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## Enhancing construction infrastructure delivery through restructuring of the Vuk'uphile Learnership Programme

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### ABSTRACT AND KEYWORDS

#### **Purpose of this paper**

To provide an overview on review and restructuring of a construction contractor learnership programme and the quality management under the infrastructure sector of the government's Expanded Public Works Programme (EPWP). The programme is called the EPWP Vuk'uphile Learnership Programme (VLP).

#### **Design/methodology/approach**

The research is supported by a literature survey. An evaluation of role player's participation in the existing learnership programme was undertaken. Experiential data was obtained from practice. Quality management procedures were developed for future utilisation. The results have been reduced to descriptive research outcomes contained in a practice manual.

### **Findings**

The restructured and streamlined Vuk'uphile Learnership Programme should optimise utilisation of labour on infrastructure construction projects and increase labour intensity, whilst simplifying managerial requirements on the programme.

### **Research limitations/implications**

The research is focussed on the EPWP VLP of the National Department of Public Works (NDPW). The restructured VLP, supported by a computerised total quality management system, will improve the efficiency and outcomes of the programme. This research is ongoing.

### **Practical implications**

As a result of this research a streamlined VLP Practice Manual is created, stripped of impediments that may have existed in prior programmes. The manual will be a useful guide for all role players, indicating the inter-relationships and required contributions by all stakeholders.

### **What is original/value of paper**

The completed manual will be a definitive practice guide, supported by a computerised total quality management system (TQM) that was previously not available. The manual thus provides an easily accessible practice guide and a measurable TQM-based system. The managerial requirements regarding the programme are thus simplified.

**Keywords:** Construction contractor, learnership, labour intensity, practice manual, programme management, total quality management, Vuk'uphile Learnership Programme.

## **1. INTRODUCTION**

The research, which is still ongoing, was based on two main premises: *Firstly*, consideration of the historic premise regarding the organisation and development of learnership opportunities, the promotion of sustainability in the emerging construction sector, optimisation of utilisation of labour-intensive methods, enhancement of labour intensity, the creation of work opportunities and Broad Based Black Economic Empowerment (BBBEE). Labour intensity is that portion of the construction fees that are spent on labour expressed as a percentage of the total construction fee.

*Secondly*, the development of the Vuk'uphile Learnership Programme (VLP) of the Expanded Public Works Programme (EPWP) was tracked over its development period so that lessons can be learned from previous VLP programmes in order to implement the necessary improvements.

This research utilised the above two premises to prepare a restructured VLP, incorporating the lessons learned/experiential data. The restructured programme incorporates a Total Quality Management (TQM) system. The TQM approach entails that the programme design is fully

integrative regarding activities of all the role players in the programme, easy to implement in a computerised format, providing measurable and qualitative outcomes that culminates in a substantive close-out report for each participating client body (local, provincial, national implementing body or state owned entity).

## 2. METHODOLOGY

The research methodology adopted was as follows:

- A literature survey regarding emerging contractor development was undertaken. Literature review entailed the evaluation of previous work undertaken by the CSIR in the area of emerging contractor development, particularly the South African Construction Excellence Model (SACEM) and the Integrated Emerging Contractor Development Model (IECDM), which are skills development tools for construction firms. The literature review also entailed evaluation of policies, legislative framework and structural interventions underpinning the EPWP VLP such as the:
  - Construction Industry Development Board Act (No 38 of 2000);
  - Broad-Based Black Economic Empowerment Act (No 53 of 2003);
  - Labour Relations Act (No 66 of 1995);
  - EPWP Management Manual;
  - EPWP Disciplinary procedures; and
  - The Skills Development Act (No 97 of 1998)
- An evaluation of all aspects regarding the existing NDPW's VLP under the EPWP. The sources of experiential data provided by the NDPW, such as the EPWP Vuk'uphile Management Plan and its addenda, resulted in development of the following:
  - Objectives of the programme;
  - Implementation guidelines by all the stakeholders in the VLP, including clarity on their roles and responsibilities;
  - Reporting structures; and
  - Mentorship and training models and guidelines.
- TQM principles were analysed and adapted to enhance the VLP. TQM is an established management philosophy which found relevance in the structuring of programme planning, evaluation, control and reporting. The TQM approach was also useful in ensuring that the needs of NDPW were properly interpreted and communicated by the CSIR during the course of the project.
- Aspects requiring critical intervention to streamline managerial processes and learning outcomes were synthesised out of all sources/data.

### **3. STRUCTURAL INTERVENTIONS UNDERPINNING THE VLP**

The following structural interventions have been made by government, and other organs of state, in order to create an “enabling environment” for the rapid development of, inter alia, construction contractors. These interventions were all considered in the review of the VLP.

#### **3.1 Construction Industry Development Board**

The CIDB mandate is, inter alia, encapsulated in the following specific relevant abstract in the Construction Industry Development Board: Annual Report (2004/2005:12): “Promote sustainable growth of the construction industry and the sustainable participation of the emerging sector”. In fulfilment of this mandate the CIDB has developed a National Contractor Development Programme (NCDP) to guide contractor development in the country.

#### **3.2 Broad Based Black Economic Empowerment**

Government initiatives are supported by the Broad Based Black Economic Empowerment Act (No 53 of 2003) (BBBEE, 2003:2) that is in the implementation phase.

#### **3.3 Expanded Public Works Programme**

The Expanded Public Works Programme (2005:2), inter alia, states: “The emphasis of the EPWP is to expand the use of labour-intensive methods in government-funded service delivery projects to create more work opportunities and stimulate entrepreneurial activity”. The South African Constitution’s Section 217 allows for allocation of work for developmental purposes, thus providing a necessary legislative framework to support contractor development.

#### **3.4 South African Construction Excellence Model**

The Council for Scientific and Industrial Research (CSIR) has been involved in research work to develop the South African Construction Excellence Model (SACEM). Dlungwana and Rwelamila (2005:2-3) reported as follows: “The South African Construction Excellence Model (SACEM) is a business performance assessment tool developed to evaluate the overall performance of contractors in addressing many of the challenges addressed above”.

### 3.5 Construction Education and Training Authority

The Skills Development Act (Act 97 of 1998) provides for the creation of a Sectoral Education and Training Authority (SETA) for each of the various economic sectors. SETAs are established to work out and implement sector skills plans, promote learnerships and hand out funds for development of individuals in their sectors. In this regard the Construction Education and Training Authority (CETA) is responsible for the construction industry.

## 4. PROGRAMME OBJECTIVES, OUTCOMES AND PROCESS MANAGEMENT

From the analysis of the EPWP VLP and consideration of structural interventions (see Section 3 above) it became possible to establish two directives on which to base a comprehensive re-structured operational model/manual of the VLP, underpinned by a TQM-based monitoring, evaluation and reporting system. The latter is elaborated in Section 5 of this paper, whilst the following two directives constitute the development platform:

*Firstly*, the broad, long term objectives and outcomes which have been set for this programme outlined in Table 11.1.

Table 11.1 Long term objectives and outcomes

Nr	LONG TERM OBJECTIVES	OUTCOMES
1	Alleviate and reduce unemployment	Work opportunities created through the Vuk'uphile Learnership Programme under the EPWP
2	Introduce Labour Intensive Construction (LIC) projects in the public sector at all levels	Labour intensive technologies and design criteria to facilitate the usage of LIC in the public sector. Contract documents incorporating LIC designs and contractual conditions
3	Improve labour intensity on construction projects	Projects with enhanced labour intensity (LI), ie LI > 5%
4	Develop skills of emerging contractors	Learner Contractors and Learner Supervisors competent in LIC, administration, contracting and general entrepreneurial skills
5	Develop sustainable construction contracting companies	Construction companies able to sustain their businesses in the open market

Secondly, a management process chart that shows the interaction and inter-relationships between role-players involved with the VLP has been developed. See Figure 11.1.

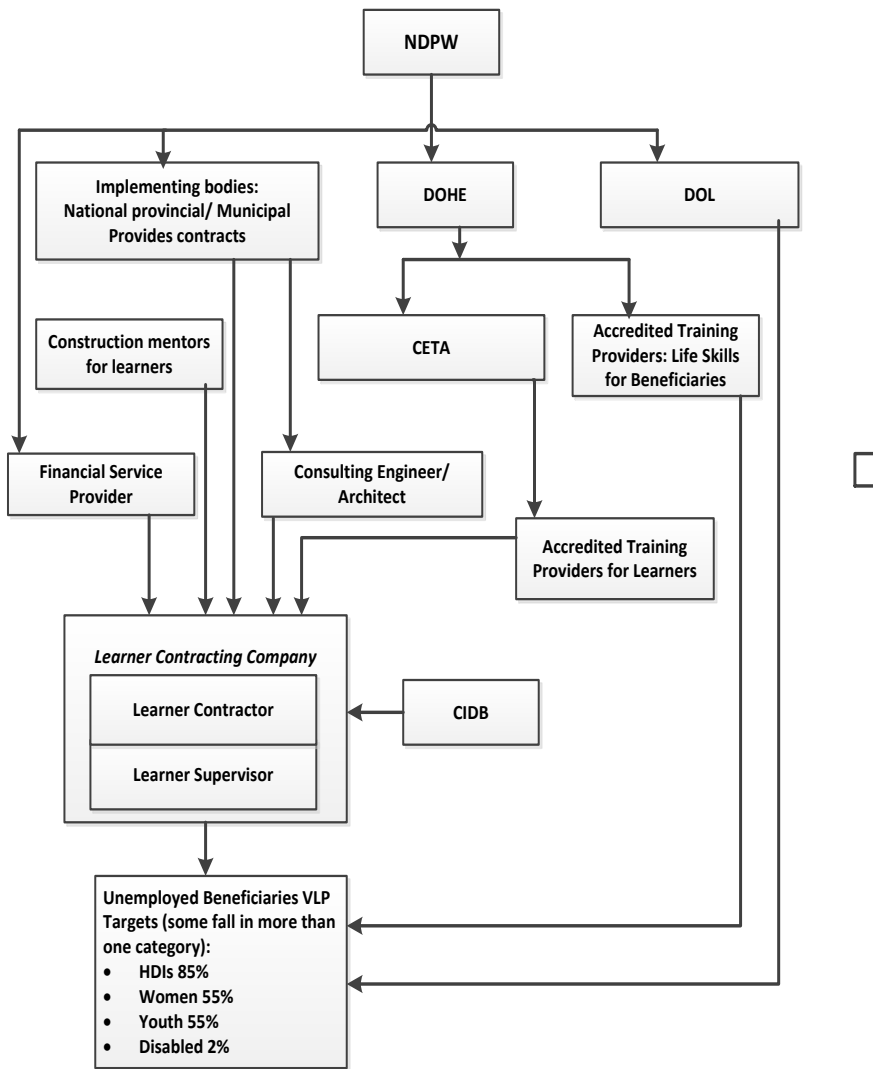


Figure 11.1 VLP management process chart

## 5. VLP OPERATIONAL PROCEDURES

From the research, which followed synthesised long term objectives and outcomes, as well as the management process chart (see Section 4), it was possible to develop a practice “manual” which reflects all aspects of the re-designed VLP, also taking into account the historical background and practices to date. New perspectives that were developed during the research process have also been built into the VLP Manual.

The VLP Manual is structured to specifically address the role of each stakeholder shown in the management process chart, Figure 11.1.

The VLP has thus been developed to create job opportunities among the targeted population groups and to build capacity amongst emerging contractors to execute an increasing amount of labour intensive work. The Vuk’uphile Learnership Programme is intended to train two (2) individuals, one being a Learner Contractor (LC) and the other being a Learner Supervisor (LS), through an existing (or newly established) learner contracting company.

This training programme is registered with the Construction Education and Training Authority (CETA), with emphasis placed on Labour Intensive Construction (LIC) technology. Existing Contractors (learner contracting companies) cannot enter the programme unless they are registered with the Construction Industry Development Board (CIDB).

All the research done thus culminates in a manual that constitutes the entire re-developed VLP, containing six distinct Sections A – F, as described below:

### 5.1 Section A – VLP objectives and outcomes

This section of the “manual” has been compiled to “set the stage” by providing **long-term objectives, outcomes, definitions and terminology** regarding the programme as a whole. The entire Vuk’uphile Learnership Programme (VLP) is “unfolded” in sections B, C, D, E and F. These sections have been compiled in a way that allows each section to be autonomous, addressing a specific aspect of the VLP. The following aspects are covered in the VLP Manual.

### 5.2 Section B – VLP management structure

This section provides an overview of the VLP management structure. A VLP management process chart is provided (see Figure 11.1), which indicates the (inter)linking of all the role players in the programme.

Abbreviated **Tasks** regarding each role player (bodies and persons) and the **Activities** flows from the above-mentioned process chart.

The main objective of Section B is thus to provide a summarised overview of the entire VLP, thus establishing a managerial **constituting** structure.

### **5.3 Section C – Participant and stakeholder execution guidelines**

This section is the operational heart of the VLP. It provides managerial **Execution Guidelines** for Role Players and Stakeholders regarding their participation in the programme.

This is the most fluid of all the sections. It reflects lessons learned and operational changes to the programme, thus a living document that will be updated continuously to reflect best practices regarding the role of each participant in the programme.

The main objective of Section C is thus to provide a living practice **execution** guide that describes the deliverables required of each role player in the VLP.

### **5.4 Section D – Progress evaluation and reporting: Total Quality Management**

This section contains the **Total Quality Management (TQM)** tools for the VLP. All the key areas influencing effective management of VLP (8 in total), are covered by TQM evaluation forms. The relevant role players complete these forms and data captured effectively provides 'dashboard' indicators for evaluating VLP progress and effectiveness. This provides both quantitative and qualitative data. The format is such that the quantitative data can be computed easily into multi-dimensional reports, while the qualitative data can be reflected in a comprehensive narrative report.

The main objective of Section D is thus to implement TQM procedures that measure programme progress and outcomes, facilitating an overall focussed management approach.

### **5.5 Section E – Standard procedural documentation**

This section contains the **Standard Procedural Documentation** needed in the VLP in order to streamline the implementation and management of the programme. Documentation in the following categories has been developed, and is included in this section:

- Evaluation and/or reporting documentation required by the NDPW to provide leadership to the programme.
- Non-TQM evaluations and/or reporting documentation required by other VLP stakeholder.
- Standardised legal documentation/contracts for the implementation and management of the VLP nationally.



## 5.6 Section F – Close out reports

This section contains **standardised templates**, which all implementing bodies or other role players can use to prepare **Close-Out Reports** regarding groups of learners or phases of a completed VLP. It is closely linked to Section D, where information can be sourced from the TQM process and pulled into the close out report.

## 6. CONCLUSION

The following conclusions are drawn from the research:

- It was possible to identify short comings in present processes and develop a substantive VLP Practice Manual that also incorporates existing best practices.
- Managerial challenges regarding the practical implementation of the VLP should be reduced as a result of incorporating various dispersed documents into a single substantive practice manual that guides all role players in the programme.
- The introduction of a TQM process that provides quantified and qualitative data, emanating from critical management evaluation points, will enhance overall management of the VLP.
- Simplified procedural documentation will ease managerial pressure and improve programme effectiveness.
- Close-out reporting per client/programme and per stage of the programme will be a standard feature when the VLP is applied by a client body (implementing body).

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