ANALYSIS OF THE STATE OF LABOUR-BASED TECHNOLOGY IN KENYA:

A Review of Current Practice since 2005

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1. INTRODUCTION

1.1 Background

Following the 11th Regional seminar in October 2005, by Labour-based Practitioners on integrating Labour-based Approach (LBA) for Socio-Economic Development in Mombasa, a resolution was made to uphold, mainstream, and upscale the use of LBA in the provision of infrastructure and related services in order to create wealth especially among the poor communities via the following strategies:

I. Creation of an enabling environment (through formulation of LBT[1] supportive policies, efficient institutional framework, appropriate legislation, and setting up of conducive contract conditions),
II. Capacity building (through research, training and awareness creation),
III. Increased allocation of resources (financial, equipment and information/data), and
IV. Mainstreaming cross-cutting issues such as gender, HIV/AIDS, governance and environmental protection.

During the above mentioned seminar, participants reviewed progress made by various countries towards Arusha Seminar held in October 2003 for Labour-based Practitioners based on its recommendations. Upon the conclusion of the Mombasa Seminar, a Statement was prepared which recommended that practitioners with support from ILO (International Labour Organization) monitor the implementation of the above outlined plans. The forthcoming 12th Seminar to be held in October 2007 in Durban, South Africa, is meant to make a follow-up on the progress made towards the Mombasa Statement.

1.2 Objective

The key purpose for this report is to analyse and review the progress made since the year 2005 based on the Mombasa Statement − it seeks to analyse the state of LBT and progress made towards the same since 2005. Further, the report outlines significant developments in terms of incremental progress realised through any of the four strategies highlighted above.

1.3 Scope of Study

This report captures the analysis of the state of affairs and progress over the last 2 years, since 2005, and including certain areas that were not covered by the Mombasa Statement but central to the success of LBT locally. It describes

[1] LBT refers to the use of employment intensive approaches to investments in infrastructure and service delivery, operation, maintenance, and the utilization of local resources.

in some detail, constraints that are likely to slow down progress of labour-based approaches (LBA) in infrastructure development in Kenya.

1.4 Structure of the Report

The first section of this report opens with general background information that motivated the undertaking of this study. Chapter 2 describes in detail the methodology adopted in carrying out data collection and analyses so as to aid the reader understands the findings discussed in chapter 3. Chapter 4 contains, in summary, key findings derived from the analyses made in the previous section. The report concludes by outlining main recommendations arising from the study.

2. METHODOLOGY

2.1 General

This section describes the techniques adopted in this study in gathering data on the current status of LBT and how the analysis was conducted in seeking to fully understand the real progress made over the last two years. The methodology used consisted of questionnaire and attitudinal surveys as described here below. The respondents interviewed were key players in LBT with several years (over 15 years) in labour-based practice both locally and in other countries. They included representatives from the Government, donors, Policy bodies (e.g. KRB), Training Institutions, and Consultants.

2.2 Questionnaire surveys

Given the number of questions which were to be responded to, it was decided that a self – completion questionnaire would be appropriate instead of face–to-face interviews as the respondents were many and could not the efficiently interviewed within the time limits available for the whole evaluation exercise. The questions were divided into four main categories based on the four identified themes as stated in the Mombasa Statement (see annex B).

Under the four categories of LBT strategies, questions were designed to capture the progress made so far in each small building block. For instance, under the theme on *Creation of an Enabling Environment*, respondents answered questions on incremental developments/changes in: Policy, Institutional framework, Legislation, Contracts, and Incentives that have positively or otherwise influence the state of LBA in Kenya.

Responses received by the questionnaire method were processed by *Protocol*[2] and *keyword analysis* techniques (Bonsall et all, 1997) to capture the main success and/ or failure points reported by the interviewees. From this study, the recorded transcript of a conversation was undertaken to find out the relative frequency of use of positive and/ or negative adjectives describing the present level of progress within Kenya of LBA in road building and maintenance.

2.3 Attitudinal surveys

The surveys in addition, consisted of attitudinal data collection from the LBT practitioners. This was conducted in the Road2000 National Coordination Committee (NCC) Conference held in Nakuru between the 6th and 7th of September 2007, which attracted most of the regional LBT players.

[2] Protocol analysis/keyword analysis are techniques of data collection and processing whereby free-format discussions are recorded (in this case was done by a voice recorder) and their content later analyzed to reveal the apparent concerns and preoccupations of the discussant.

The conference was focused on evaluating the progress made in the implementation of Road2000 strategy in various regions where LBA have been adopted in infrastructure maintenance.

In an attempt to capture individual opinions of various LBA stakeholders, a Ranking exercise was conducted during the conference to gauge the relative perception of progress made with regard to the implementation of the resolutions made in the Mombasa Conference of October 2005 (see annex A). The ranking was done on a scale of 1 to 4, with a score of 1 indicating poor or no progress at all while a score of 4 representing a very good progress (target having been achieved), which then needs re-affirmation. The various ratings were defined further for clarity purposes as outlined here below:

- Poor – Nothing meaningful has been done,
- Fair – Some work has been done but remain largely unfelt,
- Good – Some tangible progress has been done made but more improvement is still needed, and
- Very Good – Satisfactory level of progress has been achieved.

In total, 30 questionnaires were administered at the Nakuru R2000 NCC conference held in September, 2007. Out of this, 25 forms were filled satisfactorily. The ranked scores were then statistically analysed using SPSS software and findings discussed and reported in the next section of this report.

3. FINDINGS OF THE STUDY

3.1 Introduction

This section discusses the key findings from the study by focusing on incremental developments, positive or otherwise, that have been achieved by the four strategies[3] identified during the Mombasa seminar of 2005, which are also contained in the Mombasa Statement. The results outlined in this chapter are the outputs from the analysis of responses obtained from a wide cross section of LBT practitioners and policy makers in Kenya.

3.2 Creation of an enabling environment

3.2.1 Policy

On average, the responses received from different LBA actors on the progress made in policies supportive of LBT indicate that so far, good progress has been achieved (at least 70%) but there is still room for more improvement, particularly in translating them into tangible action plans(see figure 3.1). The Roads 2000 Strategy launched in November 2006 by the Ministry of Roads and Public Works (MoRPW) captures the concept of LBA in road maintenance by advocating for the use of local resources (labour and tools) in improving road conditions throughout the country. The Roads 2000 Road Maintenance Strategy document clearly affirms this statement in its opening ministerial statement as quoted in box 1 here below (MoRPW, 2006).

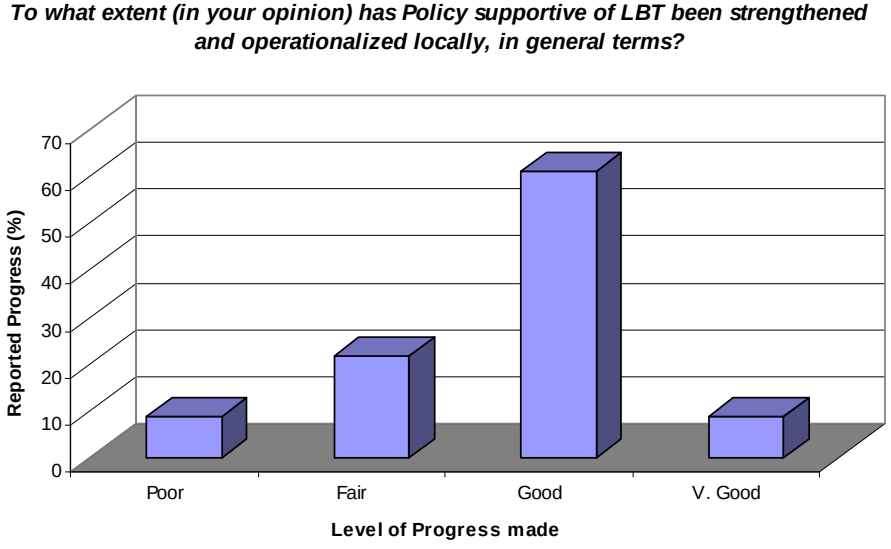

Figure 3.1: Level of Progress made in promoting LBT Supportive Policies

[3] The strategies here refer to the four resolutions / strategies made upon the completion of the Mombasa seminar of 2005 and stated briefly as: Creation of an Enabling Environment, Capacity Building, Improved Allocation of Resources, and Mainstreaming Cross – Cutting Issues in all LBT interventions.

Box 1: Policy statement supportive of LBT

"The Strategy focuses on the use of labour intensive methods for road maintenance and improvement, with the support of appropriate tools and equipment. The strategy particularly addresses the objectives contained in the Economic Recovery Strategy for Wealth Creation (ERS)".

Source: Roads 2000 Road Maintenance Strategy: Strategic Plan July 2005 – June, 2010

It is worth noting that a policy on LBT even encourages the involvement of local persons by regionalising these works besides giving a priority to local citizens in contract awards. The Procurement policy further strengthens this fact by packaging of such contracts in small bits that only suit small-scale contractors. In fact, the Government has in the last year (2006/2007) produced appropriate procurement and contract documentation[4] to guide the procurement process for small and medium scale Enterprises in the ongoing LBA works, which is indicative of the existence of supportive policies already instituted by the government. In addition, it has continued to equip these small and medium scale contractors with the necessary skills needed for preparation of successful bids and profitable execution of LBT works aimed at securing the sustainability of LBA concept locally.

On the whole, sufficient policies have been put in place to facilitate progress in LBT. What however, is still lagging behind is operationalizing these policies so that their impacts get felt on the ground. The whole concept of LBT needs a champion in a leader (Agingu, 2005) at the decision makers' level to not only popularise it but also to lead in influencing positively, the attitude of various players involved in the implementation of such works.

3.2.2 Institutional framework

The Government has moved ahead and created a specific department within the Ministry of Roads and Public works charged with the responsibility of coordinating LBT works, mobilisation of resources, and overseeing training of LBA personnel (both for the client and contractors) headed by a senior Engineer. Besides this, there exists the Roads 2000 National Coordination Committee (NCC) that coordinates the regional Road2000 programmes − ensuring that LBA works progress well on time and within the available budget while meeting main objectives of creating jobs and wealth for the rural and urban poor, enhancing utilization of local resources (labour and tools/equipment), and improved road network's condition.

[4] Two LBT contract documents have been developed, one for small scale works with a scope of up to 27,000 USD, and the second one for Medium works in the range of 27,000 – 270,000 USD.

These institutions mainly fall under the Ministry of Roads and Public works, for instance, the Kenya Institute of Highways and Building Technology (KIHBT), and Kisii Training College (KTC). Then there exists a number of Non-Governmental Organisations (NGOs) or development partners such as, Danida, AfD, KfW, ADB and Sida, which have given tremendous support financially towards the implementation of LBA in infrastructure improvement. The latter bodies are anchored in various sectors dealing with development in general, like Danida that focuses on improving agricultural productivity based in the Ministry of Agriculture.

The above arrangement whereby various bodies from different sectors pulling together in road maintenance has gained recognition lately by inclusion in the Road's sub-sector Bill which was passed in parliament early 2007, and now (September, 2007)been signed into law by the President. This latest policy has served to foster this kind of arrangement in future LBA related works.

Nevertheless, LBT has over the years been emphasized mainly in road works yet could be applied in other infrastructure developments and/or maintenance. There is also a growing need for a follow-up of resolutions made in the periodic NCC meeting to ensure these deliberations actually benefit or improve performance of LBA works in various regions countrywide.

3.2.3 Legislation

Generally, the existing pieces of legislation with regard to procurement have not been very supportive of LBT works locally even though a few positive changes have been made since 2005, which have favoured such works. For instance, labour laws still state relatively low wage rates with no appropriate mechanisms to enforce its implementation. Again, there is a need to amend procurement regulations for LBT works so as to attract more new players − the requirement that such contractors register limited liability companies might prove to be a deterrent to majority of potential new entrants thereby stifling the trickle down effect intended at the local level to spur growth in private enterprise.

There need to be a clear legislation restricting the use of inappropriate machinery in road maintenance. Many District Road Engineers have continued to use graders on works meant to be done by LBT due to poor attitude towards LBA or poor appreciation of the fundamental LBA concepts. Such laws would go along way in protecting LBT while maximising its benefits at the grassroots level.

3.2.4 Contracts

Under contracts, the government has performed fairly well in making specific considerations in LB contracts targeting labour management and labour standards − appropriate labour productivities have been recommended in the R2000 Operational Manual (see appendix C), and usually are based on task work.

Workers are not that safeguarded against exploitation by employers even under instances when the contractors fail to adhere to the minimum recommended labour rates by the Government. The productivity rates (contained in the R2000 Operational Manual) for the various work activities performed by LBA broadly compare well with other labour based experiences in other countries as observed by Bentall et al (1999). To that extent, Kenya is on course

The contracting procedures are reasonably appropriate in terms of work packaging, which have been undertaken to attract small scale contractors and at the same time discourage big contractors who now find such works with limited scope economically unattractive. The tendering procedures have been significantly simplified and involve training in bid preparation and contracts, collateral requirements have been relaxed such that today performance bond has been reduced from 10% of the contract sum to 5% for LB works. This not withstanding, raising the 5 percent bond still a challenge to most small scale contractors due to limited availability of credit facilities from local financial institutions for LBT works.

The bidding process however, is still competitive as such works attract many participants. The contracting agencies have also increased chances of winning jobs by ensuring that available contracts, as practically possible, are eventually distributed equitably to all registered contractors submitting bids. This has largely been realized in almost all regions where LBT is currently ongoing with the exemption of South Rift Valley (Narok and Trans-Mara districts) where the Maasai community despise manual labour of this kind arising from their cultural background. This then has the effect of fewer bids being made for such works thereby reducing the competitiveness of the bidding process. Overall, this phenomenon is isolated and does not in case affect the competitiveness of the bidding process in Kenya. Its effect would be seen in raised wage rates in a bid to attract more labourers.

3.2.5 Incentives

There are incentives geared at promoting LBT works at the local level for instance, by inclusion of a clause in the contract document that gives priority to domestic small scale contractors over the large scale bidders in the award of contracts. Further, the works have been packaged in small manageable quantities − present contract sums are in the order of less than Kshs 20 Million or a road length not exceeding 10km per contractor. This has the effect of eliminating the large well established contractors who again may have the money but find the scope of works unprofitable. This has also been reinforced by a requirement that these contractors must have been trained specifically on execution of LBT works at the Kisii Training College (KTC).

However, from the standpoint of any differential regulations on import duty or tax relief, the government has done absolutely nothing. This has to some extent hampered the acquisition of some appropriate equipment like pedestrian

compactors that are not available locally. Tax exemption targeting such pieces of equipment would go along way in promoting LBA and securing sustainability of such enterprises given that these machineries are relatively expensive, which consequently would have a negative fiscal impact on contractors' meagre finances.

Kenya Roads Board (KRB) has in the current financial year increased budget allocation for LBA works at the urban councils. The government has also increased allocation for the Constituency road maintenance, normally done by LBT, from Kshs 6Million in 2005/2006 fiscal year to Kshs 11Million in the current financial year − by a whooping 83%. This has improved the impact at the local level of LBT in terms of the number of works ongoing in various parts of the country and improved rural incomes. In deed, money is no longer a constraint in the implementation of LBA works locally. The MoRPW has mobilized huge sums of money from donors (Danida, AFD, KfW, etc) besides its own budgetary allocation in the current financial year for LBT road maintenance and improvement; the impediment remains the low absorptive capacity of such funds due to lengthy public tendering procedures[5].

3.3 Capacity Building

3.3.1 Training

The training for LBT has been institutionalised in this country and is being conducted at Kisii Training College for both the client (Government) staff and contractors (Private sector). The curriculum at KTC takes care of both technical and business management skills. Currently the college experiences staff shortage in the sense that recruitment of young lecturers has not matched the gradual loss of experienced staff through natural attrition and /or movement to other well paying jobs. This would in the long-term affect the sustainability of LBA trainings locally if no action is taken urgently. One key problem cited at the NCC conference held in September, 2007 in Nakuru is the low salaries paid at the institution and the high demand for civil engineers presently. The resultant scenario is that where the demand for LBT training has outstripped the available capacity as viewed in the short run.

[5] The procurement procedures are being studied currently with a view to hastening the pace of implementation of civil works generally in the country.

Of interest is the fact that training is fairly accessible in terms of securing admission but remains out of reach for the majority financial wise. At the current rates of training at the institution, a supervisor is charged Kshs 130,000 while a contractor pays a total of Kshs 390,000 for his three team members. These figures are on average expensive to individuals considering contract sums involved. Generally these rates are thought to be prohibitive as it reduces contractor's margin. Note that the Government has in the current financial year charged nothing for training at KTC courtesy of sufficient donor funding[6].

There has been minimal incorporation of LBT in the training curricula both at the tertiary and post graduate level. Figure 3.2 below shows that over 50% of the LBA practitioners interviewed reported that little has been achieved in terms of introducing LBT in training curriculum of higher learning institutions. As at 2005, attempts had been made in integrating LBT in training syllabuses at KIHBT and at Jomo Kenyatta University of Agriculture and Technology. There is still a need to make such skills available at other universities and technical training colleges. The progress here is well below 20% in the last two years put in a differently from the results in figure 3.2 below.

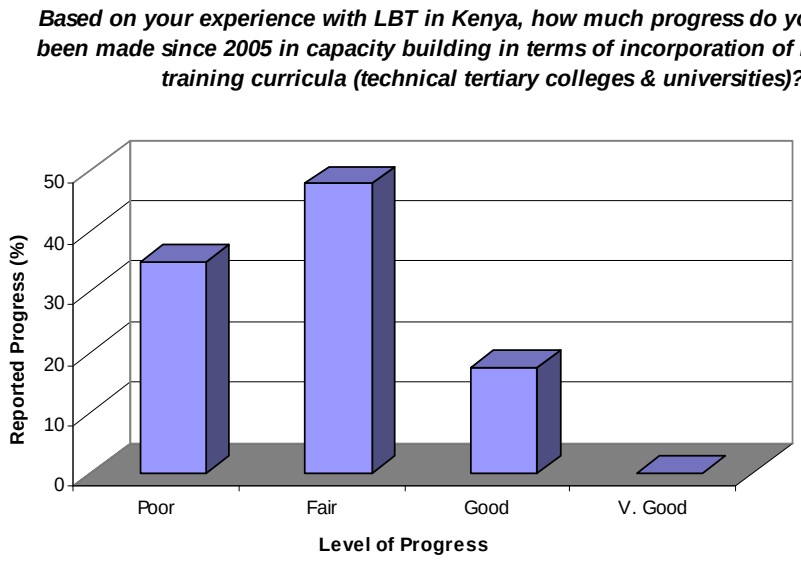

Figure 3.2: Level of progress in integrating LBT in training curricula of Institutions higher learning.

3.3.2 Research and development

Emerging from the recent R2000 NCC conference in Nakuru was the need to encourage experiments with concrete pavement especially on sections with high gravel loss due to difficult terrain or weather conditions so as to improve sustainability of labour based road works. The BCEOM Consortium actually showcased some of road sections already done in concrete in parts of Nyandarua

[6] This was reported by Eng Gitau, the officer in charge of coordination and implementation of LBA works at the Ministry of Roads and Public Works.

district, which was generally accepted as a good approach. The Sida funded LBT works in Nyanza province have also done some trial sections by sealing spots that are prone to gravel loss by a thin layer of bitumen on an experimental basis. The Conference urged the relevant consultants to carefully document such works so that other regions would also gain from the lessons learnt in both cases.

Figure 3.3 below clearly indicate the poor level of progress attained so far, in the last 2 years in research and development. No report was presented at the Mombasa Seminar of 2005 concerning the same; nonetheless, a few experiments with LBT are now being reported (both in Nyanza and Nyandarua) albeit at very limited scales. On this front, initiative is still at its formative stages with less than 10% progress being reported this far.

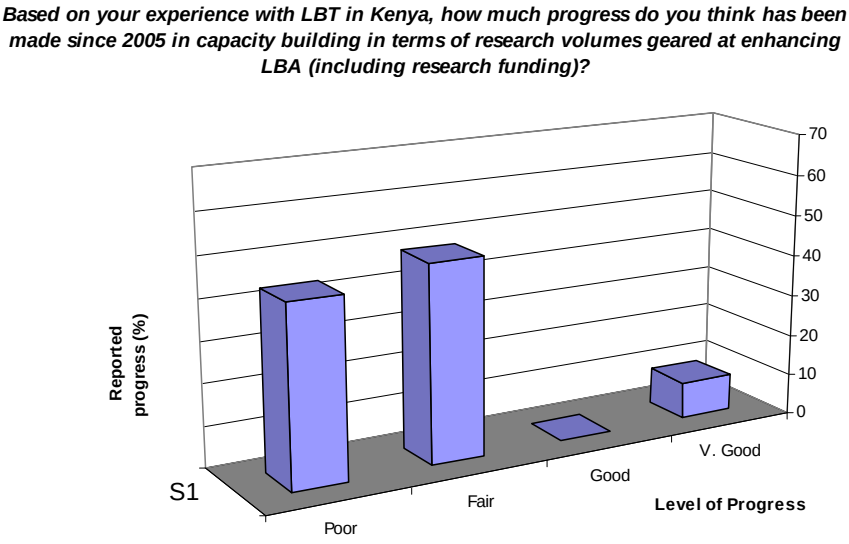

Figure 3.3: Progress made in LBT related research and development

One of the areas requiring urgent attention is the issue of setting up a system of collating and disseminating best practices and research findings. This requires high level coordination of various pieces of research work in different regions and proper documentation of lessons learnt from various experiments so as to avoid duplication of efforts. Such a system is still non existent at this point in time.

3.3.3 Awareness raising/advocacy

As at 2005, it was reported that District Stakeholder awareness workshops were held in 40% of districts in Kenya but still there was a need for more. A number of such workshops have continued to be organised by KRB targeting district road engineers who are charged with the responsibility of maintaining the access road networks. Some of these workshops have targeted the policy makers and professionals drawn from the road sub-sector as a whole including the political representatives.

Occasionally, there have been promotional events or publications aimed at creating awareness on LBA such as the launching of The Roads 2000 Maintenance Strategy, which was captured both by the print media and electronic means sometime in November, 2006. It served to inform the general public on LBA involvement in road infrastructure maintenance and improvements. Such events or promotional campaigns need to be sustained over time in order to create a long lasting impact, which apparently is the missing link achieving nationwide LBT publicity.

There exist bodies and offices dealing directly with LBA issues in the country, however there lacks an aggressive campaigner or promoter of the concept of labour based infrastructure works. We have leadership in terms of project management and administrative duties concerning LBT works but lacks in championing skills considered critical at this time. LBT awareness could be rated as fair – registering a progress of about 50% over the last two years as shown in figure 3.4.

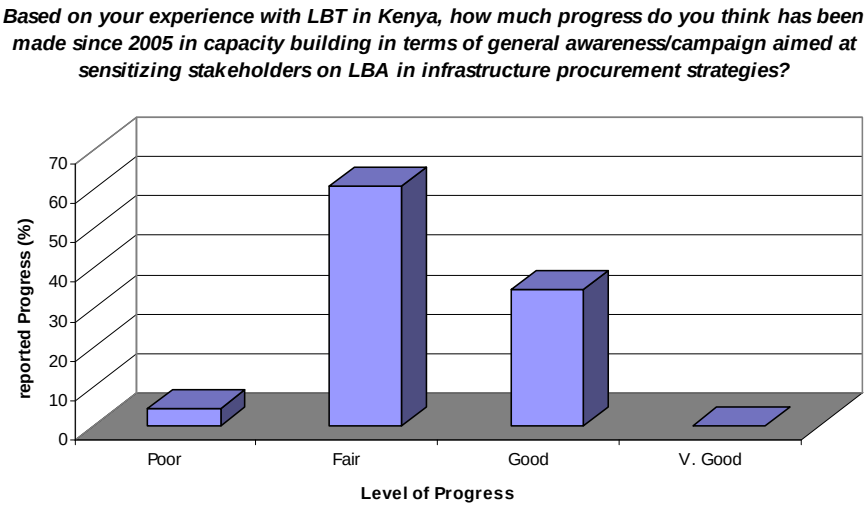

Figure 3.4: Level of progress on LBT awareness since 2005

3.4 Allocation of Resources

3.4.1 Financial resources

Finances have been availed for LBT via the Kenya Roads Board (KRB) collected through the Road Maintenance Levy Fund (RMLF). As at 2005, there was no specific micro-enterprise financing targeting LBT just like today (2007). However, the government through MoRPW has contributed more funds towards the LBT kitty than the donors (Danida, KfW, AFD, ADB etc) during the current financial year, 2007/2008. KRB states in the Roads 2000 Maintenance Strategy document that 16% of RMLF is currently allocated to the constituencies for road maintenance and an additional 8% of RMLF disbursed directly to the districts to be used by the DRC's (District Roads Committees) for general maintenance and improvements of roads at the district level. The emphasis is strongly laid on labour intensive methods in such maintenance activities. In fact, R2000 Strategy is allocated funds to the tune of Kshs 3 Billion annually from the RMLF. This figure is expected to rise to about Kshs 4 Billion annually as the strategy gains ground locally (MoRPW, 2006).

Credit lines have not been that available to LBT contractors as yet, banks like Equity that finances Small and Medium Scale enterprises, have to a limited extent helped small scale contractors secure performance bonds. A lot still remains to be done in this area given the level of money-related poverty incidence in Kenya.

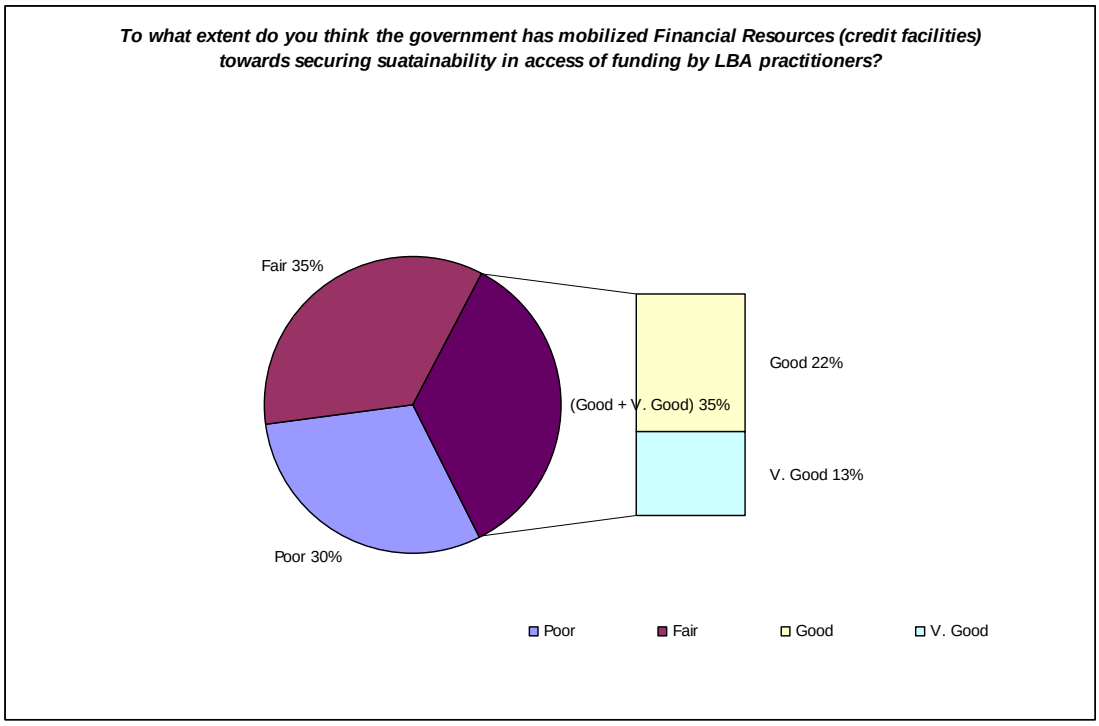

Figure 3.5: Progress made in mobilising finances for LBT

Judging from figure 3.5, a mere 35% progress[7] can be said to have been made. The government together, with other donors need to devise more innovative schemes to avail credit to the local citizens at affordable rates so as to increase the up-take of LBT works by the budding entrepreneurs (contractors).

3.4.2 Equipment

As concerns access to equipment and tools, there exist some capacity in both the private and public sector since the year 2005. The Ministry of Roads and Public Works through its department of transport and mechanical services offer equipment hire services to all categories of contractors in the country. Whereas construction equipment is generally available, their appropriateness to LBT works is largely questionable, in terms of machinery sizes and the prevailing hire rates. Moreover, the contracting agencies do not offer any financial guarantee or incentives at present that could facilitate the acquisition of such work items. The nature of works however are short-term in many regions − lasting for about three years. This then raises the risk of default in loan repayment by small contractors that would wish to acquire these tools /equipment on loan or hire-purchase.
In some cases, particular pieces of equipment are lacking such as the pedestrian compactors that is in great demand by LBA contractors.

Government intervention in such cases has been invincible. Some donors like Sida have lately bridged the gap by purchasing some compactors for LBA works ongoing in Nyanza, which are then hired from a common pool by these contractors at suitable rates. Such noble initiatives need to be extended to all regions since the government's support has been marginal and often inappropriate in many cases.

Figure 3.6 paints a grim picture of any progress thought to have been made to date. A paltry 13 percent of respondents report good progress on contractors' improved access to relevant LBT equipment. The contracting agencies need to re-think the current strategies aimed at improving access to LBT equipment. Such efforts need to involve the local financial institutions and other donors under a collaborative framework as the government alone cannot meet the needs of these small- scale contractors even for those that want to grow.

[7] Out of the 35 percent good progress reported, only 13% is satisfactory. It means that the performance of Kenya in disappointing in terms of access to credit by the contractors.

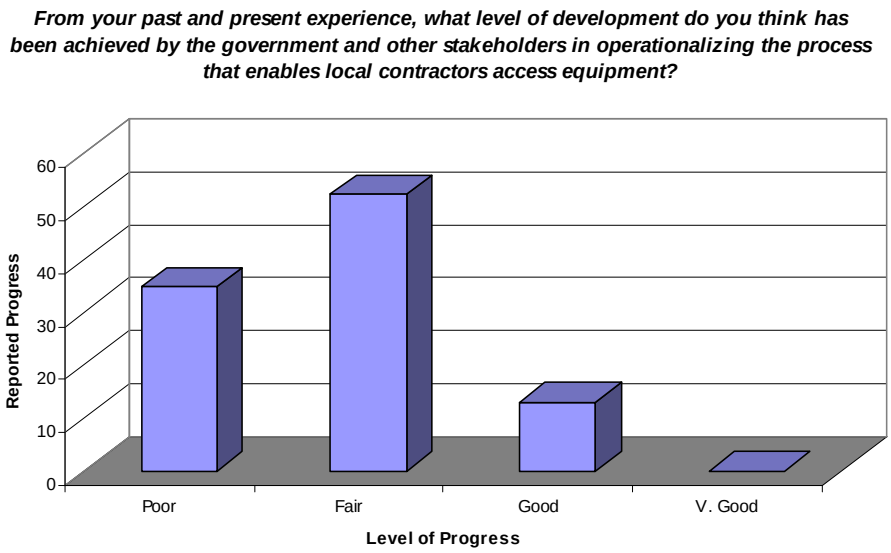

Figure 3.6: Progress made in improving access to equipment for LBT contractors

3.4.3 Linkages

Insofar as linkages are concerned, there R2000 Strategy established a National Coordination Committee to spearhead the implementation of LBT works and to serve as a link between the many players spread throughout various sectors (MoRPW, Ministry of Agriculture, Finance and Local Government), based in different regions. It has been observed that R200 NCC has done little in promoting LBT let alone encouraging sharing of information. It also thought that this committee operates at a much higher level thus leaving out most of the small contractors and LBA grassroots actors who are directly involved in the execution of LBA works.

There is a strong case for a another sub committee consisting of contractors and supervisors, working under the R2000 NCC with clearly established channels for sharing data and information on best practices and progress of LBT at any one time. It is an obvious fact that networking among various players has been lacking or very minimal as highlighted by the responses in figure 3.7 obtained from LBT practitioners interviewed during this study. About 17% progress has been registered to date in spite of the fact that relevant committees have been set up with express agenda of integrating various efforts championing the sharing of LBT knowledge locally.

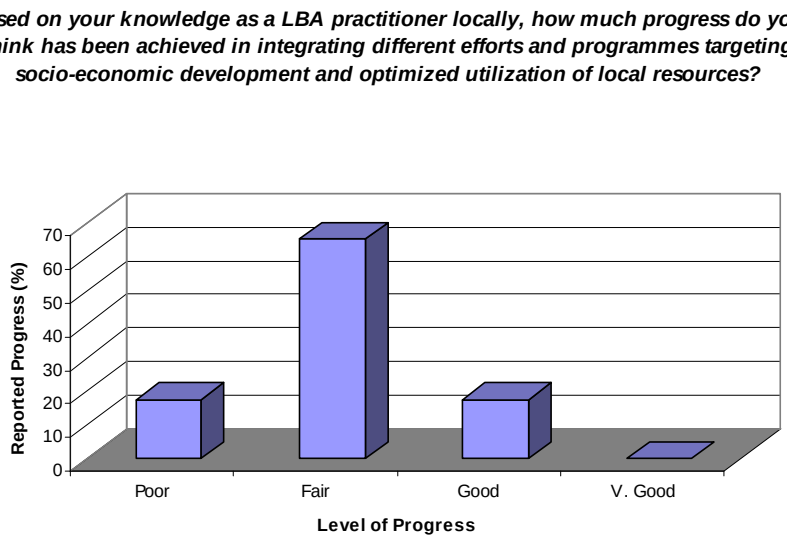

Figure 3.7: Reported level of networking and information sharing by LBT stakeholders

3.5 Mainstreaming Cross – Cutting Issues

Unlike the already discussed limited progress in under most of the Mombasa Statement Strategies, significant gains have been realised in incorporating various cross cutting issues in LBA projects currently underway in the country. LBT contract documents have issues like gender, environmental protection, governance, and HIV/AIDS sensitization quantified as separate items in Bills of Quantities − most ongoing contracts have a specific provision of 30% of labourers slots reserved for women.

Progress reports from various regions on LBT works presented during the R2000 NCC in September, 2007 in Nakuru showed a positive progress considering the many cultural practices that hinder participation of women in such manual tasks. North Rift Valley region showed the least percentage (about 6%) of women actually involved in LBT due to strong traditional beliefs that confine women at home and insufficient LBT campaigns in rural areas.

HIV education and promotion of condom use have been programmed to take place during the pay days when social activities of workers is expected heightened as a measure to check on the spread of AIDS. All such activities have been provided for in the contract documents.

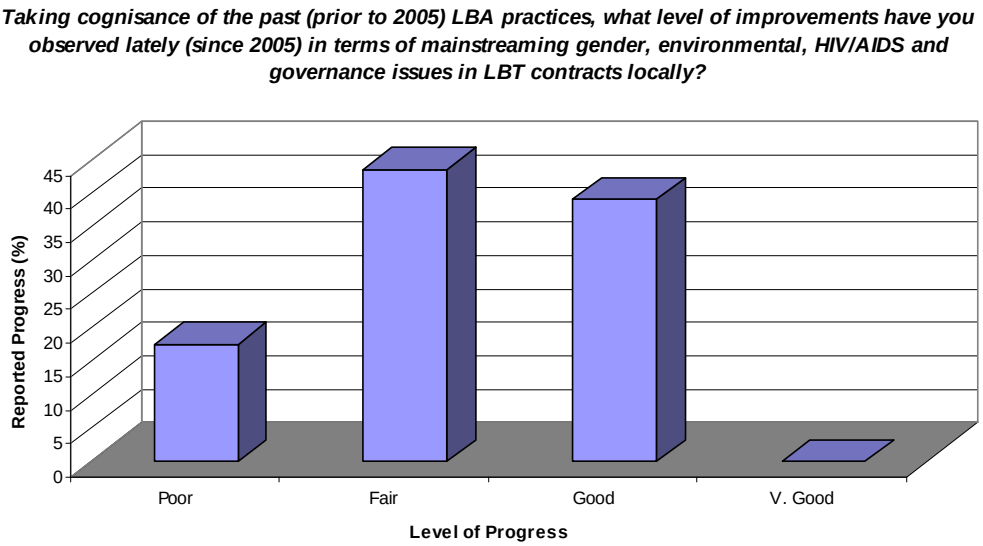

Figure 3.8: Progress on mainstreaming cross – cutting issues in LBT works

Display of inclusion of HIV/AIDS campaigns and gender issues on contract billboards has the effect of enhancing accountability in project implementation. The participation of citizens in selection of candidate roads for maintenance or improvements is a clear case in point of how the contracting agencies have improved governance at the project level. The sum total effect on the general progress made as at today (2007) is on average about 50% - 60% as indicated in figure 3.8 above. Much progress have been recorded in Nyanza and Central provinces, little weight has been given to these issues in other regions as observed during the Nakuru Conference by R2000 NCC in September, 2007[8].

Importantly, the stakeholders need to realise that much work is still required in raising awareness levels on specific roles of such issues in LBT projects. It should not be a one-off issue that will be forgotten about in the next few years, contract documentation need to continuously factor in budgets for such items in order to maximise social benefits of LBT works.

[8] This assertion is based on the consultant's personal account of the Nakuru Conference proceedings.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Summary of key findings

The progress of LBT concept has not been very encouraging locally despite the fact that Kenya is one of the pioneering countries in adopting LBA in road infrastructure maintenance and improvement. Good progress has only been realised in the area of LBT supportive policies as exemplified by the adoption of Roads 2000 Maintenance Strategy and many other pieces of legislations favouring labour-based road works. The desired satisfactory level is yet to be achieved, but going by the current pace of LBT activities locally the future is certainly promising. Main findings were as outlined here below:

- At least 70% progress has been realised to date in policy reforms favouring LBT, what remains is translating them into specific action plans that could easily be implemented by junior technical staff. Various policy documents such as the Economic Recovery Strategy for Wealth Creation 2004 – 2008 has stressed the need for enhanced utilization of local resources (labour and tools/equipment) in a bid to maximize income distribution and social benefits to the rural and urban poor.
- The government has continued to offer relevant LBT training but the demand has in the short-term surpassed the available capacity. Access to such training has been restricted by the relatively high fees charged currently. Further, the present level of awareness remains low. To date the country has registered progress of less than 20% since 2005.
- Insofar as resource allocation is concerned, the Government has mobilised satisfactory level of funding for LBT which has been adequately supplemented by the donors. However, accessing equipment by petty contractors is still below average. The available equipment for hire from MoRPW/ Private sector, are in most cases inappropriate for LBT works in terms of efficiency required and the hire rates. It is worth noting that some donors such as Sida (in Nyanza) have lately purchased some compactors to be hired at affordable rates by these small scale contractors. Such initiatives are noble but have not been replicated in other regions due to poor information sharing and documentation of best practices. On average, 17% progress has been achieved to date despite the establishment of coordinating committees like the R2000 NCC.
- Significant gains have been realised in incorporating various cross cutting issues in LBA projects currently underway in the country. LBT contract documents have issues like gender, environmental protection, governance, and HIV/AIDS sensitization quantified as separate items in Bills of Quantities − most ongoing contracts have a specific provision of 30% of slots reserved for women as a way of improving their incomes thereby improving equity through LBT civil works.

On the whole, a **fair** progress has been realised and impact is increasingly getting felt on the ground through the many LBT related activities ongoing in various parts of the country. At the current pace of activities, Kenya is on course in realizing full benefits of LBA in infrastructure maintenance and improvement.

4.2 Recommendations

This report makes a few recommendations that would help accelerate the level of progress realised at present:

- The concept of LBA should be widened to encompass the whole range of civil infrastructure development and not only limited to road works. Water and sanitation infrastructure is one good area where LBT should be tested so as maximize social benefits and reduce the number of persons living in poverty thus helping achieve Millennium Development Goals (MDGs) locally,
- The whole concept of LBT needs a champion in a leader at the decision makers' level to spearhead the uptake of LBA locally. A semi-autonomous office need to be created under the Ministry of Roads and Public Works to champion LBT works backed by an aggressive campaigns to popularise the concept to citizens and to the road sub sector professionals,
- The pace of LBT-related research needs to be hastened in developing new ideas on LBT since funding is generally available today. Experimentation with various cost-effective technologies need to be encouraged by factoring in appropriate allocation to them in future contract awards
- Training on LBT, awareness campaigns, and information sharing require urgent intervention by incorporating LBT concept in the national curricula of higher institutions of learning at both tertiary and university levels so as to expand LBT knowledge base locally, in keeping with ever increasing need of such skills. In addition, more trainers need to be hired and paid well so as to retain them for continuity purposes
- A sub-committee need to be set up under the National Coordination Committee charged with the sole role of documenting best practices and initiating linkages amongst various bodies involved in promoting LBA both locally and internationally.

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APPENDICIES

Appendix A: Study Questionnaire I

7

Analysis of the State Of LBT and Changes since 2005: Study Questionnaire

A) To what extent (In your opinion) has **Policy** supportive of LBT been strengthened and operationalized locally, in general terms?
(Give your response on a scale of 1- 4 as explained here below)

(1) Poor - Nothing meaningful has been done
(2) Fair - Some work has been done but remain largely unfelt
(3) Good - Some tangible progress has been made but more improvement is still needed
(4) Very good - Satisfactory level of progress has been achieved

B) Capacity Building

Based on your experience with LBT in Kenya, how much progress do you think has been made since 2005 in capacity building in terms of:

I. Incorporation of LBT in local training curricula (technical tertiary colleges and universities) *on a scale of 1 – 4?*

(1) Poor - Nothing meaningful has been done
(2) Fair - Some work has been done but remain largely unfelt
(3) Good - Some tangible progress has been made but more improvement is still needed
(4) Very good - Satisfactory level of progress has been achieved

II. Research volumes geared at enhancing LBA (including research finding) *on a scale of 1 – 4*, and

(1) Poor - Nothing meaningful has been done
(2) Fair - Some work has been done but remain largely unfelt
(3) Good - Some tangible progress has been made but more improvement is still needed
(4) Very good - Satisfactory level of progress has been achieved

III. General awareness/campaign aimed at sensitizing stakeholders on LBA in infrastructure procurement strategies *on a scale of 1 – 4?*

(1) Poor - Nothing meaningful has been done
(2) Fair - Some work has been done but remain largely unfelt
(3) Good - Some tangible progress has been made but more improvement is still needed
(4) Very good - Satisfactory level of progress has been achieved

- 1 -

C) Allocation of Resources

I. To what extent do you think the government has mobilized **Financial Resources** (credit facilities) towards securing sustainability in access of funding by LBA practitioners?
(Ranking is as described in parts A & B above)

(1) Poor (2) Fair (3) Good (4) Very good.

II. From your past and present experience, what level of development do you think has been achieved by the government and other stakeholders in operationalizing the process that enables local contractors access equipment?
(Ranking is as described in parts A & B above)

(1) Poor (2) Fair (3) Good (4) Very good

III. Based on your knowledge as a LBA practitioner locally, how much progress do you think has been achieved in **integrating** different efforts and programmes targeting *socio-economic development* and *optimized utilization* of local resources?; What level of networking and sharing of information and data on LBA has been attained in your opinion? *(Give ONE general ranking on a scale of 1-4 as explained above)*

(1) Poor (2) Fair (3) Good (4) Very good

D) Mainstreaming cross-cutting issues

Taking cognizance of the past (prior to 2005) LBA practices, what level of improvements have you observed lately (since 2005) in terms of mainstreaming *gender, environmental, HIV/AIDS and governance issues* in LBT contracts locally?
(Give your response on a scale of 1-4 as above)

(1) Poor (2) Fair (3) Good (4) Very good

Appendix B: Study Questionnaire II

Kenya

Enabling Environment		
Policy Framework – Key Question (in bold) and Issues	**Policy – status/progress as reported in Mombasa 2005**	**Policy - update on status/progress in 2007**
Is policy supportive of LBT and what work has been done to strengthen policy on LBT and make it operational over the last two years? (i) Is use of local resources and LBT in infrastructure investment mentioned in key policy documents, e.g Vision Statement, NDP, PRSP, Macro Economic -Sector and Cross Cutting policies? If so, please give example. (ii) Is Privatization policy encouraging the involvement of local actors? How? (iii) Is Procurement policy favouring the use of local resources and LBT? How? (iv) What policies are 'missing' or need changing to increase the uptake of LBT? (v) What signs are there to indicate that policy promoting the use of local resources and LBT have become operational? (vi) If relevant policies are in place, but there is no or little activity on the ground, what could be the problem?	LBT is captured at policy level in the governments Economic Recovery Strategy for Wealth Creation 2004-2008	At infrastructure sector level, the Roads 2000 Strategy launched in November 2006 by the Ministry of Roads and Public Works (MoRPW) advocates the use of local resources (materials, labour and tools) in investments targeting rural, low volume roads. Procurement policy allows packaging of works in lots suitable for small scale contractors
Institutional Framework- Key Question (in bold) and Issues	**Institutional Framework - progress as reported in Mombasa 2005**	**Institutional Framework - update 2007**
Are there institutions specifically charged with operationalising/promoting LBT works, e.g. a specific unit or department? If so, are they effective, if not, what institutional framework is being considered to support LBT? (i) What is the role of this or these) institution? E.g. planning, capacity building, resource mobilisation, legislation, standards,	A coordination framework with representation of all road agencies and financiers has been established and is operational at high level and technical level	Coordination framework for planning, standardisation, implementation has been strengthened. Framework has been instrumental in shaping policy

implementation, M&E, promotion of LBT etc? (ii) Are these institutions influencing across sectors, or specifically for one line ministry/sector? (iii) Are they supported by policy, and/or what role do they play in policy formulation		(iii) Major gap is the existing framework is limited to rural roads sub-sector, and does not have cross-sectoral influence
Legislation - Key Question (in bold) and Issues	**Legislation - progress reported as in Mombasa 2005**	**Legislation - update 2007**
Are there any certain pieces of legislation that make the use of LBT difficult or unfavourable? If so, what has been done to correct this? (i) Is existing (relevant) legislation in general appropriate for the promotion of LBT. E.g. labour laws, procurement legislation etc? (ii) How is relevant legislation enforced on LB projects; are there enforcement mechanisms in place?	There has been no progress although there is need for legislation to facilitate and protect LBT	Road Sub-sector Bill enacted
Contracts - Key Question (in bold) and Issues	**Contracts - progress as reported in Mombasa 2005**	**Contracts - update 2007**
Are contract documents suitable for LB contracting, ie for contracting smaller domestic firms? Have there been any improvements or amendments over the last two years (i) Are there Special Considerations in LB contracts, e.g. targeting, labour management, labour standards etc? (ii) Are contracting procedures appropriate? E.g. packaging of works, tendering procedures, relaxed collateral requirements etc (iii) Are domestic contractors accessing works through competitive bidding? If not what is the main difficulty	Two LBT contract documents have been developed:- ▪ For small works 27,000 US$ ▪ Medium works – 27,000 – 270,000 USD	At rural roads sub-sector level: (i) Packaging of works and contract procedures promote preference for small scale bidders; (ii) The procedures have been operationalized and upscaling in underway Gap: Contracting documents and process not yet taken up in urban roads, and other infrastructure sub-sectors e.g. water and sanitation, environmental protection
Incentives - Key Question (in bold) and Issues	**Incentives - progress as reported in Mombasa 2005**	**Incentives - update 2007**
Are there any incentives or disincentives for the use of LBT, and what has been done over the last two years to encourage the domestic construction industry and the use of LBT? (i) E.g. regulation on import duty, taxation, joint ventures, domestic preference, etc (ii) Increased budgetary allocation for those councils who promote LBT	No report was presented	Procurement Bill has provision for preference to domestic contractors (but not limited to LBT). Gap is guidelines for domestic preference Incentives in terms of increased budgetary allocations for works targeting LBT for urban roads

		Budgetary allocations for decentralized development funding (District Roads Committees, Constituency Development Fund and Local Authority Transfer Fund)
Capacity Building		
Training - Key Question (in bold) and Issues	**Training - progress as reported in Mombasa 2005**	**Training - update 2007**
Is there sufficient capacity to upscale/current planned LBT works at all levels? (i) Is there training capacity for LBT in the country? Institutionalised? Sustainable? (ii) What type of training is available for various cadres and role players i.e. for both the private sector and public sector? (iii) Is training capacity sufficient to meet the demand? (iv) Is training accessible, i.e can customers afford training costs? (v) Has LBT been introduced in under and post graduate curricula?	Road 2000 General Training Plan has been developed. LBT is included in craft course in Kenya Institute of Highway and Building Technology (KIHBT) and at degree level at Jomo Kenyatta University of Agriculture and Technology (JKUAT). There is still need for further integration in national syllabuses	General Training Plan has now been operationalized Gaps: (i) Training capacity is insufficient to meet demand; (ii) Training only accessible to some contractors due to high cost ; (iii) Incorporation of LBT to higher training institutes limited
Research & Development - Key Question (in Bold) and Issues	**Research & Development- progress as reported in Mombasa 2005**	**Research & Development - update 2007**
Is there any other research or development with regards to LBT taking place in the country? (i) Have any research or development needs been identified (ii) Is there a system in place to collate and disseminate best practices and research findings	No report was presented	Research needs have been identified Research objectives incorporated in Roads2000 Strategic Plan Gaps: (i) Research framework/plan not yet developed; (ii) No coherent plan for dissemination of best practices- currently disseminated *ad hoc* through National Coordination Fora
Awareness Raising & Advocacy - Key Question (in bold) and Issues	**Awareness raising/advocacy -progress as reported in Mombasa 2005**	**Awareness raising/advocacy - update 2007**
What is being done in terms of advocating or promoting or lobbying for LBT in the country, and who is doing this? And what has been the outcome and impact of such efforts. (i). Have there been workshop held for which target groups? (ii). Has there been any promotional/publicity events or materials produced and disseminated i.e. though print or electronic means (including TV, radio),	District stakeholder awareness workshops were held in 40% of districts in Kenya but there is still need for more.	District stakeholder awareness workshops held for all relevant areas One major publicity event- launch of Roads2000 Strategy held Major gaps are (i) No structured follow-up to

or audio visual (iii). Is there a national champion for LBT? (iv) What can be said about LBT awareness level at various levels?		mentor stakeholders and monitor progress; (ii) No national champion; (iii) No structured promotion plan
Allocation of resources		
Financial - Key Question (in bold) and Issues	**Financial - progress as reported in Mombasa 2005**	**Financial - update 2007**
Is the level of financial allocation for LBT work satisfactory and what is the trend over the last two years? (i) What share of infrastructure investment budget is annually allocated to LBT (ii) Are resources ring fenced for LBT (iii) Which institutions are financing LBT? Government, Donors, Private financiers etc (iv) Are credit facilities available for LBT contractors?	Funding available for LBT from Kenya Roads Board (KRB) - Road Maintenance Levy Fund (RMLF). There is no specific micro-enterprise financing targeting LBT.	(iv) Funding for LBT adequate for the current absorptive capacity (v) Resources not ring-fenced for LBT, but planning process self-targeting (vi) Share of Government funding to LBT increasing (vii) No specific credit facilities for LBT, but local banks are extending innovative credit facilities and services e.g. bid bonds and performance bonds to small scale enterprises
Equipment – Key Question (in bold) and Issues	**Equipment – progress as reported in Mombasa 2005**	**Equipment – update 2007**
How are private contractors accessing the necessary appropriate equipment? (i) If not, what is the main difficulty? E.g. equipment finance, equipment availability etc (ii) What type of support is provided by Government and/or local financial institutions?	Equipment is available for hire from private and public sectors.	Capacity in equipment availability has increased in both public and private sector Gaps: (i) Some required equipment e.g. compactors in short supply/not readily available; (ii) No structured Government Support; (ii) Perception survey indicates very limited progress in access to suitable equipment
Linkages - Key Question (in bold) and Issues	**Linkages - progress as reported in Mombasa 2005**	**Linkages - update 2007**
How are LB infrastructure initiatives integrated into wider development plans and if so, what were the benefits, e.g. financial, resource utilisation, impact, sustainability etc? (i) How is information, experiences and best practices from LB infrastructure initiatives shared amongst practitioners and other stakeholders	There has been co-ordination within the road sector through the District Roads Committees, Constituency Development Fund (CDF) and Local Authorities Transfer Fund (LATF). At national level, linkages have been initiated through R2000 coordination committee. Also linkages with Agricultural programmes have	Current Coordination Forum (NCC) does not have sufficient reach at grassroots. It is recommended to have a lower level tier of Coordination for practitioners. Decentralised funding has been made increasingly available to wider development programming

	been established	Institutional framework for decentralized funding is facilitative to LBT; However, the potential is not yet realized
Mainstreaming cross cutting issues		
Gender HIV/AIDS, environment, governance – Key Question (in bold) and Issues	**Gender, HIV/Aids, environment, governance - progress as reported in Mombasa 2005**	**Gender, HIV/Aids, environment, governance - update 2007**
How are cross cutting issues such as gender, HIV/Aids, environment and accountability considered at various levels of planning and implementation? What type of training is provided in this regard and how are policies and strategies enforced? (i) Are these components included in the project budgeting process as "accompanying measures" (ii) Do the execution contracts include specific conditions of contract for addressing these issues ?, If So, specify/elaborate	Cross cutting issues are incorporated in the ongoing R2000 programs – especially through Sida supported Nyanza R2000 program and they are also included in training and procurement documents. There is still room for improvement in GoK funded works	Accompanying measures now actualised in implementation of works through specified funding especially HIV/AIDS awareness and mitigation. A perception survey indicates 50-60% progress in some areas. The scope needs to be widened to cover all works in entire infrastructure programme

Appendix C: Productivity Rates in Kenya

F-1.4.2 Task Rates for Earth Road Work Activities

Table F.5 – Task Rates for Earth Road Works

AVERAGE TASK RATES EARTH ROAD ACTIVITIES

Activity	Task Rate	Remarks
Bush clearing	300 – 1000m^2/wd	Quantity according to nature/ density of bush
Stripping and grubbing	200m^2/wd	Where bare ground exist, increase task rate
Tree and stump removal	From experience	Small stumps task rates in metres. Big ones and trees by No.
Boulder removal	From experience	
Slotting	3 - 4 slots/wd	In flat terrain increase task rate
Excavation to level	3 – 4m^3/wd	Depending on hardness of soil
Ditching	3 – 4m^3/wd	Depending on hardness of soil
Spreading	25m^3/wd	
Sloping	3.5 – 4.5m^3/wd	Depending on hardness of soil
Backsloping	3.5 – 4.5m^3/wd	Depending on hardness of soil
Camber formation	30m/wd	Running metre of road camber lenght
Mite drain excavation	3 – 4m^3/wd	Depending on hardness of soil
Scour checks	4No/wd	Including colleting stones or pegs
Catch water drain	3 – 4m^3/wd	Depending on hardness of soil

wd = worker-day

AVERAGE TASK RATES FOR HAULING BY WHEELBARROW

Hauling Distance	Task Rate Measured On Site (Equivalent Insitu Material)	No. Of Trips
0 - 40m	10.5m^3/WD	210
40 - 60m	8.0m^3/ WD	160
60 - 80m	6.5m^3/ WD	130
80 - 100m	5.5m^3/ WD	110
100 - 150m	4.5m^3/ WD	90

Notes:
- The volume of a typical wheelbarrow is equivalent to 0.05m3 of compacted material (20 loads per m3).
- Task rate for hauling and tipping only; excludes loading and spreading.
- Assuming wheelbarrow volume equivalent to 0.05m3 of compacted/insitu material (0.07m3 loose) when struck level with top of bodywork.
- 2 wheelbarrows assigned to each hauling labourer.
- Good haul route (reduce tasks for poor haul route).

F-1.4.3 Task Rates for Gravelling Work Activities

Table F.6 – Task Rates for Gravelling Works

AVERAGE TASK RATES FOR PREPARATION ACTIVITIES

Activity	Task Rate
Reshaping road	20 - 50 m/WD
Clearing bush	200 - 1000 m^2/WD
Excavating overburden + loading onto wheelbarrow if necessary	2 - 4 m^3/WD
Hauling by wheelbarrow	See table above

AVERAGE TASK RATES FOR GRAVELLING ACTIVITIES

Activity	Task Rate/ Person
Excavating Gravel	1.6 - 2.4 m^3/WD (insitu) 2 - 3 m^3/WD (loose)
Loading Gravel onto Trailer	8 - 10 m^3/WD (loose)
Loading Gravel onto Trucks	5 – 7.5 m^3/WD (loose)
Off Loading and Spreading	12 - 16 m^3/WD (loose)

The labourers assigned to each activity can be determined using the total quantities to be hauled and the productivity ranges shown in the table above.

Gang tasks should be used for gravelling operations wherever possible

F-1.4.4 Productivity Rates for Hauling Equipment

Principle:

The haul distance, type of equipment to be used and condition of the haul route determine the quantity of gravel that can be hauled in a day by each operational piece of haulage equipment. An estimation of expected haulage productivity is best achieved by analysing separately the time requirements for each of the sub-activities involved as follows:

- Loading of gravel in quarry
- Haulage of full tractor/trailer or truck from quarry to dumping site
- Off-loading of gravel at dumping site
- Return of empty tractor/trailer or truck from dumping site to quarry

Choice of Haulage Equipment:

- The maximum economic hauling distance of gravel by the tractor/trailer combination is usually about 2 - 4 km.
- Trucks may be economic for any distance up to about 20 km.
- The number of pieces of haulage equipment to be used is determined after establishing the quantity of stockpiled gravel that is ready for hauling, the haul distance, and the number of labourers available.

Table F.6 – Gravelling Cycle Times:

Haul Distance	CYCLE TIME IN MINUTES							
	Tractor / Trailer				7 Ton Truck			
	45 – 55 HP		56 – 75 HP		Flat Bed		Tipper	
	Poor	Good	Poor	Good	Poor	Good	Poor	Good
0 – 1	26	22	24	21	44	42	38	36
1 – 2	41	29	36	28	51	45	45	39
2 – 3	56	37	47	34	57	47	51	41
3 – 4	71	45	59	40	63	50	57	44
4 – 5	87	52	71	47	70	52	64	46
5 – 6	102	60	82	53	76	55	70	49
6 – 7	117	68	94	59	83	57	77	51
7 – 8	132	75	106	66	89	60	83	54
8 – 10	156	87	123	75	99	64	93	58
10 – 12	186	102	146	88	111	69	105	63
12 – 14	216	117	170	100	124	74	118	68
14 – 16	247	132	193	113	137	79	131	73
16 – 20	292	155	228	132	156	86	150	80
20 – 24	353	186	275	157	182	96	176	90
24 – 30	429	224	333	189	214	109	208	103

Assumptions	LOADING AND OFF-LOADING IN MINUTES			
	Tractor / Trailer		7 Ton Truck	
	45 – 55 HP	56 – 75 HP	Flat Bed	Tipper
Loading	6	6	25	30
Off-loading	12	12	16	5

	TRAVEL SPEED IN KM/HOUR							
	Tractor / Trailer				7 Ton Truck			
	45 – 55 HP		56 – 75 HP		Flat Bed		Tipper	
	Poor	Good	Poor	Good	Poor	Good	Poor	Good
Full	7	14	9	18	15	40	15	40
Empty	9	18	12	20	25	60	25	60

Table F.6 – Gravelling Haul Targets:

Haul Distance	GRAVELLING DAILY LOAD TARGETS: GOOD & POOR HAUL ROUTES							
	Tractor / Trailer				7 Ton Truck			
	45 – 55 HP		56 – 75 HP		Flat Bed		Tipper	
	Poor	Good	Poor	Good	Poor	Good	Poor	Good
0 – 1	16	19	18	20	10	10	11	12
1 – 2	10	14	12	15	8	9	9	11
2 – 3	7	11	9	12	7	9	8	10
3 – 4	6	9	7	10	7	8	7	10
4 – 5	5	8	6	9	6	8	7	9
5 – 6	4	7	5	8	6	8	6	9
6 – 7	4	6	4	7	5	7	5	8
7 – 8	3	6	4	6	5	7	5	8
8 – 10	3	5	3	6	4	7	5	7
10 – 12	2	4	3	5	4	6	4	7
12 – 14	2	4	2	4	3	6	4	6
14 – 16	2	3	2	4	3	5	3	6
16 – 20	1	3	2	3	3	5	3	5
20 – 24	1	2	2	3	2	4	2	5
24 – 30	1	2	1	2	2	4	2	4

Assumptions: Daily working hours for tractors/trailers and trucks = total working hours (8) minus service hour (1) = actual time on hauling job = **7 hours per day**