

CHAPTER 4

PLANNING FOR LABOUR-BASED WORKS PILOT PROJECTS IN NAMIBIA

4.1 Overview of the Chapter

This chapter reviews and discusses the planning process for the labour-based pilot projects (LBPP). The objectives of the pilot projects are highlighted, planning processes are analysed and important planning aspects are discussed. The term “labour-based” is used more prominently in this and the following chapters.

4.2 Background

Although Namibia has more kilometres of road per head of population than any other country in Africa, there is a vast imbalance between Ovamboland¹ and the rest of the country. During the colonial period Ovamboland was a war zone. Vehicle traffic levels were significantly low in the region due to instability and poverty. Consequently, there were little attempts to develop secondary and tertiary road network. Up to 1990 when the country became independent, Ovamboland, which comprises only 6% of the land area and contains roughly 50% of the country’s population, had less than 5% of the proclaimed road network. Of the 1500km of district roads then proclaimed, only about half were engineered (DOT, 1992).

Post independence vehicle traffic growth rate in Ovambo was the highest in the country and there were increased demands for more and better roads. The new GON, through the DOT, developed the Ovambo Roads Development Master Plan (ORMP) in 1992 to guide road construction and rehabilitation programme in northern Namibia. Up to that time, DOT’s operational activities were conducted primarily using equipment. In 1990, the International Labour Organization (ILO) conducted an initial study on the applicability of labour-based works technology in Namibia, and prepared a pilot project. ILO recommendations were that labour-based technology option was feasible and appropriate for Namibia. It became apparent to the DOT that some components of the ORMP could be suitable for

¹ Ovamboland is the area covering the northern parts of Namibia, comprising of four political and administrative regions of Oshikoto, Oshana, Ohangwena and Omusati.

execution using labour-based methods, benefiting the region from much needed employment opportunities. In the past, Ovamboland received indirect cash injection mainly from the colonial army and UNCTAG.

Against this background, SIDA expressed interest in supporting an investigation into the economic and technical feasibility of construction low volume roads in Ovamboland using labour-based methods (Goldie-Scott, 1991). It was decided to proceed with a pilot project, with financing from SIDA and technical support from ILO. Scott Wilson Kirkpatrick (SWK) conducted the initial study and prepared a pilot project in 1991(ibid). Subsequently, two phases of pilot projects were implemented.

4.3 Objectives of the Pilot Projects

The stated overall aim of the first phase of the pilot project was *“to establish the viability of the application of labour based techniques with a view of ensuring their progressive adoption in the expanding programme of road construction and maintenance in the Ovamboland region and elsewhere in Namibia”* (DOT, 1991). The purpose of the second phase was to improve and refine the technical, managerial and administrative procedures developed in the first phase of the pilot project (DOT, 1994(1)).

The objectives of pilot project phases 1 and II are summarized in Figures 4.1 and 4.2 respectively.

4.4 General Description of Ovamboland

Ovamboland is a common dry climate area, consisting of similar geographical and land features. The topography of the area is generally flat to gently undulating with sparse vegetation and patches of shrubs to localized woodland. The Cuvelai and Etaka drainage systems cross the Ovambo with an extremely low gradient from north to south. The annual rainfall in the area varies between 300mm and 700mm, typical of a subtropical climate. Rainwater collects in numerous shallow depressions, known as oshanas and local pans known as ekango. These form the main drainage network in Ovamboland. Surface flow is very rare. In good rain

seasons, the oshanas carry the floodwaters of the Cuvelai river which originates in Angola. During the floods, better known locally as efundja, the oshanas and ekango fill with water, which slowly flows southwards.

The geology of Ovamboland consists of clays over thick sand deposits of the amelioan and Kalahari type, under which thick dolocrete deposits and old basal conglomerates are found. Pedogenic materials are sometimes found in the upper portions of the thick layer of clayey sand. Materials for road construction are scarce in the Ovambo. Only calcrete is available as a base and wearing course material in most areas, even then at considerable depths, as deep sands cover most of the land area. Construction water is very scarce. Boreholes are generally used, but harvesting and utilization has to be balanced with the competing needs for human beings and livestock. The planning and development of labour-based construction projects in northern Namibia took the physical and climatical constraints into consideration. Thick overburdens in borrows, long haulage distances, raised embankments, increased earthworks, multiple drainage structures and construction water problems were common features of projects.

The inhabitants of Ovamboland are mainly the Ovambos, comprising of a few ethnic groups. Until recently, Ovamboland was the least developed area of Namibia, with a backward economy, high levels of unemployment and rampant poverty.

4.5 Planning for LBPP Phase I

4.5.1 Logical Framework Analysis

Figure 4.1 below shows the Phase 1 Pilot Project logframe, providing the narrative summary, indicators of achievement and important assumptions regarding the implementation of phase 1 of the pilot project.

4.5.2 Stakeholders Consultation

Preparatory consultations on the potential for LBW in Namibia were held in 1991 with stakeholders representing government representatives, the engineering fraternity, local authorities, trade unions, employers' organizations and community leaders. A wide consensus was reached regarding the urgency of effectively addressing unemployment in Namibia and there was little doubt that LBW technology could contribute meaningfully to job creation. Opinions differed, however, in respect of how the LBW implementation should be approached, and as to which policy guidelines would be most effective (MWTC, 1991).

<u>NARRATIVE SUMMARY</u>	<u>INDICATORS</u>	<u>ASSUMPTIONS</u>
1. DEVELOPMENT OBJECTIVES a) Acceptance of labour-based methods in road construction programme b) Reduced dependence on external resources c) Enhanced economic activity along road line	1.1 INDICATORS OF IMPACT a) Expansion in use of labour-based methods in construction of District Roads b) 40% of direct costs spent on labour along road line, and small contractors associated with expanded programme c) Traffic attains or exceeds forecast levels	1.2 IMMEDIATE TO DEVELOPMENT OBJECTIVES a) Successful presentation and acceptance of results of pilot project b) Successful modification of DOT systems and procedures to meet requirements of expanded programme c) Integration of maintenance procedures with those developed for labour-based construction
2. IMMEDIATE OBJECTIVES a) Establish effective systems and procedures for labour-based construction b) Provide road (s) to appropriate standard c) Provide opportunities for interested women to participate fully in project d) Match maintenance requirements to available resources	2.1 INDICATORS OF ACHIEVEMENT a) Achieved productivities show that expanded programme could compete with equipment-based methods on cost b) Independent tests show that construction standards meet or exceed agreed specifications c) Separate study to monitor and comment on degree of involvement by women d) Road defects readily repairable by departmental resources	2.2 OUTPUT TO IMMEDIATE OBJECTIVES a) Pilot project starts before July 1991 so as not to influence conclusions of Master Plan Study b) Construction successfully completed with effective supervision c) Appropriate budgets are provided d) Road not subject to unexpected increase in loading
3. OUTPUTS a) 18km of road rehabilitated in first year b) Training outputs (to be finalized in terms of numbers of trained staff)		3.2 ACTIVITIES TO OUTPUTS a) Successful appointment of ILO engineer to manage project b) Formal acceptance by DOT, DOJ, MLMD, and PSC of proposed methods of working c) Trainees and staff are available to participate d) Specified tools and equipment can be procured according to schedule
4. ACTIVITIES a) Final Project preparation and design b) Construction works c) Supervision d) Training programme		4.2 INPUTS TO ACTIVITIES a) Formal agreement between SIDA and GON on project scope and objectives
5. BUDGET INPUTS <u>SIDA Contribution:</u> Labour-based pilot project, Ovamboland		

Figure 4.1: Pilot Project Phase 1; Logical Framework Analysis (Source: DOT, 1991)

4.5.3 Design of the Pilot Project

Various factors need to be considered in detail in the planning and design of a labour-based pilot project. These factors may differ from one country to another, as they are a function of the environment, population, economy and existing capacity in the implementing organization. In Namibia, important factors considered are briefly discussed below (Goldie-Scott, 1991).

4.5.3.1 Project extent

The optimum size of a pilot project is determined by the following factors:

- the availability of labour
- easy of management (small site preferred)
- economies of scale (large site preferred)
- output required
- provision of training opportunities (large site preferred)
- available funding

Targeting a peak production of about 2 km per month for the pilot project, assuming a 22-day working month and based on the typical inputs of 2800 man-days per kilometre (De Veen, 1983), about 260 labourers were required to work daily on site; (i.e $2800 \times 2 / 22$). Assuming further a 20% absenteeism rate, about 300 labourers had to be employed. In order to accommodate such a big volume of labour on site, two construction units were considered ideal for each site. In addition, a separate gravelling unit and a structures unit to serve both construction teams were formed.

The maximum size of the pilot project was therefore set at 300 casual labourers, plus the necessary support staff and supervisors. Allowing for a slow build-up of the workforce performing labour-based work for the first time, and possible disruptions due to rain, unavailability of equipment etc, it was estimated that a road length of 18.00km could readily be constructed in a 12-month period of the pilot project.

4.5.3.2 Selection of the road

Of the 1927 km of the proclaimed roads in Ovamboland in 1990, 443 km were bitumen surfaced and 733 km were engineered gravel roads. 748 km of district roads consisted of un-engineered earth roads, which were mostly tracks. The choice of the road to be constructed by labour-based methods was therefore limited to the 748 km (Goldie-Scott, 1991).

Factors considered in the selection of the road are discussed below (ibid).

(i) Traffic levels

Experience in neighbouring Botswana had shown that roads built in the labour-based construction programme did not perform well under traffic levels exceeding 50 vehicles per day. Although both the standard of materials and the degree of compaction was expected to be higher in Namibia than in Botswana, there remained a case for avoiding highly trafficked roads in the pilot project. High traffic levels could:

- create a danger of accidents during construction;
- cause high levels of vehicle-induced dust on construction workers;
- require a wider road width than is generally appropriate for labour-based construction.

Roads expected to carry more than 50 vehicles per day were hence excluded from consideration.

(ii) Labour availability

Labour availability is a function inter-alia of the population density, age distribution, under/unemployment levels, local competitiveness of employment being offered, local identification with the road project and local restrictions on who may work on such a project

These factors can be reduced to two questions:

- Do enough potential workers live close to the site?; and
- Are they willing to work?

In Ovamboland, the lowest population densities occur in the south west of the region. This suggested the exclusion from consideration of roads from this area, which appeared to be more strategic than developmental in purpose.

(iii) Haul distances for gravel and water

In LBW road projects, it is preferable to select sites with short haul distances as long haul distances increases the proportion of project costs that are spent on equipment. If gravel is abundantly available in the project area, it preferable to haul all gravel by wheelbarrow, to generate more employment.

It was intended that road building materials would be hauled by tractor/trailer combinations when the haul distance exceeded 100m. The maximum haul distances in Ovamboland are considered to be about 6 km, possibly decreasing slightly towards the east. This would tend to favour the east of the region. However, gravel in the eastern areas is generally found under deeper overburdens. In addition, a considerable quantity of construction water is also required in road construction for the formation and gravel compaction. For about six (6) months of the year, in years with good rains, standing water is available for collection in much of Ovambo. The rest of the year is dry, and there being no surface water in the region, drilling of boreholes is usually necessary.

(iv) Soil conditions

Labour-based road projects rely on the use of local materials for construction of the road formation. If the soil is so sandy that large additional quantities of selected material have to be hauled, the operation could become equipment-based. In the low-lying areas of Ovambo comprising numerous oshanas, embankments could be built using material adjacent to the road line. Locally won-material is however un-suitable for road construction in many areas. In better-drained, sandier areas, new road formation requires protection because they tend to be damaged by traffic before gravelling.

The road selection for LBPP1 was undertaken by the ILO Technical Adviser in conjunction with DOT Engineers in early 1991 (Pets and Byrnes, 1993). The initial adopted approach limited the choice to eleven (11) roads. These were DR3603, DR3604, DR3605, DR3606, DR3607, DR3614, DR3616, DR3617, DR3618, DR3619 and DR3700. Further considerations of labour availability, haul distances, soil conditions, remoteness and communication narrowed the choice to four roads: DR3604 (10km), DR3616 (19km), DR3607 (10km) and DR3619 (18km). The following factors were considered in a subsequent detailed evaluation;

- Terrain
- Availability of labour
- Local materials on the alignment
- Gravel availability and haul distance
- Water availability and haul distance
- Connectivity and influence in the area
- Proximity to other roads

DR 3619 from Onaanda to Utsima (18km) was chosen as the pilot project road after those considerations. The alignment was subsequently changed, with the approval of DOT, to serve an additional village, Utsima. The deviation reduced the effectiveness of the socio-economic study, which had covered an area largely outside the influence of the new alignment. In addition, it had more structures and embankments, was 2km more and was

more costly. Nevertheless, the road was eventually constructed on the new realigned route, but construction was limited to 14km (William, 1992(1)).

4.5.4 Social Economic Studies for LBPP1.

4.5.4.1 The need for social economic studies in LBW programmes.

Before a LBW programme is initiated, there is a need to ensure that the programme will be complimentary to and not in competition with other development initiatives in the region or targeted area. This is necessary to avoid dispersion and wastage of resources by coordinating local with regional or national programmes. Therefore, the LBW programme in any project area should as much as possible be complementary to the existing developmental programmes. In addition, in order to achieve a smooth project implementation, it is necessary to establish whether a labour-intensive works programme would be acceptable to the communities in the area. Further, it is important to gain an understanding of the targeted communities in terms of the pattern of life, age distribution, means of income earnings, work opportunities and attitudes, agricultural activities etc. It is therefore required that communities be engaged as stakeholders.

An important factor in a labour-based works programme is the availability of labour. Prior knowledge of the structure and characteristics of the active population is essential as it not only allows the determination of the amount of labour available, but also the exact identification of the population groups that will provide labour for the programme. In order to establish whether labour is unemployed or underemployed, and is willing to work on the projects, it is necessary to evaluate individual and household incomes, estimate or measure work productivity, determine the pattern and hours of work in the traditional setting, identify persons who really want further work, identify peak farming seasons and traditional attitudes about using female labour. The idea is to have a fair, complete picture and up to date information on the active population and establish in certain terms the real labour surplus, which can be available to work on the proposed LBW projects. It is also important to identify the poorest population groups in the process, who must be the first beneficiaries of the programme. Social-economic studies are the

instruments used for the determination of the required parameters. As a result of the survey, proposals can also be made on the selection criteria for workers and recruitment options.

4.5.4.2 Social-economic survey for LBPP1.

A socio-economic baseline survey was carried out by the Namibia Institute of Social and Economic Research (NISER) on a ten kilometre corridor along the selected road alignment (Botele, 1992). It was found that the population density of Onaanda was 17 persons/km², 51% of all household members were below the age of 17 and 7% were older than 64. There were few formal jobs opportunities in the area. Only 22% of adults were employed formally and informally in the cash economy. This included migrant workers, working in far away urban areas, in commercial farms and in mining industries. Women were more disadvantaged in the study area, women headed households being poorer than male-headed households (ibid).

The availability of labour was also assessed. According to the NISER report, approximately 180 labourers were available for the project work. About 71% of the potential workforce² was women. There was no other source of earning cash within the proximity of the project road, so people were very eager to work (ibid). It was considered that people from within a 12 km corridor along the road would be given first choice in employment. Limiting employment from a defined corridor along the project was also intended to minimise daily walking distances to the work site. Experience from labour-based works projects elsewhere shows that up to 6 km is an acceptable distance for labourers to walk to and from the worksite everyday. It was therefore essential to plan the labour recruitment in such a manner that the people working are within about 6 km of their homes. As the road progresses past the initial 6 km, people initially employed could be discharged and other employed. In this manner, all the people living along the project corridor would have had a chance of being employed in the construction of the road. In an optimum

² The "potential workforce" was defined as all individuals between the ages of 17 and 64, who were willing to work on the road project, were unemployed, were living in Onaanda area and were fit for manual work.

employment situation, about 3-months of continuous employment would have been achieved.

Studies among the Ovambo population in northern Namibia also revealed that there was no strong social opposition to the participation of women labourers in the project (Girvan, 1993). Indeed, the only social issue raised was that some men, used to the role of migrant labourer, may feel uneasy about being seen doing physical work in the close vicinity of their home.

Sustainability of all new infrastructures depends on its effective utilization and maintenance. One of the benefits of community participation in infrastructure development and in labour based works is that the community will hopefully see the project as their own, and will be enthusiastic about its construction and maintenance. People from outside the immediate vicinity might not have the same motivation.

4.5.5 Pre-Implementation Planning

The following aspects were considered in the planning for project implementation (Goldie-Scott, 1991);

- The legal environment regarding the employment of casual labour.
- Payment procedures and administration
- The participation of women
- Staff and training

These aspects are briefly discussed in the following sections (ibid).

(a) The use of casual and temporary labour in Namibia.

It was envisaged in the pilot projects that two categories of staff would be employed; labourers (casual labour) as task workers and temporary workers as supporting staff and supervisors.

Within the DOT it was very rare to employ either staff or labour on a casual or temporary basis. All employees were taken on permanently. It was normal practice within the department to consider labourers as being permanent employees after 1 month of service. This allowed their pay to be automatically included in the cheque system. But the MWTC had some experience in 1988-89 of employing casual labourers. It used local labour to excavate trenches and lay communication cables in Ovamboland. Many disputes arose generally conditions of employment. Consultation and agreement with key stakeholders was therefore necessary before casual workers could be employed on similar short-term projects.

The definition of a casual employee in Namibia is a worker who is employed for three (3) days or less per week (GON, 1996). The Public Service Commission (PSC) considers a casual worker as being someone who essentially works on an ad-hoc basis as required, with rates of pay related to some extent with existing standard pay scales. According to the PSC then, cited in Goldie-Scott (1991) there was no procedural obstacle to the DOT employing either staff or labour on a casual basis. It was reasoned that even the public service could, for instance, employ an engineer as a casual worker for a certain number of hours at a certain location, at an agreed rate per hour. There was no limit to the length of time for which someone could be employed on a casual basis. However, approval was required for each individual case. Special permission was to be sought to employ large numbers of labour and casual staff in accordance with agreed guidelines. A similar procedure is applicable in some other countries³.

There were similarities in other countries also.

(b) The legal environment

The applicable and relevant employment legislation at the time of the pilot projects was contained in the Conditions of Employment Act, 1986, published by the colonial Government. Although a review into labour matters in Namibia was commissioned in 1987 (Ministry of Labour, 1989), the resulting document with a

³ On labour-based works projects implemented in Tanzania, Ghana or Madagascar, special permission was sought from Government in every case, to by-pass labour laws constraints. Most labour laws in these countries were not drafted with the possibility of using labour-based methods in mind.

number of recommendations, the Wiehahn report, had not yet been implemented at the time of commencement of the LBPP.

The Conditions of Employment Act (1986) regulated the following:

- | | |
|------------------------------------|------------------------------|
| a. payment of remuneration; | b. overtime |
| c. working hours | d. meal intervals |
| e. Sunday work and public holidays | f. annual leave |
| g. sick leave | h. minimum employment age |
| i. letter of appointment | j. termination of employment |
| k. certificate of service | |

Several classes of employees were, however, excluded from certain provisions of the Act. These included professional and administrative personnel, civil servants, casual employees and those employed in connection with farming operations.

Regular and temporary construction site workers in the private sector in Namibia are generally considered as permanent employees and benefit from:

- a. minimum wage rights
- b. right to 1 hour meal interval after 5 hours work
- c. limits on the degree to which pay can be withheld for poor work
- d. guaranteed payments if rain or other factors prevent work
- e. annual leave (probably at rate of 3 weeks per year)
- f. sick leave (1 day per month of employment)
- g. 1 month's notice of termination of employment

Using the strict definition and the regulating provisions of a casual worker, many of the above benefits would not apply if labour was employed on a casual basis, with each worker being employed for a maximum of 3 days per week. Although theoretically possible, this would in turn raise further problems, including:

- In order to run a site on this basis, it would need to operate for six days per week, though this is not unusual in Namibia.

- The increased size of the work force would double the administrative burden of recruitment, payment, disciplinary action and dismissal.
- More worker-training would be required, and there would have been a loss of continuity in work when one group handed over to another.
- In some areas sufficiently large pools of available labour might not have been available.

It was thus preferable for contractors to have a free hand in applying casual conditions of employment that are successfully used on labour-based projects. Alternatively contractors could consider every worker as a self-employed sub-contractor. This would require each individual to enter into a contract that is automatically renewed each day when a new task is set. At the end of an agreed period (every two weeks or every month) the 'contractor' is paid according to the number of 'contracts' (i.e. tasks) that he/she had satisfactorily completed. This approach would have been permissible within the Employment Act (1986). For this approach to hold up in law, contractors would have been required to prove that the labourers were not employees. This might have been possible if they were responsible for providing their own tools, and had a certain amount of freedom as to what methods they used to achieve their tasks.

The issue of deciding on the optimum conditions of employment for workers was further complicated because due consideration had to be taken of the planned future involvement of small contractors in labour-based road works in Namibia. Any arrangements mooted for the force account labour operations needed to also be achievable in a similar fashion by private contractors, so that ongoing performance comparisons can readily be made between the different approaches.

(c) Consideration of payment procedures

Successful labour-based projects are based on the principle of payment for completed tasks. The linking of payment to production has a significant impact on the productivity of the workforce. Ideally, the amount of money paid out in wages each period should be directly proportional to the work output achieved in that period. For this to be possible, the terms of employment of the labourers must be

based on task work⁴ or piecework⁵. Completed tasks can either be group tasks or individual tasks. The numbers of labourers on a daily wage are kept to a minimum. In these modes of payment, the ability of management is crucial in showing and demonstrating to workers and each individual on site that hard work is fairly rewarded in the manner promised.

Coukis (1983) illustrated three principal methods of payment for production in labour-intensive works, namely the daily paid, the task work and the piecework.

(i) Daily-paid workers

A daily / hourly wage is a fixed sum paid to the labourer regardless of the amount of work actually carried out. Daily-paid workers receive a fixed daily sum for a fixed number of hours of work in a day, normally eight (8) hours, regardless of the productivity achieved.

(ii) Task work

In task work, workers are paid for a completed task, based on a mutually agreed rate. This approach ensures that the task worker achieves production at a constant rate, which rate he can determine. It also provides an incentive for labour to be more productive, and provide each worker with an opportunity to earn more if he or she is allowed to and is also willing to carry out more than one specified task per day.

The measure of a task is what an average person can do in an average day. Task rates can be obtained by applying a factor to the productivities achieved in a 'daily-paid' system (Coukis, 1983). More accurately however, task rates can be determined through work-studies in pilot projects (ILO, 1981). An alternative approach on site is for the supervisor or contractor together with individuals or groups of labourers to determine the amount of work that has to be completed per worker and which is thereby defined as a task.

⁴ Task work refers to a fixed daily wage for a fixed quantity of work referred to as a task.

⁵ Piecework refers to the payment per unit of output.

By setting a task that would enable the workers to finish within five to seven hours (in an eight hour work day), one provides an incentive for workers to go home early. This incentive ensures that everyone does at least the average amount of work achievable in one day. However, this is normally only possible if a high degree of direct on-site (hour by hour) supervision by the team leader is undertaken (McCutcheon, 1994(1)). A task-worker can complete as many tasks each day as he or she is able to. Experience elsewhere shows that the elderly people at times require 1.5 - 2 days to complete one task, whilst stronger workers complete 3 - 4 tasks each day (De Veen, 1983). As a norm the average worker should be able to complete one task in approximately 5 - 6 hours.

In many labour-based works sites, there are no set working hours. Each worker start work when it suits him or her. However, most workers prefer to start in the early morning hours, sometimes before sun rise. They will then have completed at least one task before it becomes too hot. Supervisors have to set out a sufficient number of tasks each day to enable the workers to start early. They have to ensure that tasks are completed fully before the worker is allowed to go home or before he or she is allowed to start a further task, and that the tasks are balanced evenly, otherwise tasks perceived by labourers to be difficult will be avoided, resulting in delays and additional costs.

In determining the remuneration for a completed task the following points has to be considered (Greyling, 1994):

- the project must be and remain economically viable;
- the labour-based project must be able to compete on costs with an equipment-based project;
- the wages paid to the local community are supplementary to income from other subsistence activities⁶; and

⁶ Wages paid to the community casual workers in the labour-based works projects in Namibia were mostly the only source of income.

- the local community must agree to the remuneration for a completed task.

(iii) Piecework

For this method to be effective there should be a good balance between:

- acceptable unit costs;
- achievable output within acceptable daily working hours; and
- acceptable daily earnings (ibid).

Piecework system can yield twice as much output as that of daily-paid workers (World Bank, 1986). McCutcheon (1991(1)) revealed that up to twelve times daily production can be achieved. The real incentive is the maximisation of earnings by working harder and/or longer, like the railway navvies of the 19th century in Europe (Coleman, 1968, cited in Taylor, 1998). This method is especially favoured by migrant labourers who want to earn as much possible while away from home and family.

Daily paid work, task work and piecework payment methods can be used in Namibia within the existing labour legislation framework. The only variation in the amount paid to the labourer could be as a result of overtime work as defined in the Labour Act of 1996. In addition, the daily/hourly wage will have to conform to relevant wage agreements as defined in the above Act.

(d) Payment administration

In Namibia, casual employees are generally paid on a daily basis, while permanent employees are paid monthly. Many contractors, however, pay their workforce every Friday afternoon based on attendance from the previous Friday to Thursday. A similar payment arrangement was mooted for the LIPP1. In order for payment to be on a monthly basis the books had to be closed on, say the 25th of the month, and payment made at the end of the same month based on attendance from the 26th of the previous month to the 25th of the payment month. In theory, the project site

could close its attendance register on say the mid-month, and forward details for processing in head office, so that payment cheques can be cashed in the nearest town to site at the end of the month. Although relatively little work was done in DOT head office, since no deductions were made for the majority of the casual employees, the process followed was the necessary bureaucracy.

(e) Women participation

In order to maximize the use of available resources, rural women in Namibia were strongly encouraged to seek employment on the LBPP. This campaign however, stopped short of affirmative action in favour of women as per earlier recommendations (Botele, 1992). This had in some cases been shown to adversely affect the feasibility of labour-based projects, by confusing the project objectives.

Experience on labour-based projects elsewhere in Africa shows that women are generally capable of carrying out most operations on a labour-based road site with the possible exception of some particularly heavy work at quarries (Pets and Byrnes, 1993). It was therefore anticipated that women will make a significant contribution to the LBPP. Based on experience in neighbouring Botswana, it was estimated that women would make up to 40% of the workforce (ibid).

(f) Staff and training

Training is core to a labour-based works programme and strong emphasis is on job training. In planning of training in a LBW scheme, it is necessary to make provision for a modest dropout rate, so that the project does not become over-reliant on a few individuals. In a pilot project, selection and training of staff critically affect the prospects for success. A unique combination of self-discipline, technical and management skills is required at all levels. It has been shown elsewhere that some of the best senior staff on labour-based works projects worked their way up the hierarchy from very junior positions (Pama, 1992). Experience also shows that a clear career structure is necessary and it should make provision for advancement based on proven ability and prior learning.

It was envisaged early in the LBW programme in Namibia to send both junior and senior staff on suitable courses in suitable institutions. Training courses related to labour-based road construction and maintenance are provided in some countries in Africa, including Botswana, Malawi and Kenya. The Kisii School in Kenya and the Roads Training Centre in Botswana have a particularly good reputation. In terms of technology used in Namibia, the training at Kisii is probably more appropriate, as mechanical haulage and compaction is used (Pets and Byrnes). In terms of soil conditions and terrain, the Botswana training could have been more relevant. In some courses Botswana also had lower entrance requirements.

Regarding support staff, it was assumed that most of these, including the site clerks, drivers, operators, and technical assistants would be recruited and trained locally. In addition, at least one member of staff was expected to be an experienced DOT employee familiar with the then existing procurement and financial procedures, in order to efficiently support the LBPP.

4.5.6 Resources Planning for LBPP1

It was estimated that 250 labourers would be employed daily for the duration of the LBPP1. The agreed wage rate for casual labourers was N\$10.00 per day. It was further estimated that the 1935 man-days were required to construct 1.0km of the pilot road. The total labour input was planned as follows (DOT, 1991):

- Casual Labourers: 250
- Skilled labour: 1735 man-days
- Staff: 9820 man-days

The proposed budget for the LBPP1 at the time is shown in Table 4.1 hereunder.

	1991/92	1992/93	1993/94
Months	7.5	12	12
Pilot Project Cost	875,000	1,500,000	1,500,000
Months	-	5	12
Site 2 Cost	-	625,000	1,500,000
Months	-	-	9
Site 3 Cost	-	-	1,125,000
TOTALS	875,000	2,125,000	4,125,000

Table 4.1: Proposed Budget; LBPP1 (Source: DOT, 1991).

4.5.7 The Project Document for LBPP1

Based on the planning considerations discussed in the preceding sections, SWK prepared the project document for the first pilot project (LBPP1) in May 1992 on behalf of the ILO. A site visit by the consultant and detailed discussions with the DOT, the PSC and the Ministry of Labour preceded the preparation of the document.

The contents of the project document were summarized under the following headings (ibid):

- I. Introduction
- II. Description of Site
- III. Road Design
- IV. Method of Construction
- V. Organization and Administration
- VI. Training
- VII. Programme of Construction and Budget Estimate
- VIII. Specialist Input
- IX. Bibliography.

Some of the planning elements discussed in the preceding sections were covered in the project document. The budget estimate, the program for the proposed work, job descriptions, reporting forms and labour administration forms were also

described in the project document. Appendix 1 and 3 respectively shows the budget estimates and the program, Appendices 5 and 6 shows employment forms and project administration forms respectively.

It was estimated in LBPP1 that 40% of the project expenditure would have been earnings of local employees ploughed back in the local economy, and that women were expected to comprise about 40% of the workforce (DOT, 1991(1)).

4.6 Planning for LBPP Phase 2

Project planning for LBPP Phase 2 appears from records to have been done more elaborately than for Phase 1. The planning process included the formulation of the logical framework, social-economic studies, budgeting and engineering design of the project road. Planning was coordinated at the DOT head office in Windhoek with advisory support from the ILO (DOT, 1994(1); DOT, 1995(4)).

4.6.1 Logical Framework Analysis

Figure 4.2 below is the Phase 2 Pilot Project logframe. The narrative summary, indicators of achievement and important assumptions regarding the implementation of the pilot project are provided.

NARRATIVE SUMMARY	INDICATORS	ASSUMPTIONS
<p>1. DEVELOPMENT OBJECTIVES</p> <ul style="list-style-type: none"> (a) Acceptance of labour based methods in roadworks programmes. (b) Reduced dependence on external resources. (c) Enhanced economic activity along road corridor. (d) Participation of the private sector. 	<p>1.1 INDICATORS OF IMPACT</p> <ul style="list-style-type: none"> (a) Expansion in use of labour based methods in construction of District or other roads. (b) 40% of direct costs spent on labour in the road corridor. (c) Traffic attains or exceeds forecast levels. (d) Private sector involved in programme expansion. 	<p>1.2 IMMEDIATE TO DEVELOPMENT OBJECTIVES</p> <ul style="list-style-type: none"> (a) Successful presentation and acceptance of results of pilot project. (b) Successful modification of DOT systems and procedures to meet requirements of expanded programme. (c) Establishment of effective labour based maintenance of the constructed roads. (d) Private sector motivated for involvement in roadworks.
<p>2. IMMEDIATE OBJECTIVES</p> <ul style="list-style-type: none"> (a) Consolidate effective systems and procedures for labour based (L-B) construction suitable for DOT or private sector implementation. (b) Provide road(s) to appropriate standards. (c) Equal opportunities for local men and women to participate in the project. (d) Establish effective equipment support for L-B methods. (e) Plans developed for L-B maintenance. 	<p>2.1 INDICATORS OF ACHIEVEMENT</p> <ul style="list-style-type: none"> (a) Achieved productivities and cost analysis show that expanded programme can complete with equipment based methods. (b) Independent tests show that construction standards meet or exceed agreed specifications. (c) Separate study to monitor and comment on social impact. (d) Good designs established for support - equipment. (e) Recommendations available for L-B maintenance. 	<p>2.2 OUTPUTS TO IMMEDIATE OBJECTIVES</p> <ul style="list-style-type: none"> (a) Construction works well managed and documented. (b) Effective and impartial liaison with local communities.
<p>3. OUTPUTS</p> <ul style="list-style-type: none"> (a) 20-25 km of road constructed to gravel standard in a 12 month period. (b) Refined and effective technical and management systems. (c) Technical and Administration manuals and Training materials. (d) Appropriate and tested support - equipment designs. (e) Trained management, technical and administration personnel. (f) Recommendation on L-B road maintenance (g) Recommendation on expansion of L-B construction activities and involvement of the private sector. 		<p>3.2 INPUTS TO ACTIVITIES TO OUTPUTS</p> <ul style="list-style-type: none"> (a) Successful appointment of appropriately experienced personnel for key positions (National Coordinator & Site Engineer). (b) Appointment of personnel & consultants for management, supervisory and advisory positions. (c) Implementation of the recommendations of the Phase I Review and specialist consultancy inputs. (d) Necessary inputs provided by the local community. (e) Necessary handtools, new equipment and equipment modifications are arranged according to recommendations and programme. (f) SIDA and GON agreement on Phase II Project Document and implementation.
<p>4. ACTIVITIES</p> <ul style="list-style-type: none"> (a) Preparatory and consolidation studies. (b) Identification, design and planning of 25 km of road. (c) Training programme (d) Construction works. (e) Develop and test support - equipment designs. (f) Pilot Project review and workshop. 	<p>5. INPUTS</p> <ul style="list-style-type: none"> (a) National Coordinator L-B methods (external). (b) L-B Site Engineer (External). (c) Specialist Consultancy inputs. (d) Paid labour from the local community. (e) DOT personnel at HQ, regional and site level. (f) New/Modified support - equipment. (g) Construction materials. (h) Adequate budget and funding. 	

Figure 4.2: Pilot Project Phase 2: Logical Framework Analysis (Source: DOT, 1994(1)).

4.6.2 Socio-Economic Studies for LBPP2

In 1993, the Multi-disciplinary Research Centre (MRC) of the University of Namibia carried out a more detailed social-economic study for phase II pilot project. In addition to the investigation of the political and socio-economic set up, demographic patterns and labour availability, the MRC study also investigated the local perceptions of the new road project and the labour-based methods of construction. The survey covered areas which were involved in LBPP Phase 1, in the villages of Anamulenge, Onawa and Onelago, and the main centres on the western half of the Phase II pilot project. Rapid and participatory rural appraisal techniques were used for the survey (Girvan, 1993). This technique enables the local people to participate in the investigations, using information from them to identify development priorities and strategies.

Relevant study findings are summarized below (ibid):

i) Information on new project and employment expectations

Local people were aware of the impending road project. They were also aware of a road built in the Onaanda area using labour-based methods. However, they had little information about employment, recruitment, land compensation etc.

(ii) Labour availability

There was a high level of unemployment and poverty in the project area. The only means of earning cash in the area was subsistence farming and retail trading. Many people were prepared to work, and availability of labour was not considered a problem. There were no competing or complementary projects in the area.

(iii) Perception of labour-based built roads

Community members had a problem in perceiving *'how the road would be built using shovels, picks and wheelbarrows'*. Since machines had built most of the roads they had seen, they had doubts that a road could be constructed with local

labour and simple equipment. Others were of the opinion that the completed Onaanda road was inferior to machine-built roads, too narrow and weak, with the sand easily washed away by rain. Some perceived the project would be a waste of time.

(iv) Perceptions about Government intentions

Strong feelings were expressed by the community about the intention of the government to use them as cheap labour. They wondered why *“in the southern parts of Namibia the government built roads for the people whereas in Ovambo people are expected to build their own roads”*. This view was also expressed by local politicians. Therefore, except for the opportunity to earn a wage income, the communities felt they had little stake in the road. However, in the midst of largely negative attitude towards the proposed road project, a few members of the community conceptualized the road as a project that would serve as impetus to local development.

(iv) Concerns about relocation and compensation

Community members were concerned about forced removals from their homesteads and farms as they had seen road surveyors crossing their properties. They had little information on compensation and relocation arrangements. This increased anxiety and perceived opposition to the project.

(v) Workload considerations

Work at the road camp had started during the survey period. Community members were concerned that:

- the recruitment process was selective and no proper information was given to community members.
- the type of work done was reportedly too much and heavy.

(vi) Wage rate considerations

Concerns about the strenuous nature of the work gave way to considerations about the wage rate. Communities simply expressed hope that they will not be used like machines and wages would not be exploitative. Timely payment was also stressed. Experience in earth dams dug earlier as part of a food for work project was that there were long delays in receiving the promised food.

Local wages in Omusati region varied depending on the type and location of the work. In Outapi, a well-paid labourer might earn up to N\$350/month⁷ in 1993/4. The hourly rate was estimated to be between N\$2.50 and N\$5/hour. Casual labour such as brick making could earn up to N\$25/day, while ploughing rates averaged N\$2 for every ofola (a ploughing measure locally set at 3-4 lines). Yet, the high level of unemployment and poverty also influenced perceptions of the wage rate; it was easy for one to go below the market rate.

vii) The participation and employment of women

Generally, it was accepted by the community that, although the work might be physically demanding for women, they should have a chance to participate. Women were considered to be more disciplined than men and made up in hard work what they lacked in physical strength.

Most women in the area had participated in food-for-work projects. It was reasoned that as principal home caretakers, women would use the money more responsibly. It was noted that even with pensions, a man will spend it on himself, while a grandmother will share the income with the whole family. The community felt that many young people would not contribute income to their households, regardless of gender. *“Even young girls might spend their money on German jeans and hair relaxers instead of supporting the homes where they stay”* (Girvan, 1993).

The prospect of earning cash income was a source of pride for some women. A young mother quoted in Girvan, 1993 said *“we feel very good that women will be*

⁷ The N\$:US\$ exchange rate during this time was approximately 1US\$=3.2N\$.

participating, because we were colonized in the past. Men come with all the money but they don't give us anything. Now it is our chance". Other women asserted that "It is a threat to men if a woman receives an income because maybe she will put up her own homestead" (ibid).

Elsewhere in the region, participation in community work and wage labour also fell along gender lines. Women participated more in community development initiatives, in food for work etc. But, where wages were offered, men were the first in line" (ibid). The perception of men on the participation of women in the project was somewhat different. *Some men were only willing to allow their wives to work on the road project provided that they were also employed" (ibid).* Underlying this restriction is the humility a man would face if he was unemployed while his wife or female relatives were working.

A case in hand was whether the employment of women was not going to increase their workload as the study had shown that women carried out the bulk of the agricultural work in the region, in addition to their traditional household duties and child rearing. In a separate study conducted on labour-based works projects in Namibia, it was observed that *"the success or failure of women's involvement should not be judged simply in terms of participation rates. In some projects high participation rates have resulted in very low quarry productivities, while in others there has been an associated neglect of young children. The LBPP should consider the participation of women against the over-riding project objective of constructing good quality road on time at minimum cost" (Lexow, 1997).*

v) Recruitment of workers

Discussions about recruitment generated the most heated debates and anxieties. The recruitment process entailed three issues: job advertisement (how), targeting (who) and selection (how). Community members felt that without knowing the number of labourers needed, they could not suggest specific recruitment procedures. Some felt that recruitment should be open to anyone interested, who would then be selected through a lottery. There were also resentments for people from outside the project area, for fear of increased competition for employment.

Community members were clearly in favour of recruiting only local labour within 7-8 kilometres corridor of the road.

Others felt that the road project should financially benefit poor households in the communities, and that selection had to take place on a household basis. However, there were also divergent views on targeting of households. Many felt that with wage earnings at stake, deciding which households were poor would be difficult and could lead to conflict. It was argued that recruitment should take spreading the wealth among households into account and that the income afforded by the road project should benefit those in need, particularly adults who have never worked before, returnee exiles without jobs, and the poorest households.

The first recruitment for this project was for camp establishment personnel. The recruitment process was not properly advertised and was not well received by community members. Community members proposed that news of the available work and the time and procedures of recruitment should be advertised broadly and freely within the district and the date, time and location of the selection be announced at least a month ahead of the scheduled date.

From the above findings, it can be concluded that although DOT reported that extensive consultations were made with the community stakeholders, the consultative process did not achieve all its objectives.

4.6.3 Implementation Planning

4.6.3.1 Development of a recruitment model for casual workers

An important pre-planning process in the second phase of the pilot project was the development of an equitable recruitment model.

In view of expressed community concerns and the politics around them, and based on recommendations contained in the social-economic survey report, the DOT formulated an elaborate recruitment model for pilot project phase II. The model was a two-stage procedure as follows (Pets and Byrnes, 1993):

Stage 1:

Brochures were to be distributed, two weeks in advance, broadly and freely in the villages and institutions, like churches, schools, clinics, etc. in the project area. The brochure, which was also required to be translated into the local languages, contained the following:

- i. A brief description of the project
- ii. The purpose of the project
- iii. The type of road to be built
- iv. Construction method
- v. Recruitment procedures
- vi. Recruitment meeting (venue, date and time)
- vii. A request that each household, situated within 5 km from the road, submits two names of household members seeking employment.

Stage 2:

The actual recruitment at the meeting had to proceed as follows:

- i. The aims and objectives of the project were read and explained. Information on the length of road to be constructed, the starting point of road construction and the starting date were given.
- ii. The methods of construction were explained, and why casual labourers are used instead of machines was elaborated, including the type of work output expected from the labourers.
- iii. Conditions of service, samples of the letters of termination, warning and dismissal were shown, read out and explained to the people attending the meeting.
- iv. The people were then given a chance to ask questions and give comments related to the project.
- v. Depending on the number of people present, all first choices as given by each household were to be called out and counted. Depending on the number of workers required, either all of them were offered

employment or if there were more names (persons) than required the number of labourers needed were to be selected by ballot. The recruitment of possible candidates for supervisor and operators would then follow, using set criteria.

- vi. Equitable opportunities for employment had to be offered to women and men, and to all age groups, subject to the laws of the country. Contractors had no right to refuse any of the nominated persons for employment on the basis of gender or age.

Throughout the project, emphasis was placed on public relations work to ensure a good perception of the project by the local people and establishment of effective systems for community liaison.

This recruitment model proved to be successful, and a fine tuned version was adopted for all subsequent labour-based road projects undertaken.

4.6.3.2 Resource Planning for LBPP2.

Construction on DR3608A of LBPP2 was planned to be executed in 9 months. Weekly labour requirements for the planned duration of the project are shown in Figure 4.3 below. Approximately 38000 man-days were planned. Required man-days per kilometre were estimated to be 2400. Labour projections for different activities are shown in the Figure 4.4 below. Road formation and wearing course were each expected to be continuous for 3 months. No reliable data was available for other sections.

LBPP2 was estimated to cost about N\$4.3 million in total. Appendix 3 shows the proposed project budget, including a summary of budgeted resource requirements. As the main funding agency was SIDA, it was required that the budget show the equivalent projections in Swedish Kroners.

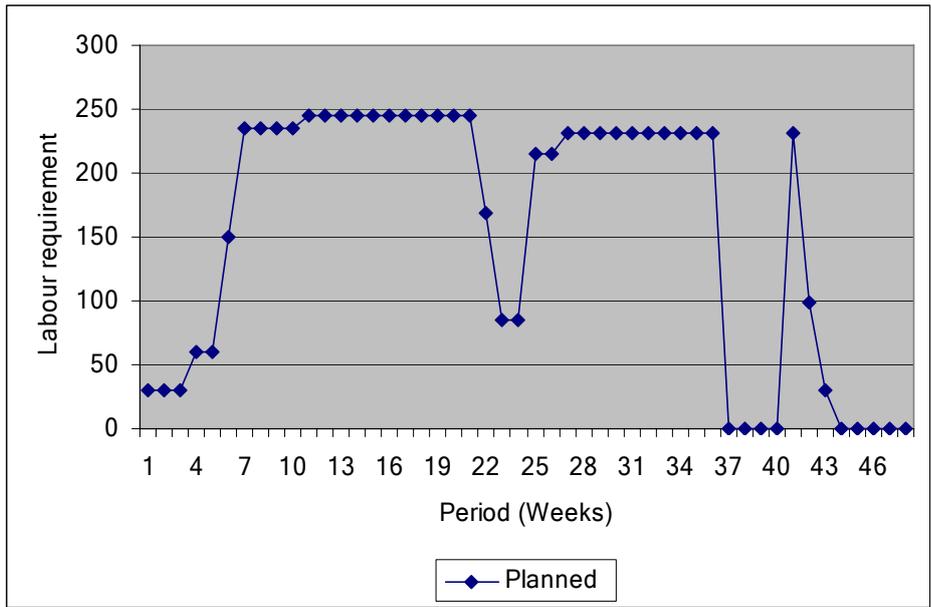


Figure 4.3: Labour requirement projections for LBPP2 on DR3608A.

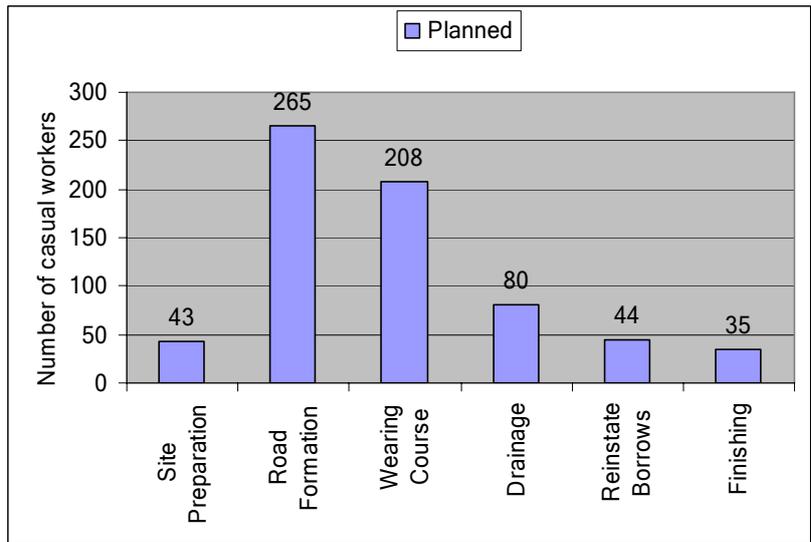


Figure 4.4: Activity labour projections for DR3608A; LIPP2.

4.7 Conclusion

The planning of both phases of the labour-based pilot projects has been discussed in this chapter. It has been shown that;

- A detailed socio-economic study is a necessary pre-requisite for the formulation of a labour-based project geared to be successful, and which takes local and community considerations in its formulation. In addition, it is necessary to establish the availability of labour for the project, the project reception, attitudes towards casual labour employment, recruitment options, employment of women, cultural issues and views on wages and wage rates. Social-economic studies also open the way for further consultations with community stakeholders, leaders and politicians for successful project implementation.
- Only a basic socio-economic survey was undertaken for LBPP1. It was established that unemployment in the project area was high at about 78%. Thirty three percent (33%) of the population in the project road corridor were potentially available for employment on the project road, and about 76% of these were women. The availability of labour was estimated to be about 180 people.
- The perceptions expressed by the communities in respect of the labour-based works pilot schemes are typical in developing rural areas where people have not yet been exposed to the LBW technology.
- The preliminary planning process for LBPP1 was carried out relatively sufficiently in the project area. The following elements were considered;
 - Consultation with political and tribal leaders in the project area
 - Social economic survey
 - Project road selection
 - Processes for recruitment of casual workers and staff
 - Administrative issues
 - Training plan
 - Understanding the legal environment
 - Camp establishment
 - Procurement of equipment
 - Preparation of the Project Document

- Detailed engineering design of the project road was not done by DOT for LBPP1. This was most likely because the DOT was under pressure to commence with the project, but more probably because there was no expertise existing in Namibia (DOT or private sector) at the time for the engineering design of a labour-based project road. Hence “learn and design as you construct” approach was adopted.
- 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 the pilot road chosen is not heavily trafficked, soil conditions are suitable, earthworks are low to average, and material and water haulage distances are short. The engineering aspects of the pilot roads have to consider the limitations of physical labour.

The implementation of labour-based works pilot projects is the subject of the following chapter.