

An Evaluation of the Project

Increased Application of Labour-Based Methods through Appropriate Engineering Standards



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Abbreviations and Acronyms

ASIST	Advisory Support, Information Services and Training
CBR	Californian Bearing Ratio
Danida	Danish International Development Agency
DFID	UK Department for International Development
EIIP	Employment Intensive Investment Programme
FAO	Food and Agriculture Organisation
HDM-4	Highway Design Model
ILO	International Labour Office
IRI	International Roughness Index
LB	Labour Based
NGO	Non Government Organisation
SIDA	Swedish International Development Cooperation Agency
TA	Technical Assistance
TOR	Terms of Reference
TRL	Transport Research Laboratory

Executive Summary

The project being evaluated is a regional research project on low volume earth and gravel roads in Africa. The project has set up an efficient management organisation combining the ILO ASIST offices in Harare for management and dissemination, with the TRL for research work, and different country road authorities for collecting the field data which will ensure better long-term sustainability. Several countries have participated in the project: in Ghana, Uganda and Zimbabwe where the work has been completed, while in Lesotho, Mozambique, and Ethiopia - who joined later -, the work is still ongoing. Namibia and Kenya are expected to join in the research as soon as funding arrangements are finalised.

The goal of the project is “To promote sustainable livelihoods and contribute to the socio-economic development of disadvantaged rural populations through improved road access provision”, and the purpose is “To reduce the life-time cost of unpaved rural roads by promoting appropriate engineering standards, planning tools and works procedures for labour-based construction and maintenance”. The three outputs are (a) research results (Planning and Management Tools); (b) Engineering Standards; and, (c) dissemination, training and capacity building.

The activities were based on a research methodology developed by the project. Since the purpose was to reduce the life-time cost of unpaved rural roads including those constructed using labour-based methods, it was necessary to find out how different factors influenced road deterioration and therefore maintenance costs. The evolution of road deterioration was measured on a total of 63 test sections in three countries. For each section data were collected about traffic, rainfall, road gradient and material properties of wearing course and subgrade. Over a two year period the test sites were regularly monitored regarding gravel loss, roughness and visual condition. All the data was collected by the country teams and sent to the regional team for analysis. Experimental data of road deterioration was compared with those predicted by the HDM-4 model which allowed calibrating the HDM model.

An important conclusion of the analysis was that materials that had been categorised traditionally as “good materials” based upon characteristics such as high CBR and low plasticity, where in fact the cause of rapid deterioration through gravel loss and therefore required high maintenance costs. Materials with lower CBR and higher plasticity performed in an acceptable way on low volume roads but demonstrated much lower road deterioration. This showed that it was necessary to redefine quality criteria for road materials of low volume roads in order to take the maintenance aspect into account. Using new definitions it was found that for the better materials regravelling could be done on the average every 10 years while for the poorer materials the required frequency was every four years (for traffic levels of 100 vehicles/day). The regional team then went on to produce a life-cycle cost calculator in the form of a spreadsheet programme. This tool calculates the total life-cycle agency costs discounted over the analysis period.

Several dissemination workshops were organised by the project to share the preliminary findings and some outputs of the project including the “Guideline for Labour Based Quality Assurance” produced in order to make the above results available to road engineers.

The intended outputs of the project were thus achieved and can be expected to contribute to the stated purpose “a reduction of life-time cost of unpaved roads constructed using labour-based methods”, and the reduction of the cost of these roads over their life will, through a better use of funds, in turn lead to the stated goal “improved rural road access” of the project.

In order to provide a quantitative evaluation of the value for money provided by the project the following estimate may be of use. The total cost of the project (about US\$ 1.8 million) is

not small but taking into account the fact that this is a regional project involving different countries and lasting five years, the amount is rather low. The possible benefits however are enormous since the study has shown that by selecting materials according to the new specifications, the frequency of regravelling of rural roads may be reduced on the average from every four years to every ten years. The impact on the cost of periodic maintenance of rural roads may therefore be more than 50%. Since the cost of regravelling is about US\$ 5,000 per kilometre, and if each country regravels on the average each year about a thousand kilometres of rural roads, then the application of these new specifications in ten African countries may produce savings of the order of US\$ 25 million per year.

Conclusions

Relevance

The project was relevant at the time of its formulation and is relevant today at the end of the project. The nature of some of the findings has even increased its relevance because of its very important potential economic impact and because of its possible impact well beyond the intended target of low-volume labour-based roads.

Efficiency

The project has set up an efficient management organisation combining the ILO ASIST offices in Harare for management and dissemination, with the TRL for research work, and the different country road authorities for collecting the field data. The research methodology was efficient and the project was efficiently managed and used the data collected by three countries so far to produce significant findings and recommendations leading to the production of the “Guideline for Labour-Based Quality Assurance”. Three other countries are collecting field data and the three first countries have expressed their intention to carry on the research project.

Effectiveness

It is still early to measure effectiveness because the target dates of some of the indicators lie in the future (one or two years after project completion), and the target dates of other indicators were given too optimistically a target date of project end. But it appears from discussions with the beneficiaries that the project is well on its way to achieve its purpose. However all the responsibility for carrying on the necessary activities now lies with the participating countries and some continued assistance may be useful in order to reach the indicators earlier and to a fuller extent.

Impact

It is far too early at the end of the project and especially for a research project to measure verifiable indication of its impact. However the attainment of a very significant economic impact is rather likely.

Sustainability

Because of the early and continued involvement of the participating countries the sustainability of the project is rather likely. However the likeliness would be much increased by some further limited assistance.

Recommendations

Relevance

It is recommended for the ILO to continue its support to research projects such as this that improve quality and feasibility of labour-based road construction and maintenance and that are therefore very relevant to the socio-economic development of rural areas in Africa.

It is recommended for the ILO to extend these research activities to francophone countries in Africa. These countries face the same problems and could benefit from the same recommendations. A first activity could be the translation in French of the Regional report and of the Guidelines, and the dissemination of these documents in French-speaking countries of Africa.

Efficiency

It is recommended to examine for future projects the possible inclusion of a regional research partner alongside with the TRL.

It is recommended to expand the regional report by including the data sets of the three other countries (Mozambique, Lesotho and Ethiopia), when the results become available. This would require limited additional funding.

It is recommended to assist African countries to carry out further field measurements producing additional data allowing to expand the findings. This would require limited additional funding since countries can be expected to contribute a significant amount.

Effectiveness

It is recommended for the donors to make funds available for limited further assistance to help the participating countries implement the “Guidelines for Labour-Based Quality Assurance”. This would require helping the engineers to convince the decision makers, coaching and consultancy, and regional exchange.

Impact

It may be very useful to undertake further research expanding the findings of this research to other related areas such as gravel roads with a higher volume of traffic.

Looking at the project as a business venture one could say that

*“The overall evaluation of the project development is that it was based on a **brilliant idea**, and that it has developed an **excellent product** in the form of the very efficient “Guideline for Labour-Based Quality Assurance” based upon **excellent research**. However in order to achieve success **much more needs to be done in marketing and selling** this excellent product. What is required is to convince the users that they need this product and should use it. The ILO can do this as it has shown by successful campaigns such as the one mobilising the world against children’s work, and the ILO would need to use such efficient marketing efforts in selling this product. This will require an additional budget.”*

1 The project

The project being evaluated is a regional research project on low volume earth and gravel roads in Africa. The project has set up an efficient management organisation combining the ILO ASIST offices in Harare for management and dissemination, with the TRL for research work, and different country road authorities for collecting the field data which will ensure better long-term sustainability. Several countries have participated in the project: in Ghana, Uganda and Zimbabwe where the work has been completed, while in Lesotho, Mozambique, and Ethiopia - who joined later -, the work is still ongoing. Namibia and Kenya are expected to join in the research as soon as funding arrangements are finalised.

The project has been funded by different donors: the UK Department for International Development (DFID) has financed the regional component and the Ghana, Uganda and Ethiopia country components. Danida has financed the Zimbabwe component, Ireland the Lesotho component and SIDA has funded the Mozambique component. In each country there is also funding provided by each of the respective governments.

Budgets of the projects being evaluated (in US\$)						
	INT/01/M03/UKM			ZIM/02/M01/DAN	LES/03/M01/LES	
Cost item	Regional	Ghana	Uganda	Zimbabwe	Lesotho	Total
External funding	217,000	381,000	279,000	322,000	241,000	1,440,000
Local funding		87,000	48,000	77,000	154,000	366,000
Total funding	217,000	468,000	327,000	399,000	395,000	1,806,000
DFID	877,000					
Danida	322,000					
Ireland Aid	241,000					
Participating Countries	366,000					
Total funding	1,806,000					
Note: The above budgets are based upon the figures given in the logical framework. Currency fluctuations and subsequent changes are not reflected in this table.						

The goal of the project has been defined as follows: “To promote sustainable livelihoods and contribute to the socio-economic development of disadvantaged rural populations through improved road access provision”.

The purpose of the project is the following: “To reduce the life-time cost of unpaved rural roads by promoting appropriate engineering standards, planning tools and works procedures for labour-based construction and maintenance”.

The outputs were defined as follows:

- a) Planning and Management Tools:
 - Deterioration relationships established;
 - Life-cycle costs for low volume and labour-based roads determined.
- b) Engineering Standards:
 - Appropriate engineering standards developed;
 - Quality assurance and control methods established.
- c) Dissemination, training and Capacity Building:
 - Stakeholder and training workshops;
 - Project reports, country manuals and revision statements.

The activities were based on a research methodology developed by the project. Since the purpose was to reduce the life-time cost of unpaved rural roads including those constructed using labour-based methods, it was necessary to find out how different factors influenced road

deterioration and therefore maintenance costs. The evolution of road deterioration was measured on a total of 63 test sections in the three countries. The sections were located on roads built by labour-based methods and selected to be representative for the whole network of low-volume roads. Each section was 200 meters long and cross-sections were materialised every 20 meters. For each section the following data were collected: traffic, rainfall, road gradient and material properties of wearing course and subgrade. The test sites were regularly monitored over a two-year period (for example in Ghana twice a year, before and after the rainy season). The monitoring included gravel loss measurement, roughness measurements and a visual condition survey. Gravel loss was measured with an optical level at 20 cm intervals in each cross-section, roughness was measured with the Merlin measuring device producing the IRI index for the road section and visual condition survey was done using standardised codes. All the data was collected by the country teams and sent to the regional team for analysis. The analysis looked for correlations between road degradation in terms of gravel loss and roughness and factors such as traffic, weather and the characteristics of the road materials. Experimental data of road deterioration were compared with those predicted by the HDM-4 model which allowed calibrating the HDM model.

An important conclusion of the analysis was that materials that had been categorised traditionally as “good materials” based upon characteristics such as high CBR and low plasticity, were in fact the cause of rapid deterioration through gravel loss and therefore required high maintenance costs¹. Materials with lower CBR and higher plasticity performed in an acceptable way on low volume roads but demonstrated much lower road deterioration. This showed that it was necessary to redefine quality criteria for road materials of low volume roads in order to take the maintenance aspect into account. Using new definitions classifying materials in four quality zones (A to D) it was found that for the better materials (zone A) regravelling could be done on the average every 10 years while for the poorer materials (zone D) the required frequency was every four years (for traffic levels of 100 vehicles/day). The regional team then went on to produce a life-cycle cost calculator in the form of a spreadsheet programme. For each material quality zone, this tool calculates the regravelling frequency. User specified roughness intervention criteria are used to trigger grading activities. The HDM-4 relationship for estimating roughness after grading is used to model the grading effects. The total costs of regravelling and grading over the life-cycle period are then calculated. The costs of other routine maintenance (e.g. spot regravelling, vegetation control, etc) and original construction costs can also be added. The tool calculates thus the total life-cycle agency costs discounted over the analysis period.

Several dissemination workshops were organised by the project to share the preliminary findings and some outputs of the project including the “Guideline for Labour Based Quality Assurance” produced in order to make the above results available to road engineers.

This short summary of the activities shows already that the intended outputs of the project were thus achieved and can be expected to contribute to the stated purpose “a reduction of life-time cost of unpaved roads constructed using labour-based methods”, and the reduction of the cost of these roads over their life will, through a better use of funds, in turn lead to the stated goal “improved rural road access” of the project.

In order to provide a quantitative evaluation of the value for money provided by the project the following estimate may be of use. The total budget (about US\$ 1.8 million) is not small but taking into account the fact that this is a regional project involving different countries and

¹ The reason for this is that the materials standards based upon CBR, plasticity and fines were developed for paved roads. They are used also for unpaved roads and behave well structurally. The problem is that materials with high CBR and low plasticity and fines have less cohesion and gravel loss can become a problem on unpaved roads. From the point of view of maintenance these materials are more expensive since they need to be replaced more often.

lasting five years, the amount is certainly not exaggerated. The possible benefits however are enormous since the study has shown that by selecting materials according to the new specifications, the frequency of regravelling of rural roads may be reduced on the average from every four years to every ten years. The impact on the cost of periodic maintenance of rural roads may therefore be more than 50%. Since the cost of regravelling is about US\$ 5,000 per kilometre, and if each country regravels on the average each year about a thousand kilometres of rural roads, then the application of these new specifications in ten African countries may produce savings of the order of US\$ 25 million per year. Since these potential savings can be obtained as a result of just one of the findings of the study, the overall impact of the project would be much larger.

More information on the project formulation and implementation can be found in annex 2 which shows the Logical Framework as defined originally and as achieved at the end of the project on 30 June 2006.

2 The evaluation

The evaluation has been implemented in accordance with the terms of reference annex 1. This evaluation covers the regional component, the Ghana and Uganda country components (INT/01/M03/UKM) funded by DFID, the Zimbabwe component (ZIM/02/M01/DAN) funded by Danida and the Lesotho component (LES/03M01/LES) funded by Ireland Aid.

2.1 The rationale of the evaluation

The principal client for the evaluation is the ILO on behalf of the UK Government, Department for International Development (DFID), Danida and Ireland Aid.

The funding agreement between ILO and DFID was signed in March 2001 (for an amount of £691,295) and the subcontract agreement between the ILO and TRL was signed in July 2001. Although TRL had started its preparatory work, full implementation did not start until August 2001. The regional component of the project has been extended until the 30th of June 2006, the date of its completion. The present evaluation is therefore a final evaluation.

The Zimbabwe component of the research commenced in January 2001 following the signing of agreements between the funding organisation, DANIDA, and the implementing agency, TRL. But soon after Danida withdrew aid to Zimbabwe and as a consequence the contract between Danida and TRL for the Zimbabwe component was terminated, effective from 31 January 2002. Work in Zimbabwe was put on hold whilst the funding from Danida was re-channelled through the ILO/ASIST with a memorandum of understanding signed in May 2002 (for an amount of US\$302,895) and a subsequent subcontract signed between the ILO and TRL.

In June 2003, the agreement between the Government of Lesotho and the ILO was signed. The funding (US\$268,676) was provided by Ireland Aid. This made Lesotho the fifth country to participate in the research programme.

2.2 The purpose of the evaluation

The purpose of the evaluation has been defined as follows:

The donors are anxious to learn lessons about the effectiveness and impact of the ILO programme that they have supported at country and regional level. The ILO wishes to assess the efficiency of its delivery of this project and to what extent it has been able to have impact in terms of influencing both governments and development agencies towards a more pro poor approach to rural infrastructure delivery. Moreover, if there are indications that the research has indeed been successful in this, how will it be possible to use these achievements in the EIIP and ILO in general. Also, still in terms of relevance and sustainability, how will the research findings be carried further within and outside the ILO.

This evaluation therefore comprises both a final evaluation of this project in particular, and an examination of broader questions about how ILO's TA engages with current policy concerns about growth and poverty-reduction, as well as how it relates to its core standard-setting work.

2.3 The objectives of the evaluation

The objectives of the evaluation are to assess how well the research, planning tools, work procedures, and engineering standards have been developed, implemented, documented and disseminated, including their possible contribution to reducing the life-time cost of unpaved rural roads, poverty reduction, decent work, and pro-poor policy making in the infrastructure sector.

2.4 Evaluation scope

The scope of the evaluation involves a review of:

- The relevance and value of the project in developing, and disseminating research, tools and standards in this field and its successful impact at the country level (effectiveness and relevance).
- Compare and contrast the findings of an analysis of any differences in the approach between the different countries and whether the different resources provided have been efficiently used (efficiency).
- The ILO's comparative strengths and strategic positioning in this niche as compared to other organizations, as well as choice and development of partnerships and government institutions related to infrastructure development and investments (and others like construction industry councils and international donors and financing agencies (e.g. World Bank and Regional Banks) (effectiveness and relevance).
- Any evidence of the shorter and longer term direct and indirect outcomes on the national partners and institutions that the strategy aims to strengthen (impact).
- The lessons drawn about the effectiveness of such a project for possible discussion with a group of interested donors.

2.5 Evaluation methodology

2.5.1 Explanation of the methodology used

The present evaluation includes a desk-based review that analyzed the initial project document, project progress reports and other project documentation, key performance criteria and indicators, compared and assessed the issues mentioned under scope of the evaluation and the coherence and continuity of project work over time. Attention has been given to main means of action, implementation performance, target groups and their perceptions of major progress and significant achievements, as well as notable products and outputs in the main means of action. Application of good practices, including monitoring and evaluation, and use of lessons learned have also been considered.

The strategy has been reviewed, including partnerships and main means of action, with focus on evolution of the project over time. This has been supported through interviews and review of related documentation. The interviews have explored the extent of positive attitudes and possible changes in policies and operational practices that can be attributed to ILO advocacy and service efforts in this field.

The Consultant has participated in the regional dissemination workshop in Nairobi (20-21 June 2006) which allowed for in-depth discussion of project objectives, outcomes and methodologies used. Studies at country level have provided means of documenting the usefulness of technical work within member States.

In addition to desk reviews and interviews, a field mission to Ghana has provided additional supporting evidence. This case study also considered how the integration of strategies and approaches within countries around the broader Decent Work Agenda have impacted on such research work and have considered the roles and responsibilities of others within and outside the ILO in reinforcing this process.

2.5.2 Relevant stakeholders consulted

The evaluation consultant consulted representatives of ASIST, TRL and of participating country representatives at the dissemination workshop in Nairobi, Kenya, in June 2006. He discussed different aspects of the project in particular with representatives from Zimbabwe, Lesotho, Uganda and Ghana. During a visit to Ghana there were further meetings with staff

involved in the Ghana country component. The list of persons/organizations consulted is attached as annex 3.

2.5.3 The evaluation consultant

The evaluation has been undertaken by an independent senior consultant. The consultant is a road engineer with 35 years of experience in the road sector in Africa and Asia of which twenty years in labour based road construction projects. He has executed many missions in this sector for the ILO, the World Bank, the Asian Development Bank, FAO, Danida, the Swiss Development Cooperation, the Belgian Development Cooperation and others.

2.6 Information sources

The evaluation consultant was given access to all documentation and respondents required for the evaluation. The list of documents consulted is attached as annex 4.

2.7 Independence

2.7.1 Independence of the evaluator vis-à-vis stakeholders

Although the consultant has executed many missions for the ILO, he is an independent consultant and has a long experience in labour based projects executed by the ILO but also by other agencies. The consultant has not been involved in the earlier stages of this project.

2.7.2 Free and open evaluation process

The evaluation consultant was able to work freely and without interference, he was assured of all cooperation and access to all relevant information. There was no obstruction that needs to be reported.

3 Evaluation of the project

3.1 Relevance

3.1.1 The origin of the project

At the time of the conception of the project the main aim was to improve the cost-effective provision of roads in rural and peri-urban areas in Africa. Thus the project was targeted at those populations in Africa, which tended to be most economically and socially disadvantaged and often had the poorest road infrastructure, which hindered their participation in development. The need for improved knowledge of the life-time costs of low-volume roads of different standards had been evident for some time but was specifically identified by practitioners at an ILO/ASIST seminar in Uganda in 1997. This seminar identified the need for guidance on:

- selecting appropriate construction standards for labour-based roads
- assigning selection criteria and compaction standards that are realistically achievable for typical soils and using the normal range of labour-based equipment
- appropriate quality assurance techniques and site approval procedures
- the impact of different standards and techniques on maintenance needs and strategies
- how these various components interact to affect the likely engineering performance and life cycle costs.

The need for guidance had become more pressing with donors funding many of these roads in support of development programmes to improve livelihoods. The involvement of many different road agencies, NGO's, consultants and contractors in these schemes had led to a proliferation of diverse standards and practices, the life-time cost implications of which were largely unknown. There was little quantitative evidence available to assist practitioners in making appropriate decisions, many of which have a substantial impact on the performance and total costs. There had been some studies on the relative costs of using plant and labour, but these had not taken into account the different construction standards or how these might impact on performance and total engineering costs.

In response to the identification of this need, ILO/ASIST, the Transport Research Laboratory, U.K. (TRL) and the Swedish consulting firm SweRoad prepared a Project Concept Note, which was circulated and discussed with potential collaborating country organizations and donors. ILO/ASIST also commissioned missions by TRL and consultants to visit some of the countries, which declared an interest in the project. There was widespread support for the proposals both at country level and amongst the donor community.

The project aims to quantify and build an understanding of the effects of the main controlling components (construction standards, climate, soils, traffic etc.) likely to affect performance and life cycle cost implications of labour-based roads. Although considerable research had been conducted on the deterioration of more highly trafficked gravel roads, there was a need to study the deterioration characteristics of low-volume earth and gravel roads that promote technology choice. It was therefore important to set the research in the context of determining the impact of appropriate standards on the cost-effective provision and maintenance of low-volume unpaved roads, whilst promoting flexibility in the choice of construction technique (equipment or labour-based methods) used to achieve the standard.

3.1.2 The logical framework

The result of the preparation activities was a logical framework (see annex 2 of this report) which forms part of the project document. The analysis of this logframe shows that the

identification of the beneficiaries was correct and the identification of the problem was real: “the rural populations are lacking improved access, and appropriate engineering standards can reduce the time-life cost of unpaved rural roads”. The **Goal** and the **Purpose** were therefore correctly defined.

The logframe defines the activities: (1) inception activities leading to country stakeholder workshops; (2) in country activities, in order to collect dependable field data; (3) data evaluation in order to develop the life cycle cost methodology and works approval procedures; (4) reporting in country and regionally; and (5) dissemination and training activities. These activities involve local organizations in the countries, often Departments of the Ministries in charge of rural roads, for the collection of the data, and a regional team for the overall management. This way of sharing the work has been proven to be an optimal way. The local organizations have been able to collect the data on representative sections of roads in a cost effective way while following the manual “Procedure for site selection, commissioning and monitoring” prepared by the regional team. The analysis by the regional team has been done country by country and then later by synthesizing the results of the different countries. The involvement of the ILO/ASIST was useful in the selection of countries and in the organization of the dissemination and training through the organization of workshops and the publishing and distribution of reports. Therefore one can conclude that the **activities** and **outputs** as well as the main actors and their implementation capacity were correctly defined.

The logframe defines also the measurable indicators to be used to verify to what degree the Goal, the Purpose, the Outputs and the Activities have been attained or implemented. For the Outputs and the Activities these indicators are realistic and attainable, however for the Purpose the indicators are too optimistic and located too early in time: indicators 4,5 and 6 are supposed to be reached by project end but it should have been clear to the designers that these indicators could only be reached several years after the end of the project (as is the case for the indicators 1, 2 and 3 of the purpose). The indicators for the Goal are of a very general nature and it is difficult to measure a significant change of these indicators at the end of the project. This is often so and to what degree the project has contributed to the goal can only be estimated several years after the project has ended.

It follows from the above that the project was relevant at the time of formulation. The outcome of the project shows that by the end of the project it has become even more relevant than was expected at the time of formulation.

The following example illustrates this. Using the existing engineering standards based on CBR and plasticity index, guides the road builders towards the use of gravel with high CBR but little cohesion. These materials behave very well in paved roads but on unpaved roads where these materials disappear rather quickly and periodic regravelling must be done rather often. The result is that in many areas the “good gravel” near the unpaved road has been used and the haulage distances increase, increasing the cost of regravelling. The research done under this project showed however that some materials with a higher clay content are in fact superior materials for unpaved roads. The result is that engineering standards can be revised allowing the use of materials that can be found near the road and reducing haulage distances and cost.

<p>Recommendation 1.: it is recommended for the ILO to continue its support to research projects such as this that improve quality and feasibility of labour-based road construction and maintenance, and that are therefore very relevant to the socio-economic development of rural areas in Africa.</p>

3.1.3 Organisational set-up in relation to the objectives

The main international partners in the project are ILO/ASIST and TRL. Whilst TRL are providing the research expertise, ILO/ASIST personnel include international and regional engineers who are experienced practitioners in labour-based technology. The project is also designed to maximise the benefits of local partnerships. Where possible, countries have been selected not only to cover the range of variables being studied but also to benefit from the wide local knowledge available from practitioners in labour-based technology.

The project also has substantial sustainability, technology transfer and capacity building components. It is designed to increase the viability of small-scale local contractors through the development of appropriate standards and methods for the rapid approval procedures of road works. Technology transfer is achieved through the involvement of local partners including consultants, contractors, academic and research institutions and road authorities. These local partners play an active role in developing, teaching and implementing appropriate cost-effective designs, standards and practices. Through participation in the project, collaborating organizations develop improved capacity to identify, carry out and obtain funding for research in support of the road sector in the region. Their involvement is essential for the sustainable development of road infrastructure.

This project includes countries of English and Portuguese speaking countries in Africa but not French speaking countries that face the same problems.

Recommendation 2.: it is recommended for the ILO to extend these research activities to francophone countries in Africa. These countries face the same problems and could benefit from the same recommendations. A first activity could be the translation in French of the Regional report and the Guidelines, and the dissemination of these documents in French-speaking countries of Africa.

3.2 Efficiency

3.2.1 Efficiency of the overall set up

The overall set up with the division of the tasks between the regional team doing the definition of the methodology and the analysis, and the individual country agencies doing the field work was efficient since this resulted in a cost effective execution of the project. Having an international organisation doing also the field work would have been much more expensive and the involvement of the country agencies allowed for using the local capacities, the transfer of technology and incited the governments to fund the work by the local agencies. Doing such a project without the involvement of an international research laboratory would have been difficult since there is no African road research laboratory that could have played the role taken up by the TRL. However future projects could help in the emergence of such a road research laboratory by including possible candidates (possibly the CSIR of South Africa).

Recommendation 3.: it is recommended to examine for future projects the possible inclusion of a regional research partner alongside with the TRL.

However this set up created also some problems. The formulation document was based upon the assumption that the field work would take place in six to nine countries, however when the project started, only three countries (Ghana, Uganda and Zimbabwe) had mobilized the required funding. Three other countries (Mozambique, Lesotho and Ethiopia) took more time to mobilize the funding and the field work started much later. The result was that because of the limited project duration, the regional report synthesizing the different country data was prepared based on only three country data sets instead of an anticipated six.

Although the results of the study are very interesting, it would be useful to expand the regional report by including the data sets of the three other countries (Mozambique, Lesotho and Ethiopia), when the results become available. This would require a limited amount of additional funding but would allow for a further generalization of the research results. Including the results of Kenya and Namibia, if they succeed in mobilizing the necessary funds would allow further generalization of the research results and the overall recommendations of the study.

Recommendation 4.: it is recommended to expand the regional report by including the data sets of the three other countries (Mozambique, Lesotho and Ethiopia), when the results become available. This would require limited additional funding.

3.2.2 Efficiency of the research methodology for data collection

The efficiency of the methodology prepared by the regional team was discussed with the different country representatives. Most of them were of the opinion that the results would have been more representative (i) if the test sites had been longer than the 200m test lengths adopted; (ii) if the number of cross sections per site would have been increased; (iii) if more test sites had been included to cover a greater variety of soils, climatic zones and traffic conditions; and if the duration of the study would have been increased allowing the measurements to go on for a longer period than the two years of the actual project. But they also agreed that this would have increased the cost and the time required, which might have created serious problems for the funding of the research project. It appears however that the quantity of data collected has allowed a serious statistical analysis to be done, producing significant conclusions. Several countries would like and may carry out additional field measurements, and this would allow a further refinement of the conclusions of the research study at a later point in time.

Recommendation 5.: it is recommended to assist African countries to carry out further field measurements producing additional data allowing to expand the findings. This would require limited additional funding since countries can be expected to contribute a significant amount.

3.2.3 Cost and value for money

The total cost of the project (about US\$ 1.8 million) is not small but taking into account the fact that this is a regional project involving different countries, the amount is not exaggerated. If we estimate the possible benefits then the advantages are enormous compared to the budget of the project. We may illustrate this by the following example: the study has shown that materials with more fines can be used, these materials are found more easily, reducing the haulage distances, this can reduce periodic regravelling costs by as much as 10%. The study has also shown that the use of these materials may reduce the frequency of regravelling from every four years to every ten years. The impact on the cost of periodic maintenance of rural roads may therefore be more than 50%. Since the cost of regravelling is about US\$ 5,000 per kilometer, if each country regravel on the average each year about a thousand kilometers of rural roads then the application of these standards in ten African countries may produce savings of the order of US\$ 25 million per year. This is an estimate of the potential savings as a result of only one of the findings, the combined impact of the project could be much larger.

3.2.4 Partner country contributions

The partner country contribution is about 20% of the total project budget, this is an unusual high amount and shows the commitment of the participating countries.

3.2.5 Management by the ILO/ASIST

The ILO has over 25 years of experience with promoting local resource use through applying labour-based technologies and local level planning. Its origins date back to the 1970s when ILO's work focused on two streams; relief, emergency and special public works programmes on the one side and technology choice in the construction sectors on the other side. Its strategy has evolved to strengthen public and private sector development emphasizing long-term structured policy changes for employment generation, which support the broader agenda for decent work. During the 1980's and 1990's the ILO worked in some 40 countries, mostly in Africa and Asia, on local resource-based infrastructure programmes. Part of its strategy evolution came from the ILO's own knowledge development in how infrastructure investment affects economic growth and productive employment opportunities, the relative importance of the infrastructure sector in the economy, and the broad spectrum of technologies that can be applied in certain types of infrastructure.

Since 2000, the ILO's Employment-Intensive Investment Branch (EMP/INVEST), based in the Employment Policy Department, has anchored the strategy administratively and technically.

Additional support has come through the ILO field offices and through the ASIST (Advisory Support, Information Services and Training) programmes of Africa and Asia. ASIST is an ILO executed programme of services, with ASIST Africa in operation since 1991, primarily in East and Southern Africa.

The availability of ASIST to manage the project and the relations of the ILO with many countries managing labour based road projects has been a determining factor for the success of this regional project.

3.2.6 Monitoring

The monitoring of the project activities included twice yearly progress reports produced by each country and integrated into a regional progress report. The consultant has received copies of the ten progress reports and has examined them. These reports present an accurate overview of the progress of the project. Monitoring is also provided by steering committees, three steering committee meetings have taken place: in Accra, Ghana in October 2002, in Arusha, Tanzania in October 2003, and in Mombasa, Kenya in October 2005. The minutes are included in the progress reports.

At the country level National Steering Committees have provided monitoring of project activities. Periodic country reports for Ghana have been examined and found to provide a good insight of project activities.

3.3 Effectiveness

The effectiveness criterion, concerns how far the project's results were used or their potential benefits were realised - in other words, whether they achieved the project purpose. The key question is what difference the project made in practice, as measured by how far the intended beneficiaries really benefited from the products or services it made available.

The analysis of Effectiveness will therefore focus on the following points.

3.3.1 Benefits of the project delivered to the beneficiaries

The country organisations in charge of road construction and maintenance are the direct beneficiaries of the project since they benefit directly from the improved specifications. At this stage of the project the persons who have been able to evaluate the partial results of the project are the engineers and researchers involved with the project in the participating countries. These persons perceive the benefits of the project (mainly the publication of the "Guidelines") as promising and potentially substantial. At the same time they are aware also that they have still a lot of work to do before these "Guidelines" will be generally applied and will generate the expected benefits. In order to achieve the indicators there is a need for the engineers and researchers to convince the decision makers of the usefulness of the

“Guidelines” and obtain permission to apply them first on a test basis, evaluate them and include them in the local specifications. Consultation with colleagues in other participating countries may speed up the process.

3.3.2 The indicators of benefit

The measurable indicators for the achievement of the purpose were correctly formulated but the target dates that were set were rather too optimistic. Of the six indicators, three have a target date of the end of the project (see annex 2 Logical Framework, for more detailed information). It should have been clear already at the time of formulation that this was difficult to achieve within the project duration. However the indicators may very well be achieved in a few years time.

3.3.3 Important assumptions at output to purpose level

The assumptions (see annex 2 for more information) have been correctly formulated. So far the assumptions are being evaluated as correct. Some of the assumptions relate to the situation after the project end such as the availability of resources for training and the effective participation by local contractors, consultants and road authority staff. Limited assistance by the donor community could help here.

3.3.4 Responsibilities of the different actors involved

An interesting aspect of the project is that it was a regional project with several participating countries and the assistance of the ILO and TRL. In each country the road authorities were involved in the actual research work and a steering committee was set up in order to follow up on the activities. This set-up worked very well and there was a good balance of responsibilities. Now at the end of the project the whole responsibility for implementation of further activities has shifted to the participating countries. It remains to be seen how quickly they take on this responsibility.

Recommendation 6.: it is recommended for the donors to make funds available for limited further assistance to help the participating countries implement the “Guidelines for Labour-Based Quality Assurance”. This would require helping the engineers to convince the decision makers, coaching and consultancy and regional exchange.

3.4 Impact

The term impact, sometimes referred to as outcome, denotes the relationship between the project’s purpose and it’s overall goal, that is the extent to which the benefits received by the target beneficiaries had a wider overall effect on larger numbers of people in the sector or region or in the country as a whole.

It is far too early at the end of the project and especially for a research project to measure verifiable indication of its impact. However there are no indications that the impact will not be attained and the attainment of a significant impact is rather likely.

3.4.1 Contribution to the Goal by the project

As the above analysis indicates, the application of the “Guidelines” can have an important impact on the durability of rural roads and reduce the cost of maintaining roads. This means that the available maintenance budget can cover a larger network and this will have a major impact on rural accessibility and the socio-economic development of rural areas.

3.4.2 Unforeseen external shocks

There were no unforeseen external shocks.

3.4.3 Unplanned impacts

A possible unplanned impact and a positive one is that the findings of the research project may be of far greater importance than initially expected. Indeed it seems that some of the findings and recommendation could probably be applied not only to low volume earth and gravel roads but also to gravel roads with higher volume traffic, and not only to labour-based road construction but also to mechanised road construction. This would further increase the value of this research project and may justify further research in this area.

Recommendation 7.: it may be very useful to undertake further research expanding the findings of this research to other related areas such as roads with a higher volume of traffic.

3.4.4 Logframe indicators

The “Important assumptions” mentioned in the Logical framework were and are valid. They deal with the application of the produced “Guidelines” by the different country authorities and the continuation of a positive environment for small scale contractors. The environment is generally improving slowly for small scale contractors although because of the need for employment creation in Africa one would expect the improvement too be faster. The “Guidelines” will probably be adopted by African countries but some assistance by the donors could speed up this process.

3.4.5 Whether there were other means of achieving the same impact

In order to achieve the Goal many simultaneous actions are necessary and the actions undertaken by the present project are a necessary part of an overall programme that includes research as well as other activities.

3.4.6 Economic impact distribution

The economic impact of the project will be mainly concentrated in rural areas that will benefit most of the economic impact of improved rural access. Since the aim is to improve labour based road works there is also a direct impact on wages in rural areas.

3.5 Sustainability

The fifth and final - and often most important - criterion, sustainability, relates to whether the positive outcomes of the project at purpose level are likely to continue after external funding ends, and also whether its longer-term impact on the wider development process can also be sustained at the level of the sector, region or country. The analysis of sustainability will therefore focus on the aspects below.

3.5.1 Ownership of objectives and achievements

As we have seen above there was a high level of involvement by the participating countries. This participation was there already before the formulation of the project (see introduction). During the project the involvement was not limited to the participation in the execution of the research activities but included also participation in the funding of the project, this funding reached about 20% of the project’s budget which is significant. There was also important participation in the national and regional workshops. All this indicates a high degree of ownership and representatives of the participating countries mention efforts in their countries to continue the research activities as well as the application of the results obtained so far.

3.5.2 Adequacy of the project budget

The project budget included the budget provided by DFID for the regional project and the Uganda and Ghana country projects, the budget provided by Danida for the Zimbabwe

country project, the budget provided by Irish Aid for the Lesotho country project and the budget provided by the participating countries.

Initially it was expected that more countries would join the research project, this has happened but for some countries somewhat later and for some the search for funding has not yet been finalised. At first sight this might have resulted in a serious handicap but as it turned out the results based on data from three countries are already very significant. Therefore the budget can be judged to be adequate. The only comment is that in order to achieve the purpose and the goal more needs to be done to ensure dissemination and application of the “guidelines” and this requires additional funding not included in the project budget.

3.5.3 Financial and economic sustainability

Once the “Guideline for Quality Assurance for Labour-Based Works” will have been disseminated widely (by the end of 2006), nothing will prevent the participating (and other countries) to adopt these guidelines. However many countries will want to try out these Guidelines on a limited scale, review the results and then gradually apply them on a larger scale. This process can be done in most countries but some support and exchange of experience between countries would be useful to maintain the momentum. In effect even if the local correspondents in the participating countries are convinced they still need to convince the decision-makers. But because of the important financial and economic impact there are no expected problems of financial or economical sustainability.

3.5.4 Technological issues

The research project aims at improving the provision of rural low volume roads through labour-based methodologies. These methodologies are very well adapted for building, rehabilitating and maintaining rural roads. The results of the research do not require fundamental changes in the labour-based methods and fit in very well with existing practices. The results of the research can be integrated by the local administrations into the locally used specifications. This process would be accelerated by a limited continuation of the project under the form of coaching and of promoting international exchange between participating and other countries.

4 Conclusions and recommendations

4.1 Conclusions

Relevance

The project was relevant at the time of its formulation and is relevant today at the end of the project. The nature of some of the findings has even increased its relevance because of its very important potential economic impact and because of its possible impact well beyond the intended target of low-volume labour-based roads.

Efficiency

The project has set up an efficient management organisation combining the ILO ASIST offices in Harare for management and dissemination, with the TRL for research work, and the different country road authorities for collecting the field data. The research methodology was efficient and the project was efficiently managed and used the data collected by three countries so far to produce significant findings and recommendations leading to the production of the “Guideline for Labour-Based Quality Assurance”. Three other countries are collecting field data and the three first countries have expressed their intention to carry on the research project.

Effectiveness

It is still early to measure effectiveness because the target dates of some of the indicators lie in the future (one or two years after project completion), and the target dates of other indicators were given too optimistically a target date of project end. But it appears from discussions with the beneficiaries that the project is well on its way to achieve its purpose. However all the responsibility for carrying on the necessary activities now lies with the participating countries and some continued assistance may be useful in order to reach the indicators earlier and to a fuller extent.

Impact

It is far too early at the end of the project and especially for a research project to measure verifiable indication of its impact. However the attainment of a very significant economic impact is rather likely.

Sustainability

Because of the early and continued involvement of the participating countries the sustainability of the project is rather likely. However the likeliness would be much increased by some further limited assistance.

4.2 Recommendations

Relevance

It is recommended for the ILO to continue its support to research projects such as this that improve quality and feasibility of labour-based road construction and maintenance and that are therefore very relevant to the socio-economic development of rural areas in Africa.

It is recommended for the ILO to extend these research activities to francophone countries in Africa. These countries face the same problems and could benefit from the same recommendations. A first activity could be the translation in French of the Regional report and the Guidelines, and the dissemination of these documents in French-speaking countries of Africa.

Efficiency

It is recommended to examine for future projects the possible inclusion of a regional research partner alongside with the TRL.

It is recommended to expand the regional report by including the data sets of the three other countries (Mozambique, Lesotho and Ethiopia), when the results become available. This would require limited additional funding.

It is recommended to assist African countries to carry out further field measurements producing additional data allowing to expand the findings. This would require limited additional funding since countries can be expected to contribute a significant amount.

Effectiveness

It is recommended for the donors to make funds available for limited further assistance to help the participating countries implement the “Guidelines for Labour-Based Quality Assurance”. This would require helping the engineers to convince the decision makers, coaching and consultancy, and regional exchange.

Impact

It may be very useful to undertake further research expanding the findings of this research to other related areas such as higher volume traffic gravel roads.

Looking at the project as a business venture one could say that

*“The overall evaluation of the project development is that it was based on a **brilliant idea**, and that it has developed an **excellent product** in the form of the very efficient “Guideline for Labour-Based Quality Assurance” based upon **excellent research**. However in order to achieve success **much more needs to be done in marketing and selling** this excellent product. What is required is to convince the users that they need this product and should use it. The ILO can do this as it has shown by successful campaigns such as the one mobilising the world against children’s work, and the ILO would need to use such efficient marketing efforts in selling this product. This will require an additional budget.”*

Evaluation - Terms of reference

June 2006

<i>Project code</i>	<i>INT/01/M03/UKM, LES/03/M01/LES, ZIM/02/M01/DAN</i>
<i>Project title</i>	<i>Increased Application of Labour-Based Methods Through Appropriate Engineering Standards</i>
<i>Responsible dept</i>	<i>EMP/INVEST</i>
<i>Type of evaluation</i>	<i>Final evaluation</i>

1 Goals, Purpose and Output of the Project

Goal: To promote sustainable livelihoods and contribute to the socio-economic development of disadvantaged rural populations through improved road access provision.

Purpose: To reduce the life-time cost of unpaved rural roads by promoting appropriate engineering standards, planning tools and works procedures for labour-based construction and maintenance.

Outputs

a) Planning and Management Tools

- Deterioration relationships established
- Life-cycle costs for low volume and labour-based roads determined

b) Engineering Standards

- Appropriate engineering standards developed
- Quality assurance and control methods established

c) Dissemination, training and Capacity Building

- Stakeholder and training workshops
- Project reports, country manuals and revision statements

2 Background on the ILO's employment-intensive investment approaches to create employment.

History and organizational approach

1. The ILO has over 25 years of experience with promoting local resource use through applying labour-based technologies and local level planning. Its origins date back to the 1970s when ILO's work focused on two streams; relief, emergency and special public works programmes on the one side and technology choice in the construction sectors on the other side. Its strategy has evolved to strengthen public and private sector development emphasizing long-term structured policy changes for employment generation, which support the broader agenda for decent work. During the 1980's and 1990's the ILO worked in some 40 countries, mostly in Africa and Asia, on local resource-based infrastructure programmes. Part of its strategy evolution came from the ILO's own knowledge development in how infrastructure investment affects economic growth and productive employment opportunities, the relative importance of the infrastructure sector in the economy, and the broad spectrum of technologies that can be applied in certain types of infrastructure.

2. Since 2000, the ILO's Employment-Intensive Investment Branch (EMP/INVEST), based in the Employment Policy Department, has anchored the strategy administratively and technically. Additional support comes through the ILO field offices and through the ASIST (Advisory Support, Information Services and Training) programmes of Africa and Asia. ASIST is an ILO executed programme of services, with ASIST Africa in operation since 1991, primarily in East and Southern Africa, and ASIST Asia-Pacific operating since 1998, and based in Bangkok, Thailand.

3. In 2006-07, an estimated US\$ 3 million of regular budget and US\$ 40 million in extra budgetary resources are earmarked for implementing this strategy.

Vision, strategy and objectives

4. The ILO's strategy aims for ILO constituents and key stakeholders integrating employment and social policy concerns into public and private investment policy in the infrastructure and construction sector. The strategy directly supports the ILO's broader objective of enabling employment to be a sustainable way out of poverty, with particular benefit to women, youth, vulnerable and crisis-affected groups. In addition to the direct link to poverty reduction targets of MDG1, the strategy also supports MDGs linked to improved access to basic goods and services that directly improve the livelihoods of poor households.

5. The ILO's main means of action are both demand side and supply side interventions concentrated in several areas of work:

- Influencing investment policies through advocacy and promotion of appropriate policies and legislation to create an enabling environment for employment creation and poverty reduction;
- Building capacity and demand for local level planning processes that identify appropriate interventions based on the needs and participation of local communities;

- Promoting local resource-based technologies for infrastructure development and maintenance, to boost employment, income, skills and capacities;
 - Advancing small-scale private sector development approaches and community level contracting through organisation and negotiation, and skills and management development, as well as contracting legislation and procedures to foster a decent work environment ;
 - Supporting reconstruction and recovery in crisis-affected countries by enhancing employment to spur local economic development.
6. The ILO ASIST programme in Africa has over the last years implemented a regional research project including a number of countries in the region, including Ghana, Lesotho, Uganda and Zimbabwe. DFID UK funds the Ghana, Uganda and regional components whereas Danida and Ireland Aid are funding the Zimbabwe and Lesotho country components respectively. Governments of participating countries are also contributing to cover the local component of the budget. Similar research projects are being implemented in Ethiopia and Mozambique with directing contracting between the funding agency and the researcher.

The Ghana, Uganda and Zimbabwe country projects are complete whereas the Lesotho country component is at the final stage of the research. The regional component under funding from DFID will also be complete at the end of June 2006.

3 Client

7. The principal client for the evaluation is the ILO on behalf of the UK Government, Department for International Development (DFID), Danida and Ireland Aid. DFID has been a major financial contributor to the EIIP, especially through ILO ASIST both in Asia and Africa. It has provided US\$ 1.1 million to research project in addition to the core funding to the ILO ASIST Africa programme. DFID originally funded the project through the now defunct Infrastructure and Urban Development Department (IUDD). In April 2004, the programme was transferred to the UN and Commonwealth Department (UNCD) but with a link to the research and development partners in DFID maintained.

8. The donors are anxious to learn lessons about the effectiveness and impact of the ILO programme that it has supported at country and regional level. The ILO wishes to assess the efficiency of its delivery of this project and to what extent it has been able to have impact in terms of influencing both governments and development agencies towards a more pro poor approach to rural infrastructure delivery. Moreover, if there are indications that the research has indeed been successful in this, how will it be possible to use these achievements in the EIIP and ILO in general. Also, still in terms of relevance and sustainability, how will the research findings be carried further within and outside the ILO.

9. This evaluation will therefore comprise both a final evaluation of this project in particular, and an examination of broader questions about how ILO's TA engages with current policy concerns about growth and poverty-reduction, as well as how it relates to its core standard-setting work.

4 Purpose and scope

10. The overall purpose of the evaluation is to assess how well the research, planning tools, work procedures, and engineering standards have been developed, implemented, documented and disseminated, including their possible contribution to reducing the life-time cost of unpaved rural roads, poverty reduction, decent work, and pro-poor policy making in the infrastructure sector.

11. The scope of the evaluation will involve review of:

- The relevance and value of such a project in developing, and disseminating research, tools and standards in this field and its successful impact at the country level (*effectiveness and relevance*).
- Compare and contrast the findings of an analysis of any differences in the approach between the different countries and whether the different resources provided have been efficiently used (*efficiency*).
- The ILO's comparative strengths and strategic positioning in this niche as compared to other organizations, as well as choice and development of partnerships and government institutions related to infrastructure development and investments (and others like construction industry councils and international donors and financing agencies (e.g. World Bank and Regional Banks) (*effectiveness and relevance*).
- Any evidence of the shorter and longer term direct and indirect outcomes on the national partners and institutions that the strategy aims to strengthen (*impact*).
- The lessons drawn about the effectiveness of such a project for possible discussion with a group of interested donors.

5 Evaluation methodology

12. A desk-based review will analyze initial project document, project progress reports and other project documentation, key performance criteria and indicators, to compare and assess the issues mentioned under scope of the evaluation and the coherence and continuity of project work over time. Attention will be given to main means of action, implementation performance, target groups and their perceptions of major progress and significant achievements, as well as notable products and outputs in the main means of action. Application of good practices, including monitoring and evaluation, and use of lessons learned will also be considered.

13. A review of strategy, including partnerships and main means of action, with focus on evolution of the project over time will be supported through interviews and review of related documentation. The interviews will explore the extent of positive attitudes and possible changes in policies and operational practices that can be attributed to ILO advocacy and service efforts in this field.

14. Participation in the regional dissemination workshop in Nairobi (20-21 June 2006) will allow for in-depth discussion of project objectives, outcomes and methodologies used. Further interviews may be undertaken as phone interviews. Studies at country level will provide means of documenting the usefulness of technical work within member States. In addition to desk reviews and interviews, a field mission to Ghana will provide additional supporting evidence. The case studies will also consider how the integration of strategies and approaches within countries around the broader Decent Work Agenda will impact on such research work and will consider the roles and responsibilities of others within and outside the ILO in reinforcing this process.

6 Outputs

15. The following written outputs will be produced:

- A draft report, for comment by EMP/INVEST (the EIIP unit in Geneva), ASIST-Africa and SRO Harare, due 25 June 2006.
- A final evaluation report in hard copy as well as electronic version by 30 June 2006.
- Background documentation and analysis on which the findings, conclusions and recommendations are based.

7 Timeframe and management arrangements

16. The evaluation will be conducted by an independent external evaluator managed by a designated evaluation coordinator in the EIIP. The evaluation coordinator of EMP/INVEST was not at all involved in this project. The EIIP unit will be responsible for the overall management of the evaluation.

The proposed evaluation timeframe is from 19 – 30 June 2006. A proposed time table is shown below.

Task	Time frame
Consultations on draft terms of reference	14-16 June 2006
Interviews of staff and constituents at workshop in Nairobi	20-21 June 2006
Interviews of staff and constituents in Ghana	June 2006

Desk review	19, 22-25 June
Draft findings report	25 June 2006
Final evaluation report	30 June 2006

Annex 2
Logical framework with achievements
at the end of the project on 30 June 2006

Project logical framework

Project Name: Increased Application of Labour-Based Methods through Appropriate Engineering Standards;
Performance criteria, engineering standards and life-cycle costs for low volume and labour-based roads

Country: Selected countries in Africa

Design Team: ILO/ASIST, TRL

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
Goal: To promote sustainable livelihoods and contribute to the socio-economic development of disadvantaged rural populations through improved road access provision.	1. Contribution to DFID 2015 International Development Goal targets. 2. Numbers of journeys made to villages, schools, clinics, jobs, urban centres and other adjacent communities by rural populations increases overall. 3. Economic activity increased in rural areas of SSA. 4. Improved environmental, health and social conditions add to livelihoods.	1. Donor and development bank records. 2. Donor and national post-project reviews and documentation. IMT statistics. 3. IBRD regional appraisal documents. 4. National health, education and welfare statistics.	<i>(Goal to super goal)</i>	At project end no measurable impact was to be expected. But in a few years after project completion significant contribution by the project to the Goal can be expected.
Purpose : To reduce the life-time cost of unpaved rural roads by promoting appropriate engineering standards, planning tools and works procedures for labour-based construction and	1. Life-cycle costing based on deterioration relationships used for determination of appropriate engineering standards for 30% of new low-volume labour-based road projects within one year of project end. 2. Adoption of appropriate	Country project documentation Contents of national	<i>(Purpose to goal)</i> Minimum risk to goal if standards adopted and implemented effectively on a widespread basis. Standards adopted and compliance enforced by clients	1. and 3. The Purpose has not yet been achieved but this is normal since the target date is one year after project completion. The achievement of the purpose at the target date is not very probable. According to the country representatives the willingness exists but achieving the output may take longer than expected. 2. The Purpose has not yet been achieved but

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
maintenance.	<p>engineering standards in each of the collaborating countries within 2 years of project completion.</p> <p>3. Adoption of quality assurance methods by all of the collaborating countries within 1 year of project end.</p> <p>4. Increased efficiency in the approval of 50% of small-scale roadworks for contractors by project end</p> <p>5. Increased efficiency in the delivery of roadworks for 50% of small-scale contractors on project roads by project end.</p> <p>6. Improved cash flow and profitability of 50 % small-scale contractors operating on project roads by end of project.</p>	<p>standards and manuals for labour-based works.</p> <p>Contract documents.</p> <p>National standards and manuals.</p> <p>Post project appraisal documents.</p> <p>Donor records.</p> <p>Country project reports</p> <p>Company records</p>	<p>and road authorities.</p> <p>The improved construction and maintenance techniques adopted by clients and contractors.</p> <p>New standards enable contractors to achieve attractive profit margins.</p> <p>Other non-technical management procedures in place and operating</p> <p>The environment for small scale contractors operations remain favourable</p>	<p>this is normal since the target date is two years after project completion. The achievement of the purpose at the target date is not very probable. According to the country representatives the willingness exists but achieving the output may take longer than expected.</p> <p>4. 5. and 6. The Purpose has not yet been achieved, setting the end of the project as the target date was probably too optimistic. But within a few years from project end significant achievements may be observed.</p>

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
<p>Outputs</p> <p>A) Planning and Management Tools</p> <p>A1. Deterioration relationships established for low volume unpaved roads</p> <p>A2. Methodologies developed and documented for life cycle costs of labour-based roads.</p> <p>B) Engineering Standards</p> <p>B1. Guideline on the use of appropriate engineering standards developed and for different categories of low-volume roads in different environments</p> <p>B2. Appropriate methods established for quality approval of labour-based construction and maintenance works.</p>	<p>A1. Relationships established by end of year 4 and submitted to HDM management group for validation by 2006.</p> <p>A2. Methods adopted in project evaluation studies by project end and evaluated by HDM management group by 2004.</p> <p>B1. Country reports drafted for 2 countries by year 3. Remaining countries by end year 5. Guidelines drafted for peer and stakeholder review by mid year 5 and 250 copies of guideline published by project end.</p> <p>B2. Procedures developed and tested on two country projects by mid year 5 and implemented on 4 labour-based country projects by project end.</p>	<p>A1 & A2. Project reports, project files, correspondence records, dissemination records, international conference papers</p> <p>B1. Publication records and date. Dissemination records. Peer review statements.</p> <p>B2. Consultant records and data files. Donor and country project records.</p>	<p><i>(Output to purpose)</i></p> <p>Donors and planners accept and adopt deterioration relationships and deterioration relationships have positive correlation with an acceptable degree of significance.</p> <p>Road authorities, clients and other stakeholders accept and implement the guidelines.</p>	<p>A1. Relationships have been established. According to TRL validation by HDM management group is not required.</p> <p>A2. Methodologies have been developed and documented.</p> <p>B1. The outputs have been achieved except for the publishing of the guidelines which is expected to be completed before the end of 2006.</p> <p>B.2. So far the guidelines have not yet been applied but country representatives are convinced that they will be applied in each country after necessary testing and adaptation to local conditions.</p>

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
C) Dissemination, training and capacity building C1. Stakeholder and Training Workshops C2. Training Workshops C3. Project reports and revision statements for country manuals C4. Results provided to Regional and National Training Institutes	C1a. Two stakeholder workshops completed by end Year 2. C1b. 100 engineers and technicians trained in new procedures at one regional and three country workshops by end year 5. C3. Work statements drafted, reviewed and incorporated into six country manuals by one year after project end. C4. Project outputs incorporated into 5 training school and/or university syllabuses by one year after project end.	C1 & C2. Workshop attendance records and correspondence files. C3. Project records and country manuals. Report publication dates and dissemination records. C4. Course syllabus, training notes and project records.	Resources made available for training beyond project end. Participation by contractors, consultants and road authority staff in on-the-job training and at formal courses	C1a. The outputs have been achieved. C1b. The outputs have been achieved. C2. The outputs have been achieved. C3. The outputs have not yet been achieved but this is normal since the target date is one year after project completion. According to the country representatives the willingness exists but achieving the output may take longer than expected. C4. The outputs have not yet been achieved but this is normal since the target date is one year after project completion. According to the country representatives the willingness exists but achieving the output may take longer than expected.

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
<p>Activities:</p> <p>A) PROJECT INCEPTION Literature review Desk study Final country selection Agreements with National Road Authorities and donors Country stakeholder workshop</p> <p>B) IN COUNTRY ACTIVITIES Purchase equipment Select road projects Establish test sites Establish monitoring teams Collect data Collate data</p> <p>C) DATA EVALUATION Analyse data Develop deterioration relationships Develop life-cycle cost methodology Develop works approval procedures</p>	<p>A) Project Inception stages completed in two countries by end year 1 and a further one by mid year 2.</p> <p>3 initial stakeholder workshops completed by mid year 2 (additional workshops conducted as other countries become involved)</p> <p>B) Field Data collection completed for 2 countries by mid year 3 and a further country by end year 3.*</p> <p>C) Analysis completed for 2 countries end year 3 and one further country by end year 4.</p>		<p><i>(Activity to output)</i></p> <p>Data for life-cycle costing readily available.</p> <p>Engineers and technicians available for monitoring, data collection and data analysis.</p> <p>Road authorities participate in workshops and seminars</p> <p>Climatic conditions remain typical during the project duration.</p>	<p>A) The activities have been implemented</p> <p>B) The activities have been implemented</p> <p>C) The activities have been implemented</p>

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
<p>D) REPORTING Draft guidelines on: - standards Country project reports and guidelines Regional guidelines on: Peer and stakeholder reviews</p> <p>E) DISSEMINATION AND TRAINING Hold country training workshops Conduct regional seminar Publish reports and disseminate guidelines</p>	<p>D) Guidelines produced and disseminated to 30 countries within one year of project end.</p> <p>E) 3 country workshops held and 180 engineers and technicians trained in new procedures by project end</p> <p>250 Reports published and disseminated by project end</p>			<p>D) Guidelines have been produced and dissemination is planned to be completed within one year from project end</p> <p>E) Country workshops were held. The reports are being published and are planned to be distributed before the end of 2006.</p>

Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006																																																							
	External Inputs and Resources: <table><tr><td><i>Country</i></td><td><i>Donor</i></td><td><i>Amount in US</i></td></tr><tr><td>Regional</td><td>DFID</td><td>217k</td></tr><tr><td>Ghana</td><td>DFID</td><td>381k</td></tr><tr><td>Uganda</td><td>DFID</td><td>279k</td></tr><tr><td>Zimbabwe</td><td>Danida</td><td>322k</td></tr><tr><td>Mozambique</td><td>Sida</td><td>279k</td></tr><tr><td>Lesotho</td><td>Ireland Aid</td><td>241k</td></tr><tr><td>Namibia</td><td>TBA</td><td>TBA</td></tr><tr><td>Kenya</td><td>TBA</td><td>TBA</td></tr><tr><td>Tanzania</td><td>TBA</td><td>TBA</td></tr><tr><td>Ethiopia</td><td>TBA</td><td>TBA</td></tr></table>	<i>Country</i>	<i>Donor</i>	<i>Amount in US</i>	Regional	DFID	217k	Ghana	DFID	381k	Uganda	DFID	279k	Zimbabwe	Danida	322k	Mozambique	Sida	279k	Lesotho	Ireland Aid	241k	Namibia	TBA	TBA	Kenya	TBA	TBA	Tanzania	TBA	TBA	Ethiopia	TBA	TBA			Overall projects progress <table><tr><td><i>Country</i></td><td></td></tr><tr><td>Regional</td><td>Project completed</td></tr><tr><td>Ghana</td><td>Project completed</td></tr><tr><td>Uganda</td><td>Project completed</td></tr><tr><td>Zimbabwe</td><td>Project completed</td></tr><tr><td>Mozambique</td><td>Project ongoing</td></tr><tr><td>Lesotho</td><td>Project ongoing</td></tr><tr><td>Namibia</td><td>TBA</td></tr><tr><td>Kenya</td><td>TBA</td></tr><tr><td>Tanzania</td><td>TBA</td></tr><tr><td>Ethiopia</td><td>Project ongoing</td></tr></table>	<i>Country</i>		Regional	Project completed	Ghana	Project completed	Uganda	Project completed	Zimbabwe	Project completed	Mozambique	Project ongoing	Lesotho	Project ongoing	Namibia	TBA	Kenya	TBA	Tanzania	TBA	Ethiopia	Project ongoing
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	Local inputs (approx.) <table><tr><td><i>Country</i></td><td><i>Amount USD</i></td></tr><tr><td>Ghana</td><td>87k</td></tr><tr><td>Uganda</td><td>48k</td></tr><tr><td>Zimbabwe</td><td>77k</td></tr><tr><td>Mozambique</td><td>154k</td></tr><tr><td>Lesotho</td><td>154k</td></tr><tr><td>Namibia</td><td>TBA</td></tr><tr><td>Kenya</td><td>TBA</td></tr><tr><td>Tanzania</td><td>TBA</td></tr><tr><td>Ethiopia</td><td>TBA</td></tr></table>	<i>Country</i>	<i>Amount USD</i>	Ghana	87k	Uganda	48k	Zimbabwe	77k	Mozambique	154k	Lesotho	154k	Namibia	TBA	Kenya	TBA	Tanzania	TBA	Ethiopia	TBA																																						
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Narrative summary	Measurable indicators	Means of verification	Important assumptions	Achieved at project end on 30 June 2006
	<p>Total External Component 1762k</p> <p>DFID 920k</p> <p>Danida 322k</p> <p>Sida 279k</p> <p>Ireland Aid 241k</p> <p>Participating Governments 520k</p>			

Annex 3
List of persons/organizations consulted

List of persons/organizations consulted

Mr. Dejene Sahle	Senior Technical Adviser, ILO-ASIST, Harare, Zimbabwe
Mr. Akram Ahmedi	Head of International group, TRL, UK
Mr. Tony Greening	Region Representative, TRL, Harare, Zimbabwe
Mr. Kenneth Mukura	Principal Engineer, TRL, UK
Mr. Greg Morosiuk	Operation manager, TRL, UK
Mr. Gilvas Nhemachena	Deputy Director (Planning and Designs), Department of Roads, Ministry of Transport and Communications, Harare, Zimbabwe
Mr. Fred Were-Higenyi	Assistant Commissioner for Quality Assurance, MoWT, Uganda
Mr. Ben Ssebugga-Kimeze	Commissioner, MoWT, Uganda
Dr. Koffi Ampadu	Senior lecturer, Kwame Nkruma University of Science and Technology (KNUST), Kumasi, Ghana
Mr. Henri Danso	National Coordinator, Department of Feeder Roads, Ministry of transport, Accra, Ghana
Mr. Bonne Acquah	Team Leader Ghana Country Component, Ghana Highway Authority, Accra, Ghana
Mr. Mohau A. Pule	Senior Research Project Engineer, Department of Rural Roads, Lesotho
Mr. Tikoe K. Matsoso	Chief Engineer, Department of Rural Roads, Lesotho

Documents consulted :

General documents

Terms of reference of the final evaluation of INT/01/M03/UKM,
LES/03/M01/LES, ZIM/02/M01/DAN
DAC Evaluation Quality Standards, 2006

Programme documents, MOUs and contracts

Programme Document INT/01/M03/UKM
Programme Document Lesotho Component LES/03/M01/LES
Programme Document Zimbabwe Component ZIM/02/M01/DAN
Programme Document Namibia Component
Programme Document Mozambique Component

Memorandum of Understanding between the UK and the ILO
Memorandum of Understanding between Danida and the ILO regarding the
Zimbabwe component
Contract between ILO and TRL

Progress reports

First Project progress report for the period April to September 2001
Second Project progress report for the period October 2001 to March 2002
Third Project progress report for the period April to September 2002
Fourth Project progress report for the period October 2002 to March 2003
Fifth Project progress report for the period April to September 2003
Sixth Project progress report for the period October 2003 to March 2004
Seventh Project progress report for the period April to September 2004
Eight Project progress report for the period October 2004 to March 2005
Ninth Project progress report for the period April to September 2005
Tenth and final progress report for the period October 2005 to March 2006

Technical reports:

Ghana Country report
Uganda Country report
Zimbabwe Country report
Regional report
Site setup & monitoring report
Guideline for LB Quality Assurance

Ghana Country Component documents

A selection of progress reports of the Ghana country component