in most developing countries. Public investment programmes therefore represent one of the few remaining government policy instruments through which productive employment opportunities can be stimulated and more balanced economic and social development promoted.

The ILO promotes local resource-based approaches to infrastructure investments in order to optimize their impact on poverty reduction in labour-surplus countries and provides technical assistance for this purpose.

1.3.3 Benefits of a local resource-based approach

Experience in African and Asian countries has shown that this approach to infrastructure (re)construction and maintenance:

- ❖ Enables higher delivery and maintenance rates of basic infrastructure assets and services essential for socio-economic development such as vital access roads, water supplies, markets and health facilities with the same level of investment and at comparable or better quality standards
- ❖ Creates jobs, particularly for the unskilled, poorer men and women within the community. This results in the injection of incomes into the local communities, with the immediate effect of increasing their purchasing power. This, in turn, results in improving living standards such as improved diets, ability to access socio-economic amenities such as schools, clinics, etc.
- ❖ Stimulates local entrepreneurship, community participation and local economic development with important income distribution effects
- ❖ Enables the involvement of the local private sector and industry, that is, contractors, suppliers and manufactures of local materials, tools and equipment. Hence nurtures and develops the local construction and manufacturing industry, retains investment locally and saves on foreign exchange required for foreign imports
- ❖ Develops skills in the delivery process that can be used in other income generating activities, as well as in subsequent maintenance works
- ❖ Offers opportunities for employment creation, social reintegration, and the stimulation of local socio-economic development in countries emerging from either man-made crises or natural disasters. In such countries governments have few macro-economic tools at their disposal to revive their economies and to enable economic and social recovery. Public investment in infrastructure provides one such tool



Improved access a requirement for food security

- ❖ Has a measurable direct and indirect impact on variables such as GDP, private consumption, private investment, balance of payments, public revenue, and even imports. There is, in reality, nothing new in these findings: public investment is known to be an effective tool to lift people out of poverty when a country is facing impoverishment of a sizeable proportion of the population. Major public works programmes were used to reign in widespread poverty in the United States in the 1930s, in Europe in the 1950s (the Marshall plan), and, more recently, during the 1980s-90s by the three Asian countries most successful in reducing poverty/recovering from economic downturn (China, India and Indonesia).



Local resource-based approaches could be a valuable recovery tool during crisis – flooding in Mozambique

Benefits of employment-intensive infrastructure investment

*Spending on infrastructure represents between 40 to 60% of public investment in developing countries. Current infrastructure investment stands at approximately US\$250 billion per year. Local resource-based approaches have successfully been applied in the construction and maintenance of roads, bridges, drains, water supply, irrigation canals and soil and water conservation structures. Drawn from a sizable number of studies of pilot and large-scale local resource-based programmes in countries as different as Cambodia, Ghana, Indonesia, Laos, Lesotho, Madagascar, Rwanda, Thailand and Zimbabwe, the conclusions, are that, for the same investment **and without compromising on quality**, the approach:*

- 1. Is generally, in financial terms, about 10 to 30% cheaper than the more equipment-intensive options.*
- 2. Reduces foreign exchange requirements by 50 to 60%.*
- 3. Creates three to five times more employment for the same amount of investment – particularly for unskilled and semi-skilled labour – thus contributing to the monetization of the local rural economy and opening up possibilities for local economic development, typically with a multiplier effect of 1.5 to 2.8.*

In Mozambique and Somalia, employment-intensive investment programmes have been set up for the immediate rehabilitation and reconstruction of socio-economic and institutional infrastructure. The approaches have facilitated the reintegration of conflict-affected groups (internally-displaced persons (IDPs), ex-combatants, returnees, women, etc.). They provide a valuable entry point by providing work opportunities, usually for the first time, to conflict-affected communities, often in the absence of any form of local authority or organization. This has enabled the return of the work ethic and the building of confidence, empowering communities by involving them in their own development. At the same time, a sense of ownership is fostered and a framework established for wider economic recovery.

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2

Policy

2.1 Introduction

Policy provides broad political options and directions taken by national political authorities. They are articulated through legislation and the statutory framework, which in turn require further translation through detailed directives that provide the regulatory framework. Policies govern how investments are directed and utilized. Appropriate and supportive policies are essential to guide and influence infrastructure investment decisions, processes and actions towards local resource-based approaches that will optimize the impact on employment creation and poverty reduction. Existing policies often require reform and/or new policies to achieve this purpose.



Topics covered in this chapter

1. Policy coherence

Policy content, operationalization and interaction determine their ultimate impact. Policy linkages are crucial. Macro-economic, cross-cutting and sectoral policies should all aim in the same direction.

2. Policy development process and institutional support structures

The policy development process influences its adoption, relevance and effectiveness. All stakeholders need to engage in the processes of policy formulation and implementation so that the resulting policies are broadly supported and can be operationalized. Institutional reform or development is complementary to policy in terms of introducing local resource-based approaches into a delivery system.

3. Operationalizing policy

It is imperative to identify what is needed to make policy operational. Policies should be translated into workable strategies, directives and action plans. These in turn should lead to projects and programmes. There is also a need to i) check for possible contradictions with existing policies and legislation and ii) initiate remedial interventions.

4. Policy elements that influence the use of local resources in infrastructure delivery

To maximize the impact of the investment on poverty reduction and job creation, policies relating to infrastructure investment in all sectors should commit to one key element – increasing the use of local resources in investment delivery.

2.2 Policy coherence

Macro-economic, sectoral and cross-cutting policies should complement each other in order to ensure the objectives they have been designed to meet are achieved. In developing countries where poverty reduction and employment creation are key development objectives, all policies should be coherent in their influence and contribution towards this objective. Relevant policies should promote the optimal use of local resources in public investments to optimize the employment creation potential and impact on poverty.

2.2.1 Macro-economic policies

Issues and challenges

Growth with employment is a stated macro-economic goal of many developing countries with low-income, labour-surplus societies. However, in most cases there is little discussion of how full employment and active labour market policies should promote employment and reduce poverty.

Despite reforms, poverty reduction strategies (PRs) and national development plans (NDPs) do not always explicitly refer to local resource use and employment creation as essential poverty reduction tools. Even when they do, countries can find it difficult to translate these macro policies into effective sectoral implementation strategies, and to align with needs and priorities identified through bottom-up, decentralized planning. Macro-economic policies are in fact often biased against the use of local resources. For example:

- ❖ High interest rates prevent small national firms from obtaining credit and establishing themselves
- ❖ Overvalued currencies make imported equipment seem cheaper than local alternatives
- ❖ Fiscal policies are a disincentive to maintenance
- ❖ Infrastructure investment, a major item of public spending, ends up being (re-)exported and does not generate as much domestic business activity or local involvement as it should.

Principles and options

A supportive macro-economic policy framework is essential to correct biases and give poverty reduction a real chance. Macro-economic policies are instrumental in building up local economies. A supportive macro-economic policy framework for poverty reduction:

- ❖ Makes local resource-use and/or job creation cornerstones of PRs and NDPs
- ❖ Identifies employment-generating sectors as priority sectors for local development
- ❖ Specifies that PRs and NDPs should be monitored and evaluated using employment-related indicators
- ❖ Is formulated in a participatory manner involving a range of stakeholders from different sectors

- ❖ Ensures that general employment policies relate directly to sectoral policies so that they are more likely to translate into sectoral priorities and allocations
- ❖ Adopts planning tools that enable priority-setting at the local level based on bottom-up information and allowing access to higher-level funding such as the Integrated Rural Accessibility Planning (IRAP) tool (see *Chapter Three: Planning and Programming*)
- ❖ Is informed by relevant experience and practice, including international research and best practice, e.g., the ILO's work on the relationship between full employment and poverty reduction.

Macro-economic comparison of labour-based versus equipment-based road works

A 2004 Tanzanian socio-economic comparative study on delivery of road works using labour-based (LB) and equipment-based (EB) methods used an input/output model that captured key macro-economic variables such as gross domestic product (GDP), household income, private investment, public deficit and trade balance. The study concluded that Tanzania had made considerable improvements in macro-economic performance, but a key challenge remained in translating macro-level achievements to improved standards of living for the majority of households and communities, especially those in the rural areas. The macro-micro linkages were still weak. Employment was shown to be a key channel linking macro-economic performance and micro-level living conditions. The analysis of the labour market and employment showed that the majority of Tanzanians were engaged in self-employed in agriculture and that underemployment was high and rising with a considerable seasonal variation. It also revealed there was a great need for more employment, especially in the rural areas where 90% of the country's poor reside. The main challenge was to increase opportunities to gain decent incomes from economic activities. The policy challenge was to influence investment allocation and choice of technology so that employment and income generation lead to poverty reduction through pro-poor growth.

The study found that labour-based approaches are cheaper in financial terms, while generating more employment and incomes among rural households and communities. The technology is consistent with the country's poverty reduction and agricultural and rural development strategies as well as with the national transport policy and the construction policy.

Financial cost comparisons showed that the labour-based road works generated higher discounted financial flows and net present values than if the same work had been carried out using heavy equipment. Economic cost comparisons that take into account externalities, linkages, employment and poverty reduction effects as well as foreign exchange savings make an even stronger case for labour-based approaches.

Macro-economic impact comparisons showed that, with a Tshs. 10 billion investment in public infrastructure works, labour-based technology generates a 5% greater GDP impact than if equipment had been used, while government revenue and employment impacts are 18% and 27.5% higher respectively.

Other case studies confirm these findings. The positive medium- and long-term socio-economic benefits of labour-based approaches through employment, income generation and participatory development and empowerment lead to improved standards of living among rural households and communities.

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2.2.2 Multi-sectoral (cross-cutting) policies

Issues and challenges

Cross-sectoral policies (such as employment, decentralization, privatization and technology) with the potential to influence the use of local resources do not necessarily do so. For example:

Employment policies generally focus on the broader labour market and are often vague in directing implementing agencies on how they should promote employment creation

Decentralization policies transfer planning and implementation responsibility to the local level, but not necessarily funds or a fund-raising ability (which in any case is limited on a weak tax base) nor the capacity to manage the additional responsibility. Since technical and planning capacities are often weaker at the local than at the central level, decentralization may give rise to a simple shift of problems to the level least able to deal with them.

Rural and urban development policies. Similar to decentralization policies, these often shift implementation responsibilities to lower levels without any accompanying capacity-building or the transfer of financial authority

Privatization policies focus on established large and foreign firms offering fiscal advantages and supportive measures. They seldom create opportunities for the smaller, national entrepreneur to grow in a vibrant, domestic economy

Private sector development policies often ignore the civil construction market, where there is huge potential for participation by small- and medium-scale enterprises

Procurement policies and procedures are often geared towards major contracts carried out by large domestic or foreign companies. They may create major obstacles for the smaller local entrepreneur.

Technology policies focus on foreign, high-technology, paying little attention to an economy-wide use of local resource-based technologies.

Principles and options

Cross-cutting policies should be aligned with national development goals and/or plans. In low-income countries with high rates of un(der)employment they should support the use of local resources, with due attention to environmental sustainability and gender equity.

The following checklist is useful for verifying key issues that cross-sectoral policies should consider when trying to promote local resource-based approaches:

Employment policies:

Do the policies:

- ❖ Promote the use of local resource-based approaches for job creation?
- ❖ Address labour productivity and management issues, workers rights, i.e., legal status of temporary workers, wage levels, etc?
- ❖ Give access to opportunities for youth, women, local entrepreneurs, disadvantaged groups, etc?

Decentralization, rural and urban development policies:

Do the policies:

- ❖ Define the transfer of funds to the local level in a manner that enables lower levels of authority to effectively award and manage local infrastructure contracts?
- ❖ Include measures for capacity-building and system development at local level?
- ❖ Allow for the necessary institutional and systems changes to reconcile local-level needs identification with central disbursement procedures?
- ❖ Aim to change local government officials' attitudes to promoting local economic development?
- ❖ Include awareness-building initiatives at different levels in relation to a cost-effective utilization of local resources for infrastructure works?

Privatization and procurement policies:

Do the policies:

- ❖ Allow the involvement of the domestic private sector by creating an enabling environment for small contractor development?
- ❖ Involve private sector organizations in policy formulation?
- ❖ Adapt procurement procedures and regulations to enable the optimum participation of small-and medium-size enterprises in terms of contract packaging and tendering procedures, e.g., by unbundling contract packages to reduce constraints facing small enterprises such as large bids or performance bonds?
- ❖ Facilitate the forming and legalization of private sector organizations?
- ❖ Support the strengthening of the domestic construction industry?

Further reading

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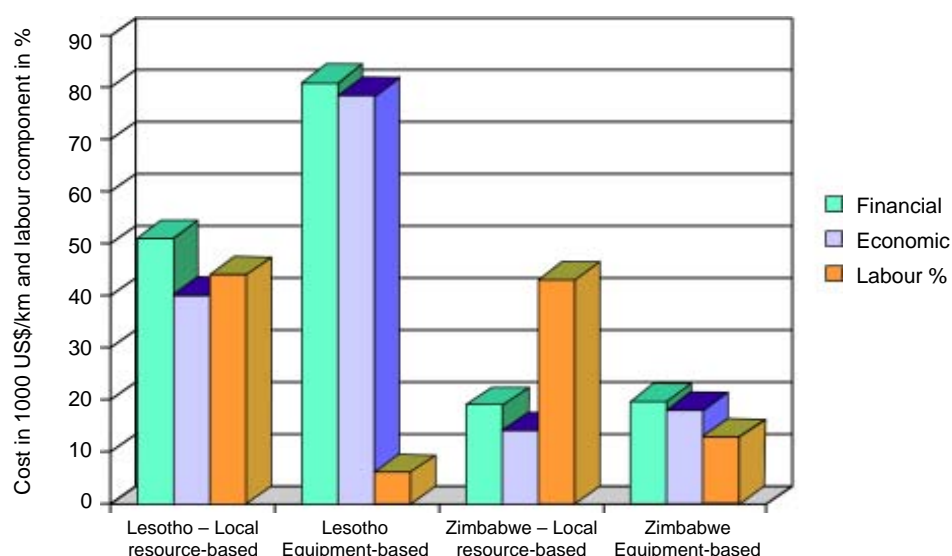
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2.3 Sectoral policies

Issues and challenges

Most sectoral policies do not maximize the potential impact of infrastructure investments on poverty reduction and job creation.



Local resource-based methods have the highest potential to create employment opportunities

Principles and options

Sector policies generally derive from national development goals and/or plans and should thus reflect poverty and employment aspects if these are stated national priorities. However, explicit references and measures concerning poverty reduction and employment are often missing in sector policies.

To increase the impact of infrastructure investments on poverty, sector policies should:

- ❖ Favour sector-wide or policy-led approaches (SWAPs) in which funding agencies can support the government's policy for a given sector
- ❖ Modify the infrastructure procurement and delivery system to favour and/or promote local resource use
- ❖ Enable the involvement of new partners in the delivery process, e.g., public-private partnerships and small- and medium-scale local enterprises
- ❖ Exploit the high potential for local resource use in agriculture, water supply, transport, natural resource development and conservation and irrigation
- ❖ Introduce tax and price incentives in sectors with high private investment (tourism, agriculture, housing and building construction, for example) to encourage investment and local resource use
- ❖ Adopt funding strategies that give priority to sustainability and self-reliance.

Further reading

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2.4 Policy elements that influence the use of local resources in infrastructure delivery

Infrastructure investment policies in most sectors have not generally addressed the process of infrastructure delivery. This is because of the mistaken belief that the provision of infrastructure and basic services, by themselves, reduce poverty irrespective of the means of delivery. It is now much better understood that the process of constructing and maintaining is critically important to a society because of its impact on employment creation and local economic development and hence on poverty. When designed to provide opportunities for local participation and local resource use, the delivery process can generate maximum benefits at local level. This requires an enabling policy environment and coherence in the way different policies that influence infrastructure development address key elements pertinent to local resource use.

The pertinent policy elements that influence local resource utilization in infrastructure development include:

- ❖ The use of local resources – capital, labour, materials, skills and capacities
- ❖ Employment creation
- ❖ Delivery partners
- ❖ The choice of technology.

2.4.1 The use of local resources

Issues and challenges

The use of local resources for infrastructure delivery opens up opportunities for local participation in economic and social development. Local resources are paid for in local currency, generate jobs locally, inject cash into the local economy, thereby stimulating economic processes of supply and demand, and help to develop and structure the informal construction sector. When optimally and effectively used, local resources result in positive effects on both national and local economic development.

Table 1: Local resources versus imported resources

Local resources include:	Imported resources include:
<ul style="list-style-type: none"> ❖ Local labour ❖ Local knowledge, skills, culture ❖ Local raw materials ❖ Locally produced tools and equipment ❖ Local enterprises, usually small- and medium-scale ❖ Local institutions, including local government, training institutions, trade unions and employers' organizations, CBOs, NGOs, etc. ❖ Local social capital, traditional structures and relationships – e.g., local customs of solidarity and trust, enabling communities to undertake a project 	<ul style="list-style-type: none"> ❖ Expatriates, including consultants, contractors, other professionals ❖ Imported materials, tools, equipment, spare parts and fuel ❖ Imported content of locally assembled products ❖ Foreign institutions and organizations

The use of local resources	The use of imported inputs
<ul style="list-style-type: none"> ❖ Is linked to local currency ❖ Generates local jobs ❖ Stimulates economic processes of supply and demand in the national economy ❖ Promotes the local construction industry and related manufacturing sector ❖ Promotes local enterprise ❖ Builds local institutions ❖ Builds and retains local knowledge and skills 	<ul style="list-style-type: none"> ❖ Implies payments in foreign exchange ❖ Generates jobs abroad ❖ Strengthens foreign economies ❖ Promotes foreign construction and related manufacturing sectors ❖ Stimulates foreign enterprise ❖ Depends on foreign institutions ❖ Is based on foreign knowledge and skills

To realize the positive effects of employment creation and poverty reduction through local resource use, the policies that guide and influence infrastructure investment should favour and promote such resources whenever technically and economically feasible. Likewise, use of imported resources in the infrastructure delivery and maintenance process should be discouraged.

To achieve this policy reform will generally require addressing the following challenges:

- ❖ Overvalued currencies that skew prices in favour of foreign goods and services
- ❖ The misconception that local goods and services are inferior to imported
- ❖ Lack of awareness and appreciation of the quality and quantity of resources available locally, and of the existence of appropriate approaches to optimize and cost-effectively use these resources.

Principles and options

Policies should aim to:

- ❖ Adopt the basic principle that local resource use should be the preferred option whenever this is technically feasible and economically justifiable
- ❖ Promote the local construction industry, namely, contractors, consultants and manufacturers, and use local capacity and materials
- ❖ Favour technological approaches that optimize local resource use
- ❖ Enable local communities to participate in the delivery process
- ❖ Promote a maintenance culture, giving priority to the maintenance and preservation of created assets over new construction.

Examples of country policy statements supporting local resource-based approaches

Kenya:

The sessional paper of 2006 on the Development and Management of the Roads Sub Sector for Sustainable Economic Growth states that 'Government will promote the use of local resources and labour based methods, wherever these are cost-effective, including the development of small- and medium-scale contractors through the implementation of the Roads 2000 road maintenance strategy in order to maximize the poverty reduction impact of road works. The maximization of the employment creation component of the Roads 2000 Strategy will be applied to the entire network. All road works implementation on the low volume network shall follow the Roads 2000 Strategy.'

The Roads 2000 Road Maintenance Strategy is part of the implementation of the Kenyan Government's principal policy document, the Economic Recovery Strategy for Wealth and Employment Creation (ERS). The Roads 2000 strategy is a poverty-reduction-focused intervention to provide access and reduce transportation costs for the majority of Kenyans through the improvement and maintenance of low volume roads while providing local

employment by using local resources, principally labour as a first choice. It has the following objectives:

- 1. To sustain cost-effective maintenance of maintainable roads.*
- 2. To increase the maintainable road network by 10% annually during the plan period.*
- 3. To provide all season road access within 2 km to 80% of the Kenyan population by the end of the plan period.*
- 4. To increase the use of local resources, including small- and medium-size enterprises, materials, tools and equipment in road maintenance.*
- 5. To create a minimum of 150 000 part-time jobs annually during the plan period.*
- 6. To adopt the Roads 2000 Strategy nationally by 2008.*
- 7. To ensure that cross-cutting issues such as road safety, gender equity, environment, health concerns, worker's rights and good governance are seriously considered and taken into account in all road works.*

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Namibia:

Namibia has formulated a labour-based works policy with the principal objective of improving the living standards of the poor and marginalized sectors of Namibian society, in particular by:

- ❖ *Ensuring that Government procurement procedures favour the use of local resources and employment generation*
- ❖ *Stimulating and supporting small-scale enterprises to implement labour-based technology*



Reference

Government of Namibia, Ministry of Works, Transport and Communication (1999). *White paper on labour-based works policy*.

The application of local resources improves job creation leading to improved livelihood – Namibia

Tanzania:

Tanzania's 2005 National Strategy for Growth and Reduction of Poverty (NSGRP), commonly referred to as MKUKUTA – the Kiswahili acronym – states that 'Whereas the central government assumes the responsibility for major investments in infrastructure, community-based initiatives need to be encouraged for smaller-scale labour-based road initiatives, to alleviate acute communication problems in rural areas. In addition to community-based initiatives, public-private partnership in the provision of infrastructure will be promoted'.

This policy statement was operationalized through the strategy 'Taking the use of labour-based technology (LBT) to scale'. The main components of this strategy comprised the:

- 1. Formulation, adoption and publication of an appropriate and adequate national policy to guide the use of LBT in Tanzania*
- 2. Expansion of knowledge and capacity building in the public and private sectors for the proper planning, designing and implementation of infrastructure works using LBT*
- 3. Creation of an enabling environment for the provision and maintenance of infrastructure using LBT, principally with appropriate and supportive involvement of the private sector.*

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Zambia:

The stated programme objective of the Zambian Road Sector Investment Programme (ROADSIP I, 1997–2003) was to 'create employment opportunities in the road sector and alleviate poverty through the creation of 30 000 new jobs in road maintenance'. Approximately 20 000 jobs were created in the sector. Approximately 15 000 man-years of wages have been disbursed (with nearly one third disbursed on labour-based works). The substitution of equipment imports by labour wages saved the country around 20% of the value of the contracts concerned (about US\$6 million). This capital investment in the national economy in the form of wages and local inputs has had a down stream impact of an estimated US\$15 million.

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2.4.2 Employment creation

Issues and challenges

Poverty reduction will only come from creating growth with equity. This in turn can be achieved when the poor are enabled to participate in their own economic and social development by giving them access to employment opportunities and to social and economic services and processes. For this, an increased investment in social and economic infrastructure is indispensable.

Most developing countries are faced with the twin challenge of providing basic infrastructure and services and creating decent employment opportunities for the millions of the underemployed or unemployed to make a significant impact on poverty reduction. In these countries, which are characterized by high levels of poverty, unemployment and under-employment and have an abundant labour supply, local resource-based approaches provide a cost-effective means of creating much-needed sustainable infrastructure assets while at the same time generating jobs and incomes. With public investment in infrastructure representing typically between 40 to 60% of government and external aid budgets of developing countries, local resource-based approaches offer the means to involve local communities and the local private sector in the infrastructure delivery process, right from the planning to the construction, maintenance and operation of infrastructure assets.



Local environmental protection measures contributes to employment creation

The challenge, however, is not only to ensure that infrastructure-related policies favour local participation and employment creation but also that the requisite labour management and social protection laws are incorporated to ensure that 'decent' jobs are created and workers' rights protected.

Principles and options

Local resource-based approaches can be effectively applied in the delivery, operation and maintenance of a range of infrastructure assets, including roads, irrigation, natural resource conservation programmes, slum upgrading, water supply, etc. The employment creation potential of infrastructure investments is substantially improved through their application.

Policies in labour-surplus economies should commit to optimizing the creation of decent employment by:

- ❖ Facilitating the involvement of the un- and under-employed in development works to achieve poverty reducing, employment-intensive growth
- ❖ Promoting local resource-based approaches whenever economically viable and technically feasible
- ❖ Laying down procedures that engender participation, transparency and good governance in the delivery process of public infrastructure works
- ❖ Upholding national labour laws, or reforming them if necessary
- ❖ Promoting social protection and equal opportunities for women while aiming to mitigate the effects of HIV/AIDS and adverse environmental impacts.



Creating employment opportunities in access improvement – Limpopo, South Africa

2.4.3 Delivery partners

Issues and challenges

Public infrastructure works in developing countries are currently predominantly:

- ❖ Designed for execution with heavy equipment as opposed to employment-friendly approaches
- ❖ Contracted out to large foreign or large national companies as opposed to small local contractors.

Although for certain major infrastructure projects such as the construction of airports or highways the above delivery mechanisms may well be the optimum solution, many opportunities for greater local participation are missed in a wide range of other infrastructure works. Current practice limits the numbers of productive jobs created, the skills transfer and the development and growth of the smaller end of the domestic construction industry. In turn, this negatively affects the amount of infrastructure assets that can be created and maintained, as well as the impact on poverty, general productivity and socio-economic development.

Principles and options

Proven delivery processes that enable wider local participation and greater use of local resources for most basic rural infrastructure (roads, drainage, water supply and irrigation works) and also for certain elements or parts of large infrastructure projects do exist.

Enabling a wider range of partners to participate in the infrastructure delivery process is crucial to realizing the employment creation and poverty reduction potential of the investments.

Such partners include:

Community contractors: Community contractors are comprised of either groups of workers or individuals such as villagers or youths in slum areas undertaking simple short- or long-term contracts for maintenance and operation of infrastructure, e.g., water supply, buildings, irrigation schemes, roads and drainage

Community-based organizations (CBOs): A democratically-elected and registered CBO can launch and manage improvement projects, raise resources (labour or materials, for example) and take responsibility for the maintenance of the completed asset. In partnership with decentralized government authorities and other external parties, CBOs can plan, fund, build, supervise and staff infrastructure projects (school buildings, health centres, footpaths/bridges/access roads, erosion control structures) and employ community contractors for both construction and maintenance works

Local small enterprise (contractors, consultants, manufacturers, artisans): Small business entities operating in a locality capable of undertaking works, and with the potential to grow in size, technical capacity and geographical range.

To optimize local resource utilization, investment policies should commit to expanding the range of delivery partners through:

- ❖ Encouraging the participation and empowerment of a wider range of local stakeholders and delivery partners
- ❖ Local skills development – for communities, local authorities, local enterprises, technical ministry staff, local contractors and local consultants
- ❖ Local enterprise development – encouraging and supporting the participation of the small- and medium-scale private sector in the economic process.

Further reading

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2.4.4 Technology choice

Issues and challenges

The construction industry in developing countries has inherited a practice of using capital-intensive technologies without considering other technology options. Investment decision-makers are often unaware of, or may object to, local resource-based technologies for reasons ranging from vested interests and the loss of corruptive income opportunities to preconceived ideas regarding low quality and high costs. Other obstacles include rigid technical and administrative systems and procedures and narrow range training. Proving the viability and cost-effectiveness of technological alternatives, creating awareness and correcting misconceptions and negative attitudes towards local resource-based approaches remain major challenges.

Principles and options

Planners and implementers should seriously consider the effects of technology choice on their projects and programmes. Technology options for infrastructure delivery range from labour-intensive approaches to equipment-intensive approaches as well as a great number of intermediate options. The optimum approach will depend on many different factors, including levels of un- and under-employment, wage levels, the type of infrastructure concerned, labour availability, the state of development of the local construction industry and political commitment.

Approach	Description	When to use
Labour-intensive approaches	A maximum use of labour	May be preferred to efficiency where income generation and job creation are the principal, short-term objectives, e.g., disaster relief or food for work projects. Quality of work may be compromised
Local resource-based methods/ labour-based methods	A flexible and optimum use of local labour, skills and materials as the predominant resource, supported by appropriate light equipment for specific tasks deciding factors	When employment, income-generation and local development is a key objective. Where there is an abundance of unskilled labour and/or where access to equipment and foreign currency is an issue. Where specific standards must be met and where quality, cost-effectiveness and efficiency are
Equipment-based approaches	Most of the construction work is done by equipment supported by a small labour force.	Where local labour is unavailable and/or labour costs are high. Where access to equipment and foreign currency is straightforward. Where very high quality work is a prerequisite (e.g., surface layers of highways or airstrips)
Equipment-intensive approaches	A maximum use of equipment	Where capital is abundant and wages are high

Technology option	Labour-intensive	Labour-based/ local resource-	Equipment-based based	Equipment-intensive
Principle	Maximize labour usage	Optimize labour usage	Optimize equipment usage	Maximize equipment usage
Wages as % of total cost	100	40-50	10-20	<10
Equipment and other cost as % of total cost	0	About 30	>70	>90

Local resource-based methods have proved to be a cost-effective, viable, sustainable and pro-poor delivery means for building infrastructure.

These methods:

- ❖ Deliver more infrastructure for the same investment, without compromising on quality
- ❖ Are environmentally friendly
- ❖ Permit the employment of more people, from the unskilled to university graduates
- ❖ Are highly appropriate in dispersed rural locations where the mobilization and operating costs of heavy machinery are high
- ❖ Make it easy to implement works in congested city areas or in upgrading unplanned settlements where large equipment cannot be used effectively
- ❖ Can accommodate community execution without compromising on the delivery rate (by increasing the number of enterprises involved)
- ❖ Foster a sense of ownership by the beneficiaries/users
- ❖ Require adaptations of infrastructure delivery systems and procedures (technical design, contractual procedures, recruitment and payment, etc.). Models for this are available.

In countries where these conditions apply, policies should commit to:

- ❖ Ensuring that the country's development objectives are reflected in strategies concerning technology choice
- ❖ Adapting procurement processes so that they do not discriminate against local resource-based approaches
- ❖ Creating an enabling environment to allow increased participation of the local construction industry, including tool and equipment manufacturers
- ❖ Gearing research and development to an optimum application of local resource-based methodologies.

Labour-based Feeder Roads Programme (FRP), Mozambique

'From the outset, the FRP sought to use labour and light equipment rather than heavy machines to carry out the road-building activities. This decision was due, in part, to the success in the 1970s of labour-based road construction activities in neighbouring Malawi, and in Kenya, where it had been shown that labour could compete well with equipment in terms of both price and quality. The payment of wages to local communities was seen as an important means of helping people to re-establish their livelihoods following the disruption of the civil war. The decision was also born out of necessity, as there were immense difficulties inherent in importing, operating and maintaining heavy equipment.

The concept of labour-based construction is based on the principle of using manual methods to complete tasks otherwise done by machines. Tasks normally done by hand for labour-based road construction include clearing of trees and bushes on the road alignment, excavation and gravelling, etc. Only operations such as haulage and compaction are supported by tractor-towed light equipment for cost-effectiveness and quality.

The use of labour-based methods on the FRP resulted in the creation of about 8 million worker-days of employment in Mozambique. More than 40 000 rural people worked on the programme.

Roads built by hand were found to be more durable than those constructed by machines due to greater attention to detail in the construction process. Comparisons between equipment-based and labour-based contractors in Mozambique indicate that the cost of construction is approximately equal for low-traffic feeder roads. The quality of the work is comparable if equal amounts of supervision and control are provided, but local labour-based contractors can generally be mobilized more quickly than equipment-based contractors, particularly if equipment must be brought in from outside the country. If equipment-based methods are employed, benefits to the local economy are far less. Moreover, the use of equipment-based methods results in significantly more environmental damage.'

Reference

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2.5 Policy development process and institutional support structures

The policy development process is as important, if not more important, than the policy content. The process should be participatory and inclusive, involving a broad range of stakeholders. It should include a participatory assessment of relevant (inter-)national experience and best practices of policies related to infrastructure investments. The development process should also involve representatives from various levels of government (central and local), the private sector, communities as the end-users and research and academic organizations.

Institutional support for introducing local resources approaches into a delivery system is a complementary requirement. It is preferable for strengthening existing institutions in terms of capacity development and reform or the adaptation of existing systems and procedures, that is, those relating to procurement, disbursement and administration.

Issues and challenges

Many developing countries have had positive experiences, mostly project-based, with the use of local resource-based approaches, but these experiences often have yet to be mainstreamed. Although some countries have taken policy decisions favouring local resource-based approaches, their impact is not evident because accompanying strategies for mainstreaming have neither been developed nor implemented.

An effective policy development process needs:

- ❖ The support of (an) influential individual(s) to put the subject on the development agenda
- ❖ The establishment of an evidence base
- ❖ The involvement of all the relevant stakeholders and bringing their views on board
- ❖ Definition and agreement upon strategies to operationalize the policy
- ❖ Defined linkages with other policies, taking account of the implications
- ❖ The establishment of indicators and monitoring and evaluation systems in order to incorporate results and experiences into future policy review and/or reform processes.

Principles and options

The following flow chart outlines a policy review and/or development process.

1. Review existing policies and practices

Plan the strategy for formulating or influencing the policy. Identify, consult and work with relevant stakeholders (political and economic decision-makers, social and technical partners, social partners, civil society, etc.) on carrying out:

- Policy mapping
- Policy impact assessments
- Negotiations and ranking of targets for reform.

2. Identify gaps and develop issues papers

Collect the evidence base from national and international experiences. Commission necessary pilot projects and studies to (i) gather data and experiences on alternative infrastructure delivery systems, productivities, cost-benefits, socio-economic impact, labour issues, working conditions, capacities and skills; and (ii) serve as a knowledge base for necessary organizational, institutional and administrative reforms.

3. Stakeholder consultation

Formulate the policy and develop the implementation strategy and compliance mechanisms through consultation with stakeholders. External experts can usefully carry out preparatory work, generating recommendations on which there is wide local consensus. National policy formulation will normally result in a consultative paper followed by a government position paper.

4. Drafting stage (where applicable)

The policy is passed into law (an Act of Parliament) or other binding status to ensure institutional, legal, administrative and procedural strategies follow sectoral strategies. National policy usually involves a cabinet legal committee drafting a bill that is put before Parliament. Moving the bill through this process requires:

- Agreed drafting procedures
- Ensuring that major stakeholders are represented while at the same time having adequate technical competence on the drafting committee
- The involvement of a 'champion' who will be able to advocate for it before Parliament
- Exposing parliamentarians to the subject through briefings or meetings in their constituencies.

5. Promulgation of policy

Subsequent to parliamentary approval of the policy, positive steps need to be taken to work out an implementation strategy that will apply the policy decisions. At national level, the Treasury, Ministry of Finance or Economic Development, or a Planning Commission should issue directives to the line ministries, requesting them to develop programmes in line with the approved policy.

Namibia's policy on 'labour-based works'

Namibia's labour-based works policy was developed using a participative process. The Cabinet resolved that the Ministry of Works, Transport and Communication should proceed with the process of preparing a Draft White Paper (DWP) on Labour-based Works (LBW). The Cabinet also directed that the process to be followed should, inter alia, provide for:

- ❖ *The establishment of a (tripartite) DWP Committee representing both public and private sectors*
- ❖ *The commissioning of relevant studies*
- ❖ *Broad consultation*
- ❖ *The presentation to Cabinet of a draft policy document as a precursor to a final White Paper on LBW and subsequent legislative drafting, if required.*

Namibia's White Paper on Labour-based works envisaged the establishment of a broad forum for facilitating information and knowledge sharing, coordination, lobbying for an enabling environment, etc. When, in 2000, the President created a portfolio on 'Employment Creation', the Minister in charge (Higher Education) decided to adopt the above process to establish a 'Labour-based works Forum' covering employment creation for the whole country. A Task Force on Employment Creation was set up. This taskforce undertook a mapping exercise of existing employment creation policies and programmes, producing an issues paper with the objective of harmonizing and streamlining different existing employment initiatives. The outcome of this work was a unified employment creation policy supported by statutory policy structure.

References

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Labour-based Policy Promotion Committee (LAPPCOM), Uganda

Originally a unit in the Ministry of Finance, Planning and Economic Development of Uganda, the Labour-based Policy Promotion Committee (LAPPCOM) graduated from direct project implementation to the formulation of policies and programmes for replicating employment-friendly strategies. An evaluation of the Committee concluded that 'The participation of LAPPCOM in the preparation of the Poverty Eradication Action Plan was very successful and resulted in many references to the labour-based approach.... Participation in the Public Investment Plan (PIP) was less successful since no criteria were introduced to screen projects to be included in the PIP according to their employment potential'.

Reference

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2.6 Policy support and compliance units

Institutional development is generally a complementary necessity to implementing policy related to the introduction of local resource-based approaches. Institutions to: (i) formulate and coordinate local resource-based policies, (ii) deliver the variety of services needed (e.g., quality control or training), and (iii) ensure that all concerned are represented at the appropriate level of investment decision-making are required. Where such institutions do exist they may need to be strengthened.

Issues and challenges

The use of local resource-based approaches for infrastructure works is often initiated within government ministries and technical units responsible for public works. Such project- or programme-based initiatives are often externally funded and may not be sustained beyond the life of the project/programme. The challenge lies in: (i) having the approach adopted on a sector- and/or multi-sector wide basis, (ii) institutionalizing the approach and ensuring that private and public sector entities (contractors, CBOs, etc.) that use local resource-based approaches have access to a fair share of the public works market. This requires adequate institutional support.

Principles and options

Existing structures, systems and processes may require reform and coordination. This can be achieved through a policy support/coordination unit. The location of such a unit is important, as this determines its sustainability and its accessibility to different stakeholders. The unit should be strategically positioned within the government machinery and have a mandate that makes it influential and respected by all stakeholders. At the same time, the unit should not be placed where it can be abused for political mileage.

Typical terms of reference for a policy support/coordination unit include:

- ❖ Assessing the employment potential of public infrastructure investments
- ❖ Appraising technology options and employment impacts of infrastructure investments
- ❖ Awareness-raising, consultation and negotiation between beneficiaries, project designers and implementers
- ❖ Policy planning and formulation, including proposal development to enhance policy implementation
- ❖ Developing and applying policy monitoring and evaluation procedures
- ❖ Ensuring that information from evaluations and impact assessments is used for policy improvements and review
- ❖ Overseeing the capacity build-up at all levels
- ❖ Devising operational tools for implementing agencies (e.g., criteria to screen investment projects for employment impact)
- ❖ Monitoring policy coherence and application
- ❖ Monitoring the implementation of programmes, systems, regulations and procedures.

Different institutional arrangements can contribute to re-engineering the infrastructure investment and implementation process at national level. These include:

Policy support or compliance units

In Uganda, the inter-ministerial Labour-Based Policy Promotion Committee (LAPPCOMM) was based in the Ministry of Finance or Treasury and was mandated to (i) formulate a comprehensive labour-based policy for public investment and (ii) initiate and coordinate capacity-building activities for policy implementation. It was comprised of representatives from different ministries and agencies.

In Tanzania, a technical unit in a sectoral ministry, the Appropriate Technology Unit (ATU) in the Ministry of Works, was made responsible for the development and implementation of appropriate technological approaches, based on the use of locally available resources.

National Construction Council (NCC)

Such councils have the responsibility of resolving the problems concerning the construction industry, focusing particularly on small contractors. Their terms of reference would include providing assistance and support to the particular needs of construction enterprises of different sizes and ensuring that national construction industry policies and procedures create a fair environment for the participation and development of small-sized local construction firms in particular.

Desirable representation includes the Ministry of Finance, key government contracting agencies, local government, contractors, employers' and workers' organizations, the financial sector and professional associations representing different professional groups in the construction industry, relevant educational and training institutions.

Small contractor associations

Small contractors and service providers rapidly become conscious of the advantages of associating. Associations can negotiate on their behalf with the government and suppliers and also provide a variety of supporting services to the members.

There are 14 national associations of labour-based contractors in Africa.

Autonomous infrastructure production agencies

Autonomous production agencies – road authorities, for example – that receive their funding from sources such as designated tax income and users' fees can operate with less bureaucracy and attract competent staff with good working conditions.

The Agence d'Exécution des Travaux d'Intérêt Public (AGETIP) (the Public Works and Employment Agency) is well known in the West African region for managing labour-intensive public works projects with transparent, streamlined procedures, and for significantly improving the management of donor finances. In Senegal, and with World Bank support, AGETIP was granted special legal status, with its own charter and bylaws, exemptions from government procurement and disbursement procedures and from staffing and salary policies. The basic operating principle of the agency is delegated contract management whereby AGETIP receives proposals (typically from municipalities), appraises them and enters into an agreement with the originator,

assuming all rights and obligations related to the execution of the sub-project. Upon receipt of the originators' counterpart financing (10%), AGETIP awards a contract for detailed engineering, carries out all bidding procedures, awards the contract for construction and supervises, executes and arranges payments to contractors and consultants. Once the project is completed AGETIP transfers the project assets to the originator. AGETIP also offer seminars for municipalities, contractors and consultants to explain its procedures and mandate. Over time, AGETIP has acquired a virtual monopoly in construction management in Senegal. For more information, see their website: www.agetip.sn/

Tripartite or multipartite decision-making bodies

Tripartite and multipartite high-level decision-making bodies (such as the National Economic Development and Labour Council (NEDLAC) in South Africa) provide a structure for the government to meet regularly, on a national level, with organized business, organized labour and organized community groupings to discuss and try to reach consensus on issues of social and economic policy. In South Africa, NEDLAC is responsible for allocating funds in line with the employment-intensity of delivery. For more information, see their website: www.nedlac.org.za/

Other institutions supporting policy implementation

- Training institutions
- Financial intermediaries
- Community-based organizations (youth and women's groups, labour-only cooperatives)
- Strengthened local government units
- Decentralized technical agencies

Reference

Wade, M. (2004). *Overview of Senegal's AGETIP model for job creation*. Meeting on youth employment in West Africa. February 2004. AGETIP. Senegal.

2.7 Operationalizing policy

Policies require detailed implementation strategies. Reviewing current and past practice and experience, and consultation with all concerned stakeholders, is invaluable when determining the implementation strategy, identifying obstacles and eliciting options for overcoming them and negotiating win-win solutions with all concerned.

The following important elements need to be considered to make policy operational:

- ❖ Advocacy
- ❖ Capacity-building for policy implementation
- ❖ Involving the new delivery partners
- ❖ Legal issues

- ❖ Labour issues
- ❖ Wage-setting, gender and HIV/AIDS policies
- ❖ Financial issues
- ❖ Procurement issues.

2.7.1 Advocacy

Even with policies in place, advocacy to stimulate action and create awareness is essential.

Issues and challenges

Changing attitudes and influencing behaviour in favour of local resource-based approaches is a major challenge. Vested interests and resistance to change are obstacles that can only be overcome through advocacy and information campaigns, backed up by political and public pressure.

Principles and options

Public information and educational initiatives are necessary to inform the public about the opportunities availed through the local resource-based delivery process, the ways that local people can participate and the benefits that may accrue. Specific information needs to be made available to groups such as small-scale contractors, community organizations, artisans, etc.

The use of mass media should be systematic, with clear messages, objectives and indicators to help change perceptions and attitudes towards local resource-based approaches and drive public demand.

An important factor for winning both the hearts and minds of local communities is to also incorporate local knowledge, culture and custom into the design of works.

Policy implementation needs monitoring

In Nepal, the Labour-based Practitioners Forum managed to get the Government to reverse a decision that contradicted its own labour-based policy. The Government sought to import 35 items of heavy equipment. On learning of this, the forum actively lobbied all concerned with the decision-making process until the order was cancelled.

Reference

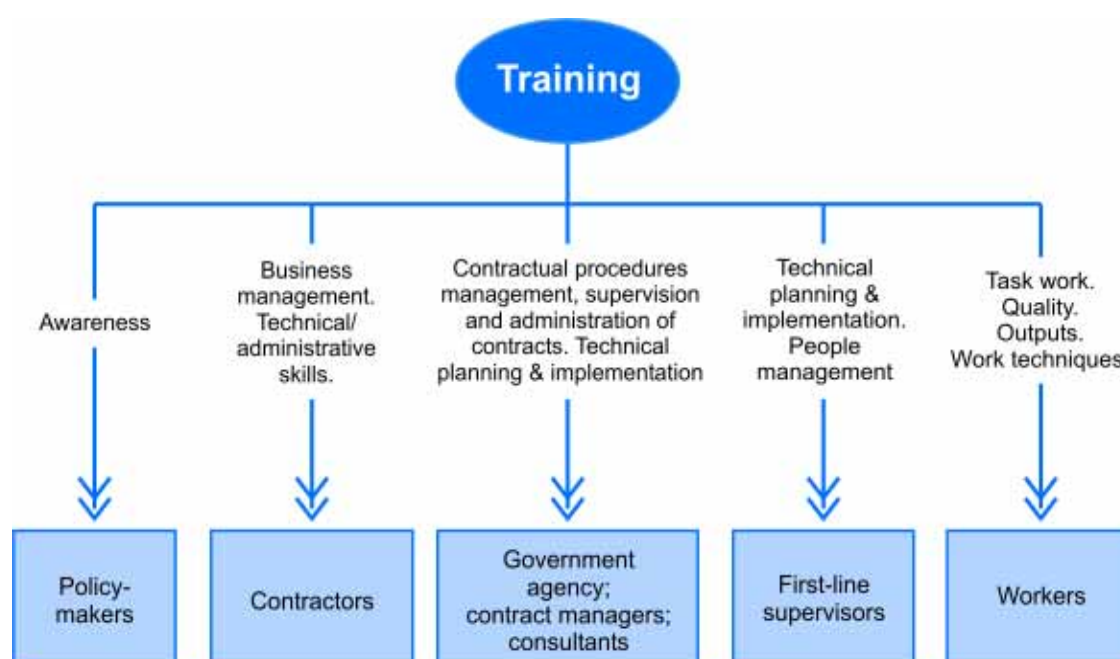
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2.7.2 Capacity-building for policy implementation

Issues and challenges

Capacity-building for policy implementation is essential across all sectors and at all levels for all involved in the delivery process, that is, the public sector at central and local level and the private sector, including community groups.

Capacity-building requirements are often unplanned for and underestimated and resources, when allocated, are often inadequate or misallocated. Comprehensive and detailed training needs analysis are not often not planned or carried out, and thus capacity development decisions end up being inappropriate and/or not cost-effective. For example, physical training facilities are built without consideration of the resources required for the institutional and human capacity development, or the recurrent operational and training costs, or decisions are taken to opt for overseas training courses and programmes (e.g., masters programmes) rather than developing and implementing tailor-made local and/or regional courses or programmes.



Principles and options

In advance of actual policy implementation, decisions should be made relating to the capacities required and the training strategy and programmes, ensuring that they are appropriate, demand-driven (that is, matching actual levels of demand), and looking at cost-recovery. This requires a careful analysis of training needs, proper planning and adequate funding. A comprehensive training needs analysis should assess and include the:

- ❖ Functions, numbers and experience of existing personnel
- ❖ Capacities and competence required in the different areas/fields and determining gaps

- ❖ Capacity and competence of local training institutions, professional and contracting associations
- ❖ Requirement for external training or training assistance, e.g., the training of trainers
- ❖ Financial and logistical requirements.

Reference

Republic of Kenya, Ministry of Roads and Public Works (2005). *Roads 2000 General training plan*.

2.7.3 Involving the new delivery partners

Issues and challenges

The implementation strategy should enable the creation of an environment within which new delivery partners (the public sector) can operate effectively and be effective in their role as a contracting authority. The private sector, including small contractors, micro enterprises, and community groups, should also be in a position to engage in the delivery process and implement contracts.

Principles and options

To allow all delivery partners to engage in the infrastructure delivery process, policy implementation strategies should:

- ❖ Commit to the institutionalization of local-level participatory approaches to planning and provision of urban infrastructure and services
- ❖ Promote effective decentralization to the local level, allowing planning, resource allocation, implementation and monitoring to be carried out at local level
- ❖ Promote public-private partnerships for service delivery
- ❖ Guide procurement reform to include outsourcing of works and services to smaller business entities and provide for capacity-building
- ❖ Guide necessary changes in legislation and institutions that enable new delivery partners to engage effectively, e.g., on property rights, business regulation and taxation
- ❖ Commit to revising bylaws in consultation with stakeholders, revising infrastructure standards and service levels, local taxation, zoning and planning to accommodate local resource-based approaches, for example
- ❖ Give high priority to job creation and to adopting local resource-based technology solutions
- ❖ Provide capacity-building and technical assistance to reorient and equip various levels of government staff with the appropriate skills for outsourcing to new delivery partners

- ❖ Support the development of appropriate technical, planning, negotiation and contract management skills for staff of local authorities and decentralized technical agencies
- ❖ Provide for wage policies relating to the development objective and the type of works. For example, 'food for work' or unpaid labour may be appropriate for humanitarian works that are of direct benefit to the workers. Decent wage levels and working conditions should be set for work in normal economic development works
- ❖ Provide for the dissemination of information on technical and contracting solutions and mechanisms for self-replication.

2.7.4 Legal issues

Issues and challenges

Existing legislation may be inappropriate, outdated or work against local resource-based approaches for infrastructure delivery. For example, laws on land tenure may discourage people in unplanned settlements from improving their living and working environment, knowing they face eviction at any time. Similarly, in many countries small contractors without title to land cannot register their business because they do not have the required collateral for loans.

It is necessary to check for possible contradictions between existing or new policies and legislation and determine remedial interventions. Typical legal questions/issues to be clarified include:

- ❖ What aspects of the policy are to be enforceable by law?
- ❖ What should be the nature of penalties?
- ❖ Are there issues related to labour rights and access to information that need addressing?
- ❖ How should the application of existing legislation be monitored and enforced?

Principles and options

Policy implementation strategy must review existing legislation and take necessary measures to ensure compliance with existing legislation. Where necessary, reforms or changes should be negotiated by government with employers' and workers' organizations to reflect current day priorities, not only with regard to wages but also to social protection or other pertinent issues, and facilitate nation-wide applicability.

Policy implementation should allow consultation on relevant legal issues with stakeholders to enable the identification and agreement of key concerns/impediments and facilitate their review. This may include:

- ❖ Revising building standards to take into account affordability, level of service and availability
- ❖ Reviewing and/or introducing new bylaws allowing community-built and operated structures to link to the formal structures and systems
- ❖ Eliminating inappropriate bylaws and/or 'nuisance' taxes

- ❖ Negotiating temporary tenure with local government authorities
- ❖ Encouraging the registration of micro-enterprises in industry associations that are capable of representing and lobbying for their members with the public authorities.

Participatory land reform in Mozambique

In the mid-1990s, Mozambican farmers, most of whom are poor smallholders, were keen to retain the use of their land. Following extensive consultations between government, civil society organizations, political parties, traditional authorities, the private sector, national and foreign academic institutions, religious groups, donors and the United Nations, the government passed a new land law in 1998. The law was designed to increase the security of land use and the productivity of farming.

One of its many purposes was to reduce conflicts between large holders and smallholders. Resolving the uncertainty over land rights created the necessary incentives for productive investment. Farmers now know that the right to use land is undisputedly theirs, which has stimulated investment in irrigation systems, nutrient improvements in the soil, machinery access and other improvements. The new law also guaranteed women the right to inherit, which had not been the case under customary law.

Reference

De Wit, P. (2000) *Land law reform in Mozambique – Acquired values and needs for consolidation*. Food and Agriculture Organization (FAO), Rome.

2.7.5 Labour standards and working conditions

Issues and challenges

Labour issues and working conditions, e.g., recruitment, wage setting, gender equity, safety and health and HIV/AIDS at the workplace are key concerns in local resource-based approaches where large numbers of workers must be managed. As new private sector partners engage in the delivery process and employ



Discussing applicable labour standards and working conditions before recruitment is essential – Lesotho

large labour forces, adherence to national labour legislation on standards and working conditions to avoid worker exploitation or poor productivity is a key concern. For many rural and urban poor people, local resource-based infrastructure works programmes often provide their first opportunity for formal employment as workers, but many are unaware of their rights and obligations. Similarly, many small and emerging contractors on these programmes may face managing large numbers of workers for the first time but not be fully aware of their rights and obligations as employers. This usually results in mismanagement of the labour force, with unfair recruitment and wage-setting and a lack of attention to social protection or safety and health concerns.

Sometimes, existing labour laws and policies are out of date, inherited from past political or economic dispensations, and inappropriate for open economies based on local resources and/or small enterprises. For example, the wage legislation may cater only to the formal construction sector in urban settings and be inappropriate for temporary work in rural areas. Recruitment practice and working conditions may discriminate on the basis of gender either directly or indirectly, e.g., by failing to provide for maternity leave or childcare possibilities or be insensitive to health and safety concerns or HIV/AIDS-related issues.

Principles and options

Compliance with labour legislation is obligatory. It is therefore important to check the validity and relevance of existing legislation and, if necessary, to start a process of reform for nationwide applicability. The government and employers' and workers' organizations should be involved in this process. All labour law and policy, including wage-setting and social protection, should be reviewed, ensuring workers' rights are protected and decent working conditions are established. The relevant basic international labour standards (that most countries have adopted) that must be adhered to are as follows:

- ❖ Equality (men and women should receive equal pay for work of equal value)
- ❖ Freedom from forced labour
- ❖ Freedom of association
- ❖ The Convention on minimum age
- ❖ Minimum wages
- ❖ Wage protection
- ❖ The Convention on health and safety



Reform may be needed where:

- ❖ Labour legislation does not provide for temporary workers; typically legislation caters only for long-term and casual (daily) employment. Workers on employment-intensive, local resource-based civil works contracts are not casual, but will generally have jobs for a few consecutive months a year that should have accompanying rights
- ❖ The law does not provide for incentive schemes or productivity-based/output-based wages; typically only time-based remuneration is provided for

Need to observe labour standards at the work place

- ❖ Minimum wage legislation may not reflect the labour market realities in the (rural) areas concerned
- ❖ The law does not recognize labour-only contractors, cooperatives or community groups
- ❖ The government wishes to target vulnerable groups
- ❖ Legislation on social security and social protection is outdated and inadequate
- ❖ Exemption from national labour laws may be necessary, such as in cases of emergency special employment programmes.

South Africa and the Code of Good Practice

After the end of the apartheid regime, the Government of South Africa launched the Expanded Public Works Programmes (EPWP) to address unemployment, poverty and past imbalances, and found that existing legislation was inappropriate for such programmes. The implementing agents – the Department of Public Works, the Department of Labour, the Working for Water Programme and an NGO called Clean and Green – set up a committee to produce a harmonized set of conditions for workers throughout the country. The ILO, through social security and labour standard specialists, provided inputs into the consultative and drafting processes for a Code of Good Practice.

This Code forests out a wage-setting process that is based on negotiations with communities. It allows for:

- ❖ *Employers to set rates of pay locally at self-targeting rates, to avoid attracting workers from more permanent employment*
- ❖ *Reduced obligations for employers, e.g., not having to make unemployment insurance payments*
- ❖ *Task-based payment for labour-intensive works.*

An additional important provision in the Code is that the employer has to provide training to the workers in lieu of the reduced wage rate. The cost of the training is met by different sources, including the Department of Labour. The Code also stipulates that workers can only be employed under these special conditions of employment for a limited period (a maximum of two years' continuous employment within a five-year cycle). In addition, it sets affirmative action targets for the employment of youth, women and people living with disabilities. It also requires that relevant community-based organizations (CBOs) be consulted regarding the selection of workers to be employed on projects. In effect, the Code ring-fences employment conditions on EPWP projects from established industries, so that public works programmes do not become a vehicle for deregulating the labour market. The Code was gazetted and became operational in 2002.

Reference

Government of South Africa, Department of Labour (2002) [1977]. *Basic Conditions of Employment Act – Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes*. Published in the *Government Gazette*, 25 January, 2002.

Further reading

Confederation of South African Trade Unions (COSATU) (1994). *The framework agreement for public works projects using labour-intensive construction systems: Guide for workers and communities*.

De Veen, J. and D. Tajgman (1998). *Employment-intensive infrastructure programmes: Labour policies and practices*.

Ladbury, S., A. Cotton and M. Jennings (2003). *Implementing Labour Standards in Construction: A source book*. (Guidance Note 1: The International Context and National Implications; Guidance Note 2 : Making Labour Standards Operational; Guidance Note 3 : Including Labour Standards in the Contract). Water Engineering and Development Centre (WEDC), Loughborough University.

2.7.6 Funding and disbursement

Issues and challenges

Policy implementation requires strategic decisions about funding. In respect of local resource-based infrastructure works, funding will initially be required to finance changes to delivery systems (system development and capacity-building) and on an ongoing basis to finance the actual works, services and goods.

Principles and options

Reliable funding down to the local level and transparent financial allocation and disbursement mechanisms are prerequisites for success. Unless regular funding for local resource-based works is ensured, labour-based programmes and local resources policies will fail.

For works carried out through local small-scale contracts it is particularly critical to ensure (i) a regular flow of funding for a reasonably stable workload and (ii) timely payments to permit monthly wage payments to large numbers of workers. Payment delays severely impact productivity on site, jeopardize contractors' profits and ultimately cause businesses to fail.

To ensure funding and the reliable flow of funds, the policy implementation strategy should:

- ❖ Consider both the sources and the sustainability of funding for works to be carried out with local resource-based methods
- ❖ Scrutinize the budgetary allocations, particularly in respect of capital investments for public works that could qualify for execution using locally available resources
- ❖ Aim to decentralize management and financial authority
- ❖ Examine the desirability of applying local resource-use conditionalities to the disbursement of investment funds
- ❖ Screen major infrastructure investments in all sectors for the impact on employment
- ❖ Ensure that regular and sustained funding is made available for the preservation of existing assets, that is, maintenance and rehabilitation, and where feasible, this is delivered through local resource-based methods

- ❖ Commit contracting agencies to fulfil their legal obligation to make regular and timely payments to contractors
- ❖ In case of payment delays ensure that contractors are compensated.

Reforms to financial regulations and procedures may be needed to ensure regular and timely payments for locally delivered works by contract and enable access to credit to assure viability of contractors. This may necessitate reforming financial regulations and procedures to:

- ❖ Enable more financial intermediaries to deliver microfinance solutions such as micro-credit, micro-insurance, micro-leasing and payment services
- ❖ Enable financial services such as leasing and hire-purchase of (light) equipment and transport
- ❖ Modify overdrafts and interest payment requirements
- ❖ Reduce collateral requirements when these are out of reach for typical domestic firms
- ❖ Improve information about financial services
- ❖ Modify monetary policy to favour domestic enterprises
- ❖ Enable local authorities to raise their own funding.

Conditionalities on disbursement in South Africa

The Expanded Public Works Programme (EPWP) uses 'ring-fencing', that is, making access to funds subject to specific conditions. This does not affect the formulas for allocating grants to the provinces and municipalities, nor does it affect the existing provincial and municipal processes for identifying and prioritizing projects from those grants. The ring-fencing only specifies the implementation methodology of expenditure, in other words, that construction must be carried out through an optimum use of locally available resources. The EPWP will have disbursed US\$2.2 billion in the period 2005–2009.

For more information, see www.epwp.za/

2.7.7 Procurement

Issues and challenges

Public infrastructure works are generally tendered as large, multi-million dollar contracts. Administratively, these are easy for the contracting agency to handle, but they often exceed the capacity of most national contractors. Such contracts also include bonds and sureties that exceed the financial capacity of emerging national contractors. Procurement decision-making is often centralized and not transparent, often with vested interests that may easily give rise to

corruption. Moreover, tenders often specify design standards that assume execution by heavy and often imported machinery. Such over-specification precludes more employment-friendly approaches that could well be applied, particularly in the case of rural works, and the use of locally manufactured tools and equipment, local materials and execution through small contracts by new or emerging contractors.

Principles and options

To promote and encourage and enable greater local participation and resource use in the delivery process, procurement policies should, where technically feasible and economically desirable:

- ❖ Unbundle and repack infrastructure investments to include a range of contracts, that is, small/minor to large/major contracts, while setting aside a designated share for community contracts
- ❖ Take steps to decentralize procurement decisions, improve transparency and streamline procedures so that many small-sized contracts can be awarded, managed and paid at district or lower levels
- ❖ Reassess traditional systems for bonds and sureties for minor works contracts where the contracting agency's actual risk is small
- ❖ Adopt, without compromising technical quality, suitable standards and specifications for labour-based minor works, thereby encouraging the use of locally produced tools, equipment and materials
- ❖ For certain works, prescribe the use of specific employment-intensive technologies and methods of construction/manufacture in the tender document and restrict the use of certain types of plant/manufacturing methods.

Targeted procurement

This approach to procurement allows programme planners to specify development and social criteria, price mechanisms and resource utilization that must be met by the bidders. It also enables the establishment of criteria to favour or promote the use of local resource-based approaches to meet particular development or social objectives. It forces the bidders to use their knowledge, skill and creativity to arrive at an optimum economic mix of equipment, technology and labour in order to meet the specified objectives.

Further reading

Manchidi, T.E. and I. Harmond (2002). *Targeted Procurement in the Republic of South Africa: An Independent Assessment*. Department of Public Works South Africa; Development Bank of South Africa (DBSA); ILO.

Scott Wilson Kirkpatrick and Partners (1978). *Guide to competitive bidding on projects in labour-abundant economies*.

2.8 Further reading on this chapter

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- ILO (2004). 'Policies for small enterprises. Creating the right environment for good jobs', in *International Labour Review*, Vol. 143, 2004. Geneva.
- ILO – Small Enterprise Development (SEED) (2003). *Practical advice and tips on the design and reform of the policy and legal framework: Small enterprise development. An introduction to the policy challenge*.
- Ludi, Eva and Kate Bird (2008). *Supporting pro-poor growth processes: Implications for donors. Policies and programmes to strengthen productive capacities of poor people. Briefing Paper 24*. January 2008. Overseas Development Institute (ODI).
- Watermeyer, R.B. (2003). *Tools and techniques to facilitate the alignment of public and donor procurement systems to promote sustainable development objectives*.

2.9 Relevant training courses and institutions

'Putting employment at the centre of public investment and poverty reduction processes' – ILO International Training Centre, Turin, www.ilo.org/itc/

An annual international course on employment-intensive investment policies and programmes. In English and French.



Awareness raising and training – essential tools for increasing local capacity

Rural Travel and Transport Planning – Eastern and Southern African Management Institute (ESAMI), www.esami-africa.org/

The course is aimed at senior government officials, transport economists, planners and engineers involved in transport policy, planning and development programmes. Its purpose is to provide a better understanding of the link between rural travel and transport (RTT) policies, planning and poverty reduction. Participants are introduced to an innovative planning technique to ensure effective planning, implementation and evaluation of RTT policies.



On site training

3

Planning and Programming

3.1 Introduction

Local resource-based approaches must be integrated into strategic, sectoral and local-level planning processes if investments in the infrastructure sector are to have a greater impact on poverty and unemployment. A first step is to establish appropriate policies and legislation that provide an environment conducive for adoption of local resource-based approaches on a large scale. The next challenge is to translate these policies into funded sectoral and cross-sectoral programmes at central, intermediate and local levels. Planning and programme development at strategic, sectoral and local levels should ensure that the relevant linkages, mechanisms, systems, tools, capacities and skills are in place so that effective implementation and integration of local resource-based approaches is feasible.



Topics covered in this chapter:

1. Planning and programming guidelines

Planners and programme designers for public works programmes should design around specific elements that determine effectiveness in generating employment and raising levels of economic activity and output, reducing poverty and, ultimately, in achieving government development goals. These include targeting the disadvantaged, beneficiary participation, technology choice, labour standards, sustainability of assets and mainstreaming the approach.

2. Strategic planning for local resource-based approaches

Strategic planning for local resource-based approaches requires the establishment of institutional frameworks and coordination mechanisms as well as capacity requirements to enable effective implementation of local resource-based approaches.

3. Sector-specific planning and programming

Planning and programming for infrastructure investment budgets across different sectors – including agriculture, education, civil works, health and housing – is necessary to increase and mainstream the application of local resource-based methods.

4. Planning and project design tools

Planning and project design tools facilitate effective local participation in the planning of infrastructure investments, taking account of socio-economic objectives such as employment, food security, local economic development and poverty reduction.

5. Budgeting, investment appraisal and disbursement process

This process influences budgeting, investment and disbursements in favour of local resource-based approaches

3.2 Planning and programming guidelines for local resource-based approaches

Issues and challenges

The planning and programming of infrastructure investments is usually done centrally and often ignores aspects of job creation and local participation. Integrating local resource-based approaches into infrastructure investment planning and programming requires the establishment of processes, capacities and tools at central and decentralized levels. It also requires stakeholder and beneficiary participation in the process, something that is often overlooked because of time and resource requirements.

Principles and options

3.2.1 Targeting the disadvantaged

Ensuring that the benefits of infrastructure investments reach the poorest people is a challenge. Even with the best intentions, programmes often only reach the less poor. Two broad programmatic approaches to poverty targeting are:

- ❖ Safety nets – programmes that provide immediate relief and are typically used in emergency/humanitarian situations to target very poor or vulnerable groups. A high proportion of the investment is directed into wages or other ‘remunerations’ such as food.
- ❖ Development programmes – in sectoral or multi-sectoral development-oriented programmes a considerable proportion of the investment is geared towards ensuring quality and sustainability of the asset, developing skills and capacity for management, supervision and the procurement of services and materials.

These programmes differ primarily in their objectives, which range from a necessary high and immediate short-term impact to longer-term poverty reduction goals.



Consider using planned intervention to create-income generating activities for beneficiary groups

3.2.2 Beneficiary participation

Beneficiary participation in the decision-making process may initially slow down planning but it does facilitate implementation and ensures ownership. Participation engenders accountability and ownership and ultimately improves efficiency and effectiveness, lowers costs and facilitates maintenance. The greater the participation in implementation and maintenance, the greater the potential direct impact on living and working conditions.

Planning and programming should therefore aim at:

- ❖ Decentralized participatory planning, financing and implementation by local delivery partners
- ❖ Decentralized investment decision-making, procurement and contract management.

Local beneficiary participation is essential in identifying high impact interventions – Community planning in Tanzania



3.2.3 Technology choice and alternative delivery options

In principle, infrastructure programme designers, technical implementers and decision-makers should be aware of the different impact of alternative designs and delivery options on national development goals, poverty reduction included. Alternative delivery options to achieve the specific programme objectives and targets should be considered and assessed during the planning and programming stages.

A careful assessment of delivery options should consider:

- ❖ Social objectives, e.g., poverty reduction, job creation
- ❖ The nature of the work. For example, road construction tasks such as compaction, hauling and surfacing require some form of equipment to ensure technical quality. Other tasks such as excavation, concrete-mixing and placing and environmental protection can be done well using labour-based methods involving properly organized labour in groups/teams with good tools
- ❖ The labour market situation (unemployment, underemployment, unskilled and low-skilled labour force availability, seasonality of labour, wages, etc.)

- ❖ Wage levels offset against equipment operating costs (determined by the availability of equipment back-up facilities and mobilization costs in different settings)
- ❖ Environmental and local conditions
- ❖ Technical complexity and quality requirements
- ❖ Available private sector implementation capacity
- ❖ Public sector technical and managerial capacity requirements
- ❖ Procurement possibilities and constraints
- ❖ Local governance structures and levels of community and civil society organization.

3.2.4 The application of labour standards

Local resource-based approaches should aim not only to create jobs, but jobs that are decent with acceptable working conditions and are fairly remunerated and freely chosen. Only in this way can the approach have a significant positive and sustainable macro-economic impact. All those in work have rights at work. National labour laws should be respected regardless of the mode of delivery, whether this is directly by government, by private contractors or by community contract. All relevant and applicable national labour laws should be considered during planning and programme design. Key relevant and applicable international labour standards and conventions, upon which most national labour laws are based include:

Freedom from forced labour

Work or service shall not be exacted from any person under the menace of any penalty. ILO Forced Labour Conventions C29, 1930 and C105, 1957.

Equality

Men and women shall receive equal pay for work of equal value. ILO Equal remuneration Conventions C100, 1951.

Minimum wages

Minimum wages shall be established and enforced for groups of wage earners. ILO Minimum Wage Fixing Convention C99, 1951.

Protection of wages

Wages shall be paid in cash money. Where wages are paid partially in the form of allowances in kind, such allowances should be appropriate for personal use and benefit of the workers and fair value shall be attributed to such allowances. ILO Protection of Wages Conventions C95, 1949 and C131, 1970.

Workers should normally be paid in full and preferably in cash. In certain circumstances, partial payments in kind are acceptable and in these instances the nature of the payment and quantity should be agreed upon based on criteria developed through a consultative process. The conditions of contract systems should contain specific clauses on labour standards and occupational health and safety.

Minimum age

No person under the age of 15 shall be employed or work. ILO Minimum Age Convention C 138, 1973.

Freedom of association

Workers and employers shall have the right to establish and join organizations of their own choosing, without prior authorization. These organizations shall be independent and voluntary in character, and shall be free from all interference, coercion or repression. ILO Freedom of Association and Protection of the Right to Organize Convention, C 87, 1948; Right to Organize and Collective Bargaining Convention, C98, 1949; Rural Workers' Organization Convention, C 141, 1975.

Further reading

Ladbury, S., A. Cotton and M. Jennings (2003). *Implementing Labour Standards in Construction: A source book*. (Guidance Note 1: The international context and national implications; Guidance Note 2: Making Labour Standards Operational; Guidance Note 3: Including Labour Standards in the Contract). Water Engineering and Development Centre (WEDC), Loughborough University.

3.2.5 Sustainability of assets

Operating and maintaining infrastructures is a major problem if not well planned, programmed and funded. Often resources are not set aside for the operation and maintenance of infrastructure assets and systems. Skills and capacity requirements are insufficiently planned for, compromising the life-span and durability of the assets. If investments in infrastructure (re)construction or rehabilitation works are not to be wasted, an adequate maintenance programme should always directly follow. Programming and planning the maintenance of infrastructure works should consider the participation of local government, the private sector and community organizations.

The following should be taken into account when programming and planning sustainability:

- ❖ **The environment:** Infrastructure development can damage the environment and natural resources (e.g., through quarrying, erosion caused by poor drainage patterns, migration, etc). Generally, local resource-based approaches are less invasive and are gentler on the environment, but measures should still be taken to preserve and minimize any negative impacts. Environmental impact assessments should be planned for prior to any infrastructure works
- ❖ **Participation:** The planning of assets, delivery and maintenance process should facilitate beneficiary participation, and the asset to be created should reflect the stated priorities of the community and effectively respond to the needs of the beneficiary community
- ❖ **Development of systems and capacities:** Programming and planning for systems development and capacity-building at local level for operation and maintenance of the infrastructure assets and the allocation and earmarking of local resources for this purpose is essential

- ❖ **Local social and cultural values** should be taken into account in the planning and design phase to ensure community participation, ownership and eventual operation and maintenance of the infrastructure assets
- ❖ **Coordination:** Possible complementarities and synergies between major investment programmes should be considered in terms of resource-sharing for capacity-building, investment implementation, operation and maintenance. Integrated planning and programming of major and minor works helps to ensure their sustainability and optimizes the impact of the different sectoral investments.

3.2.6 Mainstreaming approaches

Deliberate planning is necessary to replicate and mainstream successful experiences of local resource-based infrastructure programmes or projects. This requires planning and programming the development of a policy and institutional framework, particularly when start-up phases of programmes are externally funded. Often such programmes run institutional and management structures, procedures and tools parallel to those that exist, but which disappear if institutionalization and mainstreaming do not take place.

Mainstreaming employment in the delivery process

In the early 1970s, Kenya, Lesotho and Malawi started the use of employment-intensive (EI) approaches, with the assistance of various development partners and international financial institutions, for the improvement and maintenance of infrastructure. Over two decades good progress was made in developing working methodologies, standards of work, reporting and monitoring tools, capacity- and institution-building. Externally supported nationwide programmes were implemented. These included the Rural Access Roads Programme (RARP) and Minor Roads Programme (MRP) in Kenya, the Labour Construction Unit (LCU) in Lesotho and the District Roads Improvement and Maintenance Programme (DRIMP) in Malawi. However, the success of these countries in subsequently mainstreaming the technology varied considerably.

Changes in the political environment and lack of government commitment, followed by the withdrawal of donors' assistance, negatively affected the institutionalization process in Kenya and Malawi. The knowledge-base and capacities for local resource-based approaches slowly disappeared.

In 2002, the Government of Kenya re-embraced the approach and committed sectoral and national development policies to its application. It has embarked on nationwide application in the roads sector, rebuilding capacities and a robust institutional framework within established Governmental operational systems and resource allocation mechanisms.

By contrast, in Lesotho the LCU has evolved and developed continuously. In the late eighties the government adopted a general policy to promote the extensive use of local resources in all sectors. It made its commitment by setting up resource allocation mechanisms (both recurrent and capital) and establishing a new institution, based on the LCU foundation, to promote the application of local resource-based approaches.

Planning and prioritization tools for rural roads have since been refined to include social issues and also respond to local-level and long-term government development priorities. Since the early nineties the governments contribution, in the form of recurrent and capital budgets, has increased more than ten-fold.

References

- De Veen, J. (1999). *The Rural Access Roads Programme – Appropriate technology in Kenya*. ILO. (Also available in French.)
- Hagen, S. and C. Relf (1988). *The District Roads Improvement and Maintenance Programme – Better roads and job creation in Malawi*. ILO.

3.3 Strategic planning for local resource-based approaches

Issues and challenges

Translating national employment and poverty reduction policies into funded sectoral and cross-sectoral programmes can be a challenge for investment planners and decision-makers. Strategic planning and programming for local resource-based investment should reconcile the policy priorities expressed at the highest levels with resource considerations and local-level needs and priorities.

Principles and options

Strategic planning for local resource-based approaches involves planning for resource allocation, establishing the appropriate institutional framework, capacity-building and putting in place appropriate coordination mechanisms at national level.

3.3.1 Planning at national level

Strategic infrastructure planning should guide and shape decisions around infrastructure investments towards the development of sustainable infrastructure that responds to the economic and social needs of the population. Therefore, the strategic plan should give guidance on resource allocation, institutional framework and capacity-building for local resource-based approaches to infrastructure development and maintenance. It should serve as a guide for key stakeholders in planning, conducting and evaluating infrastructure delivery. These key stakeholders include policy-makers, ministerial departments, local government and authorities, bi- and tripartite institutions, contractors and consultants, community associations and individuals with different roles and levels of responsibilities in planning for investments in infrastructure programmes.

Strategic planning and programming should indicate the responsibilities for: (i) identifying priority sectors for investment; (ii) monitoring implementation and (iii) giving feedback on lessons learnt.

Options for coordination mechanisms that could be made responsible for this are:

- ❖ Tripartite-plus bodies made up of national-level representatives from government, trade unions, the private sector and communities (e.g., the National Economic Development and Labour Advisory Council (NEDLAC), which is a tripartite negotiating forum in South Africa)
- ❖ Advisory committees, either as permanent or flexible structures (e.g., the Labour-Based Policy Promotion Committee (LAPPCOM) in Uganda)
- ❖ Umbrella or coordinating committees with high-level political and bureaucratic support
- ❖ Networks of organizations and individuals with a common interest.

Key objectives of strategic planning include:

Key concerns	Key objectives
Advocacy and support	Advocacy for, and developing and supporting the integration of, local resource-based approaches to fulfil government policies for the use of infrastructure investments as a tool for poverty reduction and employment creation.
Institutional capacity	Strengthening institutional capacity in line with expressed policy priorities, namely, the establishment of a multi-disciplinary policy unit within a key government department that will influence the orientation of public investment programmes towards employment creation is a crucial element of institutional capacity-building.
Delivery capacity	National plans must aim to strengthen and develop the existing capacities (including private contractors and consultants) to deliver local resource-based infrastructure programmes.
Community involvement	Strategic plans should aim to enable local governments, the private sector and communities to effectively participate in infrastructure planning and implementation.
Coordination and cooperation	Strategic plans should establish or strengthen coordination among all key stakeholders, ensuring that key sectoral government ministries integrate local resource-based policies in their development strategies.
Sector-wide approach programming	Integrating local resource-based approaches into Sector Wide Approach Programming (SWAP) to infrastructure investment, pooling resources into a common fund and replacing the project-by-project funding approach.

3.3.2 Planning for institutional capacity development

Issues and challenges

Resistance to change: Government staff may resist change, feeling that the introduction of new delivery partners may be unnecessary and a threat to public sector jobs, or that local-level planning and participation is synonymous to relinquishing power or authority.

Weak private sector capacities: The domestic construction industry may be weak and unbalanced and thus structurally unable to play the role of engine for development.

Principles and options

Programming should include options for capacity-building and the introduction of small-scale contractors and local consultants. The process of change should be as participatory, consultative and transparent as possible, with incentives and compensation to encourage change and ease transitions such as redundancy.

Planning to build institutional capacity

Programming and planning for building new capacities within a modified institutional framework is necessary in order to create an enabling environment for the effective implementation of local resource-based approaches. When implementing agencies move towards greater private sector involvement the programming of institutional capacity development should consider:

- ❖ The involvement of new partners – this requires reforming administrative routines, procurement procedures, training government (client) staff for their new managerial roles within the contracting agency and training private sector and/or communities to assume their role of contractor
- ❖ Setting aside resources and time for the modification of processes and procedures and the introduction of managerial changes
- ❖ Introducing incentives and compensation to encourage change within a transition process, which should be as participatory, consultative and transparent as possible
- ❖ Selection criteria for small-scale local contractors and local consultants
- ❖ A gradual introduction and development process for the private sector
- ❖ Adapting the curricula of technical training institutes and universities to reorient upcoming generations of technical decision-makers.

Building institutional capacity through training

Often existing training capacity in the areas of labour-based technology and local resource-based solutions will be very weak or even non-existent.

Developing this capacity requires:

- ❖ Defining the general capacity-building objectives, which could range from increasing cost-effectiveness, empowerment or participation by the beneficiaries or private sector
- ❖ Choosing a delivery system to determine which target groups will require training, and to what degree. Specialists with appropriate teaching and technical background should assess training needs. Much experience has been gained in training needs assessments for large-scale, labour-based road construction
- ❖ Defining specific training objectives. This should preferably be done jointly by the training institution and the contracting agency. The standards set and the parameters for measuring success should be realistic and specific enough to be achieved
- ❖ Assessing training needs and matching training inputs with desired training outputs

- ❖ Designing the training programme. Taking into account of the issues surrounding the actual provision of training
- ❖ Developing (before training starts) programme procedures and management systems, that is, contract documentation, labour-based techniques, maintenance management systems and introducing the related training materials into the courses
- ❖ Establishing a continuous training evaluation system right from the beginning of the training programme to allow an assessment of training performance against the prescribed objectives.

Planning the training programme

Building capacity for local resource-based infrastructure implementation implies a significant training effort for several target groups in a variety of subjects. The rate at which capacity becomes available determines the rate at which these approaches can be effectively applied.

Planning the size and time-frame for the training programme involves:

- ❖ Programming the specialist external inputs that may be needed in the early stages, that is:
 - Policy implementation
 - Strategy development
 - Institution and capacity-building
 - The development, testing and introduction of systems and procedures, e.g., payment and procurement procedures, training plans and monitoring and evaluation systems.
- ❖ Programming the types of training that will meet the needs of the different target groups:
 - Senior contracting agency staff may require theoretical training, policy advice, post-graduate education
 - Technical and administrative contracting agency staff may require theoretical/formal courses and practical field training
 - Emerging small-scale contractors and their site supervisors may require formal course and field training, a trial contract and mentorship. Their commercial orientation has important implications for the training course design. These different stages of the training process can last between one month and two years
 - Single person contractors and labour-only contractors may require short-term theoretical and practical training
 - Local consultants may require training with theoretical and practical components, generally lasting three to four weeks
 - Communities may require theoretical and practical on-the-job training
 - Staff of ministries of labour, social partners and NGOs may require awareness-raising/briefings and consultations.

Planning training materials: A great deal of directly applicable training material dealing with different types of infrastructure works is available for a wide range of subjects and target groups. A valuable resource is the ILO's Employment-Intensive Investment Programme's online document database – ASISTDOC: www.ilo.org/eiip/asistdoc. The development of new material is generally only necessary for special purposes and target groups.

As a general principle, training materials should be accredited by the accreditation body concerned. Criteria and procedures for training examination and qualification should be established and approved before training starts, so that the training certificates have a recognized value.

Training for small contractor development requires 4 to 8% of the total funds budgeted for the works. The amount earmarked for this purpose should cover all formal courses, field-work training and training support during the trial contracts, as well as mentorship in the first year. Experience shows that, provided that work is available for contractors and the necessary training and qualifications can be provided by a training provider, the contractor trainees are willing to contribute to, or pay for, their training.

Training provisions and services

All training should be provided through an accredited training organization. To successfully institutionalize training services and provisions for long-term autonomous operation:

- ❖ Training departments should be established as autonomous units able to serve both public and private sector with a more commercial/accountable approach
- ❖ Training should, where possible, be established in a national context with each sector contributing and all sectors benefiting. Any distinction between the public and private sectors should be abolished
- ❖ Programme formulation should always address the training of trainers
- ❖ Directors of training and their staff should have a career status equivalent to other similar professions
- ❖ Adequate support for institutional capacity-building needs to be provided. In this context it should be noted that an increasingly wide range of suitable training institutions exists. In-country providers usually include government training institutions, with a handful of contractors' associations, and NGOs
- ❖ Professional bodies, vocational training centres, tertiary and post-graduate education institutes should be encouraged to incorporate local resource-based approaches in their curricula.

Some national training centres in Africa that provide courses for different cadres of staff and delivery partners in the effective application of local resource-based infrastructure works are given below.

Botswana: Ministry of Works and Transport, Roads Training School, Maruapula, Gaborone.
Contact details: Principal Roads Engineer, PO Box 10105, Gaborone, Botswana. Tel.: +267 391-2755; Fax: +267 590-5975.

Ghana: Ministry of Transportation, Department of Feeder Roads, Koforidua Training Centre, Ghana. Contact details: PO Box M57, Accra, Ghana. Email: info@mrt.gov.gh. Website: www.mrt.gov.gh/

Kenya: Ministry of Roads and Public Works: Kenya Institute for Highways and Building Technology, Kisii Training School, Kenya. Contact details: The Resident Instructor, PO Box 2254, Kisii, Kenya. Tel.: +254 583-0699; Tel./Fax: +254 58 31440. E-mail: courses@kctc-kihbt.go.ke. Website: www.roadnet.go.ke/

Lesotho: Ministry of Public Works and Transport, Teyateyaneng Training Centre, PO Box 699, Teyateyaneng, 0200, Lesotho. Tel.: +266 2250-0801.

Tanzania: Ministry of Works, Appropriate Technology Unit (ATTU), Mbeya. Contact details: The Principal, PO Box 195, Mbeya, Tanzania. Tel.: +255-25-2552579.

Uganda: Mount Elgon Training Centre, Mbale: The Principal, PO Box 2415, Mbale, Uganda. Tel: +256 7722-1533. Email: meltc@africaonline.co.ug.

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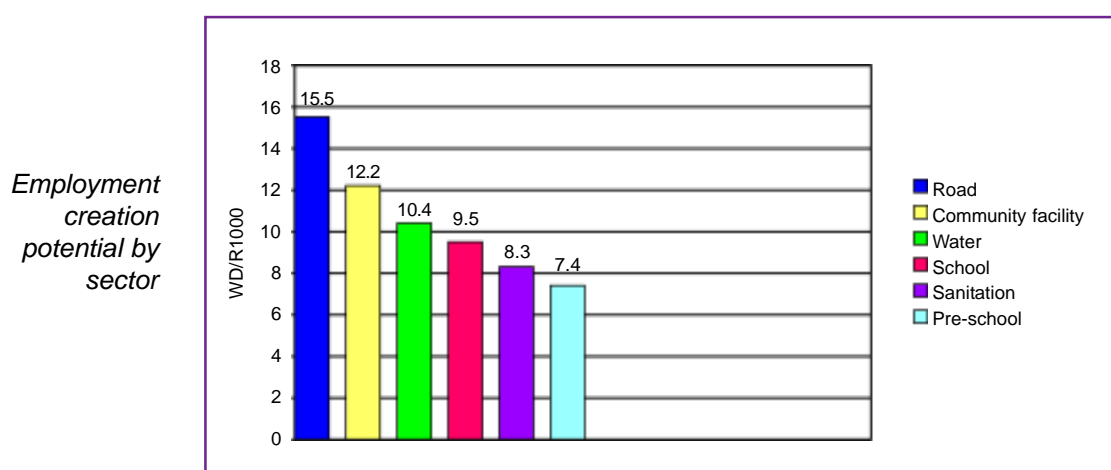
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3.4 Sector-specific planning and programming

Some of the sectors with potential for the increased use of local resource-based methods include:

- ❖ Water and sanitation
- ❖ Housing, slum upgrading and urban services
- ❖ Transport

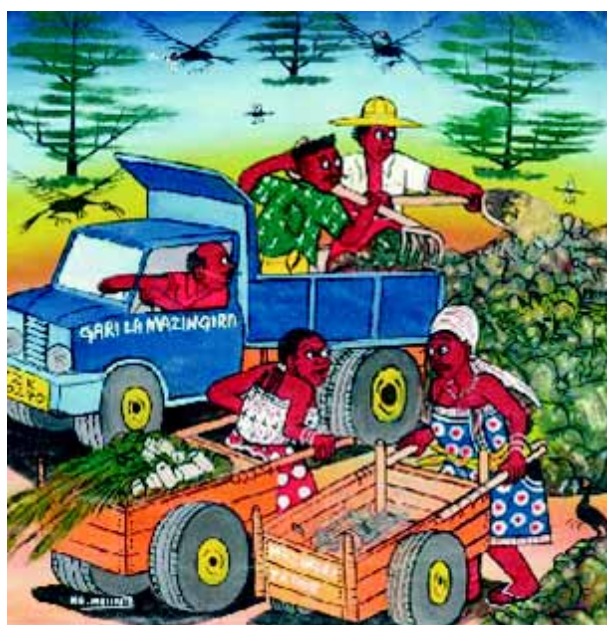


- ❖ Irrigation
- ❖ Forestry and environmental interventions.

3.4.1 Water and sanitation

Trends towards decentralized, participatory planning approaches to water supply and management present opportunities for increasing the use of local resource-based approaches as well as the employment impact of investments in this sector, particularly in:

- ❖ Gravity-fed surface water resources: small dams, shallow wells and rainwater-harvesting all require works that can be executed by local labour using local materials
- ❖ Distribution: encouraging public-private partnerships, modifying regulations to permit communities to lay secondary pipes, standpipes and household connections, while the Water Authority deals with the main pipes and the capital investments



Solid waste collection

In the sanitation sector, similar trends towards decentralized local-level planning and delivery widen opportunities for increasing local resource-based approaches and employment impacts in the sector, particularly in:

- ❖ Solid waste handling – experience exists with public/private partnerships for municipal garbage collection and disposal
- ❖ Excavation work – where labour-based methods may be optimized
- ❖ Drainage works – where local materials and labour-based methods may be optimized.

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3.4.2 Housing, slum upgrading and urban services

Slum areas are one of the most obvious examples of the contradiction of massive infrastructure and employment needs and rampant under- and unemployment. Slums are often found on marginal land prone to natural disasters such as flooding. They are also prone to man-made disasters such as evictions, demolitions and fires. The threat of eviction discourages slum-dwellers from investing in improvements.

To poor people, housing is often not just a place to live; it can be a place to work and so generate income. Urban planning rarely considers participatory, employment-friendly solutions to the many problems of urban slum areas. Solutions are either capital-intensive, informal or mostly in the form of no action at all. This is particularly the case for the disposal of solid waste.

Approaches to slum upgrading have been evolving rapidly towards a set of complementary approaches at several levels, from policy and legislation to technology.

Important elements include:

- ❖ Central legislative support that gives poor people appropriate tenure, decentralizes power, administration and funds and commits to the use of local resource-based technologies and methods
- ❖ Participatory planning and reforms that lead to the replacement of unrealistic standards and bylaws with ones that people find will feasible to respect



Local participation is essential for area development

- ❖ Changes in the delivery modes for housing supply, infrastructure and services that introduce public-private-partnerships (PPP) and community contracting
- ❖ Training of building facilitators rather than of building inspectors
- ❖ Management of the urban land supply and support for the development of local building materials
- ❖ Taking account of aspects that would allow people to set up businesses in and around their homes
- ❖ Low-cost solutions to local services, built to levels that have been agreed with communities and that are affordable to maintain and operate. For example, urban authorities can focus on trunk services, enabling communities to develop and maintain branch services. For solid waste collection, e.g., primary collection could be handled through PPPs and community-based enterprises, with municipalities taking the responsibility for organizing secondary collection and treatment
- ❖ Introducing progressive servicing levels allowing communities to upgrade services at their own pace
- ❖ Relaxing/revising construction bylaws, allowing safe alternative low-cost materials for use in housing and adopting lower level design specifications.

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3.4.3 Transport

Most investment in transport goes into the road network and is directed towards capital-intensive construction. Road maintenance is generally treated as a secondary priority when funding allocations and decisions are made. The transport sector has a very high potential for the increased application of local resource-based methods, particularly labour-based technology (LBT).

Current thinking advocates a comprehensive and participatory approach to planning for accessibility needs. This starts with data collection at household level and considers the most appropriate means of providing access to basic services, e.g., introducing or



Good and reliable access roads contribute to food security and local development

strengthening non-motorized transport modes and non-transport interventions such as the better siting of water points, health and educational facilities, grinding mills, etc. The participatory planning of access interventions enables the identification and prioritization of the most appropriate means of providing/improving access to socio-economic amenities in the overall local development context. This approach to local-level accessibility planning expands the opportunity for the application of local resource-based approaches to access interventions. Possible access interventions include:

- ❖ Rehabilitating or constructing access roads, footbridges and paths
- ❖ Expanding the supply of locally manufactured, easily accessible and serviced non-motorized transport modes (NMT) such as bicycles, carts and animal traction
- ❖ Developing NMT infrastructure networks such as bicycle tracks, footpaths and footbridges
- ❖ Setting up/improving commercial or community-operated transport services
- ❖ Improving the location of important services.

Local resource-based solutions in rural transport and access

Malawi

The Pilot Integrated Rural Transport Project (PIRTP) was implemented in Dedza, Mangochi and Embangweni Districts in Malawi between 1991 and 1997. The project was executed by the Ministry of Local Government. The PIRTP was the first transport project in Malawi to treat rural transport as a sub-sector, aiming to understand its operations in order to identify and implement the most appropriate, cost-effective and sustainable interventions for addressing the access problems of the rural populations. The main objective of the first phase of PIRTP was to improve rural communities' access to basic socio-economic services and facilities. The objective for the second phase was to implement a system of rural accessibility planning, make recommendations for its integration into the local-level planning structure and improve capacity for rural

accessibility planning at district and sub-district levels. The Integrated Rural Accessibility Planning (IRAP) tool was field-tested in a step-by-step process in Dedza District. Based on the findings of the survey, the project made various interventions related to priority infrastructure and services to improve the accessibility situation in the pilot areas. The project developed and published guidelines entitled 'A Guide to Integrated Rural Accessibility Planning in Malawi, 2000'. These guidelines have proven very useful and replicable beyond the borders of Malawi.

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Zimbabwe

The Government of Zimbabwe, with technical backstopping by ILO/ASIST, implemented a project on Access Interventions in Zaka and Chipinge Rural Districts between 1998 and 2001. The Zaka and Chipinge District Councils provided human resources, transport and equipment for site works, while communities contributed labour and locally available materials. The main objective of the project was to reduce time and effort spent by households in the two districts in accessing essential goods and services, so that the time savings could be re-invested in productive activities. A second objective was to influence the policy on rural accessibility development in Zimbabwe. Interventions included:

- ❖ *Systematic local-level planning – guided by the principles of IRAP*
- ❖ *Transport infrastructure – rehabilitating footpaths, tracks and footbridges*
- ❖ *Provision of a loan facility for the acquisition of appropriate transport means*
- ❖ *Non-transport interventions, such as the construction of boreholes in optimum locations, aimed to reduce the burden and intensity of communities' travel and transport.*

The project was designed in line with the findings of a Rural Transport Study (RTS) commissioned by the Government of Zimbabwe in 1995 in the context of its rural transport development policy. The RTS:

- ❖ *Developed a better understanding of the rural travel and transport patterns in Zimbabwe*
- ❖ *Encouraged the implementation of selected access interventions in order to demonstrate possible solutions to rural transport problems*
- ❖ *Provided a basis for the development of a national transport policy that addressed the travel and transport needs of the rural population.*

Following the implementation phase, a socio-economic impact assessment of selected access interventions was conducted in 2003, with a focus on the poverty alleviation

effects. Testimonies by the communities confirmed that considerable benefits had resulted in terms of easing access to basic social and economic services. Specifically, footbridges and footpaths had made a big impact on the communities by shortening both travel time and distances as well as enabling the use of intermediate means of transport (IMTs). The latter also proved to be a good source of income generation. Moreover, IMTs greatly reduced the transport burden on women while positively influencing male participation in those activities which were previously the responsibility of females.

Boreholes provided beneficiaries with safe water sources in close proximity while allowing other water-dependent activities to take place. For example, a woman entrepreneur confirmed that she had been able to manufacture more bricks after relocating her business nearer to the borehole. The district staff, contractors and communities benefited from skills developed for contract management and on-the-job training for labour-based technology works.

As a side-result of the project interventions, the Government of Zimbabwe developed the 'Guidelines for the Design and Construction of Suspension Footbridges', published in December 2000. These guidelines have since been in high demand in the region. The socio-economic impact study recommended policy interventions which were incorporated in the process of development of rural transport policy in Zimbabwe.

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3.4.4 Irrigation

Local-level planning approaches and local resource-based methods can substantially contribute to the development of more inclusive and sustainable irrigation systems while having a greater poverty reducing impact. The impact of irrigation schemes can be increased by:

- ❖ Involving farmers'/water users' associations in the design and construction, operation and maintenance of minor irrigation works
- ❖ Preferring gravity irrigation systems to energy-powered systems and non-motorized pumps to motorized pumps
- ❖ Constructing holding ponds, tanks and channels using local labour.

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3.4.5 Forestation and environmental interventions

The forestry management has changed considerably in the past decade, with increasing emphasis on privatization and community participation in key aspects of conservation and community-based exploitation, including wood production and tourism. The critical success factor for these aspects is that programming should enable concerned communities to earn a living from managing and husbanding their environmental resource. This can be achieved by:

- ❖ Reorganizing the supply chain of wood production and distribution
- ❖ Supporting organization and training for communities to increase their representation and productivity
- ❖ Appropriate regulation, taxation and legislative reform to promote sustainable exploitation of wood and other natural resources.



Protecting the environment – creates and protects jobs

Case study: Mali Afforestation project – Kita forests

An ILO-supported project in Mali developed a model for the sustainable management of forest resources by farmers' communities and their associations and stopped the degradation process through the participatory management of these resources. This required developing appropriate regulation and procedures as well as strengthening the capacities of all national partners, in particular the Forestry Service, farmers' and women's associations and rural district councils. New legislation has been developed by the Mali Government in line with the findings of this project, largely based on the positive experiences with community contracting.

Some key achievements (during three phases over a 15-year period):

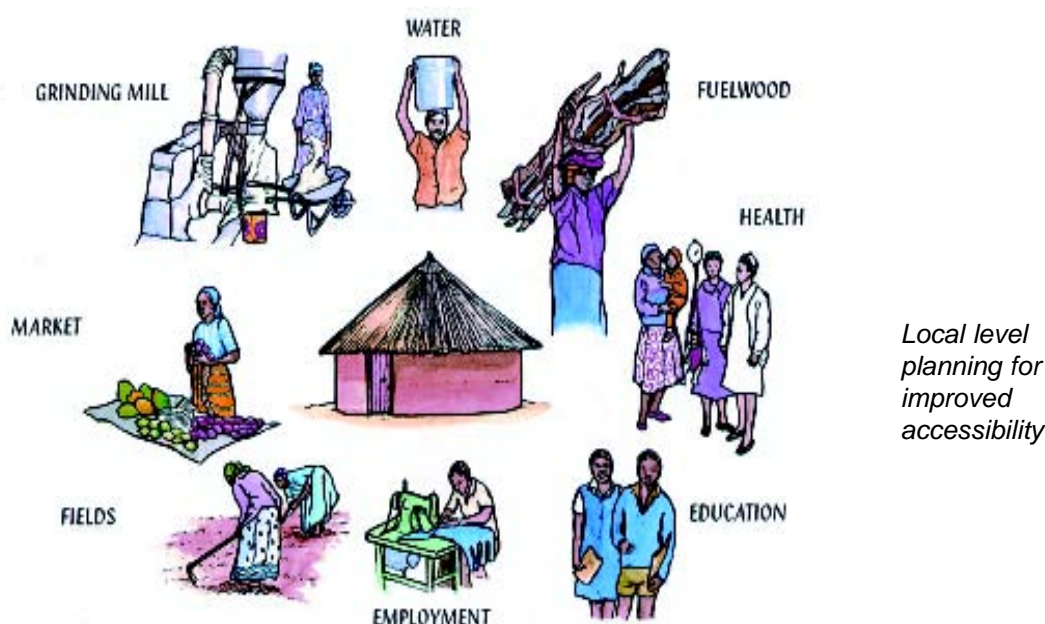
- ❖ *Exploitation, management and improvement of 100 000 ha of forest through contractual agreements between village organizations and the Forestry Department*
- ❖ *Elaboration of a model for village forests and a master plan for the preservation, development and exploitation of seven classified forests*
- ❖ *Acceptance of the model at national level, serving as a basis for redefining the national forest code legislation in a decentralized environment*
- ❖ *The equivalent of 800 permanent jobs created by improving and making viable forests and by creating woodlots*
- ❖ *95 rural markets established for trading firewood*
- ❖ *Durable forest exploitation providing 70% of the energy requirements of Kita township*
- ❖ *95 women's associations involved in activities related to forest exploitation*
- ❖ *Associations equipped through the introduction of 774 carts, 113 bicycles and various other types of equipment for forest-related occupations*
- ❖ *Introduction of a revolving funding system (replenished by part of the proceeds from wood sales and wood-felling permits) to ensure the durability of the interventions, pay for forest technicians and contribute to village development funds*
- ❖ *Creation of a Federation of Forest Management Unions and Village Forest Management Associations*
- ❖ *Capacity-building for the management and sustainable, economically viable exploitation of forest resources.*

Source: Extract from De Veen, J. (2005). 'Local resource use in infrastructure: from policies to large-scale action', in A review of current practice – Papers of the 11th Regional Seminar for Labour-based Practitioners. Mombasa, Kenya, October 2005. ILO.

3.5 Planning and project design tools

3.5.1 Planning at local level

A local development policy that opts for applying local resource-based approaches in all pertinent aspects of infrastructure and service delivery is likely to reach its goals faster. The challenge is to (i) translate national development targets into local-level project works and (ii) ensure that local-level needs are translated and fed back into regional and national plans. If this is to happen, an effective participatory local-level planning methodology is indispensable.



The following participatory planning approaches have proved effective when programming and planning local resource-based approaches:

- ❖ **Local economic development (LED):** A participatory development process that enables planning for a specific locality or territory (encompassing several communities). Through a consultative process involving local stakeholders from the public and private sectors, a territorial diagnosis is carried out to assess resources, capacities and economic opportunities that can stimulate productivity. The process seeks to optimize the use of locally available resources and make use of the competitive advantages of a locality to stimulate productivity in selected value chains while promoting enterprise development and creating employment.
- ❖ **Community-driven development (CDD):** Gives community groups and local governments control over planning decisions and investment resources. CDD programmes operate on the principles of local empowerment, participatory governance, demand-responsiveness, administrative autonomy, greater downward accountability and enhanced local capacity. Experience has shown that by working in partnership with local governments and other supportive institutions, the poor can effectively organize to identify community priorities and address local problems themselves. For this to succeed, the rules must be clear, financial and capacity development support must be provided and relevant information readily available.

- ❖ **Integrated Rural Accessibility Planning (IRAP):** A participatory rural accessibility mapping exercise that helps identify and prioritize the access and mobility interventions that are needed to overcome the constraints on LED.

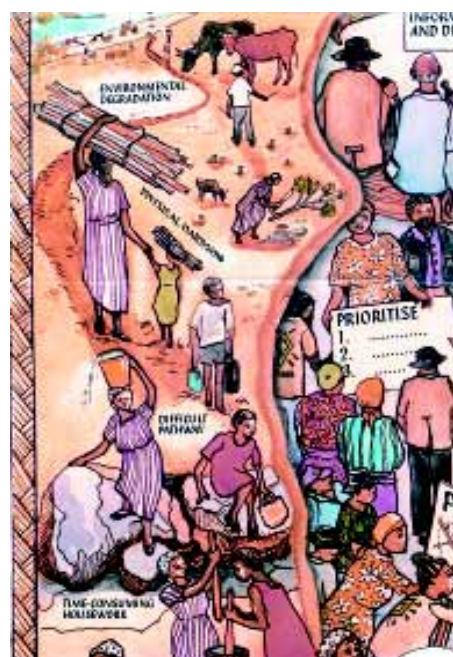
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3.5.2 Integrated or multi-tier programming

A 'multi-tier programmatic approach' integrates sectoral components to achieve a range of both short- and long-term socio-economic objectives, addressing short-term food security issues, e.g., while simultaneously making related long-term interventions such as improving rural access, water development, etc. Such integrated programming involves stakeholders across sectors and requires sound coordination mechanisms.

*Integrated planning is essential
to improve livelihoods*

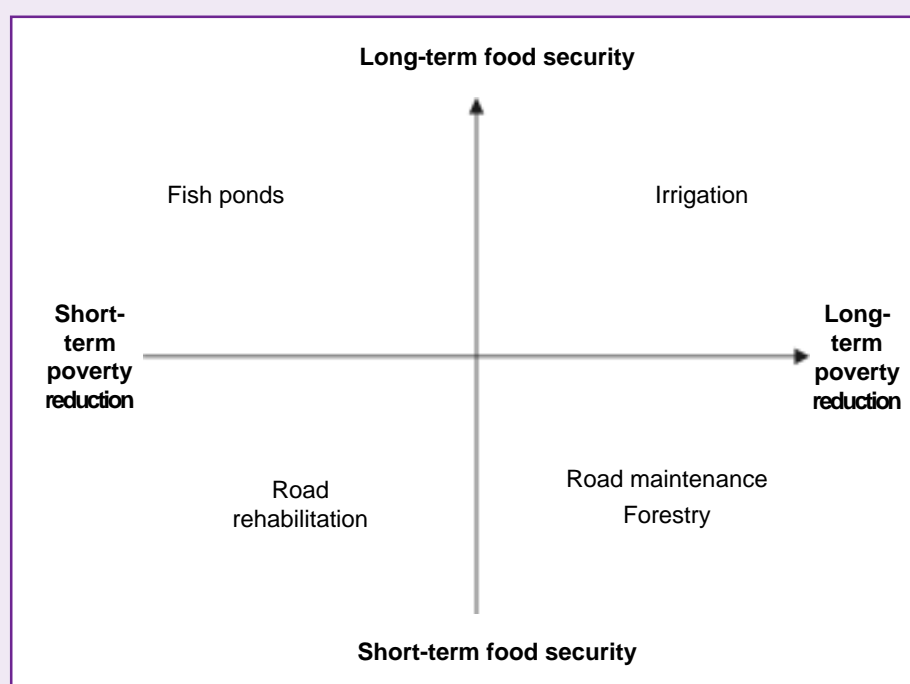


Integrated poverty reduction and food security programme, Malawi

This programme addresses Malawi's food security and poverty reduction strategies by:

- ❖ *Improving accessibility to rural areas*
- ❖ *Developing sustainable fuel wood and timber supplies*
- ❖ *Improving dry season gardening*
- ❖ *Interventions aimed at long-term food security.*

The programme uses a multi-tier approach consisting of improvement of access, provision for sustainable wood fuel supply, small scale irrigation and fish farming. The programme seeks to reinforce local implementation capacity, community participation and a better gender balance. Job creation through the use of labour-based technology is an important instrument with which to achieve poverty reduction.



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3.5.3 Planning for local resource-based approaches following situations of crisis

The different types of crisis situations – natural disasters, financial and economic downturns, armed conflicts, and social and political transitions – require different responses, tools and approaches. However, local resource-based approaches to the often massive investments in infrastructure reconstruction present a valuable tool for creating employment opportunities and stimulating local economic recovery in most post-crisis situations, as seen in countries including Cambodia, Guatemala, Honduras, Indonesia, Mozambique, Thailand and Uganda. They enable the return to work and the reintegration of crisis-affected persons and provide opportunities to build skills and secondary local enterprises. Planning for local resource-based approaches involves:

- ❖ Consulting local populations to identify immediate needs in respect of the rehabilitation of essential infrastructure while taking into account their longer-term requirements
- ❖ Planning and designing works to optimize opportunities for jobs and incomes by using local resource-based methods to rebuild basic infrastructure. This facilitates addressing immediate relief needs and revitalizes the local economy, thus laying foundations for longer-term development needs
- ❖ Planning for skills-building, that is, technical, planning, negotiation, decision-making and business and enterprise skills to empower individuals and communities and nurture small enterprise development.



Employment for peace – Somalia

Creating jobs strengthens peace efforts – Somalia



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3.5.4 Planning and project design tools

The following planning tools have all proven their utility in the planning of local resource-based infrastructure projects.

- ❖ Objectives-Orientated Project Planning (ZOPP)
- ❖ Participatory Rural Appraisal (PRA)
- ❖ Environmental Planning and Management (EPM)
- ❖ Integrated Rural Accessibility Planning (IRAP)
- ❖ Logical Framework Analysis (LFA).

Objectives-Oriented Project Planning (ZOPP)

ZOPP is a widely used participatory method for programme/project planning. Stakeholders come together in a series of workshops to set objectives and priorities and to plan for implementation and monitoring. The main output is a planning matrix jointly designed by the stakeholders. While ZOPP is commonly used at project level, it can also be used as a programmatic tool, or even for policy work. An experienced moderator is required to guide discussions and to channel the participants' inputs into a commonly accepted design.

Further reading

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Participatory Rural Appraisal (PRA)

PRA is an approach allowing shared learning between local people and outsiders. Data collection and analysis are undertaken by local people, with guidance and assistance from

external specialists. PRA is equally applicable in rural and urban settings for general economic and sector planning. It can be employed at every stage of the project cycle. Its drawback is that it lacks an employment dimension.

Environmental Planning and Management (EPM)

Looking at the processes through which a city's environment is (or can be) managed, EPM focuses on the close inter-relationship between urban development and urban environment. EPM takes particular account of the interaction between economic, political and social factors, but lacks an explicit employment dimension.

Integrated Rural Accessibility Planning (IRAP)

IRAP is a simple, user-friendly and yet powerful planning and prioritization tool specifically developed by the ILO for local-level accessibility planning. It has clear linkages to the national level, has a prioritization mechanism and incorporates monitoring and impact assessment components. It is a 10-step process that takes about three months for a district and six months for a province to complete. The IRAP process feeds policy-relevant information into the national planning process, as well as enabling operationalization of the national policies and strategies at local level, because it emphasizes the use of local resources in the implementation and maintenance of locally initiated projects. It mainstreams gender at all stages: data collection, planning and capacity-building. An important feature of IRAP is that it builds the capacity of local authorities to work with rural and peri-urban communities to:

- ❖ Identify local access problems
- ❖ Prioritize problems and identify appropriate interventions. These include different types of infrastructure, IMTs, transport services, spatial planning of basic services, environmental measures, etc.
- ❖ Formulate action programmes, including project documents, to address prioritized access problems
- ❖ Identify funding possibilities.

Key features of IRAP

IRAP is a multi-sectoral and integrated approach to planning for rural accessibility needs that:

- ❖ Uses households as the focus unit of the planning process
- ❖ Considers all aspects of household access needs for subsistence, economic and social purposes
- ❖ Involves communities in different stages of planning procedures
- ❖ Is based on a thorough but easy to execute data collection and analysis system
- ❖ Is undemanding in terms of the resources required
- ❖ Includes gender issues in its analysis
- ❖ Gives high priority to the protection of the environment.

The methodology results in:

- ❖ Comprehensive information on the location, condition and use of existing rural infrastructure and services
- ❖ Defined and prioritized investments for access interventions that address the needs of rural communities.

Pre-conditions and preparatory work for successful IRAP application

These are as follows:

- ❖ Decentralized structure at district level
- ❖ Commitment by the local authority in charge to apply systematic planning
- ❖ A basic minimum calibre of qualified professionals at district level (e.g., planners) to allow the capacity-building process to be effective
- ❖ Funding for capacity-building (local authorities and data collectors) and the IRAP process implementation itself. The resource requirements will depend on the size of the area to be covered and the availability of reliable secondary data to complement the primary data assembled by the IRAP data collectors.

The preparatory phase involves the identification and training of enumerators, supervisors, coordinators, etc., and co-ordination with the local authorities and other stakeholders. Following an assessment of the existing local-level planning systems and structures at district level, the points of integration for IRAP can be identified. This process includes a broad assessment of available local capacities for IRAP application and the availability of reliable secondary data. A next step is capacity-building for IRAP implementation, which usually commences with the training of trainers, who could include key district and provincial officials, (planners, community development workers and engineers, that is), trainers from academic/vocational institutions and/or staff from relevant NGOs. Their task is to train other local-level workers and extension staff and to work with the target communities.

IRAP application in the field

The 10 steps below show how IRAP is applied in the field.

Step 1: Data collection

Enumerators hold interviews with key informants from target villages in the district, using a questionnaire that focuses on the accessibility of issues of primary concern to households, such as drinking water, agricultural processing and marketing, health, education, etc. Data is collected on existing transport, travel and access problems and possible interventions for improvement.

Step 2: Data processing

Data is encoded and processed to form a computerized database.

Step 3: Data analysis

Analysis of the encoded data to provide summaries of access in all sectors. The information can be sorted for use at different administrative levels in the form of tables, charts and graphs.

Step 4: Mapping

This assists in visualizing the accessibility situation in different sectors and enables the optimum solutions for integrated and cost-effective access interventions to be identified.

Step 5: Data validation

Validation workshops are held to verify the data analysis outputs, formulate, discuss and prioritize the access problems and to determine interventions with the representatives of the Village Development Committees (VDCs).

Step 6: Compilation of access profiles

Preparation of an 'accessibility profile' of an area. This provides descriptive information on facilities and services, and lists and ranks the most urgent accessibility problems and preliminary solutions as perceived by the communities.

Step 7: Setting accessibility targets

Defining realistic targets and objectives at local level.

Step 8: Prioritization and formulation of interventions

District authorities prioritize interventions and formulate proposals that go beyond the scope of individual villages and relate this assessment to district and sector targets.

Step 9: Implementation

Interventions identified in the prioritization process are incorporated into the overall district development plan and implemented. The target communities and local organizations are involved in implementation and maintenance.

Step 10: Monitoring and evaluation

The final step in the IRAP cycle is the monitoring and evaluation of the results of interventions against the defined objectives and targets.

Further reading

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- Edmonds, G.C. Donnges and N. Palarca (1994). *Guidelines on Integrated Rural Accessibility Planning: Planning for people's needs*. ILO/DIGL, Manila, Philippines.
- Mhina, E. et al. (1997). *A guide to Integrated Rural Accessibility Planning in Tanzania: Gender – integrated version*. ILO Swiss Agency for Development and Cooperation.

Logical Framework Analysis (LFA) programme design process

LFA is a useful design methodology that allows the presentation of complex and costly projects clearly and understandably on a single sheet of paper. While serving to develop the overall design of a project during the project planning phase, the LFA is also used as a tool to improve project implementation, monitoring and evaluation. A participatory planning tool, it incorporates the full range of views of intended beneficiaries and others who have a stake in the project design. It summarizes the key features of a project design at the time of project identification. During preparation and appraisal it helps project designers and stakeholders in:

- ❖ Setting proper/relevant objectives, including the identification of beneficiaries
- ❖ Identifying key activity clusters and outputs
- ❖ Defining critical assumptions on which the project is based
- ❖ Defining indicators of success
- ❖ Identifying means of verifying project accomplishments
- ❖ Defining resources required for implementation.

The logical framework makes this logic explicit but does not guarantee a good design. The validity of the cause-and-effect logic depends, to a great extent, on the quality of the project design process, e.g., whether the problem that the project was designed to address was stated clearly and took account of important choice aspects as illustrated below.

Development Objective and immediate objective(s)

This is normally defined in the long-term plans drawn up by the government for a particular sector. The project alone is not expected to achieve the Development Objective, for which a series of related projects or actions are needed. The immediate objective, on the other hand, is to be achieved by the project within the time allotted. The immediate objective defines the specific changes that the project is expected to make. It links directly to the achievement of the Development Objective. Objectives should be accurately defined, with qualitative and quantitative output and impact indicators.

Note: A project can have more than one immediate objective.

Beneficiaries

Those who benefit directly from the project through its activities (short-term employment, training) and through its results (long-term employment, better living conditions, increased income). In institutional support projects, the direct beneficiaries

may be those institutions, local enterprises or persons to be trained and those who are to be assisted on the training sites. In this situation, the indirect beneficiaries are those who will benefit, in the long run, from the actions undertaken by these reinforced institutions/enterprises. Both the direct and indirect beneficiaries of the project should be identified.

Indicators

Input indicators measure the financial and administrative resources provided by government and donors. A link between the resources used and the results achieved must be formulated to enable the assessment of the efficiency of the project activities.

Output indicators measure the immediate and concrete consequences of the activities and inputs. Such indicators could be the number of training centres built, number of persons trained as trainers, number of micro-enterprises established.

The indicators should be formulated in such a way that they can be used to measure to what extent the objectives have been achieved.

In addition to progress indicators for physical outputs there should be good indicators relating to socio-economic development, employment generation, institution building and poverty reduction.

Outputs

The tangible results that the project should achieve (because they are within its control), specifically defined, with qualitative and quantitative impact indicators

Activities

The actions undertaken by the project team to transform inputs into outputs.

They should be phased realistically.

Inputs

The resources, goods or services which are to be provided by the government, beneficiaries, stakeholders and/or donors. These should enable the achievement of the results expected of the project.

Assumptions

These identify the influences, factors, situations, or external conditions relating to the success of the project that are completely or largely beyond the control of those responsible for the project. They should be clearly stated so that those responsible for the project are fully aware of the project risks.

Work Plan

To be included in the project document or formulated promptly after the assembly of the project team.

Baseline Survey

Very desirable to include as an integral part of the project.

Monitoring and Evaluation (M&E) strategy

Must clearly state how the project will be monitored and evaluated. It should include relevant, measurable and simple progress indicators.

Institutional Framework

Describes the institutions responsible for the implementation of the programme and popular involvement.

Should indicate the linkages and the collaboration arrangements between government, other stakeholders, relevant development initiatives and project implementers.

Should describe the institutional situation after the termination of the project so that it remains sustainable.

Further reading

Global Development Resource Centre (1999). *Guide to Logical framework approach (LFA)*. www.gdrc.org/ngo/logical-fa.pdf

Norwegian Agency for Development Cooperation (NORAD) (1996). *The logical framework approach (LFA) – Handbook for objectives-oriented project planning*. 3rd edition.

3.6 Budgeting, investment appraisal and disbursement to mainstream local resources use

Issues and challenges

In many developing countries budgeting tends to be separated from planning and does not reflect programme performance and revised sectoral priorities relating to socio-economic objectives.

Principles and options

A decentralized, participatory and transparent budgetary process that is cognizant of development goals and based on appropriate investment appraisal methodologies will better respond to local needs and earmark funds for local resource-based approaches.

3.6.1 Public sector resource allocation

Sectoral managers do not generally have the flexibility to change budget allocations. However, influencing the allocation process is feasible by:

1. Assessing the process of budgetary decision-making and follow-up.
2. Devising a strategy to intervene at important points of decision-making, influencing budgetary allocation decisions, e.g., through lobbying against expenditure patterns that are not in line with the government's stated policy.

General guidelines for realistic budget proposals for local resource-based infrastructure works

Item	Relative cost of programme elements
Works/services (of which wages should aim to be 30-60%)	100
Contract preparation and management	10-20
Maintenance	5-10 (on an annual basis)
Training	4-8
Environmental impact assessment and action	1-5
Monitoring and evaluation	10-15
Working conditions	3
Social protection	2
Quality control reporting systems	4-5
Public information, advocacy	3
Overheads	5-10
Inflation (for projects longer than one year)	Variable
Contingencies	5-10
Total as percentage of cost of works	150-190

Medium-Term Expenditure Frameworks (MTEF)

A MTEF is meant to provide a linking framework that enables expenditures to be driven by policy priorities and disciplined by budget realities. It consists of a top-down resource envelope, a bottom-up estimation of the current and medium-term costs of existing policy and, ultimately, the matching of these costs with available resources in the context of the annual budget process. An increasing number of countries have adopted MTEF. Under MTEF, sectoral managers have autonomy to maximize technical outcomes like efficiency and effectiveness and are free to opt for local resource-based approaches, where these are indicated.

Further reading

World Bank (2002). *Medium-Term Expenditure Frameworks: From Concept to Practice. Preliminary Lessons from Africa*. Africa Region Working Paper Series, No. 28.

World Bank (2002). *Public Expenditure Management Handbook*.

3.6.2 Investment appraisal and local resource use

Infrastructure project appraisal has a decisive influence on the way that investments are spent. A good appraisal should take into account all costs and all benefits, both financial and social and consider the different delivery approaches. Appraisals in low-wage, high unemployment countries that compare the relative impacts and benefits of local resources approaches with those of capital-intensive approaches have consistently demonstrated the superiority of local resource-based approaches, both in terms of producing good quality assets and their impact on local development and poverty reduction.

Issues and challenges

Investment project appraisal and budgetary processes in developing countries typically involve financial cost-benefit analysis (CBA). Socio-economic and multiplier/macro-economic costs and benefits ('externalities') that are critical to development are seldom taken into account by financial CBAs. Externalities include foreign exchange savings and balance of payment effects, employment, poverty reduction, environmental impacts, gender balance, skills development and empowerment. Net-present value and internal rate of return calculations tend to favour higher-income groups. Assumptions and factors that implicitly discriminate against national resource-based infrastructure works delivery include:

- ❖ Unnecessarily short implementation deadlines
- ❖ The mistaken belief that local resource-based approaches mean slow delivery, low-quality results and high costs
- ❖ Contracts are tendered in such a way that small- and medium-sized local companies cannot tender.

Principles and options

Important investment appraisal questions should include the following:

1. Does the cost-benefit analysis take all benefits and costs (including the broader socio-economic) into account?
2. Have the technical feasibility and the socio-economic acceptability of different technological approaches been considered and weighed up?
3. Are the proposed technologies socio-economically acceptable, proven under these particular conditions and on this scale?
4. Are the necessary management structures (for the private sector) and institutional frameworks in place (for public sector) or should these be modified/developed?
5. Will the project negatively affect particular groups?
6. Do beneficiary groups share benefits and costs equally?

A realistic appraisal should:

1. Decide on, and clearly describe, those groups on whose behalf the appraisal is being undertaken and indicate which costs and benefits will be considered
2. Select an appropriate appraisal method where non-monetary costs and benefits will be considered
3. Appraise for cross-cutting issues.

A project may be acceptable in an economic appraisal but may not pass the financial appraisal. The government/sponsor may nonetheless wish to go ahead with it because the externalities are policy priorities.

3.6.3 Appraisal methods and procedures

Economic analysis for infrastructure investments should select an appropriate appraisal method from those commonly used in the health, education, water, and environment sectors. Appraisals should take into account the fact that at the macro level, economic and financial sustainability underpins poverty reduction, but that at project level poverty-focused components should be considered separately in terms of their socio-economic merits. For example, in a transport-related project, pavements, bicycle facilities and basic rural access should be treated as part of a socially balanced transport system. Of course, poverty components should still be concerned with economic efficiency and select the least-cost option to achieve the poverty reduction objective.

Different appraisal methods have different merits:

- ❖ Least cost analysis (LCA): This enables the ranking of mutually exclusive project options and alternative ways of producing the same output of the same quality. LCA thus applies to projects where the effects or outcomes can be quantified and priced. Since the benefits are the same, it is necessary only to compare costs and to select the alternative with the lowest present value of cost, discounted by the opportunity cost of capital. Alternative options may consist of different designs, technologies, sizes and time-phasing of what is essentially the same project.
- ❖ Cost-effectiveness analysis (CEA): In other cases where project effects can be identified but not adequately valued, project selection may be based on the results of CEA. The purpose of CEA is to find the means (activity, process, or intervention) that minimizes resource use to achieve the desired results, or in the presence of resource constraints, the means that maximize results.
- ❖ Multi-criteria analysis (MCA): These models make it possible to consider large numbers of data, relations and objectives as are generally present in specific real-world decision problems. MCA allows the problem to be studied in a multi-dimensional fashion and has the following components:
 - A given set of alternatives
 - A set of criteria for comparing the alternatives
 - A method for ranking the alternatives based on how well they satisfy the criteria.
- ❖ Life-Cycle Cost : The overall estimated cost for a particular programme alternative over the time period corresponding to the life of the programme, including direct and indirect initial costs plus any periodic or continuing costs of operation and maintenance. Good for determining type and level of infrastructure investment, and even though it doesn't measure poverty impact per se, it may result in preference for LRBM as more appropriate and cost-effective over time for rural infrastructure.

It is important to appraise for cross-cutting issues, in particular:

- ❖ Employment-generation: infrastructure projects can be appraised on the basis of their potential impact on jobs. This has been used successfully in several developed and developing countries.

- ❖ Environmental impact: whenever a project will result in a direct intervention in the environment (infrastructure, land use conversion, exploitation of a natural resource) an environmental analysis should describe environmental risks, propose mitigating measures and indicate the hidden costs of inaction.
- ❖ Gender: project design, implementation and monitoring and evaluation should be gender sensitive, looking at the project's effects on the lives of men and women.
- ❖ Project effects on occupational safety and health, including HIV/AIDS.
- ❖ If baseline studies are not part of the appraisal they should be programmed to take place before the start of implementation.

Further reading

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- ILO (2006). *Increased Application of Labour-Based Methods Through Appropriate Engineering Standards: Guideline for Quality Assurance Procedures and Specifications for Labour-based Road Works*. TRL, DFID, ILO.

3.6.4 Streamlining funding procedures and local-level capacity-building for financial responsibilities at local level

Effective funding of local resource-based infrastructure works should have the following elements:

- ❖ Adequate programme funding
- ❖ Efficiency and effectiveness with respect to disbursement
- ❖ Timely decentralized payment
- ❖ Sustainability.

The effectiveness of local-level programming depends on the proper functioning of a results- and incentive-based programming and budgeting process. The development and setting-up of such a process requires capacity-building. Positive experience exists with the use of special accounts to streamline the process of disbursement, e.g., to channel road funds to the districts. It is essential to carefully design and agree upon the administrative arrangements for such accounts, so that roles and responsibilities are well understood by the parties involved.

Delegating authority for payment is the key to effective decentralization and depends on whether:

- ❖ The local level can meet financial control and audit requirements

- ❖ There is political will at the central level to decentralize budgetary control.

Experience also exists with the direct disbursement of external (donor) funds through local banks (Kenya, Tanzania) and through revolving funds (Ghana) to bypass cumbersome procedures and disbursement channels. This enables the channelling of funds directly to implementing contractors or communities. Although disbursement in this way is faster and more efficient during the project period, it is not sustainable beyond the funding horizon. Revolving funds, equipment replacement accounts, e.g., often need to be replenished from external sources in high inflation situations.

4

Implementation

4.1 Introduction

Creating an enabling environment and relevant capacities that allow the different partners and stakeholders to play their roles effectively is a prerequisite to effective and efficient implementation.

Effective implementation of local resource-based infrastructure works must consider:

- ❖ The involvement and motivation of stakeholders
- ❖ The suitability of administrative systems and procedures
- ❖ Capacity-building of the different partners
- ❖ The process for the procurement of works
- ❖ The management of contracts
- ❖ The actual execution and control of the works to ensure that standards are met and quality is controlled.



Topics covered in this chapter:

1. Designing assets to optimize the use of local resources

Designing infrastructure assets to facilitate the achievement of higher poverty reduction goals by optimizing the use of local resources as well as the employment creation potential of the investments.

2. Delivery of assets – implementation alternatives

Different alternatives to actual delivery of infrastructure assets include delivery through the public sector, direct execution and contracting out to the private sector or community-based organization execution.

3. Building private sector capacity

Developing private sector players – emerging contractors, local consultants, communities and the technical supervisory capacity – in order to effectively apply local resource-based approaches in the infrastructure delivery process.

4. Creating an enabling contracting environment

So that emerging contractors can be established, grow and participate in the infrastructure delivery process, that is, facilitating access to financial and material resources and to work opportunities.

5. Managing contracts

All players in the contracting process must fully understand their roles and responsibilities as defined in the contract if there is to be effective and efficient management and ultimate delivery of the infrastructure works.

6. Execution of work

Scheduling labour and managing tools, equipment and materials for effective delivery of infrastructure works.

Definitions

The following definitions of work undertaken in the road sector are referred to within this section:

Routine maintenance

Ongoing operations/works carried out to ensure that the infrastructure asset continues to provide a level of service as close to that intended on original design.

Spot improvement

Extensive, localized operation/work activity carried out on the infrastructure to restore the level of service as close as possible to the level it was originally designed to provide.

Periodic maintenance

Significant operations/works carried out on infrastructure assets at regular intervals to restore the level of service of the infrastructure to the original level it was designed to provide.

Rehabilitation

A set of extensive operations/works carried out on the whole, or a significant part of the infrastructure, to restore the level of service to the original level it was designed to provide.

Construction/upgrading

A set of operations/works carried out to create new or significantly improve existing infrastructure to provide a service as set by the designer or the client.

4.2 Designing assets to optimize the use of local resources

Issues and challenges

Infrastructure assets are created to meet immediate objectives concerning the provision of efficient and effective services to the beneficiary group as well as higher level goals, including economic growth and the reduction of poverty. Increasing employment opportunities in infrastructure investment can lead to meeting key national and global goals of economic growth with equity. The employment creation potential of infrastructure investment programmes and projects can be realized through designs and procedures that favour local resource-based approaches.

Principles and options

Technical infrastructure design units should be made aware that their responsibility goes beyond simple asset delivery. They are also responsible for contributing towards national development strategies such as poverty reduction and employment creation. They should therefore consider options that will contribute to these goals by:

- ❖ Assessing projects for their suitability for local resource-based implementation

- ❖ Assessing the suitability of a range of available implementing modalities – contracting using emerging and established contractors, force account, or community contracting
- ❖ Considering the practicality of increased participation of small-scale service providers.

Design criteria should be a function of:

- ❖ Choice of technology: Does the project lend itself to a local resource-based approach? What are the stipulated standards and level of service requirements? Are they appropriate?
- ❖ Technical complexity: Do the components require high levels of technology?
- ❖ Social/economic factors: Does the project respond to national employment/poverty reduction strategies?
- ❖ Availability of local resources and capacity: What is the likely availability of the identified local resources, namely, labour (both skilled and unskilled), materials, tools, equipment, etc.? What is the capacity of the implementing agency?
- ❖ Cost-effectiveness and quality of assets produced using the selected method of delivery
- ❖ Timely delivery of the asset as prescribed by the client.

The technical unit needs to be familiar with the range of technical design options suitable for meeting the requirements of the asset and be open to innovation. Technical design considerations that influence the use of local resources in the case of road works include, among others:

- ❖ Haulage distances
- ❖ Material and thickness specifications for base layers
- ❖ Prescribed measurement methods for compaction standards
- ❖ Alternative solutions for surfacing.

When drawing up suitable alternatives responding to local conditions, the capacity of operating agency and private sector and beneficiary groups, the designer should consider sustainability issues in terms of minimum resource requirements for operation and maintenance by locally available expertise. It is important that the desirable levels of service are discussed and agreed with users. This positively affects users' willingness to contribute to the operational and maintenance costs of the constructed assets.

4.3 Delivery of assets – Implementation alternatives

Several alternatives exist for the delivery of infrastructure assets using local resource-based approaches, namely:

- ❖ Directly by the public sector
- ❖ Through contracting the private sector
- ❖ Through implementation by community-based organizations.

4.3.1 Direct execution by the public sector

Local resource-base infrastructure programmes can be set up and managed directly by government staff of the responsible technical ministry/department. This mode of delivery is also referred to as 'force account'. Force account means that a public agency undertakes design, supervision and management and also controls labour and equipment.

Issues and challenges

The force account approach is associated with the typical inefficiencies associated with bureaucracies (cumbersome procedures, irregular funding, lack of performance incentives and accountability mechanisms, etc.). The table below analyzes the strengths and weaknesses of force account with regard to local resource-based approaches to infrastructure works:

Strength	Weakness
<ul style="list-style-type: none"> ❖ Useful for developing essential administrative, technical and managerial procedures. ❖ Can easily and relatively cheaply mobilize in remote areas and/or crisis situations (reconstruction efforts in natural/human crisis affected areas, for example). 	<ul style="list-style-type: none"> ❖ Weak accountability, as the same organization is responsible for planning, designing, budgeting/estimating and implementation as well as for quality control. There is generally no system for self-applied sanctions. ❖ Systems and procedures are constrained by public service conditions and regulations. These include working restrictions in terms of the use of incentives and the recruitment/lay-off of staff, cost accounting, hidden costs such as equipment purchase and back-up, centralized procurement procedures and cumbersome financial procedures. ❖ No incentive for timely completion and adhering to budget allocations. Both financial and managerial risks are taken by the public. ❖ Does not systematically use local resource-based approaches where it would be technically feasible and cost-effective to do so.

Principles and options

The efficiency and effectiveness of delivery of works by the public sector can be improved by restructuring delivery units and processes. This may entail:

- ❖ Reorganizing the public agency into separate agencies for a) regulation/administration; and b) construction/maintenance
- ❖ Decentralizing investment decision-making
- ❖ Outsourcing, particularly of maintenance, to micro- and small-enterprises and communities
- ❖ Increasing the means and capacity for supervision
- ❖ Using of local resource-based technologies
- ❖ Introducing participatory planning approaches involving stakeholders such as CBOs, women's groups, associations of contractors and professions, etc.

Under restructured force account delivery, the delivery rate of works can increase sharply. However, with large numbers of work sites involving many payments the inefficiencies in force account make themselves felt; a shift towards contracting then becomes an attractive alternative.

Public sector (force account) versus private sector delivery

Over the past two decades the role of the private sector has become increasingly pronounced in the implementation of public works. This shift has largely been caused by the general belief that the private sector is more efficient and therefore cost-effective. Nevertheless, the force account system of delivery still has its role to play, particularly with regard to:

- ❖ Isolated areas where mobilization costs for the private sector will be high
- ❖ Developing new approaches with their systems, tools and procedures
- ❖ Carrying out emergency works – the most immediate works can be done without having to go through the contract award process
- ❖ Certain situations when quantifying works and predicting costs is very difficult (e.g., mountainous areas in remote, high lands)
- ❖ Countries facing an economic crisis, resulting in general shortages of fuel, materials and foreign currency and when the use of the private sector is no longer feasible and force account is the only possible option.

Retraining of government staff in Lesotho

In 2007 the organizational arrangements for the management of roads in Lesotho principally involved two relatively large organizations: the Roads Branch and the Department of Rural Roads.

The Roads Branch was responsible for the more heavily trafficked classified road network, consisting of some 2 200 km of earth, gravel and paved roads. The Roads Branch delivered through a combination of contract works, work by force account and its own road plant.

The Department of Rural Roads was responsible for some 3 700 km of rural roads and village access roads constructed of earth and gravel. The Department used both force account and labour-based contracts.

The Government of Lesotho committed itself to strengthening the efficiency of service delivery in the road sector through institutional reform of the Lesotho Ministry of Public Works and Transport (MoPWT). The approach was to explore the option of creating a commercially oriented, autonomous and accountable structure with a staffing of approximately 30–40% of the staff of the two Roads Departments and to reduce force account activities.

Because these directives were to result in the retrenchment of staff, the Departments had to prepare staff for the change and for the challenges outside the civil service. This involved training departmental staff (mainly technicians) to become labour-based contractors via one-month intensive courses. Similarly, engineers were to be re-oriented in order to become private consultants.

Surfacing trials – Zimbabwe



4.3.2 Private sector

The public sector, in most developing countries, increasingly outsources infrastructure delivery work to the private sector (including consultants, contractors and communities) in order to increase its delivery capacity. An important advantage of local resource-based approaches is that they allow participation by contractors of all levels of experience and skill and also provide an entry point for those entrepreneurs wishing to enter the industry for the first time.

Issues and challenges

The construction sector in developing countries typically comprises:

- ❖ Large numbers of small-sized domestic construction firms engaged in building works (houses, schools, hotels and factories) for the private sector. These firms are often weak in management, technical skills and equipment
- ❖ Small numbers of technicians, trades people
- ❖ A few domestic consulting firms (engineers, architects, quantity surveyors)
- ❖ A few larger-sized established contractors, sometimes functioning as local branches of an international contractor. They are generally well equipped with specialized equipment, have access to credit, managerial and technical skills and carry out mainly civil works (dams, roads, airports, power stations) for public sector clients
- ❖ Public sector agencies that generally operate in a fairly centralized manner. Often these are more geared to direct implementation than to contract management
- ❖ Training institutions with insufficient staffing and funding
- ❖ Employers' and workers' organizations that tend to represent the formal end of the industry.

Principles and options

The key consideration for the effective engagement of the local contracting industry in the delivery of infrastructure works using local resource-based approaches is to create an enabling environment. This means recognizing that (i) small- and medium-sized construction firms have different levels of entry and need support to develop and grow; (ii) tendering, bidding and contract award procedures must be appropriate for this group; (iii) contract administrative procedures (conditions of contract, payment) may need to be modified; and (iv) new roles and

responsibilities for managing contracts must be defined, allowing the development and growth of small domestic construction firms.

Classification of contractors

Small- and medium-sized construction firms can develop and grow from single-person contractors with limited resources and experience to small- to medium-scale contractors with the equipment, experience and capabilities necessary to undertake relatively large and fairly complex work, new construction work included.

- ❖ **Single-person contractors:** This is an entry point for individuals who have few resources and little experience wishing to enter the contracting business. They may undertake routine tasks such as road maintenance, agricultural planting/harvesting, forestry work or urban services (water kiosks or waste collection). Single-person contracts may be let on the basis of a defined period, where the contractor manages their own time to complete the tasks based on an agreed schedule. Compared to other levels of contracting, this form involves many individual contractors and requires more management and supervision by the client.
- ❖ **Labour-only contractors:** Labour-only contractors are responsible for supplying labour in the numbers and locations agreed in the contract. They look after their welfare and the payment of wages. This is the next level of development for a Single-Person Contractor who has accumulated some resources and gained experience in a particular field of work. Labour-only contractors gain knowledge and experience in labour management.
- ❖ **Maintenance contractors:** These contractors are expected to supply basic tools and simple equipment and are contracted to carry out complete maintenance works of comparatively low value, e.g., routine road maintenance of 20 to 30 km of road, urban water services (trenches and pipes), irrigation channels, small pipe culverts or hand-dug wells.
- ❖ **Small-scale contractors:** These own basic light equipment and employ supervisors able to manage worksites with up to 200 workers. These contractors are capable of carrying out relatively high-value works such as periodic maintenance, rehabilitation and new construction.

Comparison of the levels of intervention required by the different levels of contractors

The table below compares the level of intervention required by the implementing agent in executing work through the different levels of contractors.

Level of contractor	Level of administrative requirement	Technical supervision	Support	Procurement process
Single person	High	High	High	Low
Labour only	Medium	High	High	Medium
Maintenance	Medium	Medium	Medium	Medium
Small-scale	Low	Low	Low	High

Getting started

Construction work opportunities in the public sector are generally tendered through the media. The contractor has to meet certain criteria to bid and to be engaged. Selection via these criteria is normally made following an assessment of the:

- ❖ Company's profile (years of experience, management staff)
- ❖ Financial standing: capital, assets, annual turnover
- ❖ Work profile: previous contracts, size and value
- ❖ Other business interests and involvement.

Even without specific construction experience, a proven ability as an entrepreneur/business person in a field where risk-taking is a factor is a valuable quality. Women who meet the criteria are as equally capable as men – in many cases they perform better. When existing contractors are targeted, a competitive process is used, whereby they are usually selected according to their civil engineering knowledge and past work experience.

Contract-awarding procedures

Contracts are generally awarded by following clearly defined procedures set by the client. The following are the award procedures most widely used in civil work contracts.

Direct award

An award by which the work is allocated to a single, identified service-provider following clearly defined selection guidelines that satisfy the client's procurement procedure.

Prequalification of contractors

Contractors must satisfy a set of criteria to qualify for participation. The prequalification process results in the identification of a group of contractors qualified for the type of work concerned. Prequalification criteria usually include education, skills, assets in terms of staff, equipment and facilities, as well as previous relevant experience.

Competitive bidding

A process by which service-providers (contractors, consultants, suppliers) bid for works or services based on a tender that specifies the job requirements in terms of quality and quantity. The bids include unit prices, a description of the firm's competence, costs and a staffing proposal, etc.

Preparing small-sized emerging construction firms to compete for public works contracts

Small-sized emerging construction firms aiming to enter the public sector market need a considerable amount of coaching and training. First, they need to fully understand that a contract is a legal document between two (or more) parties that sets out the roles and responsibilities as well as the obligations and risks between the parties. It also establishes a basis for accountability and outlines procedures to follow in case of dispute. They also have to be aware of the process of procurement and contract award.

As part of contractor training or development programmes, first-time emerging contractors often obtain their first contract on a lump sum or fixed-rate basis. Subsequent contracts then usually follow a competitive bidding process, where the contractor responds to an invitation to tender by preparing a bid/submitting a tender and negotiating the contract. Coaching is still necessary at this stage. To bid successfully for contracts, contractors need training in estimating and pricing and require good knowledge of the costs of running the business, including non-productive overhead costs.

Roles and responsibilities: Both the client and the contractor should be fully conversant with the roles and responsibilities set out in the contract in order to avoid disputes and have access to legal advice or arbitration should they arise. Conventional construction contract documentation designed for large works may be inappropriate for small-scale works and too complicated to be readily understood by small contractors. Contract documents will need to be adapted to be suitable for local resource-based approaches.

Managing contracts: Contractors require an appropriate management system. Technically, they should have access to or be able themselves to deliver professional technical services for quantity surveying, quality control and engineering, including mechanical back-up services.

In principle, there should be capacity within the firm to:

- ❖ Assess costs against activities
- ❖ Calculate productivities
- ❖ Compile unit costs and overheads into contract bid items
- ❖ Measure completed works and prepare payment certificates
- ❖ Comply with the technical specifications
- ❖ Deliver assets that meet users' requirements and expectations
- ❖ Run personnel departments dealing with labour, staff and payments, the procurement and storing of materials and supplies, secretarial requirements and record-keeping
- ❖ Run finance and administration departments dealing with costing and accounting, purchasing and invoice preparation, access and management of finance and credit (bonds, guarantees and insurances) and be able to predict cash flows
- ❖ Organize engineering inputs for the contract works, including mechanical services. Much of this will be site-related, with the objective of supporting the progress and quality of the works
- ❖ Deal with contractual claims and dispute procedures
- ❖ Deal with the legal aspects. All contracts, particularly those of high value, require legal advice in the case of a contractual dispute. Only in extreme situations involving large amount of money are contract arbitration procedures invoked.

Prior to commencing the contract, the contractor should make those arrangements necessary to ensure that all inputs required to execute the works are in place, including:

- ❖ Financial resources to cover mobilization and implementation costs
- ❖ Adequate labour

- ❖ Technical and support personnel
- ❖ Necessary equipment in good working condition, either self-owned or hired from private service providers
- ❖ Necessary hand tools and other relevant tools, including basic workshop tools.

Key management issues include:

Profitability

The key resource of the small contractor using local resource-base approaches is labour. The profitability of the firm depends, to a large extent, on the productivity of the workforce. This in turn depends on the contractor's organizational skill and management of workers. Good site management requires a sufficient number of experienced site supervisors (about one per 40-50 workers).

Labour productivity

Contractors should be conversant with incentive schemes and make appropriate choices that maximize worker productivity but avoid worker exploitation. Work can be carried out either based on time or productivity, that is:

- ❖ **Day rate:** Workers are paid per time unit (hour or day).
- ❖ **Task rate:** A given volume of work is assigned to be completed within a given time (usually one day). On completion of this task, the worker is free to go and has earned the stipulated wage. This is the most commonly used work arrangement for civil works executed using local resource-based approaches.
- ❖ **Group rate:** Work assigned to a group of workers that is estimated to be completed by the end of the working day. This method is widely used to carry out activities of an emergency nature.
- ❖ **Piece rate:** A fixed remuneration is set for the completion of a given work output ('piece'). Workers may complete one or several pieces per day. Payment amounts relate to the number of pieces completed.

Productivity-based rates are the norm for larger works, including construction, rehabilitation and major maintenance of infrastructure. Time-based rates are more suited to activities that are difficult to quantify.

Labour productivity rates depend on the nature of the works, the conditions of the site and the working environment. These should be known and managed to avoid abuse. Important elements that determine the quality of the working environment include:

- ❖ The basis of payment
- ❖ The quality of site supervision
- ❖ The skills mix
- ❖ The quality and appropriateness of the tools and equipment.

Working conditions

The contractor needs to be fully aware of the laws and regulations concerning the employment of labour and working conditions and adhere to them. Non-respect will eventually lead to strikes or penalties which will ultimately negatively affect the firm's long-term prospects and profitability. Contractors should respect workers' rights, particularly with regard to:

- ❖ Levels and regularity of wage payments
- ❖ Working hours
- ❖ Basic provisions for health and safety
- ❖ Minimum age (in compliance with the elimination of child labour)
- ❖ Non-discrimination, that is:
 - Equal pay for work of equal value
 - Equal access to jobs and occupations
 - Equal access to training.

Site records

Works may be paid for on a lump-sum basis for smaller, less easily measured contracts, or on the basis of bills of quantities as specified in the contract. Site records are essential to enable payments to the contractor in accordance with the conditions of the contract. The contractor's records should:

- ❖ Accurately record the work done and the inputs used for the component tasks
- ❖ Show the work measurements to obtain the necessary certifications of the client's representative
- ❖ Describe fully any work done that may become the subject of a claim or dispute
- ❖ Record daily working conditions such as weather/rainfall, unusual occurrences, visits, deliveries, labour-force details, etc.

The contractor should only carry out work required under the terms of the contract. For works outside the scope of the contract, the contractor should seek the appropriate authority to do those considered necessary. Site records provide valuable information to contractors, planners and engineers in planning and costing comparable work elements and improving upon work organization.

Growing the business

In order for emerging small-scale contractors to grow and gain valuable experience, it is essential that they look for further opportunities. For example, a contractor may progress from being a sub-contractor on larger contracts, that is, working under a main contractor with specific responsibility for specific work items, to undertaking larger contracts directly for a client. The latter usually implies the need to be able to carry out specialized tasks such as major earthworks or premix road surfacing, which in turn require specialized equipment or plant machinery.

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4.3.3 Working with consultants

Most established consultants do not have enough knowledge on executing works using local resource-based approaches and are unfamiliar with the key considerations in planning and design that make these approaches successful. It is therefore often necessary to train consultants to engage in local resource-based programmes. Consultants strengthen the government's delivery capacity by providing:

- ❖ Technical assistance (advisory services to the client and training and institution-building)
- ❖ Appraisal(s), namely, the technical, financial and economic aspects
- ❖ Studies related to project design or impact
- ❖ Supervision and control of works implementation (works supervision, coordination of inputs by various contractors, certification of invoices from contractors and suppliers).

Involving local consultants in labour-based works in Zambia

The immediate objective of the United Nations Development Programme (UNDP)/United Nations Capital Development Fund (UNCDF) funded rehabilitation and maintenance feeder roads project in Zambia (1996–2001) was to establish capacity within the district technical departments to plan, design, implement and monitor road rehabilitation and maintenance works using the most cost-effective construction technology, primarily based on the use of locally available resources, and with the participation of the private sector construction industry.

However, the provincial and district units were unable to provide all of the contract preparation and management needed in the road sector, at least in the short term. It was therefore decided to make use of local consultants in design and supervision of the labour-based contracts. Although there were a few Zambian consultancy firms available, there was still a need to train or orient their staff in the labour-based approach. It was thus decided to offer consultancy firms the opportunity to attach staff to an international consultant working in the project and in that way ensure they received the necessary training. Even though the consultancy firms had to cover the costs of their sending participants to this scheme, seven firms sent 12 participants. Over a period of 5 weeks they underwent thorough training in field assessment and the preparation of contract documents.

The result was that all participants became familiar with the labour-based approach. All seven firms were given a trial contract and a certificate at the end of the training. Some continued to prepare contracts for the rehabilitation contractors trained by the project.

The consultants trained by the project were paid approximately 3% of the total construction cost for the contracts they had prepared. They completed approximately 1 km per day with all measurements required.

Many of these consultancy firms went on to secure long-term contracts with the Ministry of Local Government and Housing to prepare and supervise labour-based contracts in the countries provinces.

4.3.4 Implementation arrangement with communities

Communities as an implementation arm

‘Community contracting’ is a procurement process involving a community entering into an agreement with a development organization or public agency to deliver an asset or service. The agreement brings together communities with a need, but few resources, with organizations or public agencies who have the appropriate technical, financial and organizational resources to meet that need through a contracting approach.

Before being able to enter into contractual agreements, the community needs to form a legally recognized body, usually referred to as a community-based organization (CBO). This should be a participatory process where all members of the community affected by the problem, or to be served by the asset or service under consideration, are made aware of, and participate in, the formation of the CBO and are represented in the decision-making processes.

*Organized communities
could be partners in the
delivery process*



When the CBO has a legal standing as a non-profit organization in conformity with the laws of the country, it may operate a bank account, receive and distribute funds, mobilize community resources in a systematic and accountable manner and fulfil its responsibilities described in contractual agreements.

Community contracting involves four main actors:

The contracting authority (CA)

This could be a municipality, an NGO, a technical department of a line ministry, a development agency, a private consultancy firm or even a committee within the CBO itself. In case of the latter, an appropriate organizational arrangement is required to make such a 'construction committee' (CC) a separate entity within the CBO.

The contractor

Community contractors come from within the community and could be a CC, an economic interest group, or skilled individual(s).

The funding agency

An external agency funding all or part of the project.

Technical service providers

These can be local consultancy firms, technical departments, international or national development agencies, NGOs, university departments, etc. They assist the community in formally organizing, setting priorities, approaching potential contract partners and funding agencies, planning and design, training, setting up operation and maintenance procedures and providing legal and accounting services, etc.

Negotiating and implementing contracts is a skill that communities and their partners need to learn. Communities must also learn to organize themselves, and those representing their interests must learn to negotiate and implement contracts. All those involved in the implementation process must understand the contract and accept their roles and responsibilities before an agreement is concluded. Similarly, local authorities and funding agencies who are not yet used to treating communities as equal partners in the development process must learn and understand the community's role and how to manage it.

Possible role of communities

Community contractors can be:

- ❖ Labour only contractors, e.g., a workers' cooperative
- ❖ Labour and materials contractors
- ❖ Full contractors, that is, those responsible for supplying and managing equipment and tools, project management, subcontracting and labour and materials.

Positive experience with community delivery exists with:

Type of infrastructure/service	Description
Provision and improvement of access for motorized and non-motorized transport	Access roads, improved footpaths and cycle/handcart paths, small bridges, concrete block or stone paving, gravelling
Storm-water drainage	Lined open drainage channels, culvert crossings, small bridges
Community water facilities	Water distribution schemes, water storage tanks, water kiosks, wells, public washing facilities
Community sanitation facilities	Public toilets, sewerage schemes, pit latrines, sedimentation ponds
Buildings	Classrooms, pre-school buildings, multi-purpose community halls (all buildings should be single-storey) health centres, markets
Environmental protection/improvement	Erosion protection, fencing of public areas, improvement of market areas, forestry, orchards, recreation areas
Solid waste management	Cleaning of public areas, household garbage collection, separation and recycling/composting of solid waste

Planning with and implementing through communities

Community contracting is easiest when one common problem is recognized as a priority by all members of the community. If there are several priorities, the CBO needs to discuss their ranking as well as the range of solutions. The community will need to reach consensus on the desired



Solid waste collection

level of service as well as on the ability to contribute to the construction, maintenance or service operation. Technical advisory services are usually needed to help in these matters and to make detailed, technically sound designs.

Finally, CBOs have to select the means of delivery that meet their requirements, considering issues such as levels of service, quality of assets and their costs, the engagement of community members and local businesses and capacity-building needs.



The experience with community contracting has demonstrated that this approach enables communities and their partners to acquire a wide range of skills. It also provides important business opportunities for a variety of local entrepreneurs and professionals.

Public Private Partnership (PPP) in solid waste collection, Dar es Salaam

Dar es Salaam City Council has made significant progress in tackling the problem of solid waste collection. The government has adopted by-laws regulating the waste collection and the three municipalities of Dar es Salaam have formally advertised, tendered and awarded contracts to micro-enterprises for waste collection and street cleaning. The households generating the waste pay the waste collection enterprises directly. Much has been achieved in terms of employment creation, income-generation, social integration, waste collection and disposal, the area covered and environmental cleanliness.

50 micro-enterprises and more than 2 000 jobs have been directly created. The jobs are primarily held by poor women and men. Where formal waste collectors are operating effectively, child labour in waste collection has been eliminated. The cleanliness of the city has significantly improved. The waste collected and disposed off on the official waste dumpsites has dramatically increased and now covers 40% of the total household waste generated in the city.

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4.4 Building private sector capacity

Issues and challenges

Most established private sector players in the construction industry in developing countries do not have the requisite knowledge, skills and/or interest in the application of local resource-based approaches. However, emerging contractors with limited resources are generally more ready to engage in work involving local resource-based approaches and can play a significant role, as has been shown in a number of countries in Africa and Asia. However, to be effective in their delivery, they do need initial support to strengthen their capacities and meet contractual, administrative and procedural requirements.

Principles and options

It is often necessary to develop and support a new cadre of entrepreneurs and emerging local contractors who are prepared to carry out works using local resource-based approaches.

4.4.1 Developing small-scale entrepreneurs

A typical and proven approach to the development of small-scale construction firms able to use locally available resources for infrastructure works effectively is shown below.

<ul style="list-style-type: none"> ❖ Develop candidate selection criteria ❖ Invite interested candidates and screen applicants according to set selection criteria ❖ Develop/identify appropriate training material ❖ Develop/identify appropriate contract documentation and procurement procedures ❖ Procure good quality hand tools and appropriate light equipment for training/demonstration and equipping a number of firms ❖ Establish an appropriate management procedure ❖ Establish a quality assurance plan and guidelines 			
Phase I: Preparation	<ul style="list-style-type: none"> ❖ Classroom training – technical ❖ Classroom training – business ❖ Practical training: civil – dams, irrigation, road rehabilitation and maintenance and building works, etc. 	<ul style="list-style-type: none"> ❖ Award of contracts (directly or through competition between trainee contractors) ❖ Enforcing of all contractual obligations, including labour clauses and quality assurance plans 	<ul style="list-style-type: none"> ❖ Award contracts through open competitive bidding ❖ Contractors fully independent and manage their own business
	Phase II: Training 1	Phase III: Mentorship 2	Phase IV: Practising contractors

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4.4.2 Developing local consultants

Having competent and experienced local consultants will increase and improve the delivery capacity of the government. There is often need to build the capacity of consultants to effectively participate and supervise local resource-based approaches. A typical approach to develop consultants' skills is summarized below.

<ul style="list-style-type: none"> Assess current existence and capacity of local consultants Establish registration/classification based on capacity and experience 	<ul style="list-style-type: none"> Carry out training needs assessment related to local/national resources approaches Establish training programmes to meet perceived needs 	<ul style="list-style-type: none"> Develop policies to allocate feasibility study work, design and supervision workload for different types of work to a range of local consultants Award contracts and monitor performance 	<ul style="list-style-type: none"> Encourage the establishment of a consultants' association to negotiate with client(s) Encourage international consultants to work with local associates
Phase I: Preparation 3	Phase II: Training 4	Phase III: Mentorship 5	Phase IV: Practising consultants

Introducing alternative pro-employment methods of delivery to the private sector – South Africa



4.4.3 Empowering communities to be delivery agents

Engaging communities in the delivery process of infrastructure works requires that they have the correct understanding of the process. Organizing themselves and forming a democratically elected representative body is an important prerequisite. This in turn requires organizing and training selected community leaders and group members.

<ul style="list-style-type: none"> ◆ Registration of CBO ◆ Signing general agreement with other partners ◆ Putting highest community priorities into an action plan and agreeing on assistance needed ◆ Agreeing on levels of service and layout ◆ Designing, discussing and agreeing a proposed solution and maintenance plan ◆ Agreeing on the contracting authority and funding 	<ul style="list-style-type: none"> ◆ Carry out training needs assessment ◆ Ensure that the community fully understands contract ◆ Obtain approvals from relevant bodies ◆ Form construction committee ◆ All parties to sign community contract 	<ul style="list-style-type: none"> ◆ Implementation and on-the-job training ◆ Community supervises the works, issues subcontracts to artisans and manages resources ◆ Contracting authority advises, inspects and pays ◆ Full communication with wider community 	<ul style="list-style-type: none"> ◆ Community uses profits for agreed purpose ◆ Operates and maintains assets ◆ Monitoring and evaluation continues ◆ Initiation of further projects
<p style="text-align: center;">Phase I: Planning and negotiation 7</p>	<p style="text-align: center;">Phase II: Approvals and signature 8</p>	<p style="text-align: center;">Phase III: Mentorship and training 9</p>	<p style="text-align: center;">Phase IV: Empowered communities</p>

Local skills development for new partners, Tanzania

A survey was carried out following the completion of a local resource-based slum upgrading project in Dar es Salaam, Tanzania, that was executed by community contract. The survey found important forward linkages of the intervention to the local economy. The training received and skills obtained by the community workers of the Hana Nassif sub-county during the works period allowed tradesmen and workers to become self-employed as plumbers, semi-skilled carpenters and house-builders. Thirty per cent of the participants were able to start new businesses or to expand existing activities and 20% of the respondents found permanent jobs related to the works.

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4.4.4 Key technical and management capacities for implementation

Competent middle management and supervisory capacity is essential for cost-effective delivery of local resource-based infrastructure works to the agreed standards and on time. Depending on the type and volume of work, different levels of technical supervisors will be needed. The table below provides guidance with regard to the levels of competence required.

Level of staff	Training topics						
	Managing people	Technical issues	Planning & design	Pricing & bidding	Managing works	Managing contracts	Managing business
Technical Assistant	√√	√	11	12	√√	13	14
Technical Officer	√√	√√	15	16	√√	17	18
Site Manager	√√	√√	√	√	√√	19	20
Engineer	√	√	√√	√√	√√	√√	21
Contractor				√√	√√	√√	√√

Key:

√ Basic knowledge required

√√ Good knowledge essential

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4.5 Creating an enabling contracting environment – levelling the playing field for emerging entrepreneurs

Issues and challenges

For emerging construction firms to grow and play a meaningful role in the delivery of planned infrastructure, creating jobs in the process and helping to meet national development objectives, they require an improved working environment that gives them a fair chance to compete for

business. Such an enabling environment must allow the emerging contractor easy access to financial and material resources and open up access to work opportunities.

Principles and options

The figure below shows the elements of an enabling environment for private sector development.



4.5.1 Access to resources

For emerging construction firms to survive and grow they must have access to credit, essential hand tools and equipment.

Finance and credit

The public sector can play a significant role in facilitating emerging firms' access to credit, reducing the risk factor. This can be achieved through: (i) guaranteeing (at least for an initial period) work for the emerging contractor; and (ii) making mutually agreed (client, bank and construction firm) loan pay-back arrangements from the proceeds of completed construction work. Experiences in Lesotho and South Africa illustrate the positive role that the public sector can play in this area. As construction is a risky business, financial institutions have built in many monetary safeguards. Contractors may need access to credit for:

- ❖ Purchase of bids
- ❖ Bid guarantees
- ❖ Performance guarantees
- ❖ Advance guarantees

- ❖ Guarantees for overdraft facility
- ❖ Mobilization costs, including:
 - Purchase/hire of equipment
 - Purchase of tools
 - Administrative and insurance costs
 - An advance credit to cover expenses until the first payment for completed works is received.

Equipment

Contractors specializing in local resource-based infrastructure works do need appropriate light equipment and good quality hand tools for a work force of 150 to 200 workers. The following is a typical list of equipment used for local resource-based rural road (re)construction projects:

Activity	Typical equipment
Supervision of work	❖ Single/double cab pick-up
Haulage	❖ Tractor-trailer combination for short haulage distances in flat to hilly terrain ❖ 7 ton tipper truck for longer haulage distances in hilly and mountainous terrain
Water collection	❖ 1000-2000 litre water container suitable for towing by pick-up
Compaction	❖ 0.8-1.7 ton pedestrian or sit-on roller
Grading	❖ Tractor-towed grader

A typical investment for securing the above set of equipment sufficient for a rural road construction site is in the order of US\$100-150 000. Few developing countries have a good manufacturing capacity for this type of equipment and established public/private sector equipment hire organizations rarely deal in the range of items appropriate for this type of work. As a result, construction firms generally opt to procure and own this essential equipment. Because these firms have neither the cash nor the collateral to do so they require intervention and assistance by the contracting agency.

Appropriate equipment is essential to ensure quality – South Africa



Options to acquire access to basic equipment

Option 1: Contracting agency procures the necessary equipment

The contracting agency pre-finances the equipment essential for the work and enables the trained and eligible contractors to hire-purchase this equipment through a selected commercial or non-profit financial institution. This option is used when no suitable institution will provide loans on reasonable terms to the contractors and/or there are no reputable local importers who can provide the equipment identified above.

The contracting agency:

- a) Estimates the types of equipment and minimum number the contractors will need for the job
- b) Determines the loan terms such as down payments, pay-back schedules and interest rates
- c) Fixes the loan currency.

Strengths	Weaknesses
<ul style="list-style-type: none"> ❖ Contractors have access to essential equipment from the start of their development programme ❖ Significantly reduces initial capital investment by the construction firm 	<ul style="list-style-type: none"> ❖ Contracting agency is obliged to ensure a continuous workload until the contractors complete their loan repayments ❖ Reduces the performance incentive for the contractor ❖ In weak economies with high inflation the interest rates will be high. This factor, combined with local currency devaluations, can make it very difficult for the contractors to make loan repayments expressed in foreign currency. This in turn will adversely contractors' development and growth

Equipment loan repayment by small-scale labour-based contractors

In 1986 Ghana took a bold step to utilize the private sector/small-scale contractors for the implementation of a labour-based rural road programme. Under the programme, a set of equipment costing about US\$150 000 was given, under a hire-purchase agreement, to a trained contractor. They were to repay this sum over four years from earnings made on guaranteed work by the client (Government of Ghana) during the stipulated duration. The equipment consisted of:

3 tractors (60-65 HP)

1 tipper truck (5m³)

2 vibratory pedestrian/ride-on rollers

1 chain-saw

A set of good quality, well-designed hand tools.

6 tractor-drawn trailers (3m³)

1 towed water bowser (2 250 litres)

1 water pump

1 pick-up

A total of 93 contractors from all ten regions of the country were trained. Of those, 54 were fully equipped through local and donor funding. Each equipped contractor employed 100-200 workers on a typical road contract that generally lasted for one year and produced 1-2 km of gravel road per month. At the end of 1995, a total of 1 395 km of rural roads had been rehabilitated and 3 711 box culverts had been constructed. This output created some 4.4 million person-days of employment to village workers, of whom 25.9% were female. During this period, 1 km of rehabilitated road by labour-based method cost between US\$10 000 and US\$13 500, while the same length of comparable quality road cost about US\$20 250 when capital-intensive methods were used.

There were three major players in the programme, namely the Loan Management Bank, the client and the contractor. The conclusions of a review of the system were as follows:

- ❖ *Loan currency: As much as possible, the loan should be granted to the contractor in the country's local currency, especially where the local currency depreciates too fast or too often against the foreign currency under which the funding was made.*
- ❖ *Interest rates: The interest rate should be fixed, bearing in mind the small-scale nature of the construction firms involved and the development of building a national capacity base of local construction firms. Lower than commercial rates can be accommodated during this development phase because donor funding is usually available. The recommended approach was to apply the lowest interest rate level applicable in the country's banks for similar special programmes.*
- ❖ *Repayment schedule: A four-year recovery period was stipulated. It was recommended to fix the repayment schedules on a monthly basis. It was also recommended that the client should pay default charges in the case of late payments, in addition to interest refunds. This removes unnecessary financial risks from the construction firm (created by late repayments and inappropriate repayment schedules) and significantly reduces the default risk on the equipment loan.*
- ❖ *Agreement/collateral requirements/working capital: Banks will naturally draw up agreements in their favour in order to reduce risks to themselves. The appropriateness of the agreement clauses should be regularly reviewed by the three parties.*

Reference

- Opuku-Mensah, E. (1996). 'Enhancing equipment loan repayment for small-scale contractors', in *Labour-based technology – A review of current practice*. Papers of the 5th Regional Seminar for Labour-based Practitioners, Accra, Ghana, 22-26th April, 1996. ILO/ASIST.

Option 2: Hire-purchase from a third party

The Contracting Agency (CA) does an inventory and finds that there are institutions available and interested in providing equipment finance at reasonable rates through leasing, direct-purchase bank loans, hiring from plant pools, or hire purchase. The best situation is where the

CA can leave equipment finance to the market, facilitating arrangements for emerging contractors through guarantees on work and payment timing and regularity. As emerging construction firms lack sufficient resources to provide collateral for the loan, the CA may intervene by facilitating arrangements with the equipment supplier. A proven and successful way of doing this is to use a guaranteed workload and regular work certificate payments as collateral.

Strengths	Weaknesses
<ul style="list-style-type: none"> ❖ Contractor decides on the amount of the loan and the type and numbers of equipment they wish to purchase ❖ Contractors obtain loan negotiation skills ❖ Competitive bidding can start soon after the training period ❖ Less intervention required from the CA 	<ul style="list-style-type: none"> ❖ In many developing countries suitable equipment may not be available on the market ❖ Collateral requirements and loan conditions by financial institutions may be prohibitive and prevent emerging construction firms' access to equipment

In contractor development programmes, the CA should play a major role in encouraging the financial services sector to develop services for the growing market of emerging contractors. It has a responsibility to ensure fair and reasonable financing terms and conditions for contractors' access to necessary equipment. A balance also has to be struck between what contractors want to purchase, the available funding and foreseeable workload, access to and price of credit facilities and the contractors' capacity to grow. A CA can consider making an advance mobilization payment of up to 15% of the contract value to enable the emerging contractor to buy second-hand equipment for the works. Procurement should be biased towards local suppliers if they can provide quality items and back-up services. Political commitment to developing the small-scale end of the construction industry is crucial to enabling the CA to take these initiatives.

Hire-purchase scheme: Zambia's experience

A large-scale rehabilitation and maintenance feeder roads programme in Zambia trained small contractors in labour-based technology and contracted them for the rehabilitation of feeder roads. The development of a local contracting capacity for feeder road rehabilitation and maintenance was one of the major objectives of the programme.

The contractors that were selected and trained did not possess the equipment needed for the rehabilitation work. With external funding, the Ministry of Local Government and Housing (MLGH) procured sets of equipment and hand tools for the contractors.

A loan scheme was set up and a repayment arrangement established. The loan scheme required the contractors to pay off the equipment package over a period of four years. The loan repayments would flow back to the programme's feeder road fund and be used for further rehabilitation work. The interest earned on the loan scheme would be used to train the contractors in business management.

A local NGO was selected by the MLGH to manage the loan scheme and provide training for the contractors. Two major outputs were expected from this service provider.

- ❖ *Support to contractors in improving their business management skills*
- ❖ *Recovery of the equipment loans.*

The interest, charged at 1% per month, would be retained by the NGO as part of its management fee.

Results

- ❖ *Poor performance by the selected service provider resulted in contractors accruing arrears*
- ❖ *The NGO did not provide satisfactory levels of technical assistance to the contractors.*

Lessons learned

- ❖ *The selection of an institution for the management of a credit scheme has to be based on an in-depth assessment of the experience and the expertise of its staff*
- ❖ *The decision to combine the functions of loan management and contractor support within one institution led to conflicts between these two roles of the service provider*
- ❖ *The involvement of a credible and specialized body to manage loan repayments ensures timely loan recovery.*

References

- Deelen, L. and K. Osei-Bonsu (2002). 'Equipment finance for small contractors in public works programmes', in *Labour-based technology – A review of current practice*. Papers of the 9th Regional Seminar for Labour-based Practitioners, Maputo, Mozambique, 20th-24th May, 2002. ILO/ASIST.
- Rademaker, P. (1999). 'Credit facilities and appropriate investments for contractors', in *Labour-based technology – A review of current practice*. Papers of the 7th Regional Seminar for Labour-based Practitioners, Lusaka, Zambia, 3rd-7th May, 1999. ILO/ASIST.
- Rademaker, P. (1999). *Feeder roads project, Chipata, Zambia: An assessment of the performance of Village Industry Service (VIS), the implementation of the hire-purchase scheme and the provision of assistance and training to contractors.*

4.5.2 Continuity of work

The initial significant and essential investments in training, finance and effort by the emerging contractors, the contracting agency and the funding agency will be wasted if contractors go out of business because of the lack of a steady workload. Positive initiatives are necessary in terms of:

- ❖ Setting up a level playing field that encourages the participation of new players
- ❖ Ensuring that the classification system and the bidding process include small emerging construction firms to the maximum extent possible
- ❖ Earmarking adequate financial resources at the beginning of the programme.

Expanding work opportunities

Diversifying the construction industry and raising it to a higher level of development performance requires deliberate action. Emerging contractors who have been encouraged to take on financial commitments should be provided with the necessary support until they are mature enough to compete on their own. This includes ensuring that their workload will enable them to make their loan repayments.

Contracting authorities can achieve this by:

- ❖ Repackaging works contracts to ensure the availability of smaller-sized contracts suitable for the emerging contractor
- ❖ Promoting technology-neutral designs and specifications
- ❖ Considering making specific allocations of construction works suitable for different contractor classification levels, including community contracting
- ❖ Coordinating with other CAs so that emerging contractors can branch out of their start-off sector and find work in other infrastructure sectors, e.g., roads, buildings, water supply, soil conservation and irrigation.

Packaging works

Increasing investment in rural areas should mean more and better opportunities for local small-sized construction firms and communities. However, worksites in rural areas are generally widely dispersed. This implies that contract administration has to be organized to take into account issues essential to the sustainability of small-scale contracting. These issues include the timely inspection of work and preparation of work certificates, timely payment and assistance so that cash flow problems do not cripple the construction firms.



Urban road paving – a potential area of work for emerging entrepreneurs

The CA needs to consider:

- ❖ To what extent can contracts be managed at local level?
- ❖ Can authority be delegated to streamline technical and financial control?
- ❖ Can work certification be streamlined?
- ❖ Is there enough capacity at the local level (including local consultants) to assist in contract preparation and supervision?

Decent work

Employment creation is probably the most effective way to lift people out of the poverty trap. Entrepreneurs working with local workers and resources can have a significant impact on employment. Nevertheless, it is crucial to avoid worker exploitation and to ensure that work is 'decent'. Programme designers should ask themselves the following questions:

- ❖ Have the sectoral ministry, ministry of labour and relevant trade unions been involved in programme preparation? To what practical extent can they be involved in on-site monitoring? What alternatives are there?
- ❖ What system of incentives and sanctions related to the contract can be used to encourage respect for labour standards? This will vary depending on whether the contracts are commercial or carried out by the community.
- ❖ Has awareness of labour standards been adequately incorporated in training for the different target groups?
- ❖ Will the application and impact of relevant labour standards be monitored (it should be disaggregated for women/men, permanent/casual, migrants/locals)? Are there mechanisms for taking findings into account and revising programme/project design?
- ❖ Do local authorities and labour inspectorates have the technical capacity and mobility to manage and supervise the working conditions of many different worksites?

4.5.3 Procurement of works

Procurement – a tool to address development objectives

Conventional procurement systems primarily use cost as the main criterion for the comparison of bids. This procurement approach makes it difficult to address social and development goals. Governments have become much more aware that providing decent employment will assist in the fight against poverty and lead to sustainable development. For this, a new generation of procurement systems that allow for setting development goals can play a decisive role.

Procurement systems can be adapted to:

- ❖ Offer technology choice and support skills transfer
- ❖ Encourage and support the participation of small local entrepreneurs and technical service providers in the construction industry

- ❖ Provide decent work for the unemployed
- ❖ Incorporate relevant labour standards
- ❖ Assist in addressing key social issues identified by the client, such as unemployment, empowerment, HIV/AIDS.

If local resource-based infrastructure contracts are to be applied on a nationwide scale, contract documentation should be both appropriate and legally acceptable. Such documentation has been produced following consultations with all concerned parties in the industry and after seeking legal advice. These internationally accepted procurement documents are being used for small works executed by emerging small contractors using local resource-based approaches.

Procurement documents for minor works include the following:

Institution of Civil Engineers (ICE) (1998). *Conditions of contract, Minor works*. United Kingdom.

International Federation of Consulting Engineers (FIDIC – Fédération Internationale Des Ingénieurs-Conseils) *Short Form of Contract*.

Labour Construction Unit (1996). *Bidding document for road rehabilitation/regravelling works*. Ministry of Works, Lesotho.

Labour Construction Unit (1996). *Contract documents for routine road maintenance*. Ministry of Works, Lesotho.

Ministry of Roads and Public Works, Kenya and ILO/UNDP (2005). *Roads 2000. Standard Tender Document for Procurement of Small Works – Labour-based Routine Maintenance Works, Roads: Labour-based Rehabilitation and Spot Improvement Works, Roads: Vol. I: Instructions to Tenderers, Conditions of Contract, Drawings/Bills of Quantities, Standard Forms; Vol. II: Specifications*.

NEC (New Engineering Contract) (1997). *Engineering and construction. Short Contract*.

World Bank (1995). *Procurement of works, smaller contracts*.



The Lesotho experience

In 1994, the Government of Lesotho launched a small contractor development programme. The objective of the programme was to introduce a new group of private contractors to partner the government in its objectives of providing a reliable road transport system and creating employment in the delivery process. As part of the contractor development process, procurement procedures to support the active participation of small contractors using local resource-based methods were developed.

Restrictive bidding, that is, earmarking the work for the small contractors trained by the programme, was not an option. Instead, the eligibility to bid was strictly defined. Bidders' qualifications and experience were scrutinized using carefully drafted qualification information.

Conditions of contract of the procurement system cover were:

- ❖ *Health and safety issues*
- ❖ *Preferred technology option, defining employment goals and equipment type*
- ❖ *The contactor's obligation to comply with the relevant national labour legislation*
- ❖ *The contactor's obligation to apply a specially developed monitoring system enabling the client to verify achievements in terms of set goals and conditions, including the full and timely payment of wages to workers.*

Between 1995 and 2000, the programme trained 56 contractors who carried out works valued at more than US\$15 million.

The South African experience

Through its Preferential Procurement Policy – South Africa (PPP-SA) uses public procurement as a tool to meet development goals. These include addressing gender imbalances, poverty reduction through employment and supporting emerging local contractors. Based on PPP-SA principles, 'Targeted Procurement' (TP) was one of the tools developed by the government to meet specific objectives. The procurement process evaluates the financial costs of the work against the government's development goals. Bid evaluations and contract award criteria are specifically designed for this purpose. In practice, this means that price preferences are given to those contractors that, in their bid proposals, best respond to the specified development objectives.

Under TP, the client specifies the expected minimum development goals that the service provider has to meet. To facilitate the award process, award points are allocated for meeting each of the set development goals. Development targets include local participation in the works, a gender balance and training provision. The criteria thus do not necessarily favour the lowest bid, but consider quality in addition to price. Contractors respond to the socio-economic targets specified in tenders by subcontracting (to NGOs, for example) or designing their own initiatives for community participation and training. The final contract award is based on combined points gained from the financial proposal and meeting development goals. The independent assessment of the TP experience held in February 2002 concluded that, irrespective of the challenges and problems encountered, through the implementation of this unique procurement tool, TP has been effective in establishing emerging contractors and in creating employment opportunities.

Reference

Manchidi, T.E. and I. Harmond (2002). *Targeted Procurement in the Republic of South Africa: An Independent Assessment*. Department of Public Works, South Africa, Development Bank of Southern Africa (DBSA), ILO.

Tendering process

The tendering process in most developing countries is centralized and too cumbersome to effectively deal with large numbers of lower value contracts. Not only does the process constrict

the flow of investment but the award/adjudication criteria ignore socio-economic considerations, focusing primarily on the costs.

CAs are increasingly moving towards tender procedures that enable small construction firms to participate and develop. In many countries, decentralization positively affects this trend by providing a suitable supportive framework for small contractor development. When reviewing tender procedures for enabling small contractor development, the following aspects are important:

- ❖ Decentralizing the tender boards will accelerate the number of contracts issued and enable the development of a local capacity to manage contracts. The CA needs to keep (delegated) control over certification and payment
- ❖ Encouraging the establishment of associations of contractors/service providers and of users is important. Involving these associations in matters concerning programme design and the development of appropriate procedures will contribute significantly to their future application
- ❖ Transparent, fair and appropriate award criteria must be developed and put in place – preferably in consultation with stakeholder representatives – to address development objectives
- ❖ Introducing socio-economic targets in the procurement process is viable. Higher-level policy directives issued by the government to the tender boards are a necessary first step in a process towards a successful introduction.

Typical contract-awarding procedure

- ❖ Employer prepares the bidding documents, including the Conditions of Contract
- ❖ Employer requests approval from the authorizing office to invite bids for the works
- ❖ On receiving the necessary authorization, the client invites bids from eligible bidders following approved procedures and using transparent criteria
- ❖ Opening of bids in a specified location in the presence of those bidders wishing to attend
- ❖ Evaluation of bids by the client, taking into account the prescribed criteria of eligibility, cost, staffing, technical content, etc.
- ❖ Client submits evaluation report and recommendations to the authorizing office
- ❖ On receipt of the authorization, the client notifies the successful bidder and invites them to enter into a contract agreement
- ❖ Contract agreement is drawn up and signed by the client and the contractor.

Payment procedures and timely payment

With the large numbers of temporary workers on the payrolls of contractors using local resource-based approaches, payment delays can cause huge problems (bankruptcy, strikes). A regular cash flow is essential for paying workers regularly, and on time, and to avoid labour problems. Moreover, the hours contractors have to spend chasing payment is valuable time lost for managing their worksites. Payment delays are common because of the centralized, cumbersome

payment procedures of most public contracting agencies. The problem is compounded by the administrative workload of many small contracts and the generally weak managerial and administrative capacity of most public agencies.

CAs have a variety of options to meet this challenge; these depend on the small contractor development model. Some basic principles:

- ❖ Introducing the policy (and confirming this through an appropriate clause in the contract) of making the client automatically pay interest at the prevailing market rate when payments are delayed by more than a specified period following the certification of completed works. This certification should preferably be done at regular (monthly or on a twice-a-month basis) intervals
- ❖ Decentralizing decision-making and payment as much as possible and streamlining the payment process to pay contractors both on time and as close to the worksite as possible
- ❖ Simplify accounting and auditing procedures to the maximum extent possible so that they are appropriate for small-sized local contracts
- ❖ Making sure that contracting agency personnel understand their contractual obligations under the conditions of contract in force
- ❖ Consider introducing monthly interim payments against the contractors' labour wage bill (in the initial stages)
- ❖ Simplifying measurement and payment certification – e.g., interim payments on a percentage completion basis
- ❖ Consider involving the banking system to deal with part of the financial administrative burden
- ❖ Consider resorting to third-party management with a float account to the responsible manager (the development team approach), or opting, from the start, for an autonomous contract management agency.

4.6 Managing contracts

All players in the contracting process must fully understand their roles and responsibilities as defined in the contract if there is to be effective and efficient management and ultimate delivery of the infrastructure works.



4.6.1 Contract document and key issues to be considered during bidding

The contract document should clearly define the parties and their roles and responsibilities.

Employer

A person or legally constituted body responsible for procuring the services described in the contract document.

Employer's representative (ER)

A person or legally constituted body appointed by the Employer to act on their behalf in the execution of the contract.

Contract supervisor (CS)

A person tasked by the Employer or Employer's Representative to supervise the execution of the work/services covered under the contract on daily basis.

Contractor

A person or legally constituted body responsible for the execution of the works/services in accordance with the required standards and specifications

Contract documents set a framework for labour standards at the work place



The General Conditions (GC) of the contract document usually clearly define the Employer's Representative (ER) and their role and responsibilities. Typical responsibilities of the ER include:

- ❖ At the start of the Contract, notifying the Contractor – *in writing* – of the name of the Contract Supervisor(s) who will supervise the project on a day-to-day basis
- ❖ Supervising the work of the Contract Supervisor (CS) on a regular basis (at least once a week). Requesting reports in writing from the CS on progress, constraints, obstacles, etc.
- ❖ Demanding quality control reports from the CS on a weekly basis (e.g., in the case of a gravel road contract, width of gravelled section, thickness, compaction standard)

- ❖ Participating or spot-checking the measurement of the work completed by the contractor at the agreed intervals
- ❖ Ensuring that no additional work is carried out without a written Variation Order
- ❖ Where variation orders have been issued:
 - Make sure that a copy of the variation order form is attached
 - Where applicable, ensure that the advance payments are recovered
 - Ensure that joint measurement sheets are certified and signed jointly with the contractor
 - Make sure the Payment Certificate (PC) is signed in the appropriate place
- ❖ Ensuring that the Contractor's PC is prepared regularly and on time and submitted to the client
- ❖ With regard to the PC:
 - Check if the unit rate is the same as the tendered price
 - Ensure that the total quantity claimed does not exceed the combined total of the tendered quantity and variation orders, if these have been issued
 - Ensure that supporting documents such as wage returns and quality control reports are up to date and attached.
- ❖ Inform the client – *in writing* – of important events affecting the progress of the work, for example, any serious misconduct by the Contractor, obstructions (artificial or natural), possible delays and reasons for delays, and so on
- ❖ Making spot checks to see if the Contractor's employees are paid fully and on time; relevant labour legislation is being respected; the working conditions on site are as stipulated in the contract
- ❖ Ensuring safety at work as well as the application of measures related to health
- ❖ Ensuring that environmental considerations are taken into account
- ❖ Ensuring adherence to set specifications with regard to work quantities and measurements
- ❖ Inspecting the supervision of routine maintenance contracts
- ❖ Administering financial data according to the monthly financial reports pertaining to different contracts.

The table below summarizes major activities and recommended responsibilities for contract management.

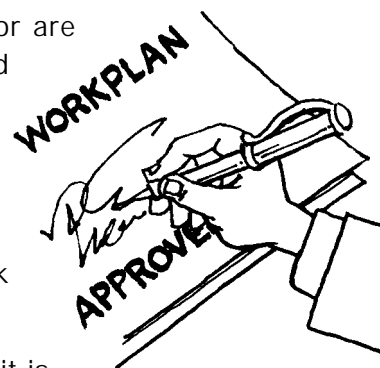
Activity	Frequency	Responsible Officer
1. Checking that work is carried out according to the specifications and quality standards	Daily	Contract supervisor (CS)
2. Ensuring that setting out is properly done	Daily	CS
3. Carrying out intermittent quality control	Daily/weekly	CS/Employer's Representative (ER)
4. Issuing variation orders when required	ER	
5. Measuring actual work done	Monthly	CS and ER
6. Preparing and approving payment certificates	Monthly	ER
7. Ensuring that the contractor is paid in time	Monthly	ER
8. Ensuring that the materials used are always suitable	Daily	CS/ER
9. Ensuring that the requirements of the Contract Document are adhered to	All the time	All

4.6.2 Responsibilities of the Contract Supervisor

At the project/site level, the ER is represented by a CS responsible for the day-to-day supervision of the works. With local resource-based contractor development programmes, a supervisory presence on the project sites is important, particularly for certain kinds of works where the contract value is high.

Important CS responsibilities in contractor-executed projects include:

- ❖ Ensuring that all instructions to the Contractor are communicated – *in writing* – preferably on designed instruction forms, otherwise using triplicate books. Instructions should be numbered and signed by the Contractor and the CS
- ❖ Monitoring the progress of work to see that it corresponds with the contractor's submitted work plan
- ❖ Supervising and monitoring work to ensure that it is executed in accordance with the specifications and quality standards by carrying out regular quality control checks at agreed times.



Further reading

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Ministry of Roads and Public Works, Kenya ILO/UNDP (2005). *Roads 2000. Contract Management Manual: Vol. I: Management of Routine Maintenance Work; Vol. II: Management of Rehabilitation and Spot Improvement Works.*

4.6.3 Health and safety

Sites should be well supervised to ensure that all work operations are carried out safely and that environmental considerations have been taken into account. Special attention should be given to:

- ❖ Making sufficient clean drinking water available in close proximity to the project site
- ❖ Providing necessary protective clothing and gear
- ❖ Ensuring safe quarry excavation, adhering to safety regulations for building sites.

Issues and challenges

Safety at the workplace has to be a key priority



In developing countries, the issues of health and safety are often not taken seriously by employers. The costs of safety and health, e.g., protective gear and accident and health insurance, are not usually included in contractual agreements. The consequences of accidents on site can be disastrous for short-term workers who have to pay the costs of any eventualities.

Principles and options

Tenders and conditions of contract should specify health and safety requirements, namely:

- ❖ Signalization on work sites as necessary
- ❖ Protective clothing and footwear for selected activities
- ❖ Requirement for first-aid kits
- ❖ Provision of good-quality drinking water
- ❖ Entitlements in terms of paid sick leave, accident insurance and the provision of items and facilities mentioned above for individual workers.

Further reading

Ladbury, S., A. Cotton and M. Jennings (2003). *Implementing Labour Standards in Construction: A source book*. (Guidance note 1: The international context and national implications; Guidance Note 2: Making Labour Standards Operational; Guidance Note 3: Including Labour Standards in the Contract). Water Engineering and Development Centre (WEDC), Loughborough University.

4.6.4 Protecting the environment

Issues and challenges

Programme/project planners and implementers of local resource-based programmes must be aware of, and consider, the effects (natural and human/social) of the planned work on the environment. The table below shows selected examples of potential impacts on the environment:

Natural	<ul style="list-style-type: none"> ❖ Destruction of vegetation, loss or damage to flora and fauna ❖ Deforestation ❖ Erosion ❖ Creation of borrow pits and quarry excavation
Human/Social	<ul style="list-style-type: none"> ❖ Displacement of communities ❖ Noise, dust and water pollution ❖ Traffic accidents ❖ Negative social impacts on households

Principles and options

Environmental Impact Assessments (EIAs)

It is necessary to scrutinize all projects for their environmental friendliness at all stages of delivery. EIAs should be conducted at the identification, planning, designs, implementation, operation and maintenance phases. Community participation during an EIA is crucial –



Protecting the road and surrounding environment using gabion retaining wall – Lesotho

community members can provide valuable information on the surrounding area that is relevant to the assessment process. The EIA report should include the following:

- ❖ Description of the project
- ❖ Description of the existing environment
- ❖ Expected impact of the project
- ❖ Recommended mitigation measures
- ❖ Cost of the mitigation measures
- ❖ Conclusions.

Once an EIA has been conducted, its findings and recommendations should lead to making necessary decisions and actions about the design, planning, implementation and monitoring of the project in order to mitigate negative impacts. For example, with regard to road works the following environmental considerations would apply:

- ❖ Before commencing work: Has the community been asked to identify trees and plants for transplantation outside the road reserve? Have measures been discussed to limit dust pollution? Have the effects of borrow pit and quarry excavation been taken into account?
- ❖ During construction: Protect embankments, drainage outlets, culverts, bridges and drift to avoid erosion and damage to the environment by, e.g., planting grass or building scour checks at intervals using local materials. Take measures to avoid accidents in the community and with animals during the material extraction from gravel quarries and borrow pits
- ❖ After construction: Rehabilitate gravel quarries and borrow pits. Ensure that drains are kept clear, and to their original dimensions, and that scour checks are well maintained.

Further reading

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Manchidi, T.E. and I. Harmond (2002). *Targeted Procurement in the Republic of South Africa: An Independent Assessment*. Department of Public Works South Africa, Development Bank of South Africa (DBSA), ILO.

Mogstad, P. and T. Tessem (1999). *Employment-intensive project environmental guidelines series* (Guide 1: Environment, poverty and the use of local resources for sustainable development; Guide II Project cycle and environment assessment; Guide III:

Environmental impacts and rural access; Guide IV: Low volume roads and the environment – A guide to proper design, construction and maintenance. 2 Vols. ILO.

Sahle, Dejene (2001). *Entrepreneurship development in the road sector – Regional experience*. Paper presented at WORK 2001 International Conference.

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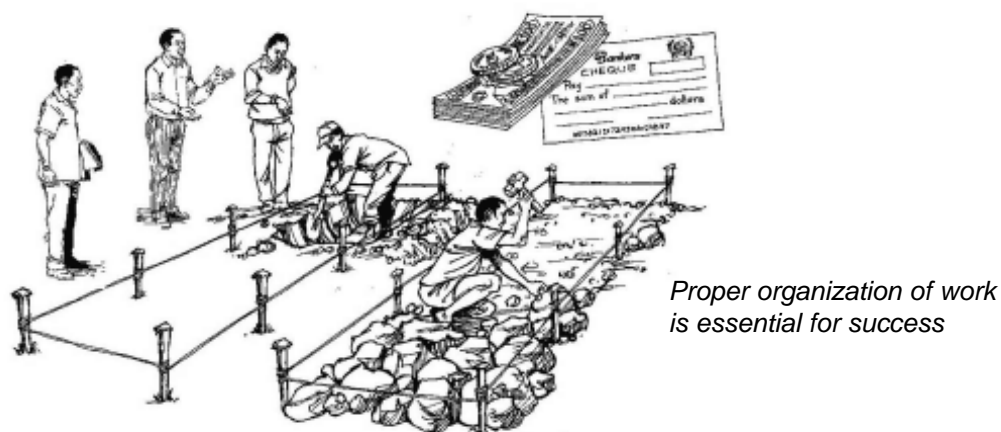
Tajgman, David and Jan De Veen (1998). *Employment-intensive Infrastructure Programme: Labour Policies and practices*. ILO.

4.7 Execution of work

4.7.1 Scheduling labour

Labour availability

Labour availability should be assessed at the planning stage, before the start of the project. A labour market analysis in new areas should establish the availability of labour, the basic



acceptable wage and the inflation index for adjusting wages. The assessment should also take gender-related aspects into account.

Recruitment procedure

Recruitment procedures must be transparent and fair. They should be well-advertised in the project area. The ILO Guide entitled *Employment-Intensive Infrastructure Programmes: Labour policies and practices* provides practical suggestions on this as well as on payment, attendance, motivation and discipline, health and safety on site, social security and insurance, duration and termination of employment and rights of association.

Important aspects of fair recruitment are:

- ❖ Ensuring that men and women have equal chances of being recruited

- ❖ Avoiding forced or involuntary labour. Work must always be freely chosen. Even in the case of works, in the interests of the community no one should work against their will. Recruitment by intermediaries should be monitored
- ❖ In rural areas, schedule construction periods and working hours to take into account the seasonal demand for agricultural activities in the peak planting or harvest season. A recommended practice is to design tasks so that most workers can complete them in about six hours and be able to return to work on their farms or at home
- ❖ If there are many people wanting to work, use fair forms of job rationing to preclude favouritism and discrimination if there are more job applicants than jobs
- ❖ In case of the migration of workers to the construction sites, consider the workers' needs in terms of shelter, water and food supply and of the impact of the migration on the local population and environment.

4.7.2 Tools and equipment

During the planning stage, the implementing agency will have considered the type, size and mix of equipment to be used for the works.

The acquisition and operation of tools and equipment will involve:

- ❖ Defining the requirements in respect of different types of equipment, both in terms of numbers and when they need to be on site
- ❖ Identifying sources of equipment and agreeing upon workable arrangements for acquisition, back-up for repair and maintenance services
- ❖ Purchasing and/or hiring equipment.

Two essential criteria for equipment selection are the availability of local spare parts and of service facilities. Selecting appropriate sturdy and heavy-duty brands of light equipment with maintenance services available in-country will greatly increase the operational availability of the equipment on the worksites.

Hand tools are the main means of production for labour-based works. Their quality and degree of ergonomic design will greatly determine workers' productivity. Managers should opt for good-quality, well-designed tools – even if these are not the cheapest available – and particularly for excavation work.

*Concrete pipes
production site*



Equipment and tool management involves:

- ❖ Providing for maintenance and repair (sharpening or redoing handles, for example)
- ❖ Providing storage facilities
- ❖ Deciding on operational options. For example, with regard to hand tools, a choice must be made to either store them on site or to allow the workers to take them home (this is important where the same tools are used in farming).

4.7.3 Construction materials

The bill of quantities related to the work will indicate the construction materials requirements. The implementer has to determine the quantities and the acquisition schedule of the different materials, taking into account storage needs and capacities.

Purchasing materials

Materials for which there are industry specifications

Purchasing certain materials (fuel, cement, crushed stone, culvert pipes, etc.) may be an issue for small-scale contractors as suppliers will tend to favour, or give priority to, their larger clients. It will take time for small-scale firms to establish a good business relationship with suppliers so that they can obtain a more reliable supply and better prices. Demonstrating trust and credit worthiness is essential in this regard. Over time, contractors should think about ways to strengthen their bargaining power, e.g., by joining a small contractors' association that can serve as an instrument for bulk-buying.

The quality aspects of locally available materials that can be obtained close to the worksite are specified by the client. The implementer needs to carry out an inventory of what is available and to organize necessary testing and timely delivery to the worksite. The testing may be done by a central laboratory of a public authority, or by a commercial laboratory. Some testing can be done in a simple field laboratory. Equally, the implementer is also responsible for taking remedial measures to limit or correct environmental damage as specified by the client.

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Training courses and institutions offering relevant courses

The Institute for Housing and Urban Development Studies (IHS)

Details: Offers participatory and action-oriented training, aimed at improving knowledge, skills and attitudes for managing the urban development processes of today. The course programmes range from short post-graduate diploma courses to

Masters degree programmes and a PhD programme. Participants can choose either to enrol in a complete course, leading to a diploma or a degree, or to participate in one or more modules of a programme. Email: admission@ihs.nl; website: www.ihs.nl/

Kisii Training Centre (KTC) – International course in labour-based road construction and maintenance

Details: For practitioners of labour-based road works. Participants should have a university degree. Course covers choice of technology, all aspects of planning, implementation and management of labour-based construction and maintenance road works. E-mail: courses@kihbt-ktc.com

Kisii Training Centre (KTC) – Supervising labour-based works contracts

Details: Targeted at engineers or senior technicians supervising labour-based road construction and maintenance contracts. Course covers contract document preparation, tendering, evaluation, negotiation and awarding of contracts, contract implementation and supervision. E-mail: courses@kihbt-ktc.com

Rural Travel and Transport Planning Programme, East and Southern Africa Management Institute, ESAMI

Details: The course is aimed at senior government officials, transport economists, planners and engineers who are involved in transport policy, planning and development programmes. Its purpose is to provide a better understanding of the link between rural travel and transport (RTT) policies, planning and poverty reduction. Participants will be introduced to an innovative planning technique to ensure effective planning, implementation and evaluation of RTT policies. See www.esami-africa.org/

The Water, Engineering and Development Centre (WEDC) at the University of Loughborough

Details: Offers an MSC and diploma, professional development short courses and distance learning in the areas of planning, provision or management of infrastructure for low-income communities. WEDC has programmes for the water sector, and the urban and rural sectors. Email: WEDC@lboro.ac.uk; website: www.lboro.ac.uk/wedc/

5

Monitoring, Evaluation and Impact Assessment

5.1 Introduction

Evaluation and impact assessments are necessary to define whether programmes are implemented in accordance with the intended design and objectives. A sound, user-friendly monitoring and reporting system is the departure point for any evaluation. Consistent monitoring helps to ensure cost-effectiveness and the production of quality assets. If applied systematically, the monitoring, evaluation and impact assessment will enable programmes to adjust implementation strategies in order to achieve the desired results and outcomes. The feedback from this process is an essential source of information enabling policy, planning and implementation adaptations. The resulting quality and cost improvements will support the mainstreaming of local resource-based approaches.



Topics covered in this chapter are:

1. Reporting

A well-structured reporting system is the basis for an effective monitoring, evaluation and impact assessment.

2. Monitoring and evaluation

Monitoring and evaluation is essential for verifying that the project is meeting its intended objectives. It also enhances the management of ongoing activities and improves the planning of new activities. Finally, it enables stakeholders to make policy and operational decisions based on solid information.

3. Impact assessment

An impact assessment outlines the effects of the programmes' outcomes on higher goals and objectives such as poverty reduction. It provides the justification for increased investments in local resource-based interventions as a way out of poverty.

4. Knowledge management and communication

Based on the information obtained from the reporting, monitoring, and evaluation process, programme implementers can document best practices and experience. Communication and advocacy strategies can subsequently ensure that this information is shared and used to influence the replication and expansion of local resource-based approaches.

5.2 Reporting

At the project design phase it is important to develop different levels of reporting. A well-designed reporting system is the foundation for reliable monitoring and evaluation and contributes to transparency, accountability and good governance.

Issues and challenges

All parties involved in the implementation process should be aware of the importance of timely and accurate reporting. Reporting systems should be user-friendly and not ask for detailed information that will not be used at higher levels. Strict procedures should be applied to obtain timely and accurate reports from all those involved.

Principles and options



Reports on performance are usually produced by direct implementers. Different categories of reports serve different purposes at different levels:

Project level – documents physical, financial and social progress, as well as the achievements and constraints faced during the reporting period.

Programme level – documents the achievements of the different components of the programme, reflecting the progress made in meeting the overall programme targets.

National level – assesses and documents the programme's effects on the national government's micro- and macro-economic development objectives.

Each reporting level feeds up to the next. It is essential to ensure the timely submission and quality of reporting at all levels. Standardizing the type of information to be provided at different levels will save time in data collection and also improve linkages between the different reporting levels.

Funding agencies and clients require regular reporting in order to monitor physical and financial progress. In the case of joint funding for a programme by several agencies, it is important to negotiate a common reporting format and system that meets the needs of all partners.

The level of detail of reporting depends on the purpose of the report. Key issues to consider when designing reports include:

- ❖ The purpose of the report
- ❖ The target group (senior supervisor, project manager, Head of Department, Minister, Development partner, funding agency)
- ❖ The responsibility for preparation

- ❖ The report format and reporting period
- ❖ The level of data and type of information required, bearing in mind its future use for the monitoring and evaluation of the programme's effect on different levels of goals
- ❖ Ensuring that appropriate mechanisms are in place to enable the gathering of the required data and information. In addition to reporting on the progress of delivery of the physical asset, the progress related to the social and economic objectives of local resource-based infrastructure programmes should also be measured. This requires data on:
 - The types and numbers of jobs created (direct/indirect jobs, permanent/temporary jobs for skilled/unskilled workers)
 - The number of work days or employment created, disaggregated by gender and age
 - The amount of wages paid and wage payments as a proportion of total investment
 - Labour productivity
 - Cost and time efficiency
 - Working conditions
 - The training provided (number of people trained, skills acquired, types and duration of courses)
 - In addition, special studies can be launched to provide an understanding of the social and economic demographics of the people employed (number of dependents, location of home or origin, other sources of livelihood or occupations prior to the project employment, use of wage income, etc.).

The information gathered through reports serves to:

- ❖ Show progress in respect of project outputs and contribution(s) to the achievement of objectives
- ❖ Demonstrate accountability relating to political promises made to the population and specific stakeholders
- ❖ Provide evidence from findings to help gain support among stakeholders
- ❖ Educate, by incorporating findings and lessons learnt into learning/training programmes
- ❖ Explore best practices: seeing what works, what does not, and why
- ❖ Create a data bank and an institutional memory
- ❖ Involve stakeholders through a participatory process
- ❖ Promote understanding concerning the impact of projects, programmes and policies.

5.3 Monitoring and evaluation (M&E) methodologies

Programme progress should be measured or evaluated against predefined outputs and objectives. Because programmes involving local resource-based infrastructure delivery are designed to meet specific social and economic objectives in addition to the delivery of physical assets, these aspects must also be monitored and evaluated.

Issues and challenges

M&E systems are highly dependent on the reporting systems. Monitoring involves the collection, analysis, communication and use of information about a project. Evaluation is broader in scope and less frequent (usually at completion or ex-post). Those involved are usually external/independent, and the users go beyond just those managing or implementing the project.

Evaluation has two basic objectives: firstly, to gauge the relevance, effectiveness, efficiency and impact of projects and programmes with a view to improving the current operations and organization; and secondly, to furnish governments, clients and funding agencies with a coherent analysis of performance and conclusions. Evaluation information serves to guide the choice, design and management of future programmes, projects or modes of assistance. It also serves to enable policy development. Evaluation information should be accessible to all stakeholders, including the public at large and the direct beneficiaries, as well as researchers and learning and training institutions, if it is to advance knowledge and development. The challenge is to design an M&E system that is coherent and simple but facilitates these functions without over-burdening those responsible for implementation.

'If you do not know where you are going, any road will take you there.' (Alice's Adventures in Wonderland, Lewis Carroll, 1865)

Principles and options

M&E must become an integral part of the design, planning, programming and budgeting process and the results should be fed back into policy. It should also facilitate the delivery process, rather than encumber it. Monitoring should be equally useful to those involved in the implementation as it is for other stakeholders with an interest in the project. Regular reviews should serve to share information amongst the project implementers and other key stakeholders. Such reviews will analyze the information gathered to reflect on the progress made in order to make informed decisions and take appropriate action to support effective implementation. Evaluations should assist planners and policy-makers concerned with strategic policy and programming issues in making decisions for future interventions.

All project partners should be informed and consulted during the design phase on the M&E tools and systems to be used. This will ensure that there is no mismatch between the generation of data and the purpose of its use.

Programmes and projects should design an M&E methodology, or adapt an existing one, so that it fits their specific needs and operating environment and pays attention to overarching concerns such as participation and gender, and to comparability with the programme objectives.

Key issues to consider include:

- ❖ By whom and for what purpose will the M&E information be used?
- ❖ What is the minimum required information?
- ❖ How will the project-/programme-level M&E system link to and feed into sectoral- and national-level M&E systems?
- ❖ What is the projected cost (including baseline studies and impact studies, if necessary)?¹
- ❖ What are the indicators, variables, outcomes, risks, etc., to be monitored and evaluated? (Programme documents, national development plans, PRSPs and sectoral plans will provide the inputs for this. Programme log frames usually clearly describe the programme objectives, expected outputs and indicators to be monitored. The measurement of indicators can either be qualitative, quantitative or proxy. Indicators should be simple, readily measurable and manageable, that is, not requiring complicated data collection)
- ❖ Are the necessary M&E tools (reporting and assessment forms) in place and are implementers trained in responding to the requirements?
- ❖ The type and quality of the data collected and the data collection methodology, as these will determine the quality of the M&E findings. Basic data collected should include gender, age, existing source and level of income (if any), number of persons per household, education level, access to basic social amenities, etc. The exact data requirements will depend on the type of infrastructure intervention.

In respect of data collection the following questions are important:

- ❖ What are the sources of data?
- ❖ What are the data collection methods?
- ❖ Who will collect the data?
- ❖ How often will the data be collected?
- ❖ What are the costs and difficulties in collecting the data?
- ❖ Who will report the data?
- ❖ Who will analyze the data?
- ❖ Who will use the data?

Systems, procedures and databases will need to be established for record collection, storage, analysis and retrieval. The information produced and gathered during monitoring activities is of little value if improperly stored, analyzed and presented.

Baseline assessments/studies carried out prior to implementation are valuable for subsequent impact assessments. These in turn are necessary to prove/justify/validate the benefits of the local resource-based approaches. The M&E findings should be validated and fed back to

¹ The World Bank provision for M&E and impact assessment is 10-15% of the total project cost.

management and policy-makers. These findings should also be shared with concerned stakeholders and beneficiaries, including researchers and academics, to enable further development and improvement in delivery.

5.3.1 Key aspects to monitoring local resource-based infrastructure projects/programmes

Acquisition and use of materials, tools and equipment

Quantities projected and actually purchased.

Sources (local or imported) and cost of tools, equipment and material.

Procurement procedures.

Relevance and suitability of materials, tools and equipment.

Adequacy and degree of utilization.

Maintenance, storage and supervision.

Techniques used by the project

The relationship between the cost of labour and the total project cost.

The construction methods applied to various tasks, as they relate to the utilization of labour and the use of different types of equipment, tools and materials. Particularly important is regular assessment of quality, cost and productivity aspects.

The work organization and supervision arrangements.

Labour productivity

Productivity and cost of unskilled and skilled labour for each major task.

Productivity gains since the start of the work.

Physical achievements and costs

Planned and actual quantities.

Overall cost, cost of major tasks and unit costs.

Performance comparisons

Comparative cost, quality and durability by type of project task (local resource-based compared to conventional methods, private sector compared with force account).

Labour standards

General considerations concerning compliance with ILO standards. The experience with public works programme show that constant vigilance is required in three critical areas: forced labour, equality of opportunities and treatment, and employment of children. (Relevant ILO Convention in brackets)

- Working conditions in the project (hours per day, rest periods, transport, insurance, etc). Does the project comply with national legislation?
- Employment policy (ILO Convention 122): Has the country concerned formulated, and does it apply, as a fundamental objective, an active policy aimed at promoting full, productive and freely chosen employment?

- Freedom of association and the right to collective bargaining (ILO Conventions 87 and 139): Are workers, especially rural workers, free to organize in order to defend their interests, e.g., to negotiate wages and other working conditions, and is this right protected?
- Elimination of all forms of forced or compulsory labour (ILO Conventions 29 and 105): The ILO definition of forced labour is any work that is extracted under the menace of penalty, or where people have not offered themselves voluntary.
- The effective abolition of child labour (ILO Conventions 138 and 182): The ILO definition of a child is a person of 15 years or under. If hazardous work is involved, then the minimum age is 18 years. Have employers refused to hire children under the age of 15 and/or were children banned from work sites? Were there any arrangements put in place to ensure that women with small children could participate, e.g., the provision of alternative child care arrangements?
- Equality of opportunities and treatment (ILO Conventions 100 and 111): Was hiring free from any distinction, exclusion or preference based on race, culture, sex, religion, political views, etc., and was selection based entirely on the required qualifications? Also, was the remuneration of male and female workers doing the same work of equal value?
- Occupational safety and health (ILO Conventions 155 and 167): Workplaces must be safe and without risk of injury to employees. Have adequate safety precautions been put in place and is there a minimum requirement for protective clothing? Is potable water available and are there emergency procedures in case of accidents on site?
- Wages (ILO Conventions 94, 95 and 131): Is there a current national minimum wage for the industry that can be used as comparator? Is the level of remuneration in line with the needs of the workers and their families? Do public contracts provide any guarantee for workers, e.g., wages paid in full and on time? Do wages include any components paid in kind?
- Working hours (ILO Conventions 14, 21 and 47): Regulations should ensure that the use of task-based/piecework (normally used in work where local resource-based methods are applied) does not lead to self-exploitation and/or workers having to spend longer hours than specified in legislation.

Training

Training requirements.

Allocated resources to training (funds, numbers and types of trainers, types and duration of courses).

Number and type of training courses conducted, on-the-job training achievements, fellowships and study tours.

Effectiveness of training and training providers.

Availability of labour

Labour supply expressed as the number of work days for each project.

Labour demand as planned during implementation planning.

Difference between demand and supply on a seasonal basis. Net availability is the number of workers prepared to work at rates offered by the project.

Influence of agricultural labour demand on project activities.

Linkages between wage levels and labour availability.

Direct job creation

Total number of work days (for men and women) for skilled and unskilled labour used in all projects underway.

Number of work days (for men and women) for skilled and unskilled labour employed per operation and per month.

Investment costs for each job created by the programme compared to the cost of creating a job in corresponding economic sectors.

Indirect job creation

Weighted average daily pay rate for skilled and unskilled labour in the project zone.

Indirect primary employment resulting from upstream and downstream activities (estimated through interviews conducted with people involved in these activities). Approximate amount spent on wages for these activities and indirect job creation (in work days).

Time gains through infrastructure creation.

Structure of workers' consumption expenditures.

Project potential long-term employment effects (if an in-depth cost-benefit study is available).

Payment of wages

Form of remuneration (cash, food, combination or otherwise?).

Type of remuneration (task-, time- or unit-based?).

Frequency and level of payment.

Type and preparation of food, if this is supplied as partial or total remuneration.

Other impact and lessons learned

Flow of benefits: Is the income generated by the project redistributed to the specific population groups, in particular the most deprived, living in the project zone?

To what extent are best practices promoted?

Programme contribution to coordination, harmonization and legislation of the approach: To what extent are lessons learnt used to promote replication and expansion?

5.3.2 Key aspects of evaluation

To assess the relevance and impact of the design, delivery and performance of the project the following key aspects should be considered:

Relevance

The usefulness of the programme/project results in solving the identified problems and meeting the needs of the target groups. The analysis ascertains whether the project continues to make sense and identifies any changes that may have occurred during implementation.

Effectiveness

The extent to which the programme/project has achieved its objectives and reached its target groups. The analysis determines if the expected results have been achieved (or will be accomplished) and, if not, whether the statement of the objectives should be modified or the project extended.

Efficiency

The results obtained in relation to the expenditure incurred and resources used during a given period of time. The analysis focuses on the relationship between the inputs and the quantity and quality of the outputs delivered.

Sustainability

The extent to which the programme/project's results have had or are likely to have lasting effects after the termination and withdrawal of external resources. The analysis assesses the availability of local management and the financial and human resources needed to maintain the results in the long run.

Causality

The factors or events that have affected the programme/project's result. If there were significant deviations from the planned schedules, the analysis should determine the reasons for such changes. The cost analysis should assess the effects of constraints and the assumptions made.

Unanticipated effects

Any significant unforeseen positive or negative effects caused by the programme/project.

Alternative strategies

Proposal by the evaluators to replace an inappropriate original strategy.

Special concerns

Any anticipated or unanticipated effects on issues of special concern in local resource-based programmes/projects, namely, (a) the application of fair working conditions and relevant national labour legislation, (b) the promotion of equality between men and women in employment, and (c) protection of the environment for sustainable development.

5.3.3 Terms of Reference (TOR) for evaluation

The TOR is the basis for the evaluation. It ensures that all parties concerned understand and agree on the purpose of the project evaluation, the issues to be addressed and the approaches and methodology to be used. The timing of an evaluation is usually determined at the design stage.

To obtain a balanced view of the project results it is essential that all the project's stakeholders, at the policy decision-making and institutional level, as well as at the level of the intended beneficiaries, be directly consulted by the evaluation team. The composition of the evaluation mission should be approved by the project partners. Professional competence, objectivity and independence are the key considerations for selecting evaluators.

Evaluators should have an established credibility with the implementing organization and with the intended beneficiaries so that the conclusions and recommendations of the evaluation will carry weight.

Key elements of the TOR

- | | |
|--|---------------------------------------|
| ❖ <i>Project description summary</i> | ❖ <i>Background and justification</i> |
| ❖ <i>Scope and purpose</i> | ❖ <i>Project assessment</i> |
| ❖ <i>Design</i> | ❖ <i>Implementation</i> |
| ❖ <i>Performance</i> | ❖ <i>Special concerns</i> |
| ❖ <i>Findings, conclusions and recommendations</i> | |
| ❖ <i>Lessons learned</i> | ❖ <i>Composition of the mission</i> |
| ❖ <i>Time table and itinerary</i> | ❖ <i>Sources of information</i> |
| ❖ <i>Consultations</i> | ❖ <i>Annexes</i> |

5.3.4 The use of evaluation results

The value of an evaluation lies in its subsequent use. Evaluation findings should serve to:

- ❖ Help make resource allocation decisions
- ❖ Help address the causes of a problem
- ❖ Identify emerging problems
- ❖ Support decision-making relating to the choice of alternative approaches
- ❖ Support public sector reform and innovation
- ❖ Build consensus on the causes and characteristics of a problem and on possible responses.

Case study: Increasing women's participation in road-building in Mozambique

In Mozambique, the Feeder Roads Programme (FRP) target for the participation of women in road construction and maintenance was 25% of the workforce but it consistently failed to achieve this. A review was commissioned to examine barriers to female participation and suggest measures to counter them. The barriers included:

- ❖ *Recruitment processes being controlled by men*
- ❖ *The lack of women in supervisory positions*
- ❖ *Information about employment opportunities was not channelled through media accessible to women, and indeed most poorer target groups*
- ❖ *The work required the workers to stay in camps with few facilities, no health care and far from food markets.*

Suggested measures to improve female participation were:

- ❖ *Improving outreach and consultation with women's groups during the recruitment process*
- ❖ *Training more women for supervisory positions*
- ❖ *Providing health and childcare facilities near worksites.*

As a result, a gender advisor was recruited by the National Directorate of Roads and Bridges in the Ministry of Public Works and Housing. The advisor was responsible for monitoring the study's recommendations as well as for examining ways in which the Directorate could develop and institutionalize its capacity to support gender-sensitive programmes. The gender-related aspects of the FRP thus became exemplary for other local resource-based infrastructure programmes.

Reference

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Reference

Maramba, P. and M. Bamberger (2001). *A gender-responsive monitoring and evaluation system for rural travel and transport.* World Bank.

5.4 Impact assessment methodologies

Impact assessments determine whether or not the project outcome achieved its targets and objectives. They examine the actual and potential impact of a project or programme within a broader social, economic and environment context. The results and findings are valuable for public audits related to accountability and transparency and the information can be shared

with the stakeholders and the public through post-activity workshops. Impact assessments also explore the programme's efficiency, effectiveness and relevance and serve to share knowledge, practice and lessons.

The power of measuring results

- ❖ *If you do not measure results, you cannot tell success from failure*
- ❖ *If you cannot see success, you cannot reward it*
- ❖ *If you cannot reward success, you are probably rewarding failure*
- ❖ *If you cannot see success, you cannot learn from it*
- ❖ *If you cannot recognize failure, you cannot correct it*
- ❖ *If you can demonstrate results, you can win public support.*

Source: Adapted from Osborne and Gaebler, 1992.

Issues and challenges

Local resource-based approaches have not yet been widely adopted as core strategies for employment creation and poverty reduction initiatives in the development process. This can partly be attributed to an inadequate evidence base demonstrating the positive short- and long-term impacts of these approaches. The mainstreaming of local resource-based approaches depends, among other things, on the ability to isolate and attribute its actual contribution to poverty reduction. Evidence of such impact is necessary to enable successful advocacy. Many successful projects and programmes founded on local resource-based principles have not sufficiently documented and assessed the impact of the approach. This requires concerted and systematic effort. A range of assessments including macro-economic and cost comparison studies and studies on poverty impact should provide the evidence of the benefits of local resource-based approaches.

A review by the ILO of baseline and impact studies for local resource-based approaches concludes that it is difficult to show a direct link between performance indicators from baseline and impact studies and the impact on poverty. The main challenges in making this link are:

- ❖ Attributing a given percentage of the impact on poverty to (i) the effects of the physical infrastructure and (ii) the added employment creation
- ❖ The lack of a good indicator to measure the link between employment and poverty. This is so because (a) the impact analysis does not capture the total impacts of projects but is limited to the specific project interventions; (b) the interventions of other stakeholders involved in relevant development activities within given areas are generally not taken into account in the baseline and impact analysis; (c) 'true impact' is long term and must necessarily look far beyond the project phase. Also, assessing changes (that have occurred from the period the baseline studies were conducted up to the period when the impact assessment studies were conducted) is dependent on

a clear classification of the potential beneficiaries of local resource-based approaches according to the degree of their poverty, a type of categorization that is not easily established. Often, methodological weaknesses of both the baseline and impact studies leave a variety of questions unanswered, making it difficult to assess impacts retrospectively.

- ❖ A major problem with respect to impact analysis relates to the methods employed in data collection, some of which can make the generation of statistically reliable and significant data problematic. Very few impact studies have included econometric methods to determine statistical significance.

Long-term impact and sustainability of employment-intensive public works

Questions commonly raised regarding the long-term impact and sustainability of jobs created through public works programmes as well as their social protection include: What the types of jobs are created (short-term, temporary or indirect long-term? Is simply creating jobs sufficient to alleviate poverty? Do these jobs conform to the ILO definition of Decent Work?

Arguments have been put forward that if public works are to be effective as social safety nets, jobs must be guaranteed. If sustained poverty alleviation is to take place, it is argued that a significant increase in investments in infrastructure development, together with increased labour-intensity, is necessary. At the same time, interventions should be designed in the context of a broader social protection system.

Reference

McCord, Anna (2007). *Infrastructure Development, Social Protection and Poverty – What are the links and how can they be strengthened?* Paper presented at 12th Regional Seminar for labour-based practitioners, Durban, South Africa, October 2007.

Principles and options

Impact assessment methodologies should take into account all benefits and all costs (social, technical and financial). Comparisons should be made between the impact of local resource-based approaches and the impact of conventional methods, also ensuring that social aspects are fully taken into account. Proxy indicators should be established to measure the link(s) between employment, income and poverty reduction, taking into account the opportunity costs for people working on labour-based projects and of investments going to the infrastructure sector.

The longer-term impact on poverty of local resource-based approaches in terms of sustainability should be assessed, while investigating supporting initiatives to make them more sustainable and having a greater impact on poverty. Impact studies should assess thresholds (e.g., break-even wage levels) that affect the viability of local resource-based methods and discuss the policy implications in the prevailing socio-economic situation of the country concerned.

Evaluation studies on labour-based programmes

Studies show that only minor shifts in the very large investment streams in the infrastructure sector towards more labour-based techniques would have a huge impact on job creation in the production, operation and maintenance of infrastructure assets. To achieve such shifts there must be a strong political commitment for employment creation and local economic development. A first prerequisite is to create an enabling environment in which small enterprises and communities can carry out infrastructure works using locally available human and material resources. Evaluation reports on local resource-based (LRB) programmes refer to their employment- and income-generating effects as being the most striking visible benefit and their most important justification. Such impact has been extensively documented: rural gravel road rehabilitation generates, for instance, four times more local employment when executed by labour-based techniques (labour intensity increases from 10 to 12% under equipment-based programmes to around 30 to 45% under labour-based programmes). The indirect (short-term) income and employment effects derived from spending of earnings have an even greater impact on the local economy. The indirect income multiplier effect is generally estimated at between 1.5 and 2.8 for low-income countries.

5.4.1 Impact assessment methodologies

Politicians, decision-makers, planners and implementers need tools to prioritize their infrastructure investment budgets so that their impact on society is optimal. EIAs and a generalized application of employment impact methodologies to improve decision-making in this sector is therefore important. When measuring total impact it is important to not only evaluate interventions according to their cost and speed of delivery but also to measure 'soft' indicators, of which employment impact is one.

This has been done at village level, but it can also be done for larger investments. The ILO is currently developing an employment impact methodology that can be used for investment budgeting. Based on project comparisons, this methodology will focus on longer-term development and total investment impact.

Currently, two broad categories of methods for the assessment of socio-economic impact can be distinguished:

1. Before–after and with–without comparisons.
2. Modelling or cost comparisons.

The before–after comparison method is frequently used in connection with the Logical Framework Analysis, a preferred method for the design and evaluation of project interventions. However, impact assessment studies have frequently encountered practical problems relating to external, uncontrolled factors. Funding for follow-up surveys has also often been lacking.

Evaluation and impact assessment methodologies:

Methodology	Brief description	Comment
Cost-benefit analysis	A cost-benefit analysis is used to predict the result of a planned intervention. The analysis quantifies the effects of positive and negative factors to determine a net result.	Although a cost-benefit analysis is widely applicable it is mostly limited to financial aspects.
Internal Rate of Return (IRR)	IRR is a capital budgeting method forecasting the financial return of investments. It is the annualized effective compounded rate that can be earned on the invested capital, namely, the yield on the investment.	The IRR as a measure for the investment success of local resource-based approaches can be disputed as none of the expected social benefits are accounted for.
Life-cycle cost	The overall cost of a particular programme over its lifetime. This includes direct and indirect initial costs plus any periodic or continuing costs of operation and maintenance.	It is a good indicator for deciding on the type and level of infrastructure investment. Although this does not directly measure poverty impact, it does take the positive effects of local resource-based approaches into better account.
Cost comparison	Comparisons between a local resource-based approach and conventional construction based on their financial and economic costs, macro-economic modelling, and the impacts of the local resource-based approach on key macro-economic variables.	Necessary for identifying a sufficient number of comparable projects, which may be difficult.
Results-based M&E	This moves beyond inputs and outputs (as is the case with traditional implementation-focused M&E) because it emphasizes outputs and impacts.	A comprehensive approach to M&E. The results depend a great deal on the project design.

Results-based monitoring and evaluation (RBM&E)

A 10-step model for RBM&E has been developed and is summarized below.

Step 1 – A readiness assessment is conducted before the actual establishment of an M&E system. The readiness assessment is the foundation of the system. If poorly understood, going ahead may be fraught with difficulties and, ultimately, failure.

In the case of the local resource-based approaches, a readiness assessment requires an understanding of the participatory and partnership processes needed to develop the RBM&E system. These are context specific and should be sensitive to the political and socio-economic and cultural environment within which the interventions will take place. As far as possible, the inputs of the beneficiaries of the proposed interventions need to be factored into the process. External professionals and experts should direct and facilitate a process that is largely driven by stakeholders and beneficiaries.

Step 2 – How to choose outcomes to monitor.

What are the strategic priorities? What are the desired outcomes? Who are the stakeholders?

Outcomes could, for example, be linked to international economic development and lending issues, including a National Poverty Reduction Strategy, a National Development Plan, the Highly Indebted Poor Countries (HIPC) Initiative, or MDGs.

Outcomes should be disaggregated sufficiently to capture only one improvement area in each outcome statement. A sample outcome might be to 'increase the percentage of employed people'. To know whether this outcome has been achieved, the goal needs to be disaggregated to answer the following: For whom? Where? How much? By when?

Disaggregation can be achieved by examining increased employment in terms of a target group, sector, percentage change and timeframe. For instance, the disaggregated outcome may be to 'increase employment among youth in the rural sector by 20% over the next four years'. Only by disaggregating the outcome and articulating the details can it be established if this has been successfully achieved. Simplifying and distilling outcomes at this point also eliminates later complications, that is, when the building of a system of indicators, baselines, and targets by which to monitor and evaluate begins. By disaggregating outcomes into subcomponents, indicators can be set for measuring results.

Step 3 – Setting key performance indicators to monitor progress with respect to inputs, activities, outputs, outcomes, and impacts.

Indicator development is a core activity in building a results-based M&E system. It drives all subsequent data collection, analysis and reporting. There are also important political and methodological considerations involved in creating good and effective indicators. Indicator selection is a complicated process in which the interests of several relevant stakeholders need to be considered and reconciled.

The 'CREAM' of selecting good performance indicators is essentially a set of criteria to aid in developing indicators for a specific project, programme or policy. Performance indicators should be clear, relevant, economic, adequate and monitorable. CREAM essentially amounts to an insurance policy, because the more precise and coherent the indicators, the better focused the measurement strategies will be.

Clear: Precise and unambiguous

Relevant: Appropriate to the subject at hand

Economic: Available at a reasonable cost

Adequate: Provides a sufficient basis to assess performance

Monitorable: Amenable to independent validation.

Step 4 – Establishing performance baselines to be used at the start of the monitoring period.

The baseline is used as a starting point, or guide, by which to monitor future performance. Baselines are the first critical measurement of the indicators. Good baseline studies are derived from well-defined outcomes and indicators. A big challenge in any development programme, in particular local resource-based approaches, is to have a sound performance baseline (qualitative or quantitative information) that provides adequate data at the beginning of, or just prior to, the monitoring period.

Step 5 – Building on previous steps and selecting results targets.

After gathering data on indicators, the next step is to establish results targets, that is, what is achievable in a specific time toward reaching the outcome. Identifying the expected and desired level of results requires the selection of specific performance targets. There must also be a clear understanding of the baseline starting point.

Step 6 – Implementation and results monitoring.

A data collection system for all indicators should possess three key criteria: reliability, validity and timeliness. Valid and reliable data help ensure the credibility of the system. A number of issues are considered when identifying data sources, such as accessibility, quality and cost-effectiveness. It is important to collect only the data that is intended for use, that is, that which relates directly to the identified performance questions and indicators. Data sources for indicators can be 'Primary' or 'Secondary'. Primary data is collected directly by the evaluators, whereas Secondary data is collected by other outside organizations. Questions of validity and reliability should be raised with regard to secondary data. It is also critical that stakeholders take ownership of data at national, regional, and local level.

Step 7 – Dealing with the uses, types, and timing of evaluation.

The value of an evaluation stems from its use. The question of timing is easily answered: Are there any time concerns that may be useful for evaluating information? How much time should be given to gathering evaluative information? Different types of evaluations are appropriate for answering different kinds of questions.

Step 8 – Looking at ways of analyzing and reporting data to help decision-makers make improvements to projects, policies and programmes.

Evaluation reports serve many purposes. The central purpose, however, is to 'deliver the message', that is, to inform the appropriate audiences about the findings and conclusions resulting from the collection, analysis and interpretation of evaluation information.

Step 9 – Using findings to share knowledge and learning within organizations.

The results will respond to clients' and the public's demands for accountability. They will also help formulate and justify budget requests or help operationalize resource allocation decisions. They support strategic and other long-term planning efforts by providing baseline information and tracking ensuing progress. They also serve as a tool for communicating better with the population and so build public trust.

Step 10 – Sustaining results-based M&E systems, including demand, clarity of roles and responsibilities, credibility of information, etc.

The M&E system must be able to produce results information that is transparent and available to all. It must allow both 'good' and 'bad' news. Implementers should be accountable to stakeholders. Sound technical skills in data collection and analysis are vital to the system's sustainability. Managerial skills in strategic goal-setting and organizational development are also needed. Data collection and retrieval systems must be established and maintained.

Reference

Rist, Ray C. and Jody Zall Kusek (2004). *Ten steps to a results-based monitoring and evaluation system : a handbook for development practitioners*. World Bank.

Comparative study on the impact of local resource-based approaches (LRBAs) vis-à-vis equipment-based approaches (EBAs) in road works in Tanzania

This study makes financial and economic cost comparisons between LRBA and EBA, showing the impacts of LRBA on key macro-economic variables such as gross domestic product (GDP), trade balance and employment, and provides impact evidence derived from case studies.

Methodology: Data and information were collected through both desk review and fieldwork. The desk review involved collecting of data and other information from existing project documents and reports. Macro-economic data was collected to establish trends in key macro-economic indicators since 1990. Field data was collected in respect of ongoing and completed projects. The core part of the study entailed obtaining accurate data on road projects executed by LRBA and EB technologies in the same geographic areas. Projects were selected from around the country, targeting comparable projects executed by the different technologies from 1990.

Data extracted from the reports included design standards adopted for the different projects; construction time; the cost of the project, broken down into elements as wage payments, material costs, etc.; and the final account for each project.

Labour costs were analyzed by function, daily wage and quantity (workdays). Information was collected on major problems affecting LRB and EB projects. A structured questionnaire was used to collect cost data on labour, equipment and materials. The

case studies were examined through the collection of quantitative and qualitative data, complemented by information and reports from ongoing and completed road maintenance projects (both LBT and EBT). Case study information was collected through focused group discussions, targeted brief interviews and on-the-spot (field) observations.

The main tools used by the researchers for gathering information and data were unstructured interviews and focused group discussions with immediate beneficiaries. This provided valuable information on short- and medium-term impacts. In villages and areas along the roads, household questionnaires were administered to randomly sampled households. The household questionnaires were primarily quantitative, although they did include some qualitative questions. The interviews captured a sample of male and female farmers, fishermen, traders, millers, transport operators, road workers, contractors, health workers, teachers, artisans, drivers, petty traders, district engineers, contractors, gang leaders, village administrators and Ministry of Works officials. Finally, a literature review of similar studies in other parts of the world was carried out.

Data analysis: The data and information collected from the documents and fieldwork were analyzed to make financial and economic cost comparisons between LB and EB approaches. The economic costs were estimated by taking into account various externalities and the wider economic implications of the financial costs involved. In order to capture the macro-economic impacts of LBT, a simple macro-economic model was constructed in which key relevant economic relationships were reflected. Through simulation, the impacts of the different technological approaches on key macro-economic variables were estimated. This impact modelling was complemented by case studies. The variables that were addressed included income and employment, social services such as education, health, housing, markets, prices, expenditure patterns, ownership of assets, community participation, capacity-building, empowerment, gender relations, and HIV/AIDS.

Data from past evaluation exercises was used to forecast vehicle operating costs for roads completed under LB and EB technologies. This analysis of the costs subsequently served to describe and estimate the impact of the improved roads on transport costs and business by looking at factors such as travel time, fuel consumption, vehicle maintenance costs and increases in the transportation of fresh crops to markets. One interesting feature was the significant role played by non-motorized transport. The analysis illustrated that non-motorized transport was a dominant mode of transport in areas where roads were built and pointed out that road planners should be aware of the implications of this fact.

Study findings: The macro-micro linkages are still weak and one of the key channels linking macro-economic performance and micro-level living conditions and employment. However, labour-based technologies have been implemented successfully in several regions. There is substantial evidence of a big impact of LBT on employment and income generation for poor households and communities. It found that, in this socio-economic context of limited financial resources, low wage levels and high unemployment, a given amount of resources spent through LBAs yield a greater length of feeder roads and generates more employment and incomes among rural households and communities. This technology is therefore more consistent with Tanzania's national development policies as they relate to (i) poverty reduction, (ii) agricultural and rural development, (iii) national transport and (iv) construction.

Financial cost comparisons showed that the use of LBT for the road works generated higher discounted financial flows and net present values than EBT road works.

Economic cost comparisons that considered externalities, linkages, employment and poverty reduction effects, as well as foreign exchange savings associated with LBT, were even more favourable. The macro-economic impact comparison showed that if LRBAs were used, an injection of Tshs. 10 billion into public road works would generate a 5% greater impact on GDP. Moreover, government revenue impacts would increase by 18% and levels of employment would rise by 27.5%.

Reference

United Republic of Tanzania, Ministry of Works (2004). *Comparative study on the impact of labour-based and equipment-based methods in road works in Tanzania. Final Report.*

Rapid appraisals

Rapid appraisals obtain information quickly and at relatively low cost. There are five major rapid appraisal data collection methods:

- ❖ *Key informant interviews*
- ❖ *Focus group interviews*
- ❖ *Community interviews*
- ❖ *Structured direct observations*
- ❖ *Surveys.*

The reliability, credibility and validity of rapid appraisals are limited by factors such as individual bias and preconceptions and the lack of quantitative data that can be easily verified.

Rapid Assessment of Poverty Impacts (RAPI)

A method developed to establish baseline data for monitoring, over time, the impact of employment-intensive road works on poverty, with an in-built mechanism for adjustment and refinement.

It focuses on the problems the poor face in trying to overcome the challenge of a persistent 'deficiency' of basic needs, assets, means of livelihood and social services. The RAPI analysis looks at five dimensions of poverty: basic needs, household asset holdings, livelihood levels, government service levels and a subjective perception of material well-being.

References

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5.5 Knowledge management and communication

A knowledge management and communication strategy is crucial to ensuring that information is: (i) adequately captured, (ii) documented, (iii) packaged, and (iv) disseminated. The strategy should respond to the needs of various target groups and contribute to mainstream local resource-based approaches. Information should be timely, accurate, responsive to trends and agendas, current, original and presented in a format and language appropriate to the target group.

Book covers



Issues and challenges

Effective communication and knowledge-sharing requires resources. These should be planned and budgeted for in the design and planning phase of projects and programmes. As this seldom happens, accurate, timely and current information is usually unavailable. This has had a negative impact on the uptake and wider application of local resource-based approaches.

Resources must be set aside for systematic information-gathering, synthesis, documentation and publishing processes that should result in the timely production of both the quality and quantity of targeted information. This should not only promote the wider application of local resource-based approaches, but also advance the development of the approach through discussion fora and workshops.

Principles and options

Effective communication is getting the correct message across in order to obtain the desired response or action. Important target audiences for advocacy are policy- and decision-makers, programme designers, planners and implementers, financing institutions and donor agencies, development actors, practitioners, civil society, academics and researchers. Typical communication and knowledge-sharing goals are:

Awareness creation

Sensitizing the target audience by creating awareness and stimulating interest in local resource-based approaches for infrastructure development and maintenance.

Advocacy

Changing preconceptions and mobilizing target groups to action. Advocacy seeks to:

- Influence perceptions and acceptance of the approach
- Influence policy
- Mobilize resources
- Influence resource allocation towards an increased funding of local resource-based employment-intensive infrastructure works
- Increase the quantity of infrastructure works carried out using local resource-based methods
- Influence others to become advocates for an increased use of local resources for infrastructure works.

Knowledge-sharing and learning

Ensuring that all stakeholders, decision-makers, practitioners, researchers and training providers involved in the delivery of infrastructure are: (i) aware of employment-intensive approaches, (ii) able to make informed decisions about their application at policy, planning and implementation levels, and (iii) able to apply the approach in a cost-effective and efficient manner that results in sustainable assets and decent employment. This requires that information on decent work and local resource-based approaches is available in the right place, at the right time, and in an appropriate format. A comprehensive knowledge management system facilitates:

- The gathering of all relevant information combined with systems to organize, process and store and retrieve it in a readily retrievable format and medium
- The synthesis of best practices and their publication and dissemination through brochures, leaflets, booklets, guidelines, technical briefs, training materials and tool kits
- Carrying out research, for example, on the development of systems, procedures, tools and techniques
- The dissemination of research findings in partnership with relevant players and organizations, including academic institutions and the private sector.

5.5.1 Planning for knowledge-sharing and communication

Steps and issues to consider when planning for knowledge-sharing and communication are:

1. **Situational analysis:** Describes communication needs and objectives vis-à-vis goals and objectives, the status quo and the problem area(s).
2. **Objective(s):** Defines the message, purpose and expected change. It outlines how best the information can be packaged so that it is clear and consistent. It indicates how it should be disseminated so as to reach the target audience at the right time for the desired effect to take place.
3. **Target audience:** Defines the audience(s), their motivation(s), their current and changing needs, their sources of information and the modalities they use to access this information.
4. **Information generated internally and from similar programmes:** Communicates the results and outcomes of M&E systems and impact assessments. How to share this knowledge and experience gained from similar national and/or international projects/programmes is also key.
5. **Communication channels:** Determines the media channel that is the most appropriate (news or feature stories in mass media such as television, radio, newspapers and printed publications (brochures, reports and newsletters, for example) seminars, workshops, films and live theatre).
6. **Communication plan:** Defines the activities, selects the communication channels, resources/tools, management/operational structure and monitoring and evaluation mechanism.
7. **Interaction and feedback:** Ensures a mechanism and means for regular interactive communication with target groups so that their members feel involved and engaged.
8. **Means of communication:** Leverages knowledge through widely accessible and flexible means such as e-communications tools and networking platforms, web-based learning tools, etc.

5.5.2 Some tools for knowledge-sharing and communicating

Useful knowledge-sharing and communication processes and tools include:

- ❖ **Documenting and publishing:** Capturing and recording information generated in the project/programme and publishing it in different formats such as project reports, best practices descriptions, regular newsletters, case studies, articles, project-specific studies and other publications. A variety of media can be used for this purpose, including printed materials aimed at specific target groups, internet and intranet web pages and/or audio-visual media
- ❖ **Cross-learning and networking:** Meetings, seminars and conferences that bring people together have proven to be very effective means of sharing knowledge among specific target groups. In Africa, different countries regularly host regional seminars that enable cross-learning, knowledge-sharing and networking on local resource-based approaches. Such events and activities promote and facilitate knowledge-

sharing and learning between projects, programmes, institutions and departments, both within and between the countries

- ❖ Communities of Practice: A digital network in which stakeholders interact directly with each other by forming interest groups and actively engaging in collecting, discussing and knowledge-sharing about a subject of common interest
- ❖ Use of the mass media: Newspapers and television can play an important role in disseminating information of general interest. Results of evaluations and impact assessments can be summarized and packaged for this purpose. To be effective, the message needs to be precise, clear and tailored to a public audience
- ❖ Knowledge partnerships: Knowledge-based linkages with development partners and learning institutions can be created and strengthened through regular communication and partnering with like-minded institutions and networks with a mandate for knowledge management and dissemination. Relevant institutions include the World Road Association (PIARC), Transport Technology Transfer Centres (T2 Centres) around the globe, the International Forum for Rural Transport and Development (IFRTD), the World Bank, other financial development institutions and agencies, the Sub-Saharan Africa Transport Programme (SSATP), etc.
- ❖ Centres of Excellence: The ILO's Employment-Intensive Investment Branch (EMP/INVEST) has, for many years, been a centre of knowledge and excellence of local resource-based approaches. It holds an extensive knowledge base in this field (policy level, management, capacity-building, research) in different specialized offices world-wide. Its well-developed knowledge management system enables active collection, storage, retrieval and dissemination through its own network of offices as well as through national and international partners. See www.ilo.org/eiip/

List of relevant knowledge networks and institutions

- ❖ Global Transport Knowledge Partnership (gTKP) is a platform for making effective use of the best available transport knowledge and facilitating strong participation from developing and transition countries. See www.gtkp.com/
- ❖ The International Forum for Rural Transport and Development (IFRTD) is a global network of individuals and organizations working together towards improved access, mobility and economic opportunity for poor communities in developing countries. See www.piarc.org/
- ❖ The World Bank's Sub-Saharan Africa Transport Programme (SSATP) is a programme with 35 member countries promoting the adoption of key, common policy development principles which have been articulated by the partnership over the years. It is also committed to ensuring that their transport sector strategies are fully anchored in poverty reduction strategies. See www.worldbank.org/afr/ssatp/
- ❖ World Road Association (PIARC) is a platform for exchanging knowledge on roads and road transport policy and practices within an integrated sustainable transport context. See www.piarc.org/

5.6 Further reading on this chapter

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