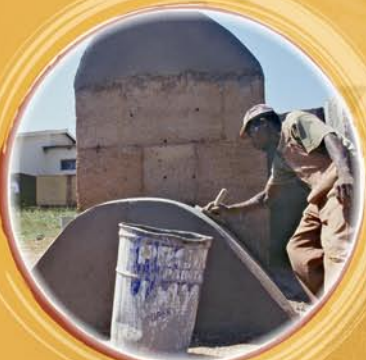


# Sanitation Job Creation



## A Guideline for Municipalities



Water Affairs and Forestry  
Provincial and Local Government



EXPANDED PUBLIC WORKS PROGRAMME  
CONTRIBUTING TO A NATION AT WORK



**Irish Aid**  
Government of Ireland  
Rialtas na hÉireann



National Youth Service

*NOVEMBER 2005*

## ACKNOWLEDGEMENTS

The 2003 Presidential Review highlighted job creation as one of the challenges facing government. This was followed by the development of Extended Public Works Programme guidelines and Municipal Guidelines for Job Creation in the delivery of sanitation services. This guideline document is primarily the result of interviews and consultations with various stakeholders – and we are grateful to every one of them. Their contributions towards finalisation of the guideline document has been invaluable.

We would like to make special mention of the following institutions for their contributions during the development of the guideline document:

**Department of Public Works**  
**Department of Provincial and Local Government**  
**South African Local Government Association**  
**Labour Job Creation Trust**  
**Umsobomvu Youth Fund**  
**Water Research Commission**  
**Development Bank of Southern Africa.**



## FOREWORD

The development aims of the South African Government and all role players concerned with the well-being of our country are the provision of minimum living conditions, economic development to eradicate poverty, and the creation of conditions for the maintenance of a healthy citizenship. The government's ambitious programme to provide adequate water services to all its citizens by 2010 is one of the key programmes that addresses these priority development aims. In particular the provision of sanitation services can be structured in a way that will improve the living conditions of all South Africans, create an environment for lowering health risks, and create sustainable employment opportunities for thousands of people who are currently unemployed.

This municipal guide sets out the key steps that municipalities must consider when planning the implementation and the operation and maintenance of sanitation services. If these steps are fully addressed on all sanitation projects, the objectives associated with the achievement of increased sustainable employment opportunities in conjunction with addressing improved living conditions and improved health. Although the delivery of sanitation services has always been associated with the creation of employment opportunities, the specific focus of this guide is to set out a process and strategy for significantly enhancing job creation on sanitation programmes both in terms of the number of people who can be employed, but also more importantly in terms of the sustainability of the employment that is created. In this manner the sanitation sector will be able to make a significant contribution to the job creation targets of the Expanded Public Works Programme.

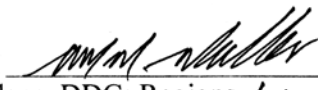
Municipalities responsible for the provision of sanitation services should use the "Guidelines for the implementation of infrastructure projects under the EPWP" along with the approaches as set out in this document. The EPWP Guidelines provide the overall framework for implementation of all infrastructure projects and are a condition on all MIG funded projects. This document compliments the EPWP Guidelines and provides specific approaches to all sanitation related EPWP projects. The approaches have been formulated after wide consultation with key role players in both the water services sector as well as with labour movements and other development agencies.

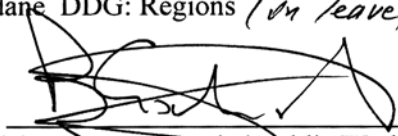


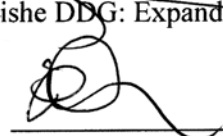
  
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**Minister of  
Water Affairs and Forestry**

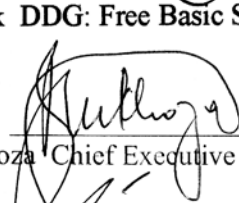



**The following organisations hereby commit themselves to collaborate at all possible levels to achieve the aims and outcomes of this document :**

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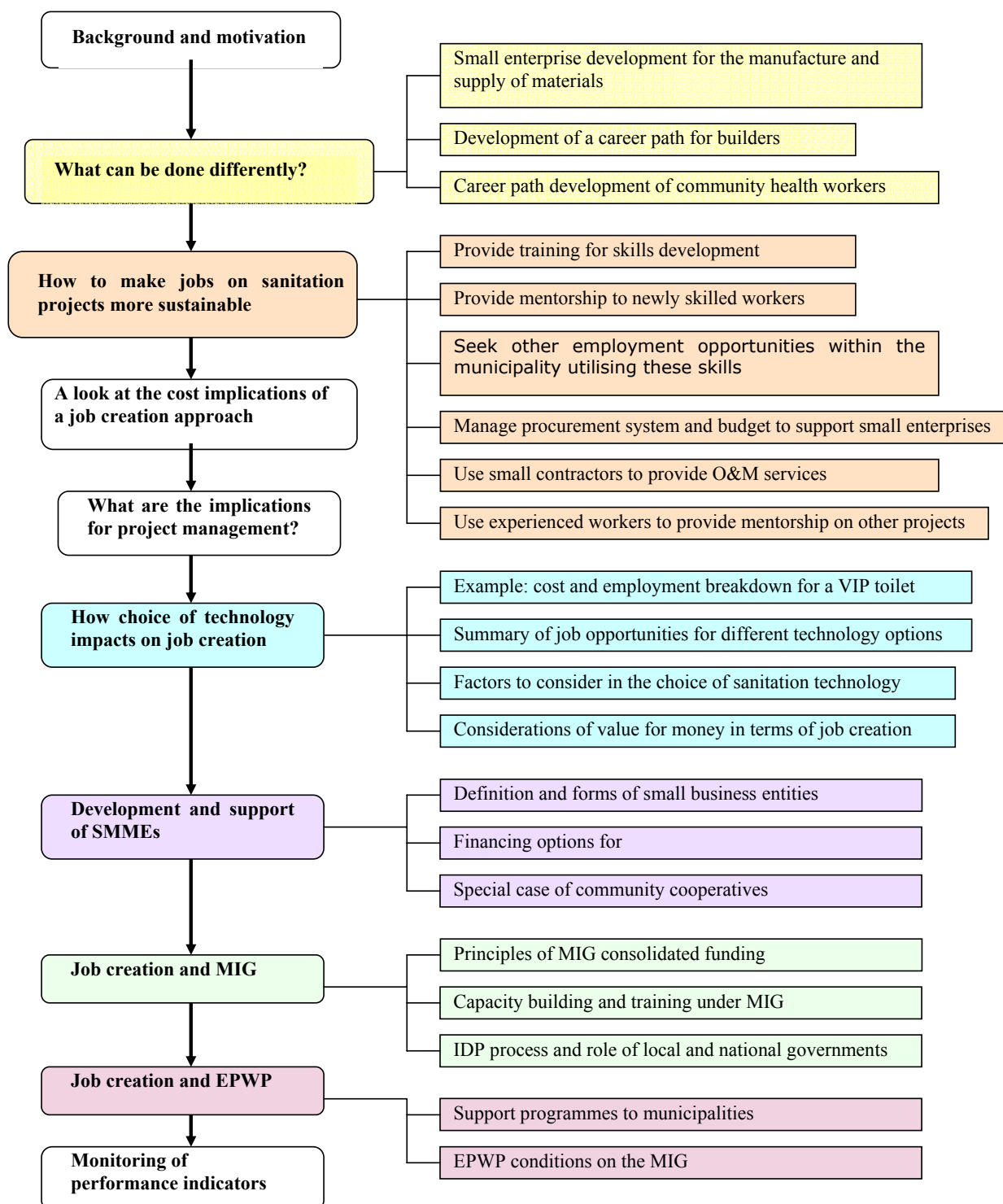
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## **Guide to terminology**

<b>CBPWP</b>	Community Based Public Works Programme (a programme of the Department of Public Works for the creation of employment on community asset projects)
<b>CHW</b>	Community Health Workers (usually local women that work part time providing primary health care advice and information to individual households as part of the hygiene education component of the sanitation project, or as an extension of the clinic's health education programme)
<b>CMIP</b>	Consolidated Municipal Infrastructure Programme (grant funding from central government (DPLG) to municipalities for the development of municipal infrastructure up to June 2004, particularly bulk infrastructure)
<b>DORA</b>	Division of Revenue Act, published annually in which the financial allocations and control measures for municipalities are set out.
<b>DPLG</b>	Department of Provincial and Local Government
<b>DPW</b>	Department of Public Works
<b>DWAF</b>	Department of Water Affairs and Forestry
<b>EPWP</b>	Expanded Public Works Programme
<b>GEAR</b>	Growth, Employment and Redistribution (economic policy of the South African Government adopted since 1996)
<b>IDP</b>	Integrated Development Plan (compiled annually by all municipalities)
<b>ETQA</b>	Education and Training Quality Assurance body (responsible for quality assurance of NQF programmes they have accredited)
<b>LED</b>	Local Economic Development programmes
<b>LGSETA</b>	Local Government Water and related services SETA
<b>MIG</b>	Municipal Infrastructure Grant (grant funding from central government (DPLG) to municipalities for the development of all basic municipal infrastructure from April 2004, including what was previously funded by DWAF)
<b>MITT</b>	Municipal Infrastructure Task Team, a coordinating body functioning at national level to facilitate cooperation between roleplayers dealing with municipal infrastructure
<b>NQF</b>	National Qualifications Framework (Training qualifications framework structure for the registration of all training modules and learnerships)
<b>O&amp;M</b>	The operation of the sanitation facility, the preventative maintenance and the maintenance to repair faults and breakages
<b>SALGA</b>	South African Local Government Authority
<b>SMME</b>	Small, medium and micro enterprises
<b>NSTT</b>	National Sanitation Task Team (a sanitation coordinating committee represented by key role players in the sanitation sector at national level)
<b>PMU</b>	Project Management Unit – a project support unit contracted to provide project management support to municipalities
<b>PSTT</b>	Provincial Sanitation Task Team (a voluntary coordinating committee represented by key role players in the sanitation sector at provincial level)
<b>SARS</b>	South African Revenue Services
<b>SETA</b>	Sector Education and Training Authority
<b>WSA</b>	Water Services Authority (municipalities with authority for all aspects of the provision of water services within their area of jurisdiction)
<b>WSDP</b>	Water Services Development Plan (compiled annually as an input to the IDP)

## The structure of the guideline



Municipal guideline on job creation in sanitation

## **1. The structure of the guideline**

This guideline is intended for sanitation project planners and managers, particularly those who are officials within local government structures. The guideline has been compiled following a detailed study of the creation of employment on sanitation projects, both during the implementation stage and during the operation and maintenance stage.

This guideline is structured to specifically provide key decision making information that can be used during the planning of sanitation projects to significantly enhance the creation of jobs on these projects. The guideline builds on the premise that the greatest sanitation challenge facing the country for the next six years is the provision of basic infrastructure to the poor who are currently not served, and for the next 15 years to ensure the effective operation and maintenance of the infrastructure.

The guideline therefore is structured to provide some brief background information on the importance of job creation and the potential for this within sanitation projects. The key issues are also identified. This is followed by sections that address specific issues of sustainability, costs and economics, management, choice of technology and the development of SMMEs. These are the key sections of the guideline, but are kept brief with additional information being provided in the appendices where applicable. The last sections place job creation into the context of MIG and EPWP; the relevant policy principles for service delivery. Finally some possible indicators and reporting mechanisms for monitoring and learning lessons from each project are discussed.

Technology choice does have a significant impact on the creation of jobs in sanitation projects, but should not be seen as the sole criteria for making this choice. The general approach to technology choice has not been covered in detail in this document and it would be proper for municipalities requiring more information on technologies to refer to the relevant DWAF guidelines on technology choice.

## **2. The importance of job creation in sanitation projects**

The Presidential Review report of 2003 highlighted the creation of employment opportunities as one of the most pressing challenges facing South Africa today. The high rate of unemployment affects almost all aspects of everyday life in our country, not least being the ability of municipalities to grow and provide a high level of services to its citizens. As a response to this challenge the government initiated the EPWP which has a strong focus on the creation of jobs through the delivery of government infrastructure. The EPWP requires that job creation is considered every time a new programme, enterprise or project is conceptualised and planned. The delivery of sanitation is one such programme. By placing a strong emphasis on job creation in sanitation programmes, sanitation projects will provide increased benefits to the communities they are designed to serve, and hence encourage a demand responsive approach which facilitates sustainability of services. With respect to the current situation in South Africa, there are some key factors that increase the importance of job creation within sanitation projects. These include the following:

### **2.1 Sanitation will be a major budget item for many municipalities**

Most municipalities will be investing significant funding into the provision of sanitation services to residents that are currently un-served, or are served with facilities that are considered not acceptable for health and convenience reasons. A percentage of MIG budgets for the period 2004 to 2007 are targeted for basic water supply and sanitation infrastructure development. The target for provision of sanitation facilities to all residents is March 2010, and for many municipalities the provision of sanitation will become one of the largest service provision programmes within the municipality.

### **2.2 Employment on sanitation projects leads to sustainable jobs**

In the past sanitation projects were not considered to be major opportunities for job creation because the provision of basic on-site facilities does not involve the digging of trenches where a large number of people can be employed. However sanitation has the potential to create more sustainable employment opportunities where people employed will learn skills that they can use to either develop and maintain their own small business, or tender for work on other projects. In addition employment on sanitation projects may last for a longer period than with other infrastructure projects, and hence the skills learnt can be thoroughly practised before the employees must use their skills to obtain other employment.

### **2.3 Municipal infrastructure projects are one of the main methods of job creation in the South African context**

In line with the EPWP, municipal infrastructure development is one of the main vehicles of government to create jobs for the unskilled and unemployed. Hence all municipal infrastructure projects should be structured to maximise job creation. More specifically, the use of the EPWP Guidelines on all MIG funded projects is a clear condition on the MIG as set out in the schedules attached to the Division of Revenue Act. Where these jobs can also lead to sustainable employment through the development of skills, the indirect benefits are even greater. The development of small builders, small contractors, and SMMEs around the supply of materials and services will meet many of the objectives of government in terms of poverty relief. It will also result in the availability of small enterprises with

relevant skills and capacity at a local level to provide services to many other municipal projects such as housing, roads and storm water, and community facilities.

Experience in some municipalities has demonstrated the cost effectiveness and benefits of adopting a strong job-creation focus in the delivery of basic sanitation services.

### **3. What can be done differently to create more jobs on sanitation projects**

A number of jobs are already created on sanitation projects being implemented within municipalities. However by adopting new approaches, additional jobs can be created and the current and additional jobs can become more sustainable. In line with the EPWP, the first step for municipalities is to ensure that the EPWP Guidelines are used to adapt all relevant contract documentation. This will ensure that there is a contractual requirement that all activities that can be done labour –intensively must be done so. In addition to maximising the use of labour intensive construction methods the following approaches should also be adopted:

#### **3.1 The manufacture and supply of materials by small enterprises**

There may already be small enterprises within the community that are manufacturing cement blocks for building, but this is often not sufficient and/or the quality is not acceptable for the requirements of the project. Hence with additional support brick or block making can be developed as single or multiple enterprises within the community. There may be additional constraints to address such as the availability of suitable sand and water close to the brick yards. The supply of these may result in additional peripheral jobs such as transportation.

In addition there are possibilities for the manufacture of additional materials used on the project, such as timber doors and concrete pedestals. The manufacture of these is generally not a local skill, but people can be trained within a short period to manufacture these items to an acceptable quality. Other components that can be manufactured locally depending on the choice of technology are hand washing facilities, manhole covers, concrete manhole rings and pre-cast panels for toilet walls and roofs.

Alfred Nzo District Municipality in the Eastern Cape has established manufacturing yards in each of the settlement zones of the district. These yards employ local people from each ward to manufacture blocks, floor slabs and roof slabs. In some cases pedestals are also manufactured.

Finally materials that cannot be manufactured at a local manufacturing yard could still be supplied to the project from local materials suppliers. These suppliers may be existing commercial enterprises, or simply a local resident with sufficient storage space and an acceptable credit rating with the bank. This may increase the cost of the materials slightly, but also usually results in a reduction in management costs.

It is estimated that for basic sanitation technologies, the monetary value of the provision of materials

that can be manufactured locally is at least equal to the monetary value of the employment related to building of the facilities.

### 3.2 The development of a career path for builders

Builders will be more inclined to develop and maintain a high level of quality in their building if they are able to see possibilities of developing this as a career in the longer term. It will also attract more people to want to become builders, and improve the sustainability of the builders' employment. Thus career path development can and should be implemented on sanitation projects, even if only in a small way.

There are two approaches to the building of the latrine structures that have been successfully employed in South Africa. The first is where a builder builds each complete structure before moving on to the next unit. The second approach is where small building teams build specific elements of the structure only. Both of these approaches lend themselves to the establishment of career paths for builders.

#### i) Builder builds complete structure

Where a builder is contracted to build a complete structure, the career path development can take the following approach:

Builder's assistant > Small builder > Small contractor > Contractor

Position	Main Function	Payment Rate*
Builder's assistant	Mixing concrete and mortar, supply of materials to where needed, cleaning of equipment, assembling and stripping formwork.	R50 – R60/day
Builder	Lining of pits, casting and placing slabs, building walls, roof and installing pedestal, door and vent pipe	R75 – R90/day
Small contractor	Control of 2 to 3 builders, quality assurance and teaching builders, supply of materials to site, compilation of requisitions, reports and claims for the builders and materials	R100 – R150/day
Contractor	Management of all construction work on a project, including procurement of materials, commissioning of builders, quality assurance, compilation of reports and claims, liaison with client and community structures.	On a task basis – may be 5-8 % of construction budget.

Ethekwini Metropolitan Municipality in KwaZulu/Natal has successfully implemented this programme.

*\*Note that labour on all EPWP projects should be employed under the Code of Good Practice for Special*



*Public Works Programmes. This code allows the public body to set the minimum wage on the project and allows for task based payments to labourers.*

**ii) Small builder teams construct components only**

Where small builder teams build specific elements of the structure only. For a VIP construction programme, the tasks may be lining of the pit, casting the slab, construction of the walls, carpentry (roof and door), pedestal and vent pipe, hand-washing facility and finishing off. The career path development can take the following approach:

Assistant > Task leader > Small contractor > Contractor

Note that the team members should be rotated between tasks every two or three months so that they gain all the skills of construction by the end of the project.

Position	Main function	Payment rate*
Assistant	Mixing concrete and mortar, cutting timber to size, supply of materials to where needed, cleaning of equipment, assembling and stripping formwork.	R50 – R60/day
Task leader	Fully responsible for one of the tasks: Lining of pits, casting and placing slabs, building walls, installing roof and door (carpentry), installing pedestal and vent pipe.	R75 – R90/day
Small contractor	Control of small builder teams, including quality assurance and teaching, supply of materials to site, compilation of requisitions, reports and claims for the builders and materials	R100 – R150/d
Contractor	Management of all construction work on a project, including procurement of materials, commissioning of builders, quality assurance, compilation of reports and claims, liaison with client and community structures.	On a task basis – may be 5-8 % of construction budget.

*\*Note that labour on all EPWP projects should be employed under the Code of Good Practice for Special Public Works Programmes. This code allows the public body to set the minimum wage on the project and allows for task based payments to labourers.*

A project using this approach has been implemented in the OR Tambo district of the Eastern Cape.

### **3.3 Linking community health workers with municipal and district health programmes**

Community health workers (CHWs) are usually employed to carry out a substantial part of the health and hygiene awareness programme that is linked to the sanitation projects. This employment can be greatly enhanced if the CHW is also connected to the Municipal Health Services and/or the District Health System. Besides being trained to provide basic sanitary health and hygiene awareness, they could then also be employed to provide other health awareness services such as HIV/AIDS, nutrition, childcare and immunisation. In this way the employment of the CHWs will extend beyond the sanitation project time frame, providing ongoing employment for the local CHWs, and creating opportunities for more people to be employed as CHWs.

## 4. How to make job creation more sustainable

Job creation becomes more sustainable when the people employed are able to continue to be employed after the project is completed.

In terms of jobs created, sustainability refers to four aspects.

- the permanency of the specific job within the delivery of sanitation services to the community served by the project (during the O&M phase);
- the possibility of the employee or contractor obtaining work on other sanitation projects not within his or her own community;
- the possibility of the employee or contractor being able to use their skills to obtain employment in other sectors (e.g. housing) and
- the potential of the small enterprise to continue operating and obtaining business within the community (e.g. the supply of blocks, as a builder or carpenter, supply of building materials).

The following steps can be taken to create optimum conditions for the jobs created on the sanitation projects to be more sustainable:

### 4.1 Provide training opportunities

Proper training should be provided to all people employed on tasks that are more than just labour. Where possible, this training should also be accredited by the relevant ETQA. Training provides skills and background knowledge to the trainees that they would not necessarily obtain from just working alongside a more experienced worker. Proper training also provides the trainee with a relevant certificate that can help them to build up their own portfolio of skills and qualifications for when they may seek employment after this project is completed. Some may go on to enter a full learnership or other programme and achieve a higher qualification in a particular field of study. Currently unit standards have been compiled and are offered within the sanitation sector for NQF levels 1, 2, 3, 4 and 5. These unit standards cover subjects for building practitioners, health workers, supervisors, programme facilitators and project managers. In order to support the roll-out of the EPWP, the Construction SETA has also put in place unit standards focusing on the use of labour intensive construction methods at NQF levels 2, 4, 5 and 7. Some of these unit standards also focus specifically on water and sanitation.

### 4.2 Provide adequate mentorship

The municipality should ensure that an adequate mentorship programme is established for all new jobs created where the employees have learnt new skills. Mentorship promotes a high standard of work, improves the skills of the workers, and creates confidence in their abilities. Mentorship may be provided by the municipality itself, and/or from the following role players:

- The appointed Implementing Agent or Project Agent as part of their contract;
- A community member who has the necessary skills and experience;

- Provincial authorities that have the requisite skills and are operating in the area (e.g. district health officials);
- Another small enterprise undertaking related activities (in the case of material manufacturers and suppliers);
- A member of the local project steering committee; or
- A person specially contracted to provide this service.

It is generally agreed that a good mentorship programme that follows up on training is invaluable for improving the value of the outputs of the worker.

#### **4.3 Explore and create opportunities for using the workers on other municipal projects**

Within the current climate of development at local government level, there could be a number of other opportunities to utilise the skills developed on the sanitation projects within the municipal infrastructure and services delivery programmes. Examples include the following:

- Employing builders on low cost housing programmes, building of community halls, sports facilities, and commercial stalls;
- Purchasing materials from local suppliers for low cost housing projects, community halls, commercial developments, etc.
- Employing community health workers on other health programmes, e.g. cholera interventions, HIV/AIDS awareness, etc.

The municipality should create a register of all skilled workers and small suppliers used on the projects, and provide further opportunities to these on a rotational basis as and when new projects are commissioned. The use of this register should be a requirement of all contracts issued to consultants and contractors on larger projects. An integrated employment strategy should be developed at Municipal level in order to address these issues.

#### **4.4 Plan and manage municipal budgets to minimise interruptions in project cash flow**

Many small contractors and enterprises leave small towns and rural areas to seek work in the larger towns and cities because they cannot survive the stop-start nature of funding from local government projects. Improved planning, budgeting, and cash-flow management will greatly enhance the viability of these businesses and encourage them to stay and continue to provide their services within the smaller municipalities.

#### **4.5 Use small contractors within communities to provide O&M services**

O&M of sanitation schemes should begin as soon as the scheme or parts of the scheme become operational. Although many of the O&M tasks may be carried out by households, particularly with on-site sanitation systems, there will always be a need to provide some support services to ensure that the schemes are operated effectively. This includes tasks such as:

- pit management (emptying when full, maintaining surface slab to prevent insect breeding, advising on the need for water addition if too dry, etc)
- maintaining hand washing facilities

- maintaining water flush systems (Loflos and full-flush toilets)
- emptying septic tanks and digesters as required
- management of the procedures for the treatment and disposal of faecal sludges
- maintaining pipelines and clearing blockages
- providing ongoing hygiene education linked to sanitary surveys

The funds for the payment of these small contractors should be sourced from water and sanitation tariffs, and from the equitable share where the poor cannot afford the tariffs.

#### **4.6 Use trained and experienced workers from one project to provide mentorship services on other projects**

The importance of mentorship has already been emphasized. When a project is nearing completion, the best builders, material manufacturers, and contractors should be identified and employed as mentors on new projects being implemented nearby.

#### **4.7 EPWP Contractor learnership programme**

In partnership with the Construction SETA (CETA), the Department of Public Works has established a contractor and site supervisor learnership programme that trains individuals and emerging contractors on the use of labour intensive construction methods. Participation in this programme requires Municipalities to allocate training projects to these contractors and site supervisors so that they can complete the practical component of their learnership. For more information on this programme municipalities are encouraged to contact the EPWP Unit in the Department of Public Works.

#### **4.8 Broad Based Empowerment**

The establishment of SMME's should not result in the creation of a new elite in communities to the disadvantage of other members. Municipalities should encourage the formation of partnerships in order to ensure that more people benefit from the employment opportunities created on sanitation projects. The establishment of cooperatives in communities could be a vehicle for achieving a more equitable allocation of jobs, and should also be investigated. Section 8 deals with this in more detail.

## **5. The cost implications of enhancing job creation on sanitation projects**

There are cost implications associated with the enhancement of job creation on sanitation projects. These may or may not be associated with cost savings on other components of the projects. The additional costs will be for the following tasks:

- Community liaison (but this is usually a component of all household sanitation projects)
- Establishment and ongoing management of a “labour desk” within the community management structure
- Provision of accredited training (training is already a component of most sanitation projects)
- Provision of mentorship services
- Facilitation of the establishment, training and quality control of community based materials manufacturers
- Creating a post or sub-function for employment creation within the municipal structure
- Bridging finance to fund community health workers to become active participants in the municipal and district health programmes
- Additional O&M costs to support small community based contractors

These costs may amount to 10 to 15 % of project costs, or more for small projects. However the longer-term benefits are of significantly more value.

However there are other possible sources of funding to cover the additional costs associated with job creation. These include local LED funds, the provincial Department of Local Government’s Capacity Building fund (for municipal staff), SETA funding, and municipal tariffs.

## **6. Additional management tasks when job creation is a key component of sanitation projects**

Commissioning service delivery projects that focus on the creation of employment opportunities places an additional demand on the management of the projects, and includes a stronger institutional focus on such things as monitoring, support and cash-flow management. Many municipalities may not have the institutional capacity to provide the required additional management tasks, and will need to contract these out to support implementing agencies or enter into partnerships with other municipalities or provincial support institutions. This should be clearly linked to the activities of the PMU's that are established within Municipalities for the implementation of the MIG programme.

Management tasks of relevance in employment focussed sanitation projects include the following:

- Management of budget and cash-flow to ensure small enterprises do not wait longer than necessary for payment (preferably 2 weeks maximum)
- Ongoing monitoring and promotion of job creation in all projects
- Development and use of appropriate contract documentation that ensures sufficient attention to job creation while maintaining acceptable quality
- Managing an appropriate communications system that provides relevant information at project level and reports to provincial authorities on the achievements and lessons in job creation. Municipalities must consider developing a newsletter to report on MIG programme implementation to all their stakeholders.
- Facilitating or ensuring that training programmes are properly structured and that trainees are followed up.
- Managing a mentorship programme.
- Structuring appropriate procurement systems such that small enterprises can more easily meet the tender requirements.
- Creating opportunities for post project contracting of the small builders, contractors and material suppliers.

These tasks could be undertaken by existing municipal officials, a new job creation post established, or partly contracted out to service providers.

## 7. How choice of sanitation technology impacts on job creation

The number of jobs that can be created within the local community using unemployed and under-employed people is dependent on the technology that is chosen. As a general rule, the closer the technology is to basic sanitation, the more jobs can be created within the local community. This is illustrated in the breakdown of costs for a basic VIP latrine, where some 75% of the construction budget could be spent within the local community.

### 7.1 Cost breakdown of basic sanitation facility

The cost of constructing a standard VIP toilet is estimated as follows (based on a survey of actual costs undertaken during 2004):

**Table 7.1: Approximate costs for construction of VIP toilets**

Type of Toilet	Builder/labour costs	Materials costs	Total	Possible maximum cost
Brick construction 3m lined pit	R730	R1,538	R2,268	R2,685
Block construction 3m lined pit	R730	R1,283	R2,013	R2,445
Archloo construction 3m block lined pit	R780	R1,223	R2,003	R2,480
Least cost option 2.2m plaster lined pit with block superstructure	R675	R1,213	R1,888	

These costs may be broken down further into labour and material costs. Estimates for a standard block VIP latrine are given below.

**Table 7.2: Labour activity and cost for a standard VIP**

Labour activity	Labour only	Semi-skilled	Cost
Digging pit	2 days		R100 – R150
Lining pit	1 days	1day	R150 – R180
Casting slab	¼ day	¼ day	R 50 – R70
Walls	½ day	½ day	R 80 –R100
Roof + door	½ day	½ day	R 80 – R100
Vent, pedestal + finishing	¼ day	¼ day	R50 – R70
<b>Total labour</b>	<b>4½ days</b>	<b>2½ days</b>	<b>R610 – R670</b>
Contingency	¼ day	¼ day	R60



**Table 7.3 Materials for a standard VIP that could be manufactured locally:**

<b>Latrine component</b>	<b>Materials</b>	<b>No. of units</b>	<b>Costs</b>
Pit lining	Bricks/blocks	80 blocks or 300 bricks	R270 – R400
Walls	Bricks/blocks	100 blocks or 350 bricks	R340 – R470
Door + door frame	Wood + hinges & latch	1	R150
Pedestal	Blocks or moulded concrete	1	R100
<b>Total locally manufactured materials</b>			<b>R860 – R1,100</b>

This illustrates that the value of jobs that can be created in the manufacture of materials locally is at least as much as the value of jobs created directly on construction. The input cost for the manufacture of the materials required (cement, timber, sand) is estimated to be not more than R250 per latrine. This excludes the materials that cannot be manufactured on site such as the roofing, vent pipe, toilet seat, etc.

## **7.2 Employment associated with different sanitation technologies**

In a similar way costs can be estimated for the other sanitation technology options. It should be noted, however, that these are guide values only and municipalities should undertake their own detailed assessments of estimated manpower activities on projects within their areas in order to make a reasonable estimate of the potential for job creation on their specific projects.

The summary below is based on the provision of new toilets to a community of approximately 500 households or 3,000 people (6 persons per household).

**Table 7.4: Job opportunities in the construction of sanitation facilities**

Sanitation System	Skilled person days	Semi-skilled person days	Labour only person days	No. semi-skilled jobs for longer term employment	No. of labour jobs targeting the poor	Value of jobs as % of total cost	Approximate value of peripheral jobs as % of material cost
VIP latrine		3,000	4,000	15	± 45	± 34 %	± 65 %
UDS latrine		3,000	3,500	10	± 30	± 30 %	± 55 %
Aquaprivy		4,500	6,500	25	± 65	± 42 %	± 60 %
Flush with septic tank and adsorption trench	1,500	6,000	11,500	30	± 120	± 30 %	± 30 %
Flush with septic tank, solids free sewer and pond treatment	1,250	3,625	6,875	25	± 90	estimate of 25%	± 20 %
Flush with water-borne sewerage and bio-filters treatment	3,500	2,500	5,500	40	± 120	± 35%	± 10%

**Notes:**

1. Installing full flush sanitation will often require additional costs associated with the supply of house water connections. These costs and the associated employment opportunities have not been included in these estimates.
2. Only labour and some semi-skilled jobs will result in local employment opportunities. The remaining semi-skilled and the skilled jobs will generally be contracted outside of the local community.
3. Ongoing operation and maintenance employment opportunities (i.e. the longer-term employment) are broadly estimated on the assumption of regular pit emptying, emptying of septic tanks, and operation and maintenance of the treatment works. These may vary considerably from these estimates depending on local circumstances.
4. The peripheral jobs estimate is based on the manufacture of materials such as bricks, blocks, doors and pedestals that could be carried out within communities. If there is no programme to facilitate local manufacturing, these will need to be purchased outside of the community.

## 7.3 The Choice of Technology

The choice of sanitation technology is based on a number of issues, only one of which is the level of local employment creation. However, local employment should be one of the fundamental considerations when selecting a technology. The following table indicates some of the key considerations when selecting the most appropriate sanitation system for a community.

**Table 7.1: Factors to consider in the choice of sanitation technology**

Selection criteria	Relative importance to job creation	Other comments
Capital cost	Employment related to what proportion of capital cost can be used for the creation of jobs in the local community.	Must be affordable within municipal budget and enable 2010 target to be achieved
O&M cost	Higher costs often lead to more jobs	Must be affordable as a monthly household tariff
Community acceptability	Status of employment is significantly increased if the technology and design is acceptable to the community	Proper community liaison and sharing of information allows realistic decision making within communities on acceptable technologies
Environmental impact	Minimal importance	Requires proper attention to requirements of the groundwater protocol
Availability of water	In areas where sufficient water is not available for construction, community members may be employed to transport water	May limit choice of technology to dry sanitation systems
Political influence	Less local jobs may be possible where high levels of service are demanded by politicians	Ensure politicians are fully informed of full implications of choice of sanitation systems
Economic impact	Significantly more local economic development with certain technologies, especially on-site sanitation.	The economic impact can be enhanced by strongly promoting local manufacture and supply of materials
Potential for job creation	Key aspect	This should be a key consideration in all selection criteria
Institutional capacity	Job creation is unlikely to be high on the priority of contractors unless specifically required and monitored by the municipality	Capacity can be contracted from experienced service providers or sourced from provincial government
Conditions of the local terrain	In cases of substantial hard rock, it will be necessary to use machinery and hence less options for local employment	Hard rock, high water tables, steep or very flat slopes all affect the suitability of different technologies

The relative weights of the criteria should be determined by the planners prior to selecting a particular technology. Based on this a selection process should then be undertaken for each project, rather than just accepting one solution for all.

New technologies that are promoted by entrepreneurs and researchers should likewise be tested against these criteria rather than just accepting their promotional presentations.

## 7.4 Value for money in terms of job creation

The economic impact related to choice of technology should be considered in terms of the value of the total investment for creating local jobs for the currently unemployed.

The following model (economic assessment of job creation model) may be used:

### **Model for the Economic Assessment of Job Creation**

The model assesses the economic value of jobs created on sanitation projects using the VIP as a standard. The model assesses the following parameters:

- Value of direct employment on construction (corrected to the cost of a VIP)
- Value of all local employment (corrected to the cost of a VIP)
- Value of sustainable employment (corrected to the cost of a VIP)
- Value of peripheral local employment (corrected to the cost of a VIP)
- Value of long-term direct employment (corrected to the cost of O&M for a VIP)

The calculations of the value are based on the % budget used for labour. The correction for VIP means that the % is corrected by the capital (or O&M) cost of a VIP divided by the capital (or O&M) cost of the selected technology.

Application of this model to different sanitation technology options gives the following comparative model indicators:

Sanitation system	Construction					O&M
	Indicative Capital Cost	Value of construction employment (note 1)	Value of all employment (note 2)	Value of sustainable employment (note 3)	Value of peripheral local employment (note 4)	Value of long-term direct employment (assuming a project of 1000 hh) (note 5)
VIP latrine	R2,700	18.0	48.0	45.0	50	1.0
UDS latrine (Eco-san)	R3,200	10.8	44.2	43.3	29.2	0.5
Aqua-privy	R3,500	11.5	29.2	28.5	42.3	1.0
Flush with septic tank and adsorption trench	R6,500	12.5	27.1	25.0	12.5	0.95
Flush with septic tank, solids free sewer and pond treatment	R7,000	12.3	23.8	21.1	13.5	1.0
Flush with waterborne sewers and high level treatment	R8,500	4.7	10.9	10.9	6.3	1.1
Proprietary VIP type systems	R5,000	7.3	11.6	8.9	10.5	1.0
Proprietary Eco-San system	R5,000	7.3	11.6	8.9	10.5	0.5
Proprietary aqua-privy system	R5,000	7.3	11.6	8.9	10.5	1.0

**Table 7.2: Indicative economic value of job creation for different sanitation technologies at 2005/06 financial year excluding inflation**

**Notes:**

1. The value of construction employment is an indication of the total employment created on the construction of the latrines, both as labourers and as more skilled builders and contractors. Higher values indicate a greater level of employment for each rand spent, with target values being in the range of 12 to 20.
2. The value of all employment is an indication of the total potential employment that could be created on construction and in small local enterprises if the project focussed on the establishment of small manufacturers to produce the basic materials required on the projects (bricks, blocks, doors, pedestals). Higher values indicate a greater level of employment for each rand spent, with target values being in the range of 25 to 50. The figures indicate that potential employment within small enterprises could significantly increase the level of employment on sanitation projects.
3. The value of sustainable employment is an indication of the potential for a longer term impact on employment through the development of marketable skills and/or materials manufacturing capacity that could be created if the project focussed on training and the establishment of small manufacturers to produce the basic materials required on the projects. Higher values indicate a greater level of sustainable employment for each rand spent, with target values being in the range of 25 to 50.
4. The value of peripheral local employment is an indication of the additional potential for job creation through the purchasing of materials from small local suppliers. Although this may not result in any additional jobs being created, it could enhance the skills and viability of existing jobs in the community. Higher values indicate a greater level of peripheral employment for each rand spent, with target values being in the range of 25 to 50.
5. The value of long term direct employment is an indication of the potential jobs created for the operation and maintenance of the sanitation schemes. Higher values indicate a greater level of employment for each rand spent on O&M, with target values being in the range of 0.5 to 1.2.

## 8. The impact of institutional approaches on the creation of jobs

The provision of sanitation services may be undertaken through different institutional models. The model used may have different impacts on the creation of short, medium and long-term job creation on the programme, as well as in terms of the efficiency and effectiveness of implementation. However it should be cautioned that not all models are applicable in all situations, as they are usually dependent on the capacity, experience and resources available to the respective parties in each case.

The models described in table 8.1 below may be considered as applicable for different circumstances in South Africa. Other options or combinations of the above options may be considered depending on the circumstances and the capacity, skills and experience of existing organisations.

Generally municipalities have little choice on the institutional model they may adopt due to their own capacity constraints. However the table does indicate steps that could be taken to improve the sustainability of job creation when a particular model is adopted.

**Table 8 Sanitation Implementation Institutional Models**

Implementation Model	Description	Typical Circumstances	Possible Impact on the Creation of Jobs
1. WSA acts as Implementing Agent and ongoing service provider.	Municipality (WSA) plans and implements all projects, only appointing external consultants and contractors to undertake specific non-management tasks	WSA has significant in-house capacity and/or local private sector consultants or NGO's lack capacity and experience	<p><b>Improved job creation due to:</b></p> <ul style="list-style-type: none"> <li>• Longer term sustainability of jobs since those skilled on the sanitation projects can be readily incorporated into other components of the municipality's service delivery programme</li> <li>• Less job insecurity (from stop-start nature of many government projects) since project funding is controlled by municipality and hence project interruptions can be minimised</li> <li>• More flexibility to rapidly adjust the project to cater for local issues</li> </ul> <p><b>Disadvantages in terms of job creation because:</b></p> <ul style="list-style-type: none"> <li>• All job creation is aimed at the lower level (up to small contractor level only)</li> <li>• Jobs are geographically confined to the specific municipal boundaries</li> </ul>
2. WSA acts as Implementing Agent but contracts out the Project Agent function	Municipality (WSA) contracts out the functions of the project agent (PA) to external specialists	WSA does not have sufficient in-house capacity or skills, and the available local agencies (private sector or NGO) have both capacity and experience	<p><b>Improved job creation due to:</b></p> <ul style="list-style-type: none"> <li>• Some longer term sustainability of jobs since those skilled on the sanitation projects can in some cases be incorporated into other projects within the municipality's service delivery programme</li> <li>• Less job insecurity since project funding is controlled by municipality and hence project interruptions can be minimised</li> <li>• More focus on the development of entrepreneurs (and hence self employed SMME's)</li> <li>• Opportunity for some higher-level job creation or additional skills development within the functions of the project agent</li> </ul> <p><b>Disadvantages in terms of job creation because:</b></p> <ul style="list-style-type: none"> <li>• Many jobs will be short term (single project)</li> <li>• Most jobs are confined to the specific project boundaries</li> <li>• Level of skills transfer may be less due to the constraints and inflexibility of the contract</li> </ul>
3. WSA contracts out both the role of Implementing Agent and the Project Agent	Municipality (WSA) contracts out the functions of the Implementing Agent (IA) and the IA appoints a project agent (PA).	WSA does not have sufficient in-house capacity or skills, and the available local agencies (private sector or NGO) have both capacity and experience	<p><b>Improved job creation due to:</b></p> <ul style="list-style-type: none"> <li>• More focus on the development of entrepreneurs (and hence self employed SMME's)</li> <li>• Larger contracts given out for emerging contractors</li> <li>• Opportunity for some higher-level job creation or additional skills development within the functions of the project agent</li> </ul> <p><b>Disadvantages in terms of job creation because:</b></p> <ul style="list-style-type: none"> <li>• Many jobs will be short term (single project)</li> <li>• Most jobs are confined to the specific project boundaries</li> <li>• Jobs may be stop-start due to fluctuations in funding allocations</li> <li>• Level of skills transfer may be less due to the constraints and inflexibility of the contract</li> </ul>
4. Local Municipality contracted as Implementing Agent (Public-Public Partnership)	The WSA may contract a local municipality to act as implementing agent for the project	Local municipality has capacity and skills, and/or WSA wishes to build the capacity of the local authority	As for option 2 where the WSA acts as implementing agent

## 9. Development and support of SMMEs as a vehicle for job creation

In sanitation programmes, there are many opportunities for starting small businesses. These businesses can be owned individually or by the community as a whole (broad-based empowerment). Although in some Municipalities, small businesses have been established in the delivery of sanitation services, more still needs to be done in terms of the legal and financial requirements of those entities. This section will briefly detail the types of companies and some of the considerations in promoting and supporting their establishment. A key requirement however is that a structured entrepreneurial mentorship programme must be implemented to ensure quality and sustainability.

### 9.1 Definition of a small business

The definition of small business (according to the National Small Business Act) is any enterprise with less than 200 employees, an annual turnover of less than R20m, and a total asset value of less than R5m. However for the small businesses that can be developed and supported on sanitation projects, the classification would fit into the very small and micro categories which are defined as follows (for community enterprises):

Size or class	Total full-time equivalent of paid employees Less than	Total annual turnover Less than	Total gross asset value (fixed property excluded) Less than
Very small	10	R1m	R0.5m
Micro	5	R0.15m	R0.1m

In helping to establish small enterprises, it is important to take note of the legal and regulatory requirements for their establishment. This does not necessarily mean that by registering businesses they will be required to pay high taxes and fill in lots of forms each month. On the contrary, businesses that are registered but where employees earn less than the amount stated annually by SARS do not pay any personal or company tax, and may even qualify for certain types of support.

### 9.2 Forms of Business Entities

Choosing the legal form of business has significant impact on the complexity of regulatory compliance necessary, the amount of tax to pay, the extent of personal liability for debt incurred and whether financial institutions are more or less likely to provide finance. It is therefore important to understand what options exist, and to select the best form for each particular venture. The options are Sole Proprietor, Close Corporations, Companies with limited liability (Pty), co-operative businesses, and section 21 companies (i.e. not for profit). The latter form of enterprise may be the most relevant to many community based organisations as they are exempt from most tax requirements.



### **9.3 Financing for the start-up of small businesses**

Finding the finance for starting business may be the most challenging part in starting new businesses. In sanitation programmes, Municipalities might consider providing bridging finance for the SMME's coupled with intensive mentoring.

### **9.4 The special case of community based co-operative businesses**

There is increasing evidence that community based co-operative businesses are very successful particularly in more remote rural communities. In this case the business has community ownership rather than individual ownership, and benefits are shared within the community. Success in this approach has been experienced in pilot projects launched by the "Job Creation Trust".

## 10. How job creation fits into MIG

The Municipal Infrastructure Grant (MIG) is a conditional grant to support municipal capital budgets to fund municipal infrastructure and to upgrade existing infrastructure, primarily benefiting poor households. One of the conditions on the MIG is that projects are implemented using labour intensive construction methods in accordance with the EPWP Guidelines.

### 10.1 Consolidated Funding Programme

The MIG gives effect to earlier Cabinet decisions and policy positions on the establishment of a single consolidated funding mechanism to support municipal infrastructure. The MIG has been set up to merge the previous individual programmes that operated through DPLG, DWAF, DPW, and municipalities.

Municipal Infrastructure Task Team (MITT) has outlined the principles that underpin the design of the MIG as follows:

- *Focus on infrastructure required for a basic level of service;*
- *Targeting the poor;*
- *Maximising economic benefits* (ensuring local economic spin-offs such as employment creation and entrepreneurial development are maximised);
- *Equity in the allocation and use of funds* (equitable access to capital funds by the poor);
- *Decentralisation of spending authority within national standards* (municipalities make the decisions concerning projects within certain norms, standards and conditions, for example ensuring operating finance and management arrangements are in place);
- *Efficient use of funds* (ensuring the greatest possible improvement in access to basic services at the lowest possible cost);
- *Reinforcing local, provincial and national development objectives* (where the funding mechanism must be consistent with local, provincial and national planning processes, and emphasis must be placed on the selection of appropriate service levels);
- *Predictability and transparency* (Funds should be provided to individual municipalities on a three-year basis, consistent with medium term budgeting practice. It is also essential for municipalities and other stakeholders to easily understand how the funds are distributed.)

The delivery of sanitation services with a focus on job creation meets the requirements of many of these principles.

### 10.2 MIG Capacity building Programme

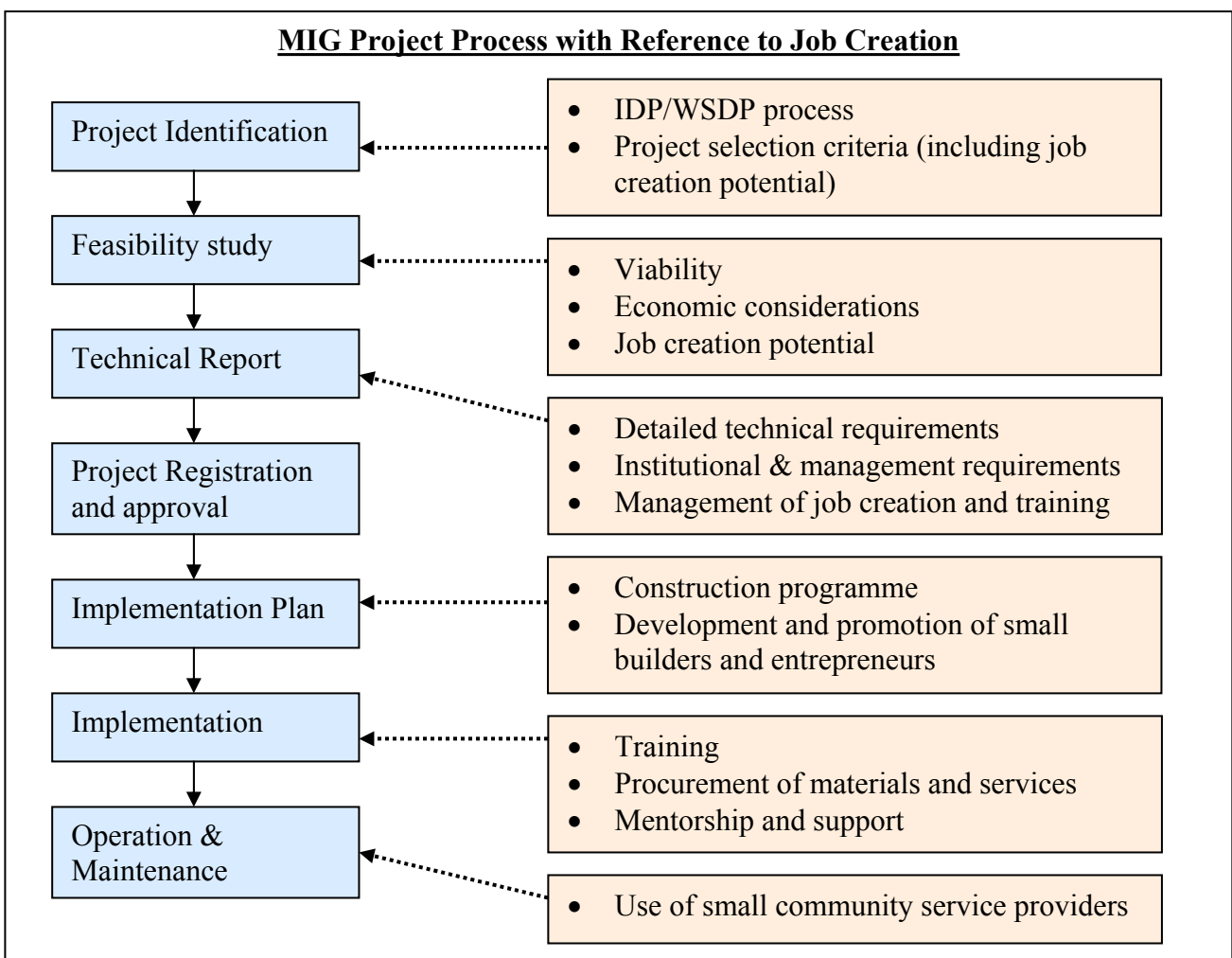
DPLG has the mandate and responsibility to ensure that a plan exists to build in-house capacity over the next two to three years to ensure that municipalities are capacitated so that they can manage this programme allowing for funding to flow directly to them.

### 10.3 Role of Municipalities

The MIG gives municipalities a central role in coordinating development activity and the delivery of municipal infrastructure within their jurisdictions. The MIG is focused on achieving a number of output conditions, including the achievement of service coverage targets, employment creation and linking Integrated Development Plans (IDPs) and budgets.

### 10.4 Role of National Government

The role of national government is to support, and monitor policy outcomes and regulate municipal infrastructure investments. Crucially, the policy reform around infrastructure grants will bring the grant system in line with the general direction and path of the intergovernmental system, which is focused towards improving the capacity, efficiency, effectiveness, sustainability and accountability of the local government sphere, and making IDPs the primary mechanisms for intergovernmental coordination.



## **11. How sanitation links with the Expanded Public Works Programme EPWP**

The EPWP Guidelines define the minimum construction activities that need to be done labour intensively on all EPWP projects. With regard to sanitation, the EPWP identifies excavation and trenching work to be the main activity to be done labour intensively. In addition to this, the EPWP Guidelines provide municipalities with a contractual framework for the implementation of EPWP projects.

The EPWP targets the following groups

- The Unemployed
- The Unskilled
- People not receiving grants
- Rural and Urban Poor
- Women and Men
- People with Disabilities

Mostly youth, as seventy percent (70%) of the unemployed in this country are youth

Sanitation projects are able to target these groups effectively.

### **11.1 EPWP support programmes for municipalities**

The Department of Public Works (DPW) has put in place a number of support mechanisms to assist municipalities with the implementation of the EPWP:

- An EPWP Unit has been established that is available to directly engage with municipalities and conduct briefing sessions and answer any queries with regard to the EPWP
- With the Department of Labour standard training programmes for EPWP beneficiaries have been established. This training is accessible to all workers on EPWP projects implemented in accordance with the EPWP Guidelines and consists of life skills, HIV AIDS awareness, managing personal finance and career guidance. These programmes can be accessed through the regional labour offices.
- The Construction Education and Training Authority (CETA) has already put in place unit standards registered on the NQF at levels 2, 4, 5 and 7. These will enable the training of engineers, government officials, contractors and site supervisors on labour intensive construction methods. Details on these training programmes are provided in annexure D of the EPWP Guidelines or can be obtained from the CETA.
- The level 5 & 7 programmes are currently being offered to municipal officials through a partnership with the Local Government SETA.
- The EPWP Contractor learnership programme referred to in section 4.8 is currently being rolled out and agreements for the implementation of more than 1500 learnerships have been signed to date
- DPW has developed a two day training programme on the use of the EPWP Guidelines that has been delivered in all municipalities and can be offered on request.

## **11.2 Infrastructure Sector**

In the Infrastructure Sector, the Expanded Public Works Programme conditions for the Municipal Infrastructure Grant (MIG) have been put in place via the 2004 Division of Revenue Act (DORA).

Through this mechanism, Provinces and Municipalities are required, as a minimum, to implement all projects suitable for the use of labour-intensive construction methods in accordance with the EPWP Guidelines. The Guidelines also assist municipalities in identifying which projects are suitable and which ones are not. The Department of Public Works (DPW) has requested the Auditor-General to monitor compliance with these conditions by Provinces and Municipalities.

## **11.3 How municipalities should respond to the EPWP**

Municipalities implementing sanitation projects should respond to the EPWP by using the EPWP Guidelines to tender and design EPWP projects so that these projects are implemented as labour intensively a possible. This document should be used as sanitation sector guidelines in support of EPWP guidelines.

## 12. Monitoring and reporting on job creation

A shortcoming of many previous programmes has been that there has been little monitoring and capturing of the impact and experience of different strategies and approaches. It is therefore strongly recommended that a monitoring and reporting system that monitors the employment aspects of the sanitation programmes be incorporated into municipal structures. A process for reporting and lesson learning should be linked to the monitoring system. Currently the MIG reporting system would be the key vehicle to achieve this.

The following performance indicators are proposed for monitoring and reporting on a quarterly basis, some of which have been included in the MIG reporting system. Furthermore the EPWP Guidelines make it a contractual condition for contractors and consultants that information on employment and training is collected and reported upon. Contractors and consultants should be required to report to municipalities in the EPWP reporting template which can be obtained electronically from the EPWP website: [www.epwp.gov.za](http://www.epwp.gov.za).

**Table 12.1 Suggested Performance Indicators for Job Creation on Sanitation Projects**

Performance indicator	Responsibility for collecting data	Relevance of indicator
<b>Compulsory Indicators</b>		
Number of construction jobs created	Implementing agent	Indicates jobs created that are potentially sustainable
Number of person-days of employment created	Implementing agent	Indicates impact of project on local unemployment
Minimum daily wage	Implementing agent	Indicates impact of project on household income of those employed
Number of women employed	Implementing agent or municipality	Indicates adherence to government policy
Number of youth employed	Implementing agent	Indicates adherence to government policy
Number of handicapped employed	Implementing agent	Indicates adherence to government policy
Number of person-days of accredited training courses	Implementing agent or municipality	Indicates relevance and importance of training
Number of person-days of non-accredited training	Implementing agent or municipality	Indicates relevance and importance of training
<b>Suggested additional indicators:</b>		
Number of small enterprises established	Implementing agent or municipality	Indicates value of employment around the supply of materials
Number of existing small enterprises supported	Implementing agent or municipality	Indicates value of employment around the supply of materials
Number of health and hygiene workers employed	Implementing agent	Indicates jobs created in H&H that could be later linked to other health programmes
Value of mentorship programme (R per newly trained person)	Implementing agent or municipality	Indicates additional cost requirements for mentorship for future planning
Technology approach and its impact on job creation (opinion comment)	Implementing agent or municipality	Lesson learning

The monitoring of job creation should not be seen as a separate task from other monitoring and evaluation, but should be incorporated into these programmes.

Indicators for reporting on sanitation projects are being incorporated into the standard MIG reporting system will be made available when these are ready and approved by the relevant stakeholders.

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