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# Comparative evaluation of the development of labour-intensive works technology programme in Namibia

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**2008-11-04T10:36:26Z**
http://hdl.handle.net/10539/5825

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# CHAPTER 10

# SUMMARY AND RECOMMENDATIONS

## 10.1 Overview of the Chapter

The study is concluded in this chapter. Study findings are summarized. The case for success or failure of the LBW programme in Namibia is synthesized. Important lessons are drawn. The main features of the various projects undertaken are summarized. Recommendations are made that needs to taken into consideration to facilitate the expansion of LBW in Namibia and ensure success of similar programmes in Namibia and elsewhere.

## 10.2 Summary of Study Findings

### 10.2.1 Labour-Based Works Technology (LBWT).

The labour-based technology concept, the objectives of this study and the study framework were discussed in Chapter 1. The terms work, employment, unemployment, underemployment, employment creation and poverty were discussed, both in general terms, and in the Namibian perspective. The meaning of some key words and concepts which feature prominently in this report, in the context of this study were also explained. Unemployment and poverty in Namibia and the strategies to address them were reviewed in detail.

It is concluded that poverty and unemployment levels in Namibia are high and growing. The colonial legacy left the country with very low levels of skills, and a huge infrastructure backlog in developing areas. The often quoted GDP per capita is misleading and disguises the extremes of poverty and wealth distribution among Namibians. The economy is capital intensive, is dependent on primary products and is not able to generate sufficient job opportunities. After fifteen (15) years of independence, the main challenges to GON still remains the creation of employment, reduction of high levels of poverty, equitable wealth distribution and

infrastructure development, particularly in the previously neglected areas of the country.

Given the current character and trend of the economy and the social-economic development challenges, it is considered that Namibia will continue to use labour-based works technology as a development strategy for the many years to come. Therefore, reforms in policies and expenditure priorities, the engagement of the private sector and the development and support of small and micro enterprises in all sectors are necessary to redress the situation. The prevailing low level of skills requires the country to adopt strategies providing both economic growth and employment equity. Labour-based works technology is an appropriate strategy and rational for Namibia at the moment as it addresses the maladies of unemployment, poverty and infrastructure provision, all at the same time, though to varying degrees and extent.

### 10.2.2 Intellectual Basis for Labour-Based Works Technology.

The existing intellectual basis and the theoretical framework of labour-based works technology was reviewed and discussed in Chapter 2. In addition, the work done by the ILO and the World Bank in research and studies, and the potential of the LBW technology on poverty alleviation have been reviewed and discussed in detail. The role of infrastructure services in this regard has been explored. It is concluded that the existing knowledge on the subject has a direct bearing and relevance to the programme implemented in Namibia.

It has been shown that labour-based works methods were used many years ago in the construction of great historical structures like the great pyramid of Egypt, the Great Wall of China, water canals and railways in Europe, etc. The shift to machines in developed countries was partly catalysed by rising labour costs. The advent of machines also challenged the feasibility, viability and efficiency of labour in construction. In modern times, the technical feasibility and economic viability of labour-based methods have been proven by the World Bank and the ILO, and ascertained by many scholars in different parts of the world. The social desirability

of labour-based methods is premised on its potential for employment creation and poverty reduction.

While sustaining or increasing employment in capital-intensive ventures requires significant increase in expenditure, opportunities are abundant in the developing countries for the use of unemployed labour to speed up development, creating more job opportunities without a corresponding increase in expenditure. This is more so in infrastructural services, which account for 3%-5% of GDP and 40%-60% of GDFI in developing countries. The complex problems that severely limit the equipment productivity in developing, poor countries also support the increased use of labour-based works technology.

### 10.2.3 International Experience on Labour-Based Works

Labour based programs in Kenya, Ghana, Botswana and Lesotho have been reviewed. These are known successful implemented programmes.

#### 10.2.3.1 The Rural Access Roads Programme (RARP) in Kenya

The RARP in Kenya dramatically increased the knowledge of labour-based construction in the diaspora and valuable lessons were learned (World Bank, 1986). It was proven that the use of labour-based methods for rural road construction and maintenance in Africa can be technically feasible and financially cost effective. The programme showed that labour-based methods in rural areas bring significant economic benefits and have a positive impact on income distribution and quality of life. It was also established that the duration necessary for a programme to have positive impact is at least 5 years. In such programmes, initial input of technical assistance and training can have a high payoff in developing viable, self-sustaining institutions.

Other conclusions for the success of the programme have been made (McCutcheon (1990). The initial intellectual assessment of the feasibility of using labour was sound. Technical aspects received concentrated and appropriate

attention. Extensive, good, appropriate training was carried out. In addition, there was long-term political and financial support from the Government.

However some deficiency can be pointed out in some areas. The programme was sustained by donor funding and the employment created was short term. Developed skills during the construction phases did not result in sustainable entrepreneurial or small contractor abilities that could result in small business development. It is doubtful whether the same level of success would have been achieved if the programme was fully dependent on local financing.

10.2.3.2 The Ghana Programme.

The Ghana programme was the first successful programme in Africa to use small-scale contractors in labour based roadworks. The Ghana model was unique in this sense. In a project period of ten (10) years between 1986 and 1996, ninety-three (93) contractors were trained. In addition, 542 management and supervisory staff from the 93 contracting firms and the DFR were trained in the application of labour-based works technology. Most developed contractors were equipped with basic labour-based works equipment. Contractors were given work and contract awards were based on negotiated prices, until the contractors involved had finished paying for their equipment loans.

Up to 1995, fifty-four (54) contractors had been equipped with the appropriate set of light duty equipment at an average cost of US $105,000.00 per contractor. Six (6) of the trained contractors were owned by women. About 1400 km of roads were rehabilitated and some 3,711-box culverts of various sizes were constructed by the end of 1995, at a total cost of US$14 million. The average cost per kilometre of the improved roads including culvert works was about US$12,000. A total of 4,371,815 man-days of employment were created in Ghana. The average daily wage was approximately US$1.0. On average, 26% of the employment created was for women. With an average of 2500 man-days per km and a minimum wage-rate of about US$1.0/day, about 25% of the total cost had been injected directly into the rural economy. The trickle down effect of this injection in poverty alleviation in the rural areas was substantial.

The Ghana programme was a good model for contractor development in that it had built into the programme the necessary prerequisites for successful development of small contractors. These can be summarized as training, reduction of barriers to entry, provision of equipment, management training, government support, a tailored selection process and integration into the construction industry. Through this programme, labour-based construction technology penetrated the Ghanaian construction industry. The programme also had the support of the Government.

Several lessons can be drawn from the Ghana programme. The most important of these are:

(i) The minimum level of education of participants in the training course should be GCE Ordinary Level or its equivalent. This level of education adapts to the training better and participants are eager to advance.

(ii) For a cost-effective and sustainable private sector development and utilization in labour-based road programmes, a high premium needs to be placed on training and supervision. As the number of contractors trained increases, a corresponding number of supervisory staff of the executing agency should be trained.

(iii) Enough and prompt feedback mechanisms are required to enable the training division to respond to the needs of already trained foremen and supervisors. This will lead to the institution of corrective measures at the very early stages.

(iv) Geographical expansion in a country should be gradual and should be matched with the available manpower and logistical support. Politically motivated expansion should be avoided.

(v) The quality of the outputs should not be sacrificed by considering the programme as just an employment generation exercise.

(vi) The private sector should be engaged to supplement capacity gaps in the design, supervision and management of LBW programmes.

10.2.3.3 The Lesotho Programme

The Lesotho programme showed that the Kenya programme principles are not unique to a particular context but may be replicated elsewhere if appropriately customized.

Between 1000km and 1400 km of roads were constructed using LBW technologies in Lesotho. The average unit construction cost achieved in Lesotho was about US$55,000/km. The programme created 2 000 jobs, with 46% of the construction costs going to the local labour. Other expenditure components were; site and office overheads: 23%, materials and tools: 10%, and plant: 21%. Wage rates in Lesotho were however higher than those in Kenya and Ghana, at about US$4.5 per day.

The building of high standard gravel roads in mountainous terrain was achieved and a sense of ownership of the roads was generated in the communities. Substantial funds were injected into the local economies.

10.2.3.4 The Botswana Programme

In Botswana, in a period of ten (10) years, from 1980 to 1990, over 2 000km of roads were upgraded and 3 000 people per year were employed. One hundred and forty five (145) people were trained as road builders. About 12% of these were trained further to supervisory levels.

A construction team consisted of 100– 50 labourers under 4-6 road builders. Once the road was constructed, an assistant road builder maintained it. About 6-10 maintenance labourers were responsible for a 6-10 km stretch of road.

The overall system in Botswana more labour-intensive than in Kenya, with 65% of the construction costs going to labour.

### 10.2.4 Labour-Based Works Pilot Projects (LBPP).

Labour-based pilot projects in Namibia were described, reviewed and discussed in Chapters 4 and 5. The background to the pilot schemes and the general description of the project areas were given. The dispensation of the labour based works programme and the planning and implementation aspects have been documented. The objectives of the schemes, the administration and management, technical aspects, organizational matters etc were reviewed. The following outputs were achieved:

- A total of 77558 man-days of work were used in pilot projects. On average the labour input per kilometre was 2657 man-days. Formation and gravel layers comprised about 77% of total man-days.
- Total casual labour wages for both pilot projects amounted to about N$981,203.00. The proportion of casual labour wages was approximately 53% of the total wage costs.
- Estimated task rates in both pilot projects were achieved, and sometimes exceeded, in some cases by as much as 55%.
- A total of 30.00km of new gravel road were completed at the end of the pilot projects.
- More than 1512 casual labourers were employed. The employment of women in both pilot schemes averaged 40% of the workforce.

Important observations made in the pilot schemes are the following;

- The Labour-Based Works Unit which was responsible for the organization and management of the programme in Namibia was appropriately organized within the structure of the MWTC and DOT. It also appropriately funded and received adequate support, both technical and administrative.

- No detailed engineering design of the project was done in the first pilot project. A “learn and design as you construct approach” was adopted.

- Task rates were adjusted and rationalized as labourers and supervisors became familiar with the work and methods.

- There was no built in mechanism for targeting the poor and ensuring the participation of women in the ballot system of recruitment adopted in LBPP1.

- Women were fully capable of performing all construction activities and task levels like their male counterparts. This challenges the logic of reserving particular activities for women.

- It is very difficult to develop LBW contractors and supervisors from candidates without a basic or suitable education background. This is a serious limiting factor for the sustainability of the LBWT in Namibia.

- The pattern of absenteeism from work on both pilot projects revealed that many casual workers were absent from work when work was harder on the road and when the walking distance to work increased. In these instances the absence of women was higher. The rate of absenteeism was also high during the ploughing season.

- Although the volume of casual labour employment created at the equivalent of 4100 man-years may not appear large, in relation to the relatively small officially paid employment sector in Namibia, the contribution of the labour based programme so far is significant.

The study of the pilot projects also confirmed that;

- Detailed socio-economic studies are necessary pre-requisites for the formulation of a labour-based programmes and project geared to be successful. Local and community considerations have to be taken in programme formulation. The perceptions expressed by the communities in the conducted studies for the pilot schemes in Namibia are typical in developing rural areas where people have not yet been exposed to labour-based technologies. Parameters which should be established during socio-economic studies are; the availability of labour for the project, project

reception, attitudes towards casual labour employment, recruitment, employment of women, cultural issues and views on wages and wage rates.

- Engagement of community stakeholders, leaders and politicians are necessary for successful project implementation.

- The prime factors determining the size of a labour-based pilot project are the availability of labour, output required to measure feasibility and viability, and available funding. It is preferable that roads chosen are not heavily trafficked, soil conditions are suitable, earthworks are low to average, and material and water haulage distances are short.

- The engineering aspects of roads to be constructed by labour based methods have to consider the limitations of physical labour.

- The recruitment plan in LBW projects has to be formulated in advance and tested with stakeholders. People constituting the targeted labour pool have to be adequately informed of the project details, recruitment procedures and conditions of employment.

- Labour-based pilot projects should be implemented within the existing labour legislation and regulatory environment in the country. Although exemptions may be sought initially on various provisions, these create an artificial environment that is not sustainable.

- When small contractors are developed, they need to be exposed to the real challenges of construction contracting and the operating environment.

It is further concluded that generally, the pilot schemes were a success, despite some shortcomings. The labour-based works concept was successfully introduced in the construction industry in Namibia, and proven to be technically viable and economically efficient. The technology received wide community acceptance and has shown proven social benefits. For these reasons, the GON decided to expand

labour-based construction of roads underdeveloped areas, in undertaking projects outlined in the Roads Master Plan.

### 10.2.5 Labour-Based Works Policy Development.

The development of labour-based works policy for Namibia was described and discussed in Chapter 6. The objectives of the policy, the Green Paper and the White Paper formulation process, policy components and the involvement of stakeholders were reviewed. Policy issues, labour practices and the envisaged LBWF were discussed. The labour legislation bearing on LBW implementation was also briefly reviewed and the status of labour related issues summarized. The following conclusions are made;

(i) The LBW policy development lagged behind the actual implementation process and was formulated in a retrospective manner. The programme was initiated to implement a broader government policy, as envisaged in NDP 1, without specific programme policy guidelines.

(ii) Stakeholders were sufficiently involved in the policy formulation process, at the right levels of Government, public sector, private sector and professionals.

(iii) The White Paper identified two main success factors for the LBWT institutionalization in Namibia;

- the creation of the enabling environment and
- the identification of appropriate delivery mechanisms.

The second factor above has been dealt with to some extent, but work remains to be done on the enabling environment for adoption, application, growth and expansion of the LBWT. Little has come out of the Government's commitment to promote the substitution of labour for equipment, in development of infrastructure. Neither has the private sector been sufficiently stimulated in this regard.

(iv) The legal and organized labour environment in Namibia is generally friendly, inclusive and supportive of LBW activities. So far labour based works projects have been executed in a harmonious manner.

### 10.2.6 Training and Development of Small Contractors

The training and development of small-scale labour-based contractors in Namibia was discussed in detail in Chapter 7. Overall 183 trainee candidates were considered. Of those, 37% were selected for training and 36% completed the training. Nine (9) qualified as small contractors and 15 qualified as supervisors of various categories.

The objectives of the contractor development programme were met to some extent. In phase 1, 18 candidates were considered and 5 were selected for training as small contractors. Despite performance problems, five (5) small contractors completed the training programme and graduated. In phase 2, 165 applications from within DOT and MWTC were considered and 65 were admitted for training. Of these 35 qualified for practical training, 21 attended practical training phase and 19 completed training. Of the latter, 4 qualified as small contractors and 15 qualified as supervisors of various categories. The pass rate in phase 2 was a dismal 30%. Only one engineering consulting firm in Namibia was involved closely with the pilot projects and the training of small contractors.

Analysis and a critical evaluation of the small contractors' training process, and important training aspects have been undertaken. It can be concluded that the development of small labour-based contractors in Namibia, considering the time and resources spent on this initiative, was not entirely successful. More contractors and supervisors could have been developed, if the project had structured and organized in a better way, DOT has been fully committed and the targeting of trainees and incentives had been reviewed.

The main issues are[1];

(i) Trainee selection process was constrained by the absence of entrepreneurs and operational employees with a suitable education background.

(i) The trainer did not participate in the selection of trainees

(ii) The training needs assessment was not adequately done to reveal the weakness and needs of trainees.

(iii) Selected company owners hardly attended training sessions.

(iv) The training period planned was shortened due to unavailability of trainers on time.

(v) Trainers were not fully competent in training on labour-based road works, both in theory and practice.

(vi) Training agents did not perform well in the “software outputs”.

(vii) The training contract obligations between the parties were seemingly loose.

(viii) Trained contractors had no equipment to rely on for the performance of awarded contracts.

(ix) The mentorship process was not timely organized.

(x) The dual roles of training agents as trainers and contract supervisors were conflicting.

(xi) Trained contractors had financial management problems in awarded projects and sometimes diverted funds to other ventures.

(xii) All involved underestimated the amount of work involved in the small contractors training process.

(xiii) The suitability of the training curriculum, materials used and the training conduct raises doubts given the background of trainees.

(xiv) Poor training organization resulted in classroom pressure to trainees in phase 2. The majority failed.

(xv) Restructuring of the DOT and the road sector in Namibia and its timing had a telling effect in the success for the small contractors training programme.

[1] These issues are considered to be of equal importance and have not been listed in any order of priority.

(xvi) The absence of equipment and financing support to developed small contractors renders it very difficult for them to grow beyond subsistence contracting.

### 10.2.7 Evaluation of Road Projects Constructed Using LBW Methods.

An evaluation of road projects undertaken using labour-based methods in the period 1996-2003 was made in Chapter 8. Common contractual aspects of labour-based works, including tender documentation were also reviewed. A combined analysis of available project information was done with a view of deriving important parameters. Interesting results in the context of this study were discussed.

The local contractor capacity survey showed that many contractors in Namibia did not have the capacity for labour-based works contracts implementation. Nevertheless contracts were let out without any significant intervention measures. Survey results had an effect however in the packaging of contracts.

It has been shown that about 350km of new gravel roads have been constructed and approximately N$130 million was invested in a period of approximately ten (10) years. About 80 000 people were temporarily employed for various durations. It is estimated that about 4100 person-years of employment were created. This is equivalent to two (2) years of full time employment for the public service in Namibia. About N$45 million was paid as salaries to casual workers in projects executed. This is about 35% of the total project costs. Based on the assumptions made, it is concluded that the programme in Namibia was less labour-intensive than those in Botswana, Lesotho and Ghana.

The analysis of available projects information shows that the average unit cost of construction of gravel roads in the last decade was about US$56 571/km, and for bitumen roads was US$135 030/km. Unit costs could be reduced significantly if productivities were improved. In this regard the training of company owners, supervisors and site managers is necessary to improve their performance in project, site and contract management. The cost of road layer-works was found to be about 50% of the total costs and that of establishment was about 26%.

The average number of tasks per kilometre achieved for gravel roads was 1554, and for bitumen roads was 3054. The average labour input used for gravel roads was 3100 man-days per kilometre. About 210 casual workers were on average employed daily for the duration of the projects, and 42% of these were women. Analysis shows that task rates achievement was between 75% and 80%. However, the average physical productivity achieved was about 1.0km/month. This was about 84% of the planned productivity, but less than 50% of that achieved in the pilot projects.

Contract documentation for labour-based works improved over the years and standard COLTO documents are now used. Where necessary, customization and amplification is made to enable, support and promote the use of labour-based methods. However, contract documentation used, though comprehensive, is still considered too cumbersome for small contractors. Depending on the contractual arrangements, contracting parties could benefit more from simpler documentation. In addition, contract management and administration was done professionally. An elaborate evaluation method for evaluation labour-based road works tenders has also been developed in Namibia. The appropriate use and understanding of contract documents by small contractors remains a problem.

Examination of activity unit prices tendered in various projects shows a very wide range, considerably wider than the total tender prices. It appears that bidders first make a reasonable guesstimate of the total cost for the whole project, and then proceed to split up the total on items, using some crude guideline without too much calculation. As of now, not too much faith can be put in the contractors' unit price calculations.

The performance of the trained small contractors in the awarded construction contracts was generally poor. The same can be said for the established medium-sized contractors involved in labour-based roadworks. About 63% of the contracts awarded to small contractors were terminated or taken over due to non-performance. Only 20% were completed on time. Overall, 75% of all contracts executed had time overruns of about 30%. The main reason for non-performance is

the lack of competent, trained and committed supervisors and site managers. Site work was poorly organized, task workers were not controlled, task rates were not achieved and daily productivities were low. Adequate support and mentorship mechanisms are needed to be put in place before contracts are awarded. In addition, the future strategy for sustaining labour-based works technology requires the engagement of entrepreneurs, supervisors and managers with an adequate education background and who will treat labour-based works contracting as a serious business. This is the main lesson which Namibia can derive from programmes in Ghana, Kenya, Uganda, Sierra Leone and elsewhere.

Further, it is common knowledge in contract management that termination of construction contracts generally results in higher projects costs to the client, including project delays. In addition termination of a contract executed by a small contractor is destructive to the contractor and demonstrates a failure in the long term programme of small contractor development. It should therefore be prevented by exploring all preventive measures.

Nevertheless, the LBW construction programme had significant employment creation and local economies stimulation impacts. The major impacts are however developmental, due to improved accessibility. Until recently, there had been little experience in Namibia with involvement of local communities in development projects in their areas. The programme has raised awareness, confidence and capacity of the local population in the project areas for participation in development initiatives.

### 10.2.8 Comparative Evaluation

A comparative evaluation of the labour-based works programme in Namibia was undertaken in Chapter 9. Some comments in this regard have also been made in every chapter. The programme and its projects have been evaluated against its objectives and comparison made with known successful programmes of Kenya, Ghana, Botswana and Lesotho. It is shown that the labour-based works programme in Namibia bear many similarities to other programmes implemented

elsewhere. The design and implementation model used had been tested and showed success in other countries.

It is concluded that the labour-based works programme in Namibia was largely successful in relation to its objectives. The main attributes to the programme success were;

- The programme had full Government and political support.
- The Labour-Based Works Unit was well structured, received full technical and administrative support from DOT and GON. It was in addition managed by a competent and experienced labour based civil engineer.
- The programme was supported by organized labour.
- The programme was well funded for its activities.
- Professional programme management
- Continuous support from donors, particularly SIDA and KfW.
- Continuous technical support from the ILO.
- Full involvement of stakeholders, including the private sector.

Comparing with programmes in Ghana and Kenya, it is also concluded that;

i. The Kenya and Ghana programmes were larger than the programme in Namibia. The length of roads constructed or rehabilitated and employment created were proportionately higher.
ii. Labour-based programmes can be undertaken in countries with differing socio-economic works backgrounds.
iii. Labour-based works contract features are similar in the countries compared, and contain requirements which are not conducive to the promotion of small contractors.
iv. Higher levels of education were required for selection into the training programmes of other countries. Generally, the trainee selection criteria in Namibia were very lenient. Training durations and plans are comparable.
v. Wage levels in Namibia and Lesotho are higher than those in Kenya and Ghana.

vi. The average productivity of labour in Namibia compares favourably with productivities in Kenya, Ghana and Lesotho.

vii. Women participation in labour based works is higher in Namibia, compared to Kenya and Ghana.

viii. Unit construction costs for gravel roads in Namibia are comparable to those of Lesotho, but are significantly higher than those in Kenya and Ghana. It is considered that labour wage levels have a considerable influence on the construction costs.

ix. Unlike the Ghana programme, there are no existing initiatives in Namibia to support small trained contractors with equipment. The success of small labour based contractors in Ghana and Uganda has been largely attributed to the provision of equipment.

x. Road maintenance in Namibia is not done strictly according to labour based principles, even on roads built using labour based methods. This is an area which requires further work.

xi. Inability to develop local expertise in labour based works has a major effect on the sustainability of the technology in Namibia.

## 10.3 Recommendations

The following recommendations are made for the performance improvement, sustenance and expansion of the labour-based works technology in Namibia. Recommendations given are based on the results of the study and the author's personal view of how further improvements can be made. They are also useful as guidelines in other LBW schemes elsewhere.

(i) Activation of the Labour-Based Works Forum (LBWF).

The LBWF initiative was frozen in 2000, after the champion left the DOT. In the ensuing commercialization of roads and transfer of staff outside the public service, little capacity remained in the DOT and MWTC to continue with the LBWF. It is recommended that the LBWF or a similar institution be activated. This is the body which was mooted to ensure multi-sectoral implementation of the labour-based works policy. The mooted role of LBWF was interalia;

- Regulation of the labour-based technology application in the country.
- Oversee the implementation of the national labour-based works policy in all sectors.
- Provision of advice and guidelines on labour-based projects implementation and related issues.
- Identify, formulate, prepare and design labour-based technology intervention or mainstreaming measures into the industry and the economy.
- Collect, develop and disseminate new technology and improvements in labour-based works execution.
- Facilitate training in labour-based works.
- Implement monitory and evaluation methods and procedures for efficiency in labour-intensive works and utilization of resources including budgetary funds.
- Formulate, evaluate and recommend national programmes for implementation using labour-based works.
- Develop and manage a continuous research centre in LBW technology.
- Carry out and coordinate research into technological, economical, legal, social, organization and administration aspects of LBW.

The LBWF or a similar institution will require long-term financial, political and government support to succeed in its mandate.

(ii) Facilitating sectoral participation

Experience of the bureaucracy in Namibia suggests that the LBWF will not gain sufficient capacity and muscle in the short-team to enforce and monitor the utilization of LBWT in other sectors responsible for public infrastructure. A pragmatic approach is required in this regard. It is recommended that the Office of the Prime Minister (OPM) with assistance from MWTC, obtain a cabinet directive making it mandatory for the designated portion of infrastructure budget to be spent using employment-intensive methods, with the assistance and approval of LBWF. The latter can then provide monitoring, evaluation and technical support services.

In this way, it is possible to have all sectors to seriously embark on labour based and employment intensive works.

(iii) New strategy for small contractor development.

The GON has to adopt a new strategy for the development of small contractors and supervisors for labour based works in respect of selection of trainees, selection of trainers and training strategies.

In order to ensure that appropriate contractors and supervisors are developed and trained, trainees must have an adequate education background, with minimum Grade 12, but preferably post Grade 12 with additional technical training in building or civil engineering. In addition, exposure to construction business and entrepreneurship is necessary for trainee contractors. Trainees, who cannot do basic mathematics, cannot understand English and do not show potential, should not be selected. In order to attract the right candidates, they need to understand what the whole programme entails, business or professional career opportunities and long term benefits. For this reason, clear career advancement has to be explained, including opportunities, preference and support available.

Before any training commences an objective training needs analysis has to be carried out to establish the level of competence of each selected trainee, the true level of understanding and individual training requirements and capacity to learn. The training plan and curricula developed has to be focused to the needs of trainees. Given the background of the current Grade12 training competency levels in Namibia, it may be necessary in the foreseeable future to have bridging training before fully fledged contractor and supervision training courses are given. An important component of small-contractor training is mentorship and handholding. Sufficient time has to be provided for these.

Lastly, the choice of trainers has an affect on the training imparted, the training model and the quality of trained candidates. Trainers must have undoubted knowledge and experience in labour-based technology. A preferred approach is to first train trainers. This can be done by seconding selected candidates with a

technical education background (Technicians/Engineers) to established training schools, notably the Kisii centre in Kenya. The trained trainers can afterwards function as local assistants to the selected training experts, and provide continuous support to trainers.

(iv) Provision of equipment to small contractors

The reality in Namibia is that small trained contractors will not be able to grow beyond subsistence contracting and subcontracting without being supported to acquire the necessary construction equipment. It is futile to rely on basic equipment from the government or other contractors. A strategy for provision of support in this regard needs formulation. Given that there is precedence in supporting small and emerging farmers to acquire farms and farm equipment through guaranteed financial schemes, this is not considered to be a major problem

A similar approach involving the local financial services system is recommended. In the proposed approach, the selected bank(s) engaged by DOT/MWTC or any other institutional arrangement will be involved in the distribution of equipment procured under the LBW programme component, to the approved contractors under a loan arrangement. Such loans have to be supported by the GON and/or the main clients of the new contractors. Experience has shown that in such a scheme, the bank has to be involved in the finances of the small contractors as well. So, small contractors also benefit from financial management support. The objectives of the banking services therefore are to ensure;

- the efficient recovery of equipment loans rendered to the contractors and,
- sound and efficient financial management of accounts of the construction firms.

Experience in this regard abounds in the labour-based small contractor development programmes in Ghana, Uganda, Tanzania and Sierra Leone.

An additional key success factor of the small contractor support approach is the provision of regular and continuous work to the small contractors during the entire

period of loan recovery. The GON has to be committed to this, through its responsible or sponsoring institutions.

(v) Institutionalization of labour-based works technology training in Namibia.

The need for formal and continuous training in labour-based works at lower, middle and higher levels has become obvious in this study. Localization of the labour-based works technology also requires continuous exposure and mentorship of engineers and senior decision makers on the technology. In addition, with the envisaged expansion of labour-based technology use into other sectors of the economy and in local government, the demand for trained works supervisors, site managers and contractors will increase. It is also necessary that training is carried out before the start of larger projects. Regular refresher courses to add knowledge and improve performance in labour-based works will also be required. These require the institutionalization of labour-based technology training within the country.

Large scale training requires a considerable component of institution building. This could be time consuming and expensive if not appropriately considered. To avoid duplicative project-specific institution building, two alternatives are recommended for detailed evaluation. One is the training of trainers, engineers, technicians, managers, senior supervisors and other key personnel under the auspices of the existing Polytechnic of Namibia or the University of Namibia. The effect of this in the future engineering generation is that they could be exposed to a more local resource oriented problem solving approach. These institutions can be encouraged and supported to set up the necessary training facilities including training sites for the expansion of the labour-based works programme in Namibia.

The second option is the establishment of a roads training school. As of now, such a school does not exist in Namibia. Most of the low and middle level supervisors in roads construction and maintenance do not have formal training in the technical aspects of roads management. Labour-based programme trainees received tailored training on site and in makeshift venues. Hence, both “formal” road technology aspects and labour-based works technology can be taught in a formal

roads school. The roads training school in Botswana has had a tremendous impact in the road sector in that country, and the competence levels of the road supervisory cadre are much higher in Botswana than in Namibia.

(vi) Strategy for expansion of labour-based works in other sectors

In order to maximize the potential of LBW technology the GON needs to adopt a new strategy regarding the implementation of the existing policy on alleviation of poverty and employment generation in development of physical infrastructure. It is recommended that the GON adopts a "programme" approach. This requires the GON to commit required funds, and further that projects preparation and planning are correctly performed, and the organizational capacity and human resources are empowered to implement the necessary planning, co-ordination, control and evaluation required for successful long-term, large-scale programmes. The strategy entails;

- The adoption of a long-term, large-scale "programme", developed specifically for the implementation of the LBW policy.
- The identification of types of local resources (people and materials) in the construction and maintenance of infrastructure in both rural and urban areas: dams, roads, irrigation canals; water supply, sewerage reticulation and treatment, storm-water drainage, streets, power supply, waste disposal and materials.
- Analysis of the extent to which local resources could be used in the type of work identified, and the manner of implementation taking public and private sector into consideration.
- The development of forward rolling programmes of work within the various sub-sectors of infrastructure.
- Detailed attention to technical, administrative, organizational and socio-economic aspects during the preparatory stages and throughout the programme.
- Institution building at community, local authority, regional and national levels.
- Extensive training at site and programme co-ordination levels.

- Development of the human resources required for implementation of a long-term programme.

A four-phased approach is proposed to implement this strategy (Africon Namibia/EIEC, 2000; McCutcheon, 2003):

I. **Orientation:** Developing a consensus at all levels about the nature of the programme and the initial plans.

II. **Preparatory Work**: Analysis and design of construction projects, specifications and documentation; preparation of long-term plans.

III. **Small Scale Phase/Initial Training**: Training of trainers, development of management systems and procedures, carrying out small-scale work.

IV. **Expanded Training**: Gradual expansion into full national programme.

This approach has to be located within a well organized, appropriately structured and supported institutional framework. A sufficient lead time for planning and preparation is necessary. Expansion should also be gradual and not politically motivated, but rather matched with capacity development and training of small contractors and supervisors.

It is considered that significant progress has been made in Namibia in the last decade in terms of the strategy, particularly in the DOT. Phases I, II and III are in essence completed. Road construction and maintenance can now be expanded into a national programme. Other sectors may need to start at orientation level.

(vii) The need for technical assistance

Continued technical assistance is seemingly required in Namibia to resuscitate the labour-based works programme, starting with the re-establishment of the Labour Based Works Unit in the DOT and activation of the Labour Based Works Forum. In

this regard it is recommended that a suitable technical assistance team be engaged, comprising of expertise in labour-based technology, project management in developing areas, organization, administration, training as well as project implementation.

(viii) Reliance on donor support

The LBW programme in Namibia was funded through external assistance to a large extent. This is not sustainable. It is necessary that the GON now funds fully labour-based works programme aspects and projects, since they have far reaching implications in achieving government goals. Donor funds can be supplementary. Given the fiscal situation in Namibia and the observed spending patterns, it is considered that sectoral expansion of labour-based works is possible through normal budget allocations. It is only required that Government acts to streamline policy implementation in sectors and institutions dealing with infrastructure and realign its spending priorities.

## 10.4 Further Study

A number of issues pertaining to labour-based works in Namibia remain unresolved. The following dedicated studies are recommended:

i. Detailed impact study focusing on socio-economical aspects and developmental impacts. The impact of labour-based works on the workloads of rural women can also be addressed in such a study.

ii. Evaluation of the current efficiency level of labour-based works in Namibia. Such a study can also include cost comparisons between various approaches and between labour-based and equipment-based approaches.

iii. The use of animal-drawn carts for the haulage of materials in the construction of labour-based works.