Theme Paper for the 10th Regional Seminar for Labour-based Practitioners
"Labour-based Technology for Poverty Reduction"

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1. Introduction

Estimates from the World Bank are that the number of people in South-Saharan Africa living in poverty (defined by an income of less than USD 1 per day) has grown from 242 to 302 million between 1990 and 1998. Addressing this growth in poverty is a major challenge of our time and employment is a key strategy. In recognition of this, the theme for the 10th Regional Seminar for labour based practitioners, has been chosen as **'Labour-based Technology for Poverty Reduction'**.

Labour-based technology (LBT) aims at applying a labour/equipment mix that gives priority to labour, but supplements it with light equipment necessary for reasons of cost or quality. This implies the properly planned use of labour in an economically efficient, humanly fair, and hence sustainable manner. Labour-based technology makes optimum use of local resources such as material, and tools and light equipment that are nationally or regionally produced. Labour-based technology is promoted as a means of tackling poverty through incorporating social concerns into public investment policy to:

- Create employment, income and skills development opportunities
- Support local enterprises
- Create appropriate, sustainable, cost effective infrastructure
- Facilitate community participation in planning, construction and maintenance of assets
- Ensure peoples rights through maintaining labour standards

The 10th Regional Seminar will embrace a broad range of issues including policy, planning, procurement and social aspects related to labour-based works in all sectors and aims to:

- Investigate the true impact of labour-based technology on poverty
- Collate an evidence base
- Identify key ways in which the impact of labour-based technology on poverty can be maximised.

This paper aims to identify key issues on which to **share knowledge** and **stimulate debate** on the 'state of the art' position, participants' experiences and possibly controversial issues, as well as providing background information on the theme.

1.1 Poverty and poverty alleviation

Before the theme can be addressed, there is a need for an agreement on two basic definitions: Poverty and what constitutes a poverty alleviating measure. For the purposes of the seminar, poverty will be taken in its broadest meaning, including the material level of living but also social needs and rights in terms of access to resources, public services and to the political system.

A poverty alleviating intervention is one that affects the poor and causes a reduction in poverty. This does not mean that investment should go directly to the poor. It is not where the money ends, that determines whether an intervention is contributing to alleviating poverty; it is the effects of spending the funds that counts.

There is no generally accepted methodology for the analysis of impact of poverty reduction strategies. The analysis is generally characterised by weak conceptualisation, which is characterised by a focus on direct approaches to poverty reduction at the local level. However, this does not cover the multiple ways in which poverty is being addressed through LBT. This paper will use an analytical approach to assess poverty reduction strategies, based on a "SPOTT check"[1] based on five axes of distinction:

- *Strategic distance* (direct/indirect approach including enabling policies)
- *Poverty dynamics* (relation of an intervention to cause-effect patterns)
- *Operational level* (national, regional or local)
- *Targeting* (intended direct/indirect beneficiaries)
- *Time* (short or long term)

1.2 The Challenge

Sub-Saharan Africa had a population of 653 million in the year 2000. The population growth rate is currently around 3 percent and the total population is projected to reach 854 million by the year 2010. The labour force is growing correspondingly and will double in the next 25 years[2]. As a result un- and underemployment is a serious problem in the region, particularly for young people. The urban population in Sub-Saharan Africa is growing faster than the rural population; from 2000 to 2015 the urban population is projected to increase from 34 percent to 43 percent of the total population.[3] As urban centres are unable to keep pace with provision of adequate shelter, services and employment opportunities the number of urban residents living in poverty is rapidly increasing.

In both urban and rural areas, the lack of employment opportunities has lead to an increase in the informal economy and in self-employment[4]. The share of self-employed among non-agricultural women workers doubled from 44 percent in 1980 to 90 percent in 1990. Conditions and security of these types of employment are poor and as a result working poverty[5] has increased by around 2 percent between 1990 and 1998 and accounts for around half the total working population.

The challenge for African nations is thus enormous. Jobs need to be created in great numbers but must be productive and offer decent conditions; otherwise they will simply increase the number of working poor. Both faster economic growth and policies to promote the creation of decent and productive work opportunities are needed.

[1] DAC, Working Party on Aid evaluation: Workshop on Development evaluation of Development Assistance for Poverty Reduction, Edinburgh 1999, *Theme Paper and Workshop Report*
[2] ILO 2003: *Global Employment Trends.* Geneva - Chapter 6.
[3] ILO 2003: *Global Employment Trends.* Geneva - Chapter 6
[4] ILO 2003 op. cit. sees a link between increases in the employment of the informal sector and of poverty, because of the precarious and badly paid nature of many informal jobs.
[5] Working poverty: worker living on USD 1 per day or less.

2. Key Issues

The assessment of LBT has traditionally taken its starting point in a comparative analysis with equipment based technology (EBT); i.e. what are the benefits from the conscientious choice of technology. This is still a sound approach, because it underlines the specific features of LBT. The comparative advantages are related to increased employment, cost effectiveness, use of local resources and reduced spending on foreign exchange. The impact on poverty is primarily at the economic level; indirectly through economic growth and directly by generating employment. However, poverty is also impacted by other means: i.e. the creation of appropriate and sustainable infrastructure; the establishment of private sector capacities, the introduction of fundamental labour standards into investment programmes and finally the promotion of community empowerment and democratisation at the grass-roots level. The following key issues have therefore been identified as being of importance in relation to LBT and its impact on poverty:

1. Economic growth
2. Employment and Labour Standards
3. Infrastructure Created
4. Private Sector and Community Involvement

Each issue will be described and analysed using the SPOTT approach outlined above, followed by a number of possible sub-themes for further discussion combined with ideas on how to increase the impact on poverty. Areas requiring further research/analysis are summarised in Annex A.

1. Economic Growth

From a macro-economic point of view, infrastructure is of strategic importance forming an important part of the economy and representing a very high proportion of public and donor investments in developing countries. Construction, rehabilitation and maintenance of infrastructure accounts for almost half of domestic capital formation, absorbs up to 70 percent of public investment funds and accounts for some 40 percent of international development assistance in developing countries.[6]

The impact of LBT on economic growth for poverty reduction results from the conscientious choice of technology, assuming that infrastructure is selected in a rational manner to benefit people and is constructed to the required quality. A sizeable number of in-depth studies by the ILO and other agencies such as the World Bank have proven that the utilisation of a labour-based approach to construct, operate and maintain infrastructure is cost-effective[7] particularly if distortions resulting from overvalued exchange rates, exemptions from import duty and from rigidities in the labour market are removed. At the same time, foreign exchange requirements are reduced by some 50-60% and the procurement of national resources is increased stimulating the national economy. These advantages depend primarily on the cost of unskilled labour, LBT generally being cost-effective with a daily wage level below US$ 5[8]. The wage level is only indicative and depends on the relative prices of other factors of production. The result is that more local resources are procured, mainly

[6] ILO 1994: *Towards full employment*, contribution of ILO to the second session of the Preparatory Committee for the World Summit for Social Development 1994. Geneva

[7] See Keddeman, W: *Of Nets and assets*, SETP No 1, 1998 for an overview of studies.

[8] See Majeres J.: 1995: Implementation of Employment programs: Key Issues and Options p 278. In von Braun, J (Ed) *Employment for Poverty Reduction and Food Security*. IFPRI.

labour, imports are reduced and for the same investment more infrastructure can be constructed for the benefit of the poor. Multiplier effects or "forward linkages" from the spending of wages paid to workers stimulate the local economy.

> Comparative studies carried out by the ILO in Burkina Faso, Ghana, Lesotho, Madagascar, Rwanda, and Zimbabwe show that the labour-based option is between 10 and 30% less costly than more equipment-intensive methods.[9]

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SPOTT' Analysis

The achievement of these impacts requires an enabling policy environment that promotes LBT through public investments. Poverty is primarily attacked indirectly at this level through improved profitability of public sector investments and consequent increased economic growth that can eventually "trickle down" to the poor if combined with pro-poor strategies. It is estimated that the savings, if reinvested, would generate an additional investment output of 17-43%, which ultimately would contribute to output growth.[10] Multiplier effects or "forward linkages" refer to the spending of earnings during construction, primarily wages paid to workers. The largest share (60-80%) of the earnings is spent on consumption. This spending generates further income and employment; estimates range between of 1.5 to 2.8, effective during construction. The effects of "backward linkages", referring to the local procurement of tools and materials, are not very significant in comparison with equipment-based technology (EBT) and are more likely to be negative than positive. The estimated multipliers appear to range between 0.1 and 0.2[11].

There is no automatic mechanism that secures that growth in the gross national product benefits the poor, however it is unlikely that poverty can be reduced in a sustainable manner without growth. The O*perational level* is primarily the national level; however each individual investment will provide partial benefits at the regional and local levels. There is no direct *Targeting* at this level of intervention, targeting may enter in the selection of infrastructures to be constructed and in the selection of the workforce. The *Time* perspective is both short- and long-term, since cost savings and better profitability of investments will have both an immediate as well as a sustainable effect.

	Strategic distance	*Poverty dynamics*	*Operational level*	*Targeting*	*Timing*
Economic growth	Indirect approach	Improved profitability of investments leads to economic growth. Increased employment through multiplier effects	Primarily national level	Indirect through selection of infrastructure and workforce	Both short and long term

Sub-themes

Creation of an enabling policy environment

A prerequisite for channelling more investments into LBT is the existence of an *enabling policy environment*. The full adoption of LBT in national investment programmes and policies is difficult to attain. The approach can be viewed as 'primitive', associated with forced labour or may be

[9] See Majeres J: 1995: Implementation of Employment programs: Key issues and Options p278. In von Braun, J (Ed) *Employment for Poverty Reduction and Food Security*. IFPRI.
[10] Keddeman, op.cit. p 23
[11] Keddemann, op.cit. p 15-16

opposed by vested interests in equipment-based approaches or large contracts. A first step is to have labour-based approaches adopted in official government policies, this has happened in Namibia and South Africa.[12]. The South African Government is introducing the use of targeted procurement for civil works as an instrument to promote socio-economic policy and employment.[13] Some governments, including, Kenya and Tanzania, are incorporating employment creation through employment-intensive works as an instrument to address poverty in their policy documents, including Poverty Reduction Strategy Papers (PRSP).[14] Several West African Governments, including Guinea, Senegal, Mali, Mauritania and Togo, have requested ILO support to prepare the establishment of Employment and Investment Policy Units at the level of Planning/Economic and Finance Ministries. What opportunities, threats, and scope for LBT introduction or expansion do these policies present? How effective have enabling policies been on reducing poverty?

Increased capacity for planning and implementation

Sufficient capacity to implement policy is needed to achieve objectives. The 2002 report from ASIST-Africa indicates an increased capacity at local government level to plan and implement labour-based works in countries such as Zambia and Zimbabwe. Central Departments in Botswana, Lesotho, Mozambique and Tanzania are increasingly using LBT to increase the delivery of services. The trend of decentralisation has increased the need and opportunity to utilise local resources. Malawi has successfully introduced Integrated Rural Access Planning into the local level planning system. How have these results been achieved? What is the best approach to strengthen implementation capacity?

Expansion of investments in LBT

Based on the above conclusion that LBT impacts economic growth and poverty positively, how can its application be expanded and consolidate? The scale of LBT effects depends on the amount of investments applying it: "More is better", if the implementation capacity exists. However, most government budgets are unlikely to grow substantially, so an increase in investment in LBT will require a reallocating of government (and donor) spending. The net impact depends on the nature of the original investment purpose and on the specific situation in the individual country. Assuming that we are dealing with investments in infrastructures, is there scope for producing more LBT work? The construction, rehabilitation and maintenance of rural feeder roads form a sub-sector, where LBT has had a great success. But has the "market" been penetrated? Is there a possibility to expand in feeder roads? Is there a potential for performing certain tasks in secondary roads with LBT? And is there a potential for expanding in other areas. Within donor supported projects and programmes LBT has been used in irrigation, forestry, social infrastructure, drainage, water supply, water and soil conversation and land improvement. Is there a possibility for expansion in these sectors? Is LBT already utilised? Do Governments have sizeable investments in these areas, which may warrant further interest? Can other (private) investment be influenced?

2. Employment and Labour Standards

Most strategies for reducing poverty acknowledge a need for employment-led growth targeted at the poor, supplemented with special support to those who normally cannot join the labour market (invalids, sick, elderly etc). Growth in itself is important as is its composition; its relationship with

[12] Expressed in:; *Green Paper on Labour-based Works Policy*, Republic of Namibia, Ministry of Works, Transport and Communication, April 1999 and a subsequent White Paper endorsed by the Namibian Parliament later that year

[13] See: *The DANIDA Support to the EIIP, An External Evaluation*, SETP No 8, ILO 2001

[14] See *ASIST-Africa: Self Evaluation Repor*t, 2002

and return to employment. Support for employment creation is an important policy instrument in order to achieve sustainable development and poverty reduction.[15] Employment creation strategies should aim to achieve terms and conditions in line with human rights and poverty reduction.

In the road sector, only around 10 per cent of the total investment in equipment-intensive projects is spent on labour. In the LBT approach, labour tends to represent between 50 and 60 per cent of the cost. This results in the creation of 3-5 times more direct employment for the same investment. The stimulus to the local economy through the injection of cash wages generates further indirect employment that can be between 1.5 to 2.8 times the amount of direct employment during construction.

LBT offers the opportunity of employment to segments of the population who are often not in formal employment, including a high proportion of women and rural workers. Targeting may take place either through wage setting, means testing or community selection to ensure that opportunities reach the poor.
Employment through LBT opens the opportunity for a greater number of people to be benefit from fundamental labour standards. This has been achieved through the introduction of appropriate clauses into contract documentation regarding minimum wage, minimum age, non-discrimination, elimination of child- and forced labour, safety and health and work injury insurance. These have been successfully introduced in national programmes and projects through negotiations between employers' and workers' organisations and government agencies.

Employment creation through LBT secures poverty alleviation both in the short- and the long term. Employment can serve as a safety net during a crisis or the lean agricultural season, stabilising income. Employment sustained for a longer period at a reasonable wage level, can provide sufficient income to cover basic subsistence needs and in addition investment in assets, thereby enhancing income. This highlights two types of LBT programmes[16]:

- *Labour-intensive employment programmes*: maximising short-term employment creation, usually in response to a crisis[17]; and

- *Labour-based investment programmes*: focusing on asset creation, especially infrastructure construction, rehabilitation or maintenance as well as employment creation. The wage levels in investment programmes are generally at a higher level than employment creation programmes and are paid in cash.

The two types of programmes have many similarities, but, as our SPOTT analysis will show, they also have differences. It should be underlined that there is a continuum between the two extremes. Several programmes that were initiated in an emergency situation with a focus on targeting and short-term employment creation have, developed into programmes with economic development and long-term employment creation as the primary objectives.

[15] Islam, R & J. Majeres: *Employment-intensive Growth for Poverty Reduction: What can Labour-based Technology in Infrastructure Contribute*? Paper for Work 2001: International Conference on Employment Creation in Development. Johannesburg.
[16] See Devereux, S. 2001: *From Workfare to Fair Work*, IDS-Sussex, for a typology.
[17] See Shone, M 2001: *The Cambodia Experience (1992-1997) using Employment-Intensive Technology*. ILO

The focus on employment creation in labour-intensive programmes can achieve a great, immediate poverty alleviation effect by transferring income to a large number of workers. This may, however be at the cost of work efficiency, ignoring considerations of cost-effectiveness, quality of work and sustainability of the assets created. Labour-based investment programmes optimise the use of labour without compromising the planning and quality of the infrastructure. The long-term impact on poverty reduction will thus be higher, the assets created being accessible and useful for the poor. This section is related to the direct employment related aspects of the two types of programmes.

SPOTT Analysis

Labour-intensive employment programmes (also known as labour-intensive public works) have been used for centuries to provide employment for a specific *target* group in order to transfer a certain amount of income to each worker in a given – often short – period. The focus is on *directly* alleviating the economic aspects of poverty. Vulnerable people are targeted usually through wage setting. The employment period is aimed at smoothing income and consumption in times of crisis, after poor harvests or in cases of chronic food-deficits during the lean season. The average employment period is around 100 days; with an estimated average daily wage level of $ 1, this implies a transfer of $ 100 per beneficiary. In rural areas of developing countries this is a sizeable income transfer, which will lift many households over the poverty line.[18] The sustainable impact is likely to be small as most of the wage will be consumed, however it may protect vulnerable people from having to sell their productive assets or become indebted, thereby preventing destitution and further impoverishment.

Labour-based investments require an enabling environment, where social and economic policies are integrated at three levels: (i) mainstreaming employment objectives into public investment policy and allocation processes; (ii) supporting the private sector to create jobs with decent working conditions; and (iii) ensuring that investments are made in response to the needs of the poor in terms of obtaining access to assets and social services, while at the same time the organisational and bargaining capacities of local communities are developed. The *strategic distance* is therefore also a combination and the *poverty dynamics* have a focus on creation of durable assets created with use of labour-based technology, however the direct employment creation is important. At the national level, because the application LBT produces 3-5 times the number of jobs EBT does. For the individual worker three factors decide the type of benefit: 1) The period worked, 2) the wage level, and 3) the consumption need of the household. These factors will decide whether all the income will be consumed; income stabilisation or whether part of it will be invested in assets, i.e. income enhancement. Stabilisation is a short term benefit while investment in assets should produce long-term benefits also. Labour-base investments *operate at all levels*, while *targeting* may take place either through means testing or community selection.

Labour standards attack different facets of poverty directly through empowerment, human rights and wages by ensuring the creation of decent work opportunities, based on the observance of a series of minimum labour standards. Targeting is carried out in a similar way as for employment; i.e. the potential beneficiaries are the workers. Observance of labour standards gives an immediate impact, which may turn into a long-term impact because of institutionalisation of the standards and a growing awareness of their rights amongst workers.

[18] See Devereux op cit. for examples of income and employment effects and targeting.

Table 1: SPOTT Analysis of two types of LBT programmes and labour standards

	Strategic distance	*Poverty dynamics*	*Operational level*	*Targeting*	*Timing*
Labour-intensive employment programmes	Direct approach	Creates employment and income for the poor but also infrastructures	Depends on the size of programme, may vary from national to local level	-Self targeting through wage level -Job rotation	Short-term, immediate impact
Labour-based Investments	-Mainly indirect but with direct features. Creation of an enabling environment	Creates/maintains infrastructures in addition to employment creation. May develop skills of workers	May be a national approach within a given sector, but may also be a local level programme	-Means testing -community selection and nearness to works	Long-term, sustainable impact
Labour standards	Direct approach through contractual clauses	Improves working conditions of workforce	From local level to national level depending on size of implementation	Aimed primarily at unskilled labour	Short-term with potential for long-term impact

Sub-themes

Scaling-up impact

The real success of the labour-intensive employment programmes lies in implementation at a large scale. The Indian Rural Employment Programme is a model and was initiated in the 1950s but continues to operate successfully on a nationwide basis, providing safety nets for millions of poor people[19]. This type of programme has over the years provided employment for millions of people in Sub-Saharan Africa, especially after emergencies. During the drought in the mid 1980's 23% of Botswana's labour force was employed on the "Labour-based Relief Programme" and in Cape Verde in 1983 the proportion was 30%.[20] These programmes have often been linked to "Food-for Work" schemes whereby the whole -or part of- the wage is paid in kind, a food basket. However, Devreux (2001, p 14) finds that, with the exception of Ethiopia, the potential to scale-up is limited in Africa as populations are too dispersed and there are logistical, administrative and fiscal constraints. The financial situation of the government and the availability of efficient government agencies are prerequisites for having employment programmes running more or less permanently.

Targeting

Wage levels and task rates have been used as targeting instruments. The rationale is that only poorer people will seek low paid jobs involving hard physical labour and/or long working hours. This form of targeting may be incompatible with poverty reduction objectives. Means testing implies that beneficiaries are selected according to indicators of their poverty; i.e. lack of employment or lack of agricultural assets. Community-based targeting relies on communities being involved in project planning and the selection of participants. The personal knowledge of the community members is used to target the most needy, although there is a risk of benefits being hijacked by local elite. *Job rotation* can be used to ensure that more people become beneficiaries. In this case a job is only offered for a limited period to an individual, who then is then replaced with others. The shift to private sector execution in many countries has left the actual labour recruitment with the contractor. Tender regulations can indicate the communities from where labour should be recruited and may include stipulations or encouragement to employ special groups of workers, e.g. women. The

[19] Nayyar, R 2002: *The Contribution of Public Works and other Labour-based Infrastructure to Poverty Alleviation: The Indian Experience*. Issues in Employment and Poverty. Discussion Paper 3. ILO

[20] See Devereux, S 2001 op cit. P 13.

market decides on the wage rate with respect for existing provisions for official minimum wages. Does targeting through wage levels exploit the poor and worsen rather than improve their situation? How can vulnerable groups such as the elderly, children or HIV positive could benefit from LBT? Is targeting compatible with private sector implementation? How can it be achieved? How can cultural issues related to gender/age/association with local leaders be addressed?

Reducing opportunity cost
At the level of the individual worker, the impact on poverty relates to the real value of the income received. The opportunity cost of labour, or the income lost from other activities as a result of participation in labour-based works, affects poverty reduction negatively. Studies have produced a wide range of estimates of income losses caused by giving up alternative work, from as little as 10% to close to 100%[21]. By locating works in poorer areas with few alternative income opportunities and timing the interventions correctly, the opportunity cost can be reduced and the net income benefits maximised. Such planning is normally an integral part of labour-intensive employment programmes but not in labour-based investments. Should the minimisation of opportunity costs of labour play a bigger role in labour-based investment programmes? What are different countries doing presently? Does subcontracting to the private sector complicate a better timing of the physical works? Could it become an integral part of the tender document to limit rural works during the rainy season, where construction is complicated anyhow and where farmers are busy preparing their fields?

Labour standards
Are internationally recognised labour standards appropriate to conditions in developing countries? Do they increase the cost of the works and is this justifiable? How can they best be supported? What is the experience from countries where they are in force? Are they observed? Do supervising engineers or technical agencies concentrate on the technical aspects of works to the detriment of labour standards? Is the formal system of labour inspectors inappropriate for minor civil works?

3. Infrastructure Created

There is a general consensus, that good physical infrastructure is required for reduction of poverty, which is often characterised by an absence of access to economic and social infrastructure and services. LBT should be used to provide durable assets, which directly or indirectly generate income during the lifetime of the investment. The works undertaken should provide economic and social benefits to the users. To achieve this, they must be planned to address the priority needs of the users, be of an appropriate standard and accessible.

The issue of who benefits from the infrastructure created is another critical aspect. This is an area where information is scarce and there are many problems related to reliability and validity of the data. Infrastructure generally benefits communities and at times the richer benefit relatively more than the poor. This might not be a problem in itself as long as the poor also are beneficiaries. A road is a public good and a large farmer with a large surplus of agricultural produce and access to motorised transport will obtain more benefits than the small farmer with limited surplus production. A problem arises if the local elite "monopolise" the infrastructure and exclude the poor. This underlines the need for a careful selection and planning process with the active involvement of the all the intended beneficiaries.

[21] See Keddeman op.cit, pp 14-15

Quality control during construction is essential and adequate operating and maintenance systems essential to sustaining benefits. In the past, public works in general have been criticised for producing poor quality, inappropriate infrastructure with a short lifetime. However, at least within the feeder roads sub-sector where LBT has penetrated the most, the quality has improved. The criticism may stem from a lack of distinction between the two types of LBT programmes identified above under Section 4. Labour-intensive employment programmes, especially when related to "Food for Work", have in some instances minimised costs and time related to planning, materials, equipment, transport and supervision in order to maximise the workdays generated.

SPOTT Analysis

Different infrastructure impacts poverty in various ways. Irrigation directly increases agricultural production and income while urban upgrading directly improves the living conditions of the inhabitants of the area. Roads and social infrastructures have an indirect effect. Economic benefits of roads are reflected in increased traffic volumes, the positive effects on poverty being related to an increased access to markets and services that benefit all. Social infrastructure might also improve the situation of the poor if properly planned, however the construction of a building does not imply a functioning institution (school or health centre) just as a functioning institution does not imply that it will benefit the poor.

The *operational level* depends on the size and coverage of the programme, but all infrastructure is linked to the local level. There is no direct *targeting* possible in what we may call public goods (roads, urban drainage and social infrastructure),which is open to all citizens; while it is different for economic infrastructures (irrigation structures and forestry), which obviously will benefit the farmers with land titles/user rights. If works are undertaken in relatively poor areas, where there is a substantial amount of surplus labour, there is indirect poverty targeting. Community involvement addresses targeting as well as ownership and capacities for maintenance.

Table 2: SPOTT Analysis of different types of infrastructures

	Strategic distance	*Poverty dynamics*	*Operational level*	*Targeting*	*Timing*
Rural feeder roads	Indirect approach	Increases accessibility to economic and social infrastructure and reduces transport costs	Depends on the size of programme, may vary from national to local level	Indirectly through selection of roads: is the catchment area poor and deprived of access?	Long-term impact
Productive infrastructure: E.g. Irrigation	Direct approach	Increases agricultural production per ha, allows multiple crops and reduces failures related to droughts	Normally a local level initiative but may be regional or national	Maybe direct with eligibility criteria or through community selection	Long-term, sustainable impact
Social Infrastructure	Indirect approach	Increases access to school and health clinic	Normally a local level initiative but may be regional or national	Indirect depending on selection criteria	Long-term impact
Urban upgrading	Direct approach	Improves the living conditions of the inhabitants	Normally a local level initiative	Direct, if based on assessment of quality of living conditions	Long-term impact

Sub-themes

Planning

Rural access has traditionally been linked with roads and motorised vehicles. The reality in most rural areas in Africa is that people use intermediate means of transport and need different infrastructure. Local accessibility problems can only be identified at the local level with a full involvement of the communities. An infrastructure planning and prioritisation tool has been developed to support this: Integrated Accessibility Planning.[22] This approach has been promoted through workshops and training in Malawi, Uganda, Zambia, Tanzania, South Africa and Zimbabwe. Demonstration activities, combining the planning tool and actual works are ongoing in Zimbabwe. How successful is this approach? How can it be mainstreamed into local level planning? What has been the impact of decentralisation on planning? Is bottom-up planning a reality or a myth? How can constraints in local capacities, attitudes, etc. be addressed?, what opportunities exist e.g. local resources, multi-sectoral focus, inclusion of gender and voices of the poor, supportive decentralisation policies, etc.?

Appropriate engineering standards

Levels of infrastructure are often limited by inappropriate standards adopted from different economic or physical environments. Flexibility is needed to ensure local conditions are taken into account and local needs addressed. For example, is an all-weather road or just partial access needed, a 12m versus a 7m road width? Will the use of more appropriate standards open more opportunities for LBT? In unplanned urban settlements, congestion may mean that adhering to rigid standards would require unnecessary demolition of existing structures. How can appropriate engineering standards be developed and adapted? Is LBT more appropriate for the construction of these flexible standards?

Quality

The quality of the works is essential to secure the viability of the investments. Poor quality will lead to a fast depreciation and will reduce the life time of the investment. The quality should as a minimum secure that the infrastructures created are in a maintainable situation. It is the responsibility of the supervising engineer to secure that the works are of the required quality; however different factors may reduce the effectiveness of quality control. Deficiencies in transport and time constraints may reduce the presence of the supervising engineer (and his staff) on the works to such an extent that the control is inefficient. Lack of access to laboratory facilities may reduce the effectiveness of testing of materials. Unwillingness on the part of the supervising engineer to impose additional costs on the contractor may also reduce the role of the control. How can the role of the supervising engineer be strengthened and the effectiveness of the control enhanced? How does the use of LBT effect quality control? Does the larger number of unskilled labour mean that quality is more difficult to control? How can this be addressed?

Maintenance

Physical infrastructures need regular maintenance – and, under specific circumstances, also repairs. Otherwise the infrastructures quickly fall apart and they cease to provide benefits. Proper organisation and financing of maintenance and repairs is therefore of the utmost importance. Strong initiatives have been taken in a number of countries over the last decade in order to secure better maintenance. Such initiatives have sometimes been linked with donor interests. Have these

[22] ILO 1998: *Rural Transport and Accessibility. A Synthesis Paper*. RATP No 1. 1998 and ILO: *Accessibility Planning and Local Development*. RATP No 2

initiatives helped improve the situation? Are infrastructures generally better maintained than earlier – and what evidence is available. Is the situation satisfactory? Has the situation improved in all sectors and what steps might still be taken to further improve the situation? Does the greater reliance on local resources and local capacity building during construction related to LBT result in improved maintenance?

6. Private Sector and community involvement

When LBT was introduced in the 1970's, Government execution was the norm for most public works. The recent trend towards privatisation and decentralisation has meant that new opportunities have arisen for participation of the private sector and communities in labour-based infrastructure development. The basic elements of the new mode of execution, which is broadly accepted by many donors and governments, are the following:

- the development of a system of tendering and contracting which favours local small enterprises and community groups using employment-based techniques, allowing these enterprises access to public contracts and offering them certain guarantees (including the timely payment of their fees), as well as introducing minimum labour conditions for the employment of workers;
- the institutionalization of the approach through the creation of employment and investment policy units with steering committees that include the social partners (i.e. contractors and workers);
- the provision of training to the government officials concerned, engineers and consultants, small enterprises and community groups wishing to tender for contracts and workers, as well as the development of courses in universities and colleges on the relevant labour-based techniques;
- the provision of the necessary credit, appropriate tools and equipment to the enterprises involved;
- the organization of participants, including the enterprises, workers and consultants concerned.

The system leads to the creation and development of specialized small enterprises within the formal economy. The implementation method is less suitable for labour-intensive employment programmes in times of emergencies, because private contractors are likely to have suffered because of the emergency and thus have a reduced capacity. Also contractors are generally selected on the basis of competitive bidding, where the parameters are price and quality, rather than the ability to employ a specific target group for a certain time at a given wage rate.

Community implementation is less institutionalised in public sector investments. Several ILO projects have been engaged in community-based works at the local level in Lesotho, Mali, Nepal, Nicaragua, Tanzania, Togo and Uganda. Community-based works are demand driven; i.e. based on requests for support from the beneficiaries and may involve productive investments (like irrigation facilities in Tanzania/Pemba and forestry in Mali) or community investments in urban areas (markets, roads, drains and sanitation in Togo and Hanna Nassif/Tanzania). [23] The community-

[23] See the following evaluation reports: I.T.Transport et al 2001 *Independent Evaluation: Hanna Massif Community Based Settlement Upgrading Phase II. Kinondoni District, Daar-es-Salaam, Tanzania.* ILO; GoZ/EU/ILO 2001 *Evaluation Report. Pemba Small Scale Irrigation Project. Consolidation Phase.* ILO.; UNDP/HABITAT/GoT/ILO 2001 *Rapport de Mission d'évaluation : Project de Réhabilitation D'infrastructures Communitaires Urbaines en Togo. TOG/97/005.* ILO

based approach[24] puts emphasis on developing the organization and negotiating capacities of local communities, producers and service providers. The investment is in equipment and support, including plans, technical advice and capacity and organisational development. LBT is especially suited for this type of implementation arrangement as it involves the active involvement of a large number of community members in the actual physical work. However, experience has shown that employing community members as workers is not enough to secure community ownership. Involving communities in contract arrangements and in defining the rights and responsibilities of all the parties involved has proven to be more effective. This approach also secures that the communities are better positioned to organise and negotiate in the future and thereby secure another aspect of poverty reduction, namely empowerment.

Poverty reduction is achieved through the infrastructure created and its collective ownership and to a lesser extent the creation of paid employment. The aim is that community organizations created for the purposes of carrying out infrastructure construction remain in place for their management and maintenance. The rationale for the approach is that local problems and needs can only be identified with the full involvement of the communities concerned. Community-based works therefore have to be based on requests for support from the beneficiaries.

SPOTT Analysis

For private sector implementation, the affect on poverty is *indirect*, related to the efficiency of the implementation, which secures cost-effectiveness and thus the viability of the investments. Cost comparisons have been made in relation to contractual arrangements. Limited evidence from social-type public works supported by the World Bank/IDA show that implementation by small and medium enterprises cost 20-35% lower compared with implementation by public sector agencies[25]. *Operational level* depends on the stage of development and of the programme. Private sector implementation is normally introduced through a project approach with training and tutoring of a limited number of private contractors with the intention that it becomes the implementation norm for public investments. The mode of implementation does not in itself involve *targeting* of potential beneficiaries of poverty reduction; although it has implications for the targeting methodologies that may be applied. Private sector execution relies on the free market, normally also for labour recruitment, although recruitment of particular groups may be encouraged through incentives or quotas. Targeting is indirectly made through the selection of the individual works.

The *Strategic distance* of community based involvement is mainly indirect and should be regarded as a "help-to self-help" mechanism although there is direct empowerment involved. The *Poverty dynamics* relies on community participation leading to full ownership, better identification of the infrastructures and more sustainable maintenance and management. Cost comparisons have been made in relation to community contracts. Limited evidence from social-type public works supported by the World Bank/IDA show that implementation by community based enterprises were 7-30% lower compared with implementation by public sector agencies[26]. Community contracting is at an early stage of development and has not been institutionalised to the same extent as private sector involvement. Although experience in Sri Lanka has shown that it can be adopted within government procurement procedures, it is presently working mainly at the *local level*. *Targeting* is indirectly

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- *D'infrastructures Communitaires Urbaines en Togo. TOG/97/005*. ILO*

[24] See Tournée, J. & W. van Esch 2001: *Community Contracts in Urban Infrastructure Works*
[25] Keddemann op. cit. p 12.
[26] Keddemann op. cit. p 12.

made through the selection of the individual works and the communities involved. The effects are both short- and long-term.

Table 3: SPOTT Analysis of private sector implementation

	Strategic distance	*Poverty dynamics*	*Operational level*	*Targeting*	*Timing*
Private Sector implementation	Indirect approach	Creates efficient capacity to implement LBT and secures decent working conditions	Depends on the size of programme, may vary from national to local level	No targeting except through the individual contracts, where employment of certain groups may be encouraged	Long-term, sustainable impact
Community Implementation	Mainly indirect but with direct empowerment	The participation of communities secures the viability of the infrastructures through community ownership	Primarily local level	Through selection of communities	Both short and long-term impact

Sub-themes

Procurement systems

Creation of an enabling environment is important to develop alternative modes of implementation. Both national and international procurement systems often act as barriers to labour-based techniques and small local contractors by setting stringent pre-qualification criteria, which exclude smaller contractors. Changes should be made in the contracting system, including reducing the size of contract to permit small contractors to participate and introducing clauses relating to labour standards. This has happened in countries like: Botswana, Ghana, Kenya, Madagascar, Mozambique, South Africa, Togo and Zambia. Particularly in the area of maintenance, there are a number of successes with regard to introducing labour-based contractors as the norm. How can these be developed further and spread to new areas?

Infrastructure investments in Sub-Saharan Africa are in many countries dominated by international financial development agencies and donors. Their contracting procedures often exclude small-scale contractors using labour-based methods from participating. The ILO is involved in an inter-agency effort to review and modify the contracting procedures of development agencies such as the World Bank, DFID, and the EU. Changes in contract documents should also include clauses on the relevant labour standards. Other agencies, such as the African Development Bank might also be in need of change. How can African nations influence its procedures of these agencies? How could this process be facilitated?

Private Investments

The focus has hitherto been on public investments, but with capacity among private contractors it would be natural also to target private sector investments. The private sector may be investing in types of infrastructure which are suitable for LBT. There is a tendency to assume that the market automatically will provide for the most cost-efficient mode of implementation. This may be partially so, however there may be legal constraints – again in terms of standard tender contracts, a need for official recognition of association of small-scale contractors and their ability to secure high standards amongst its members and increased information to potential clients. Is there a potential market for LBT within private sector investments? How can this market be developed?

Role of the public sector
Private sector execution requires a reorganisation of the public sector. From being directly responsible for design, implementation and supervision, the role of the public sector in public works is frequently confined to contract management. This is probably a good development for mainstream LBT investments but less so for organising employment programmes. Has the changing role of the private and public sector left a gap, which means that there is no technical and administrative capacity available for implementing labour-intensive works programmes such as "Food for work" programmes? One of the main problems of public sector implementation was the frequent delays in payment of salaries to workers which jeopardized the aims of poverty reduction. Has this situation improved with private sector execution? How can the public sector monitor the implementation of the private sector, particularly if contracts are smaller and more numerous?

Community contracting
LBT is a very appropriate means of executing certain community works with a positive impact on poverty. Community contracting has proved an effective means of implementing productive investments. Community contracting is not institutionalised within most government systems, although experience in Sri Lanka has shown that this is possible. There is a need to create an enabling environment, a political, legal and administrative framework, which promotes and regulates the approach. Is it worth pursuing the approach? How to convince decision makers in governments, donors and development agencies of its benefits? It presents a new approach to the old well-known concept of self-help. Assisting communities in their own endeavours to develop their productive assets is probably the most efficient way because it assures full ownership from the very beginning. But is the approach appropriate for government agency execution? The traditional line agency represents a top-down approach, which relies on specific budgets and workplans. Are institutional reforms required before community contracting can become more widespread? Could it be used as a means of disbursing government and donor funds at a local level?

7. Concluding Remarks

The potential of the labour-based approach to be cost-effective and at the same time generate employment and reduce poverty has been widely established and accepted. The analysis above has shown that LBT impacts many different aspects of poverty:

At the macro economic level LBT:

- improves profitability of public sector investments and consequently increases growth which can eventually "trickle down" to the poor;
- reduces foreign exchange requirements,
- increases the procurement of national resources and stimulates the national and local economy.

At the level of the individual poor, LBT has the following impact on poverty:

- provides employment and income to workers during construction, operation and maintenance,
- through multiplier effects, creates sizeable income in the local area during construction,
- enhances the skills of the workers participating,
- increases the access to social infrastructures, basic necessities and public services,
- improves the physical living and working conditions and opportunities for enterprise development,

- secures decent working conditions,
- empowers the poor.

The paper has identified four key themes and a number of sub-themes for further analysis and discussion during the seminar:

Theme	**Sub-themes**
1. Economic growth	1.1 Creation of an enabling policy environment 1.2 Increased capacity for planning and implementation 1.3 Expansion of investments in LBT
2. Employment and Labour Standards	2.1 Scaling-up impact 2.2 Targeting 2.3 Reducing opportunity cost 2.4 Labour standards
3. Infrastructure Created	3.1 Planning 3.2 Appropriate engineering standards 3.3 Quality 3.4 Maintenance
4. Private sector and community involvement	4.1 Procurement systems 4.2 Private investments 4.3 The role of the public sector 4.4 Community contracting

Annex A: Areas for further research

1. Through the application of labour-based methods, more employment may be generated and more infrastructures may be constructed for the benefit of the poor. That is known from a number of studies, which focus on one project or programme in one country. At the macro level, the potential has been demonstrated by a number of studies. But a true overview of the situation in Sub-Saharan Africa is non-existing. Presently, we do not know how much has been invested in LBT over a period of years, how many jobs were created and what size of income was transferred. These basic data would be useful also for calculating the benefits at the country level.
- A study, which would provide basic data on the amounts invested in LBT, employment generated and wage rate in a number of countries over the last five years would provide valuable background information for the seminar – and for the future promotional work related to LBT. For practical reasons, the study should perhaps be limited to the feeder roads sub-sector. Such a study would allow an analysis of trends and for estimating the level of benefits. It would also allow for a comparison between countries.

2. The question of minimisation of the opportunity cost of labour might deserve a closer look.
-A study, that answers the following questions, may provide useful background for the seminar: What are different countries doing presently, especially with regard to the timing of the employment? Is it part of any tender document to limit works during the rainy season, where construction is complicated anyhow and where farmers are busy preparing their fields? Does it increase the costs of the works and with how much?

3. The focus is presently on public investments, but with capacity among private contractors; it is natural also to target private sector investments.
-A study that investigates the potential for utilising LBT in private investments would be useful. Some LBT contractors presently do work for the private sector, but how much work is being undertaken and what types of work? Beyond the present market, is there a potential for expansion? Are there legal constraints in terms of standard tender contracts? Does the private market trust small-scale contractors and their ability to deliver?

4. Community contracting has proved an effective means of implementing certain infrastructure works; however the approach is not institutionalised within most government systems and is generally implemented on a project basis. There is consequently little statistical knowledge that accounts for its coverage.
-A study, which provides information about the scale of community contracting in a few selected countries, would be useful. It should cover different sectors and implementing agencies (NGOs, development agencies and government institutions). It might also be useful to identify a "model country", which have succeeded in creating an enabling environment, and describe the political, legal and administrative framework, which promotes and regulates the approach.