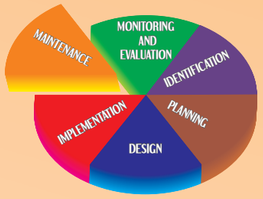
- It is common to either choose target project duration (and then employ the required number of workers) or to choose a target number of work opportunities to be created (without much emphasis on project duration). Either way, it may be necessary to increase/decrease the number of workers or re-assign them to other activities as the project progresses. The person in charge of the project should be competent in optimising labour needs as the project progresses.
- Some projects (e.g. those targeting poor families) allow substitution of a worker by other family members in order to ensure continuity of income to the household. If substitution of workers by other family members is allowed ensure the substitutes are covered by the insurance for work related injuries and that they are paid for their work (instead of paying just the primary worker).
- Reporting on project indicators should be done as per agreed formats and timeframes in order to feed into the national statistics. Report both physical outputs and employment creation disaggregated by gender and age group. As a contractual requirement and to ensure consistency, reporting should be tied to (made part of the submission) monthly payment certificates.
- Completed projects should be handed over to those responsible for maintenance of the created assets.



MAINTENANCE PHASE

- Ensure optimised portfolio of different types of maintenance (periodic, routine) for effective asset preservation and enhancing labour intensity.
- Establish which type of routine maintenance suits your needs in order to achieve required output and labour intensity;
  - Length person system (contractors hired to maintain a fixed portion of the infrastructure)
  - Contractors who hire local labour
  - In-house maintenance units
- Decide basis of payment e.g. level of service agreements, measurement of quantities against schedule of rates.

MONITORING AND EVALUATION

Monitoring and Evaluation is not just about collecting employment creation data. Neither is it carried out only at the end of the project. It should be carried out during the entire duration of the project. For example, before the project starts emphasis may be on establishing the baseline situation and setting performance targets.

During implementation the emphasis may be on assessing if progress is as planned and, if not, suggesting corrective measures. For example, if one project is spending four times as much as a similar project to create one FTE the project manager may interpret that as a warning sign of inefficiency by the more expensive project. The measure of success of a project is ensuring its completion within the Project cost, time, and the desired quality standards.

After project completion the emphasis may be on assessing the project impact. Infrastructure projects tend to have immediate impact (post construction) and longer term (several years after completion) impact. The longer term impact is often in the utility of the infrastructure asset and employment of workers to carry out maintenance of the completed asset. Therefore, impact goes well beyond the employment numbers.

From the forgone, it can be concluded that it is imperative to take appropriate actions during all phases of the project cycle in order to deliver the project on time at an acceptable cost and desired quality.

public works
Department:
Public Works
REPUBLIC OF SOUTH AFRICA

EXPANDED PUBLIC WORKS PROGRAMME

TECHNICAL BRIEF NUMBER 3

EPWP INFRASTRUCTURE PROJECT CYCLE MANAGEMENT

INTRODUCTION

For cost-effective management, a project should follow a cycle of operations covering the phases shown in the figure below:

Most infrastructure projects follow these sequential and complementary phases (project cycle), namely; identification, planning, design, implementation and maintenance. Weaving through all the phases is monitoring and evaluation in order to assess if things are progressing as planned and if not, to take corrective measures. The success of a project depends on appropriate actions being taken during all the phases of the project. For example, identifying a project that is not amenable to the use of labour, planning and designing it for implementation by equipment and then trying to change it to be implemented using labour would not lead to success. A project that is intended to create employment should be identified, planned, designed and implemented and maintained with use of labour as a primary resource in mind.

There are other actions that need to happen in parallel to the phases identified above, such as advocacy, institutional arrangements, reporting, training and capacity development.

DEFINITIONS

Before going into details about the various phases of the project cycle in the context of the EPWP infrastructure component let's define some terms that we will be referring to.

Expanded Public Works Programme (EPWP): refers to a programme initiated by government and funded from public resources to create work opportunities (using labour intensive methods) in the provision of public or community assets or services. In the context of the infrastructure component “labour intensive” implies use of labour as a primary resource supplemented by light equipment where it is not practical or cost effective to use labour.

EPWP Project: refers to a project that incorporates the following elements to the fullest extent possible; employment creation, labour intensive methods, resource optimisation (only use equipment for activities that cannot be effectively done by the use of labour), quality is not compromised, optimisation of quality, cost and time, skills development and transfer, community ownership, decent work (fair wages, appropriate provision for safety and health and freedom of association) and lays the foundation for sustainability. EPWP Projects usually employ locally-based workers on a short-term or ongoing basis (either by government, by contractors, or by other non-governmental organisations), under the Code of Good Practice for the Expanded Public Works Programme.

Work Opportunity: refers to paid work created for an individual on an EPWP project for any period of time. The same individual can be employed on different projects and each period of employment will be counted as a work opportunity.

Person-days of Employment: refers to the number of people who worked on a project multiplied by the total days they worked.

Full Time Equivalent (FTE) of Employment Created: refers to one person-year of employment. One person year is

equivalent to 230 person days of work. The 230 days are effective days of work after subtracting provision for non-productive days in a year (e.g. leave, holidays etc.).
1 FTE = person days divided by 230

Wage Rate: refers to the daily wage paid to an individual for completing daily assigned work.

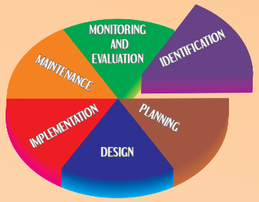
Task Work: refers to a clearly defined quantity of work to be completed to a specified quality by a worker for payment of one day's fixed standard wage (wage rate). This is a productivity based remuneration system, unlike the time-based remuneration where a worker is paid for the time spent at work without relating it to the output.

Project Expenditure: refers to the expenditure (inclusive of VAT) on the project by the contractor + the expenditure by the professional service provider appointed to design and supervise the project.

Labour Intensity: refers to expenditure on wages expressed as a percentage of the total expenditure on activities implemented labour-intensively. The higher the labour intensity of a project the more work opportunities and FTEs can be created and the more the project impact through injection of funds into the local economy in the form of wages.

RECOMMENDED ACTIONS DURING THE PROJECT CYCLE

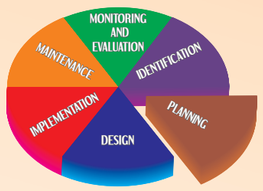
Implementation of the following recommendations can lead to more employment creation whilst optimising the productivity of the workers, improving the quality of infrastructure assets and longer term impact on service delivery.



PROJECT IDENTIFICATION PHASE

- Ensure that projects selected as EPWP projects are amenable to labour intensive methods, that is, the work can be carried out by labour as a primary resource supplemented by equipment for activities for which it is not practical or cost effective to use labour.
- Road compaction is an example where appropriate type and size of rollers are recommended for the desired level of compaction.
- If a large project (typically valued at more than R30 million in 2012 prices) is selected, components that can be designed to be done labour intensively should be identified.
- Choose projects located in areas where labour is readily available within the project vicinity - preferably walking distance (typically within a 5km radius) to avoid the workers arriving to site tired or costs of daily labour transportation or site camping.
- **Ensure there is adequate management capacity (skills set in terms of competence and numbers) to oversee the planning, design and implementation of the projects.**

CAUTION: DO NOT DESIGN THE PROJECT FOR THE USE OF LABOUR INTENSIVE METHODS BEFORE VERIFYING THE AVAILABILITY OF SUITABLE LABOUR FORCE LIVING WITHIN WALKING DISTANCE, TECHNICAL FEASIBILITY OF THE WORKS AND AVAILABILITY OF MANAGEMENT CAPACITY TO OVERSEE THE IMPLEMENTATION OF THE WORKS.



PLANNING PHASE

- Public bodies should decide (based on their capacity and policies) what work can be done in-house and what should be outsourced to service providers.
- Clients (Public bodies) should be clear about what they want as outputs before signing agreements with external service providers. For EPWP projects outputs will often be physical assets and employment creation. Skills upgrading and technology transfer could be other added benefits.
- Develop terms of reference (ToR) for service providers that ensure compliance with EPWP Guidelines. For example, those involved in the design and implementation of labour intensive projects are required to have minimum qualifications and experience as specified in the EPWP Guidelines.
- Define and ensure both internal officials and service providers understand their roles during various phases of the project cycle.
- Consider the appropriate technology choice for the various activities.
- Develop a balanced portfolio of projects throughout the financial year. This means having projects at different stages in order to ensure continuity and optimal utilization of resources. For example, there should be proactive planning which should not wait for the beginning of a new financial year.
- Invest in both construction and maintenance based on level of infrastructure development in your area. Areas with a historical backlog in infrastructure development may invest more in construction than maintenance, whilst areas with good infrastructure may focus on maintenance in order to preserve assets. A good rule of thumb is to avoid the attractive, but detrimental, temptation to construct more assets than can be maintained.
- Establish baselines and develop business plans that address employment targets.
- Client bodies must streamline payment procedures to ensure prompt payments to the Service Providers as well as ensuring that the Service Providers (Contractors) in turn promptly pay the employed workers on the project (to avoid industrial unrest).

DESIGN (AND PROCUREMENT) PHASE

- Public bodies should assign or hire out design tasks to project managers or Service Providers competent in labour intensive methods.
- Deliberately design work components, methods, and choice of construction materials with the aim of overall optimization of employment on the project.
- Include appropriate specifications for labour intensive activities. Standard specifications are generally biased towards use of machines.
- Include relevant “Labour Intensive” clauses in contract documents. For example, activities earmarked for use of labour intensive methods should be annotated as such in the Bill of Quantities.
- Set realistic labour intensity targets based on activities that can be done labour intensively and appropriate productivity norms for the type of work to be carried out.
- Estimate the number work opportunities that can be created in relation to the envisaged project duration.
- Cost estimates should be based on realistic wage rates and prices of other resource inputs.
- Develop/adapt means for measuring physical output in terms of quantity and quality. If a service provider is awarded a contract based on a target labour intensity there should be means to deal with non-compliance.

IMPLEMENTATION PHASE

- Set appropriate wage rate following EPWP Guidelines. In general, an appropriate wage rate complies with the following principles;
  - Fair wage for a fair day's work
  - Not too low to be exploitative
  - Not too high to attract labour from other sustainable initiatives
- Optimise productivity of labour through setting appropriate tasks and correct application of the task-based and time-based remuneration systems. Task-based workers should be released to go home once they have completed their task for the day.
- Consider the impact of quality of tools and ergonomics on productivity. Use of an inappropriate tool may lead to poor productivity and safety/health problems.