

**THE COVERAGE, ADEQUACY AND GRADUATION UNDER THE EXPANDED PUBLIC
WORKS PROGRAMME IN SOUTH AFRICA**

BY

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DECLARATION

I, Clement Mulungwa, hereby declare that this research project, for the Master of Commerce in Economics, submitted to the Department of Economics at the University of Venda, has not been submitted previously for any degree at this or another university. It is original in design and execution, and all reference material contained therein has been duly acknowledged.

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ABSTRACT

The Expanded Public Works Programme (EPWP) is one of the South African government's strategies to reduce poverty. It provides income relief by availing temporary work opportunities for South Africa's unemployed people including those in rural areas such as the Thulamela Local Municipality. Studies on the EPWP in South Africa have mostly concentrated on the impact of the programme on unemployment and poverty, leaving a critical gap on issues such as coverage, adequacy and graduation of the programme. This study, therefore, aimed to investigate the coverage, adequacy and graduation of the EPWP in South Africa. The study was executed at two levels. First, national data from the Department of Public Works (DPW) and Statistics South Africa (Stats SA) were used to assess the coverage and adequacy of EPWP. Secondly, primary data collected from the Thulamela municipal area were used to analyse the graduation component of the programme. SPSS and R Studio were used to analyse the quantitative data to determine the adequacy and coverage of EPWP. Panel regression analysis was used to evaluate how EPWP work opportunities created can be predicted in the model. Furthermore, binary logistic regression was conducted to estimate the probability of getting a job or starting their own business for the people who graduated from the EPWP. The study found that EPWP work opportunities significantly contributed to temporary relief from unemployment. However, the work opportunities created are still not enough to address the major problem of poverty and unemployment in South Africa. With regard to adequacy, the study found that the EPWP daily rate was higher than the daily international poverty line and all three South African national poverty lines. It was thus concluded that the EPWP wage rate was adequate. The findings concerning graduation are that EPWP training, gender and qualification were statistically significant to the model predicting whether or not an EPWP graduate will find a job after exiting the programme.

Keywords: Coverage, Adequacy, Graduation, Expanded Public Works Programme (EPWP)

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LIST OF ABBREVIATIONS

EPWP	Expanded Public Works Programme
GEP	Government Employment Programme
ILO	International Labour Organization
MEGS	Maharashtra Employment Guarantee Scheme
MGREGS	Mahatma Gandhi Rural Employment Guarantee Scheme
NREGP	National Rural Employment Guarantee program
PWP	Public Works Programme
QLFS	Quarterly Labour Force Survey
STATS SA	Statistics South Africa

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

Poverty and unemployment are major concerns in South Africa (Stats SA, 2018). The Quarterly Labour Force Survey indicated that the number of unemployed people in South Africa had increased by 344,000 to 7.1 million during the first quarter of 2020 (Stats SA, 2020). This represents an increment of 1 percentage point up from 29 % unemployment from the fourth quarter of 2019. According to Omilola and Kaniki, (2014), these high levels of unemployment are contributing to poverty in South Africa. The social protection system in the country is, therefore, expected to play a crucial role in addressing inequality, poverty and unemployment (Omilola and Kaniki, 2014). Over the last decade, social grants have had a slightly positive impact on poverty (Leibbrandt *et al.*, 2010). However, as Leibbrandt *et al.* also show, social grants are widely used as a temporary relief to poverty. To come up with a programme that did not only respond to the challenges of unemployment and poverty but also took into consideration issues of sustainability, the South African government launched the Expanded Public Works Program (EPWP).

The EPWP was intended to combat poverty by offering temporary work for South Africa's unskilled, unemployed, underprivileged, and vulnerable citizens (Department of Public Works, 2018). According to the Department of Public Works, the EPWP provides jobless people with temporary work opportunities to engage in socially beneficial activities. Even though the EPWP is having a beneficial impact on the lives of those who work for it, one of the primary issues in South Africa is that there are still many impoverished people who do not have jobs or receive any type of social support. This is possibly the most important link between the EPWP and social protection (Department of Public Works, 2017a).

McCord (2004) argues that there is a major gap in the social protection system as currently conceptualised. This gap, according to McCord, is found in the failure of most social protection measures to reach the able-bodied population of working age who are unemployed. Utilising public employment as a policy instrument to fight poverty, the government should step in as a last resort to make jobs available for those who are unemployed. Public job opportunities are typically created in the infrastructure sector.

In a study in the Zululand District Municipality, Khanyile (2008) argued that the job opportunities created by the EPWP were not sustainable. However, most people were covered by the EPWP projects. Although the jobs were not sustainable, they contributed towards the reduction of poverty and unemployment. For the EPWP to be effective in poverty reduction, the government may need to offer sustained employment or

employment guarantees of which, as of now, the EPWP's design does not effectively do this (McCord, 2004). Employment guarantee schemes are effective in reducing poverty (Hagen-Zanker *et al.*, 2011). The Maharashtra Employment Guarantee Scheme (MEGS) and Mahatma Gandhi Rural Employment Guarantee Scheme (MGREGS) in India are good examples of guaranteed employment schemes (Hagen-Zanker *et al.*, 2011).

Mccord (2007) argues that, because the EPWP is designed to offer short term employment, it is very unlikely to have a significant impact on overall unemployment and poverty in South Africa. This then raises questions of whether the current form of EPWP is adequate to fight unemployment and poverty in South Africa, and whether it covers everyone who deserves to be included in the programme. If the answers to either of these questions are not in the affirmative, it becomes imperative to rethink the nature of the EPWP in fighting poverty and unemployment in South Africa. Given the structural nature of unemployment and poverty in the country, it may be necessary to include some form of sustained employment or employment guarantees in the EPWP, as was done in the National Rural Employment Guarantee in India. The national rural employment guarantee programme in India was initiated to provide employment security in rural areas by providing a minimum of one hundred days of secured wage employment every year to each family whose adult members volunteer to do unskilled manual work (Department of Rural Development, 2007). This is crucial if sustainable employment creation for all those who need jobs is to be achieved in South Africa

This study investigated the coverage of the EPWP, that is the number of people employed under the EPWP against the number of unemployed people in South Africa. The study also examined the adequacy of the EPWP. Adequacy refers to whether the benefits provided by the EPWP can lift people out of poverty. Lastly, the study investigated the graduation of the EPWP in Thulamela Municipality, that is, how many EPWP beneficiaries are able to go on and start and own their businesses.

1.2 The South African Expanded Public Works Programme

The EPWP was established to fight poverty by creating temporary jobs for the unskilled, unemployed, poor and vulnerable (Department of Public Works, 2017b). The objective of the EPWP, as described by the Department of Public Works, was to offer temporary work opportunities for the unemployed as an income and poverty relief to carry out socially useful activities. The design of the EPWP is the purview of the Departments of Social Development and Public Works. The Department of Social Development is responsible for the improvement of the overarching social safety coverage, whilst the Department of Public Works is responsible for the delivery, coordination and tracking of the EPWP projects. Government and state-

owned enterprises use the EPWP to generate transient labour, in-depth employment possibilities, and delivery of public infrastructure (Department of Public Works, 2017a).

According to Phillips (2004), the EPWP is a nationwide programme that is used to attract the unemployed into productive work, where workers will earn an income and gain skills while they work. While EPWP may not fully solve the problem of unemployment in South Africa, it may be seen as a short- to medium-term intervention in alleviating poverty associated with unemployment. According to Dube (2013), the EPWP is contributing to the social development of the programme's beneficiaries and the communities in which this programme is being executed. The EPWP empowers beneficiaries who can earn an income in the form of stipends, and also gain skills and work experience.

The provision of poverty and income relief through temporary work for the unemployed to carry out socially useful activities is the main objective of EPWP as defined by the (Department of Public Works, 2017a). According to Aliber *et al.*, (2006) the design of the EPWP does not appear to correlate well with the major problem of unemployment and poverty that they are trying to overcome. Globally, the public works program is used to fight poverty and create employment, however, the design of the public works programme depends on whether it is intended to respond to unemployment as a temporary problem of the labour market or as a chronic problem. Unemployment in South Africa is chronic rather than acute or cyclical, but the design of EPWP offers temporary job opportunities to fight unemployment and poverty. This means that the design of the EPWP does not appear to correlate with most international public works programmes (Aliber *et al.*, 2006).

The EPWP has been established by the Cabinet to create work opportunities for all its four sectors, namely: – Infrastructure, Non-State, Environment & Culture, and Social sectors according to the set targets. (Department of Public Works, 2017b). These are expanded on below.

Infrastructure

According to the Department of Public Works, (2017a) infrastructure involves the use of labour-intensive methods in the construction, rehabilitation and maintenance of public assets. This also involves providing simultaneous training and skills development to the participants.

Non-state

The non-state sector, as defined by the Department of Public Works (2018), refers to work opportunities created through the non-profit and community organisations to deliver communal programmes and services.

Environment and Culture

According to the Department of Public Works (2018), work opportunities can be created in the public environment and culture sector.

Social sector

According to the Department of Public Works (2018), the social sector focuses more on human development outcomes and creating work opportunities in public social programmes such as Early Childhood Development (ECD) and Community-based Care.

Scholarship on the EPWP in South Africa tends to focus more on a quantitative evaluation approach to measure the advancement made in the implementation of the EPWP projects (Hlatshwayo, 2017). The employment gaps and adequacy of the programme are not taken into consideration. The study by Hlatshwayo sought to provide a qualitative review of the EPWP from the perspective of the beneficiaries of municipal EPWP projects. Interviewees conducted in the study indicated that while they appreciated the temporary work opportunities offered by the EPWP, they also faced health and safety risks and were deprived of the benefits of an organized workforce. Their main disadvantage is that they cannot get better wages because there's no access to permanent employment (Hlatshwayo, 2017). This study also focuses on the payment of the wage received under EPWP and seeks to find out if the wage is adequate or not.

According to Mccord (2017), the EPWP is included as part of South Africa's comprehensive social protection system to fulfill the needs of the working-age poor, and was chosen above a grant-based income insurance option to cover this segment of the population. According to McCord (2017), if the public works program (PWP) is meant to satisfy social protection objectives, PWPs must be uniformly available to members of the specified target groups, in addition to adequate salaries and duration of employment. It may be claimed that in order for public works programs to be considered a social protection benefit for fighting poverty and creating quality jobs, they need be provided to all individuals. The EPWP should be considered as a human rights program aimed at alleviating and preventing poverty.

1.3 Research problem

Poverty and unemployment are still widening in South Africa and remain major concerns. The sustainability of using social grants as a means to address poverty and unemployment is questionable. The establishment of the EPWP to address poverty by creating temporary job opportunities is welcomed. However, social programmes aimed at creating sustainable and adequate job opportunities are crucial to address this concern. According to Mubangizi and Mkhize (2013), the EPWP focuses only on short-term work opportunities in reducing poverty. Creating temporary rather than sustained employment means that the EPWP has a limited ability to address the chronic problems of poverty and unemployment in South Africa. Most EPWP studies in South Africa tend to focus more on evaluations that are quantitative to measure the progress made in the implementation of EPWP projects (Hlatshwayo, 2017). Furthermore, studies on the EPWP in South Africa have mostly concentrated on the impact of the EPWP on employment and poverty. This is welcome because it is clear that the programme aims to reduce unemployment and increase incomes of the poor households (Department of Public Works, 2018).

However, most studies on the EPWP do not consider indicators of coverage, adequacy and graduation of the programme. The present study, therefore, assessed the EPWP in areas that are rarely addressed, and thus fills a gap in this regard. EPWP can have a significant impact on reducing poverty only if it is adequate and meets people's needs. Therefore, cash benefits provided by the programme should be above the minimum poverty level, or at least be competitive. If the coverage of EPWP is increased, this will have a significant impact on the lives of the programme's beneficiaries. By utilising measures of coverage and adequacy checks that are available, and applied to South Africa, the study hopes to reveal salient issues concerning the creation of work for all who need it.

1.4 Aim of the study

The purpose of this study was to investigate the coverage, adequacy and graduation of the EPWP in South Africa in order to reveal its importance in preparing the active population for labour markets and entrepreneurial activities.

1.5 Objectives of the study

The study had three specific objectives:

- To assess the coverage of EPWP in South Africa.
- To analyse the adequacy of EPWP in South Africa.

- To evaluate the graduation model of the EPWP, specifically to Thulamela Local Municipality.

1.6 Research questions

The following research questions were pursued in order to meet the objectives of the study:

- What is the coverage of the EPWP in South Africa?
- Is the EPWP wage rate adequate?
- How do former EPWP participants perform in terms of getting a job and starting new business enterprises.
- What are the challenges experienced by the EPWP participants after exiting the programme?
- How competitive are the training and support provided by the EPWP for beneficiaries to exit into long term employment?

1.7 Justification of the study

The research was undertaken to contribute to the literature on the EPWP in South Africa. Even though several studies have been conducted on the EPWP, most of these focus on the implementation of the programme with regard to the creation of temporary job opportunities to fight poverty. This study, therefore, examined the EPWP's coverage, adequacy and graduation, which to the best of the knowledge of the researcher, has not yet been done. The EPWP, as a social protection programme, should not be designed only to reduce poverty and vulnerability temporarily. Rather, it should assist all the active populations with job guarantees. In other words, employment under EPWP as a social protection programme should become available to everyone who needs it. It is, therefore, imperative to assess the EPWP coverage to ascertain the number of unemployed people covered by the programme and to calculate the coverage gap. The research also analysed the element of the EPWP adequacy to establish if the cash benefit provided by the programme is above the poverty line or not.

1.8 Delimitations of the study

According to Creswell (2002) delimitations and limitations simplify the boundaries, exceptions and reservations inherent in every study. The study was delimited first, at the national level, where coverage and adequacy of the EPWP will be analysed based on national data. Secondly, the third objective, which assesses the graduation component of the study, was conducted within the Thulamela Local Municipality. There were

two reasons for this. The first was that there was no available data at the national level of what happens to the former participants of EPWP. Second, it is near impossible to follow all the former participants of the EPWP at a national level. The study thus used a questionnaire to collect such data. However, delimiting the assessment of the graduation component provided an indicative, but not representative, picture of what happens at the national level.

1.9 Definition of terms

The terms below are essential to ensure a common understanding of key concepts and terminology used in the Research.

Adequacy: According to the Economic and Social Council (2008), the benefits paid should provide a certain standard of living to people who are receiving those benefits. In the context of this study, adequacy is a measure used to determine if the benefits provided by the EPWP can lift people out of poverty.

Coverage: According to ILO (2017–2019) coverage is a measure to determine the population covered by at least one social protection benefit. In the context of this study, coverage is a proportion of the unemployed population that are beneficiaries or participants of the EPWP.

Expanded Public Works Programme (EPWP): is an initiative that offers temporary work for the unemployed to provide poverty and income relief to carry out socially useful activities (Department of Public Works, 2017).

Graduation: According to Devereux and Sabates-Wheeler (2015), graduation means leaving a social protection programme after reaching a wellbeing threshold, such as after the participants have acquired a set of resources or skills that are expected to provide future livelihood with a higher income. In the context of this study, graduation is a measure to determine how many people are able to start and own their businesses after they exit the EPWP.

The poverty line is the demarcation that allows for the statistical reporting of poverty levels and patterns. There are three poverty line namely, food poverty line (R561), lower-bound poverty line (R 810) and upper-bound poverty line (Stats SA, 2014). Definition was used in the study as defined in StatsSA (2014).

Public Works Programme: these are activities that offer the payment of a wage, often but not always by the State, in return for work done for a public cause (McCord, 2008). This definition was used as-is in this study.

Social assistance: these are programs that help to ensure income security and access to basic services for poor and vulnerable populations (Asian Development Bank, 2003). The study used this definition as-is.

Social insurance: these are programs that mitigate risks by providing income support in the event of illness, disability, work injury, maternity, unemployment, old age, and death (Asian Development Bank, 2020). The study followed this definition.

Social Protection: According to Devereux and Sabates-Wheeler (2004), these are initiatives that provide income or consumption transfers to the poor. Improve the social status and rights of marginalized people; with the overall goal of reducing the economic and social vulnerability of the poor. The study also followed this definition as-is.

1.10 Outline of the dissertation

The dissertation is organized as follows:

Chapter one is introductory. It introduces the study by giving the background of the study, problem statement, research questions, research objectives, justification of the study, delimitation and definition of terms in the study. Chapter two is composed of a literature review. It covers the synthesis of the extant theoretical and empirical literature. Chapter three provides the research methodology. It presents the data and methodology that the study will use and follow. Chapter four is data analysis and presentation. This chapter explains the data analysis and presents the findings of the study as well as their interpretation. Chapter five is a summary of findings, recommendations and conclusion of the entire study.

1.10 Summary

This section has introduced the study by highlighting the purpose of the research, which is to investigate the coverage, adequacy and graduation of EPWP in South Africa. The section expounded on the background of the study, problem statement, research questions, and research objectives, justification of the study, delimitation and definition of terms of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on social protection in general, and public works programmes (PWPs) in particular, by providing its typologies and experiences in selected Asian and African countries. The section also reviews the relationship between social assistance and economic growth.

2.1.1 Theoretical framework

This section will first provide a brief discussion on the relationship between social assistance and economic growth. Secondly, it discusses the use of the EPWP as an essential social assistance instrument to address persistent poverty and unemployment. Thirdly, it discusses four typologies of PWPs which are, (i) short-term employment, and (ii) large-scale government employment programmes (iii) government infrastructure spending, and (iv) programmes that enhance supply-side traits to promote employability.

2.1.2 Positioning Social Assistance in Economic Theory

According to Keynesians, public spending stimulates economic activity and becomes a tool to stabilize the short-term fluctuations in the overall expenditure (Ju-Huang, 2006). Chipaumire (2014) states that in emerging economies such as South Africa, the government's role in accelerating economic growth is significant in both scope and importance. Thus government expenditure can have a positive impact on the country's economic growth. Furthermore, Keynesian macroeconomic models support active government intervention in the economy (Chipaumire, 2014). The author adds that this can be through increased government spending, or increased supply of money to stimulate demand for goods and services during a period where there is a lack of demand, as well as to put the unemployed to work. Increasing public expenditure in social protection is essential for reviving the economy and stimulating employment. Thus, if well-designed and properly implemented, social protection programs encourage inclusive growth and can address some root causes of poverty and inequality. Social protection systems have an important role in enabling mobility in the labour market and supporting the structural transformation of national economies (ILO, 2017). In particular, protection systems against unemployment play a key role in the combination of income security of employment services, which facilitates the matching of jobs and skills development, thus contributing to the promotion of productive and decent employment (ILO, 2017).

Social protection is a vital building block for promoting equitable growth and long-term development (Behrendt 2013). Regulations governing social protection aid both economic and social growth and are essential components of rights-based development. There is now a clearer understanding that social safety measures are more than just a vehicle for the transfer of wealth in cash or kind aimed at boosting consumption; they are also an investment in individuals that can improve their abilities and allow them to work productively.

The experiences of countries such as Cape Verde, Brazil, China, and others that have increased their investments in social protection in recent years show that social protection can have a significant impact on job creation, contributing to the prevention and elimination of poverty and vulnerability. The global economic crisis has also demonstrated that social protection systems may play an important role in mitigating the effects of such severe crises, as well as in assisting with fundamental changes to the economy and labour market (Behrendt, 2013).

According to Behrendt (2013), social protection is critical in economic and social improvement initiatives. Recent social safety policy initiatives in certain low- and middle-income nations have built a solid case for social safety as a critical policy issue in development during the next decade. It is commonly acknowledged that sustainable and fair growth cannot be realised in the absence of strong social safety measures that gradually broaden social safety nets (Behrendt, 2013).

Unemployment insurance or unemployment assistance financed by taxes, or systems of guaranteed employment and other public employment programs is an important means to accommodate a dynamic labour market while ensuring opportunities for decent jobs. Ensuring adequate social protection coverage for people in atypical forms of employment, especially regarding mobility to accommodate the transitions on the market and the work of the labour market are key elements of these policies. More attention is needed to establish various links and interactions between social protection and employment (ILO, 2018a).

It could be argued that increased government expenditure on social protection programmes is vital in addressing chronic poverty and high levels of unemployment. Furthermore, social protection has a direct impact on economic growth. For instance, if we look at the macro level, social protection, through increasing household productivity and employment, tends to stimulate aggregate demand, which has an impact on labour force participation and influences financial savings and taxation. Social protection also has an indirect impact through facilitating economic reforms, constructing human capital, contributing to social cohesion and influencing demographics (Mathers and Slater, 2014). Social protection can also affect growth at the micro level through four important channels, namely, (i) increasing access to labour markets, (ii) preventing

the loss of productive capital, (iii) increasing investment in human capital and (iv) increasing innovation and risk-taking (Mathers and Slater, 2014).

There are channels through which social protection can affect economic growth. The table below shows a summary of these channels.

Table 1 Social protection’s channels to economic growth

Levels	Direct Channels	Indirect channels
Micro Level	<ul style="list-style-type: none"> • (+) accumulate productive assets • (+) prevent loss of productive capital • (+/-)impacts on labour force participation 	(+) Increase investment in human capital
Meso	<ul style="list-style-type: none"> • (+) accumulation of productive community assets • (+)multiplier effects from increased production and consumption at the local level • (+/-) labour market impacts including inflation effects on local wages 	Not applicable
Macro level	<ul style="list-style-type: none"> • (+) productivity • (+)stimulate aggregate demand • (+/-) changes in aggregate labour force participation • (-) effects of taxation on savings/investment (-) • (-) effects of government borrowing and inflation 	<ul style="list-style-type: none"> • (+)Facilitate economic reforms • (+)enhance social cohesion and reduce inequality • (+) enhance human capital • (+/-)impacts on fertility rates

Source: Mathers and Slater (2014)

Social protection plays an important role in ensuring that all people, especially women and youth, have access to full and productive employment and decent job. Cash transfers, active labor-force programmes, health insurance, and family assistance policies have all been demonstrated to increase labor-force participation, particularly among women. In South Africa, for example, those receiving cash transfers were 13–17 percent more likely to work than comparable non-recipient households. Mathers and Slater (2014) Furthermore, efficient social protection decreases poverty and inequality while also fostering decent work and inclusive growth and enhancing health and education outcomes.

The graphic below summarises the channels via which social protection can positively contribute to long-term and inclusive growth (Chowdhury, 2017).

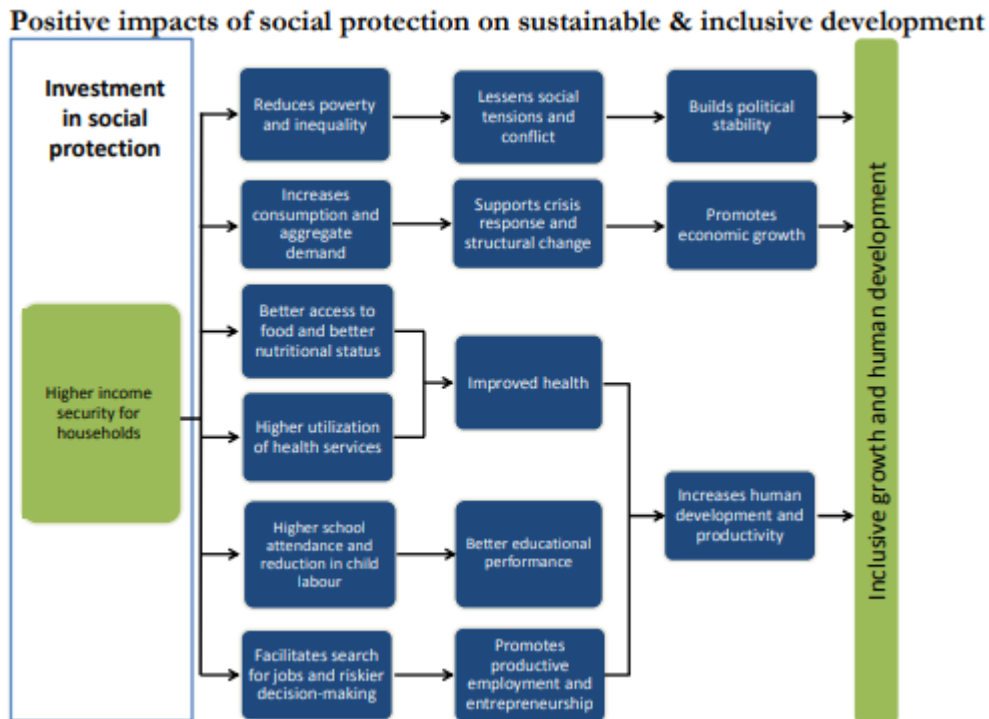


Figure 1: Positive Impacts of Social Protection Source: Chowdhury (2017)

2.1.3 Positioning Public Works Programmes in Social Assistance

According to Subbaro *et al.* (2013), PWP are a social protection tool used in the different circumstances of each country to provide temporary employment, implementation of labour-intensive infrastructural projects and social services. Public works are increasingly used in developing countries as essential instruments of social protection to address risks and persistent poverty (Subbarao *et al.*, 2013). Public works offering a short single episode of employment are the most preferred means of transferring social protection or safety net resources to households with labour (McCord, 2009). Even though public works are temporary in nature, they have played an important role to address seasonal and short-term unemployment. However, the researcher is concerned with the use of short-term public works in situations of chronic poverty which does not seem to be effective in solving the chronic poverty and unemployment problem. The researcher would like to pay attention to public works which can provide guaranteed employment in the form of social protection. If we can promote a longer-term public works programme, employment can become permanent. McCord states that the underlying problem is that the programming of PWP tends to ignore the reality of the labour market in most of sub-Saharan Africa where the workforce has no access to guaranteed employment (McCord, 2009).

According to Subbarao (1997), in a critical situation of poverty, a PWP that provides extended durations of employment and a guarantee of employment during periods of labour scarcity is crucial. According to McCord (2017), governments must give unemployment compensation if there is no work available for workers. This motivates governments to participate fully in the programme and prevents limited government capability from jeopardising social protection for the disadvantaged. The EPWP is a component of South Africa's comprehensive social protection system, which is meant to cover the requirements of working-age poor and jobless individuals. To target this population segment, it was chosen over a grant-based income insurance option. McCord (2017) contends that if PWPs are to satisfy social protection objectives, they must be universally available to members of the workforce, in addition to suitable salaries and duration of employment.

2.1.4 Typology of Public Works Programming

Public works programmes encompass all actions including the payment of a wage by the state in order to provide labour, increase employment, and develop an asset with the overall goal of providing social protection (McCord, 2008). Public Works Programs have been read and implemented in a variety of ways, with no distinction made between specific forms, resulting in errors in programme construction and implementation. There is conceptual ambiguity regarding the nature of PWPs, which contributes to inappropriate policy choices, programme design errors, and irrelevant expectations on the side of implementers. To differentiate the different forms of PWPs, a typology of PWPs is required.

The most common types of PWP are those that provide short-term work and large-scale government employment programmes that include some form of employment guarantee. The two less common but distinguishable types are those that promote labour intensification of government infrastructure spending and those that improve supply-side qualities that boost employability (McCord, 2008).

a) Type A: Short-term Employment

According to McCord (2008), PWPs that provide short-term employment are typically used as a response to some type of temporary labour or livelihood disruption caused by environmental or monetary shocks. Short-term employment is largely used in the infrastructure sector. These programmes provide fundamental threat-coping or protective measures of social safety (McCord, 2008).

b) Type B: Government Employment Schemes /Employment Guarantee Programmes

Large-scale government employment programmes (GEPs), according to McCord (2008), are utilised as a response to frequent or continuous levels of rising unemployment. Enormous government spending is required to quickly hire persons who would otherwise be unemployed. This means that the government operates as a last-resort employer, trying to increase aggregate employment that can be created in any industry and can be provided directly by the government or indirectly through non-public regional companies or civil society organisations. In India, one example is the NREGP. These programmes provide non-contributory profit coverage through guaranteed employment to anyone who seek it (Department of Rural Development, 2007).

c) Type C: Labour Intensification

The third type of PWP is almost exclusively started in the infrastructure sector and adopts labour-based techniques. The primary objective of this type of PWP is to increase aggregate labour used during the construction of assets. These programmes are mainly aimed at infrastructure provision, they also offer basic short term 'risk coping' or 'protective' social protection benefits (McCord, 2008).

A third form of PWP is a labor-intensive approach which is usually initiated in the infrastructure sector. The major goal of this sort of PWP is to increase aggregate labour used during asset construction. These programmes are primarily concerned with infrastructure development, "but they also provide basic short-term 'risk coping' or 'protective' social protection benefits" (McCord, 2008).

d) Type D: The Promotion of Employability

McCord (2008) argues that there is a PWP technique that addresses supply-side constraints to employment by promoting workplace competencies. The implementation of these programmes is based on the understanding that one of the most important constraints to employment is a lack of competencies or workplace capabilities rather than there being no jobs. According to Martin and Grubb (2001) programmes to increase employment by addressing supply-side problems are components of larger active labour market policies.

2.1.5 PWP Case Studies

This sub-section discusses the experience of PWPs first in Asia, then Africa and North America. The PWPs discussed were selected because of their similarities with the EPWP.

a) Asian Experience

According to the Indian Department of Rural Development (2007), the national rural employment guarantee programme in India was initiated to provide employment security in rural areas. One example of an employment guarantee programme is the Mahatma Gandhi National Rural Employment Guarantee Programme which offers an employment guarantee of 100 days in a year (Bhupal, 2012). The guaranteed employment programme has been successful in raising the level of employment and income of rural households and thus increasing their purchasing power (Nair *et al.*, 2009). The employment is provided within five kilometres of the applicant's residence of which a minimum wage is to be paid. The program employment guarantee programme wage is equal to the minimum wage, particularly for women (Department of Rural Development, 2007).

2.1.6 The African Experience

This sub-section gives an overview of PWP's experience in Chad and Ethiopia.

a) Public Works in Chad

The objective of the PWP in Chad was to create temporary jobs in the public works and construction sector as a tool to reduce unemployment and assist in maintaining government infrastructure assets (World Bank, 1994). Public works programmes in Chad have thus created both temporary work opportunities and infrastructure such as roads and government buildings. Public works projects in Chad put more focus on the development of infrastructure (Watson *et al.*, 2016). However, they had the challenge of providing adequate work opportunities and sustainable assets due to budget constraints. The public works in Chad prioritised social protection objectives by ensuring that decent work standards are applied on all public works projects in Chad (Watson *et al.*, 2016).

b) Ethiopia's Productive Safety Nets Programme (2005-) (PSNP)

The programme was aimed at addressing chronic food insecurity. Due to the chronic challenge of poverty and food insecurity, the government of Ethiopia introduced the productive safety net programme. According to Hobson and Campbell (2012), the PSNP provides cash or food to people who need food and does so in a way that empowers them to improve their own livelihoods. However, other short-term PWPs have been previously implemented, but they had no significant impact on livelihoods or poverty (McCord, 2007). The productive safety nets which support recurring episodes of employment has a great impact that will make people to be absorbed by the program and graduate out of poverty. The intention behind this approach is that at the end of five years of state employment, participants will become independent and no longer depend on government assistance (McCord, 2007).

2.1.7 *The North American Experience.*

According to McCord (2017), the USA's New Deal Programme was established in response to the great depression. The new deal of the 1930s helped revive the economy following the great depression. These programmes aimed to stabilize the economy, create jobs and provide financial relief to the American people (Johnston, 2002). The initiatives in the new deal programme supported a huge amount of state expenditure to stimulate the economy whereas conjointly providing enough employment to ensure that the essential desires of all families were met (McCord, 2017).

2.2 The Reach and Adequacy of Social Assistance

This sub-section provides a brief discussion on the coverage and adequacy of social assistance. The coverage of social assistance is seen as a measure of at least one social protection benefit in the population, namely, determining if the benefits paid as social assistance provide a certain standard of living to all people who are receiving it.

2.2.1 *Calculations of Coverage*

According to the ILO (2019), effective social protection plays a key role in attaining sustainable development, promoting social justice and understanding the human right to social security for all. Social protection coverage in developing countries has developed rapidly over the last decade. According to Barrientos and Hulme (2009), social protection is regarded as an essential component of economic and social development policies to an effective response to poverty and vulnerability in developing countries.

Thus, social protection policies are crucial elements of country techniques to reduce poverty and vulnerability across the lifestyles cycle (ILO, 2019). The ILO further states that, despite a lot of progress in the extension of social security in many parts of the world, social security as a human right has not yet covered the majority of the world's population. De Laiglesia (2011) argues that the coverage of social security remains very low even in the middle of the income distribution. Thus, instruments that provide a better connection between social insurance and social assistance are necessary for middle-income countries to overcome the dualism in social protection systems. According to Kaniki and Omilola (2014), social protection has a significant impact in addressing poverty, inequality and vulnerability. The challenge is, however, the inadequate coverage of social protection. There is a need to increase social protection coverage especially to the most vulnerable groups including older people, children, people with disabilities and workers in the informal sector.

Effective social protection covers at least one social protection benefit in a population (ILO, 2019). In many countries, unemployment benefit programmes are contributory and better fitted to cover employees in formal employment. In countries with chronic poverty and high levels of unemployment, such coverage schemes will not bring about broad insurance and adequate safety. In such settings, social help and active labour market programmes funded by the state can play a vital role (ILO, 2019).

a) Social Protection and Labour Programs in South Africa

According to the World Bank (2020e), social protection and labour programs coverage in South Africa was 62.8 % in December 2010 up from 58.5 % reported in December 2005. This record is updated yearly, averaging 60.7 % from December 2005 to 2010, with two (2) observations. The statistics reached an all-time high of 62.8 % in 2010 and a record low of 58.5 % in 2005. This information remains lively repute in CEIC and is reported through World Bank (World Bank, 2020e).

b) Social Insurance Programs in South Africa

Coverage of social coverage programs shows the percentage of the population taking part in programmes that provide old age contributory pensions and social safety and medical health insurance benefits (along with occupational injury benefits, paid sick leave, maternity and different social coverage) (World Bank, 2020c). South Africa's coverage of social insurance programs as a percentage of the total population was reported at 3.4 % in December 2010 (World Bank, 2020c). This was an increase from the previous number of 2.8 % for December 2005. The coverage of social insurance programs, as a percentage of the total population, averaged 3.1 % between December 2005 to 2010 (World Bank, 2020c). According to the ILO (2019), coverage gaps are related to considerable underinvestment in social protection, especially in Africa and Asia. Lack of social protection leaves people susceptible to poverty, inequality and social exclusion. In most international locations, social protection remains fragmented, relying on tools such as public employment and social coverage for a few people in formal employment, and subsidies and protection nets for those without formal employment contracts (ILO, 2019).

2.2.2 Calculations of Adequacy

According to the General Comment 19 of the Economic and Social Council, the adequacy criteria ought to be monitored often to confirm that beneficiaries can afford the products and services they need to realise their covenant rights (UN Committee on Economic, Social and Cultural Rights, 2007). Once an individual makes contributions to a social insurance fund that provide benefits to cover lack of financial gain, there should be

a reasonable relationship between earnings, paid contributions, and the amount of relevant benefit (UN Committee on Economic, Social and Cultural Rights, 2007). The adequacy of social safety net programmes is measured by the full transfer quantity received by the population taking part within the social safety nets programme as a share of the full welfare. Welfare is the total financial gain or expenditure of the beneficiary households (World Bank, 2021). It is, however, important that the level of benefits provided by social protection should be adequate. Recommendation no. 202, para 5b, states that a cash benefit provided by social protection can be deemed adequate if the income provided matches with the national poverty line or the income thresholds of social assistance. Recommendation No. 202, para 5a, states that adequacy regarding health is measured by affordability, availability, accessibility, and quality, this means that people's needs should have to be attended in an adequate manner (ILO, 2012).

a) Adequacy of Social Protection in South Africa

According to the World Bank (2020b), adequacy of social protection and labour programmes is measured through the total transfer amount obtained by the population participating in the social safety net, and unemployment benefits and social insurance as a proportion of their general welfare. The metric 'percentage of total household wealth' was 23.9% as of December 2010. This record shows a decline of 36.6% in December. The data peaked at 36.6% in 2005 and reached a low of 23.9% in 2010. These records remain active in CEIC and are reported by World Bank (World Bank, 2020b).

b) Adequacy of Social Safety Net Programs

Adequacy of social safety net programmes is measured by using the overall transfer amount obtained by the population participating in social protection net programs as a share of their total welfare (World Bank, 2020a). Welfare is defined as the total expenditure or income of households. Some of the safety net programmes consist of non-contributory social pensions, cash transfers, conditional cash transfer, social assistance programs and public works programs (World Bank, 2020a).

In conclusion, the benefits, whether in cash or kind, need to be adequate in quantity so that everyone may recognise his or her rights to family safety and assistance, adequate access to health care and a good standard of living (UN Committee on Economic, Social and Cultural Rights, 2007). To avoid any adverse effects on the levels of benefits and the form in which they are provided. Methods implemented should ensure the adequacy of benefits (UN Committee on Economic, Social and Cultural Rights, 2007).

2.3 EPWP Graduation

EPWP was established to fight poverty by creating temporary jobs for the unskilled, unemployed, poor and vulnerable. Public works programmes can offer temporary work opportunities for the unemployed as poverty and income relief to carry out socially useful activities (Department of Public Works, 2018). One of the objectives of the EPWP is that, at the end of the contract, workers who exit the programme should be able to earn an income either through finding a job or starting a business. The EPWP seeks to achieve this by:

- Giving unemployed people work experience;
- Providing education and skills development programmes to people while they are on the programme.
- Helping workers with exit opportunities beyond the EPWP.

Workers who exit the EPWP should be able to get new job opportunities or start their own businesses. In this regard, the EPWP can be viewed as a bridge between unemployment and employment during which participants are equipped with skills and experience (Department of Social Development, 2004).

Training is a key element in the EPWP, according to the Department of Public Works (2009); numerous targets have been specified in terms of skills and experience earned in the EPWP. Further education and training, as well as SMME development, are often planned to boost the opportunity for at least 14 percent of public works participants to earn future income by giving work experience, training, and information about local job prospects. However, this is only possible if the skills and experience gained through programme participation are relevant to the economy's labour demands.

Furthermore, there must be sufficient chances for employment, education and training, and SMME development (Department of Public Works, 2009). Martin and Grubb (2001) believe that, in the context of worldwide experience with training programmes, if training is incorporated in programmes, it should be kept limited in scale and must target the specific needs of both job searchers and local employers. According to McCord (2008), the South African EPWP is an example of a programme that does not adhere to these standards because the training provided is not closely related to the skills shortages reported in South Africa, which are mostly for semi-skilled and skilled workers. This constraint stems from the insufficient training contact time available during the EPWP's brief job period. With the high levels of unemployment in South Africa, the skills acquired by workers under the EPWP might not be competitive in the job market.

Martin and Grubb (2001) further argue that, in order to increase the number of unemployed people who earn income after taking part in the PWP, the human capital methodology is fundamental to numerous OECD

PWPs. They argue as well that, PWPs have been exceptionally compelling not just in the active labour policy discussion in OECD, but in middle and low-income nations as well. This system has been found to have just a constrained effect and to improve labour market performance of participants if the training provided is closely aligned to the specific skills gaps if identified accurately in the wider economy (Martin and Grubb, 2001).

McCord (2008) states that it is thrilling to be aware from the international literature that skills development is not a general aspect of the programmes imparting employment guarantees inside the context of persistent unemployment. For example, the NREGP focuses on the continued provision of PWP employment in order to ensure an income.

There is an assumption that, the market could absorb 10% of the new job-seekers and that the skills and experience gained should be relevant to labour demand in the economy. The assumption that EPWP skills training will equip workers to start their own small business or get job opportunities after the end of the contract is questionable. The present study, therefore, investigates and assesses the element of EPWP graduation, finding out what happens after the end of the programme, how many people are now employed and/or how many people have started their own businesses.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section presents the research methodology, design and procedures used in the execution of this research study. This includes a discussion of the approach taken by the study, sampling method, data collection and data analysis

3.2 Research Methodology

Igwenagu (2016) defines research methodology as the specific procedures or techniques used to identify, select, process, and analyse information about a topic. This section allows the reader to critically evaluate a study's overall validity and reliability. The methodology section answers two main questions, namely: How was the data collected or generated? How was it analysed? Kothari (1990) defines research methodology as a tactic to systematically resolve a given problem on a specific matter which is known as the research problem.

3.3 Research paradigm

According to Weaver and Olson (2006), paradigms are forms of beliefs and practices that regulate inquest within a discipline by providing frames and processes through which investigation is accomplished. According to Thompson (2015), there are two basic approaches to research methods, and these are positivism and interpretivism. According to Yilmaz (2013), a positivist prefers quantitative research methods, which include interpreting numerical data that are analysed applying mathematically based methods, especially statistics. In contrast, the interpretivist approach to social research is much more qualitative, utilising methods such as unstructured interviews or participant observations. The positivist paradigm utilises quantitative methods and this type of research explains phenomena interpreting numerical data that are analysed utilising mathematically based methods, especially statistics (Yilmaz, 2013). The paradigm chosen for this study is the positivist paradigm. . The scientific methods for data collection and analysis make generalization easier and possible with this type of approach .The quantitative research approach is applicable to this research. To get the coverage and adequacy of the EPWP, secondary data at the national level were used. To analyse the graduation component of the study, primary data collected through structured questionnaires based on a snowball technique in Thulamela Municipality were used.

3.4 Research approach

Research is the creation of new knowledge to generate new concepts and methodologies (O'Donnell, 2012). However, there are two major approaches to research that can be used in the study of social phenomena. According to Yilmaz (2013), the two major approaches to research are classified into quantitative and qualitative research. There are, however, arguments about what research approach is to be used. According to Guba (1978) quantitative and qualitative research are incompatible because they are based on paradigms, while Firestone (1987) stated that both qualitative and quantitative research are complementary to each other. Qualitative research depends on non-numerical and unstructured data (Thompson, 2015). Qualitative studies are mainly investigative research. It is utilised to gain a better understanding of underlying opinions, reasons, and motivations. On the other hand, quantitative studies are used to quantify the problem by way of generating numerical values that can be converted into usable statistics (Thompson, 2015).

The quantitative research approach is the most applicable to this research. The study adopted a structured questionnaire to collect data in order to analyse the Graduation component in Thulamela Municipality. The Coverage and Adequacy of the EPWP were measured using secondary quantitative data available from EPWP and Stats SA data sets. In this study, tables, graphs and other statistical tools were utilised to analyse and present numerical data from the Coverage, Adequacy and Graduation of the Expanded Public Works Programme.

3.5 Research design

The research design refers to a strategy chosen to incorporate the different components of the study logically to address the research problem (Kirshenblatt-Gimblett, 2016). It aims to meet the research objectives and answer the research questions. The quantitative research design was chosen to answer the research questions of this study at two levels. The coverage and adequacy are at the national level. The graduation component was done at a municipal level in Thulamela using a structured questionnaire. Consequently, primary data was used to answer the third objective, which relates to workers who previously exited or graduated from the EPWP in Thulamela Municipality. The secondary data was collected from the EPWP website and the Stats SA data set. The EPWP quarterly reports prepared by the Department of Public Works and the results from the survey that was conducted on the EPWP by Stats SA were used to address the adequacy and coverage of EPWP at the national level. The data set for the coverage of EPWP was from 2008 to 2020 and for the adequacy of EPWP was from 2006 to 2019. Consequently, the adequacy and coverage data represent the whole of South Africa.

The study adopted descriptive statistics and inferential statistics. Descriptive statistics involve the organising and summarising of quantitative data in form of a chart or graph and inferential statistics allows the researcher to make predictions from that data. With inferential statistics, data is taken from samples and used to make generalizations about a population (Stephanie, 2014). In this study data from the coverage, adequacy and graduation of the Expanded Public Works Programme is presented using graphs, tables and other statistical tools.

3.6 Sampling

Sampling is a technique of selecting a representative part of a population to make statistical inferences about them and estimate the characteristics of the whole population. It is easier to make contact with a smaller part of the population for data collection than targeting the whole population. It can be done within a limited time and with minimum cost. Collecting data from every one of the population is not possible. To address the third objective of this study, sampling of former participants of the Thulamela Municipality EPWP was done. Given the circumstances surrounding the access and the inability to access the intended number of respondents, a snowball technique is used in this study. The snowball technique is an approach used for identifying and sampling cases in a network, which can be referred to as a network, chain referral, reputational, and respondent-driven sampling (Neuman, 2015). Snowball sampling is used in studies where it is difficult to locate a population and where one has no sampling framework. In this case, the participants of the public works programme are scattered, hence a snowball technique is appropriate for this study. The study conducted structured interviews using the snowball technique. The interviews were aimed at finding out what happens after participating in the EPWP programme, in order to determine the extent to which public works employment helped the participants to access other jobs or start their own businesses once they exited their temporary positions in the programme.

3.7 Data collection procedures

Data collection is the systematic approach used to gather and measure information from different sources to get an accurate picture of an area of interest (Rouse, 2016). In this study, primary and secondary data were used.

3.7.1 Questionnaire

A questionnaire is an instrument in research comprising of a series of questions that are asked to participants to acquire statistically useful information about a given topic. When properly constructed and correctly administered, questionnaires become an essential instrument by which statements can be made about specific

groups of people or entire populations (Trueman, 2019). This study utilised questionnaires to collect information on the graduation of the EPWP in Thulamela Municipality. The study has partially adopted a questionnaire that was developed by Stats SA in 2010 as a module included in the quarterly labour force survey(QLFS). The objective of the module was to measure the impact and relative differences in the participation of people in the EPWP. The most important aspect was to identify the benefits of participating in the programme. The outcome of the questionnaire is expected to reveal the graduation aspect of the EPWP.

3.7.2 Sources of Data

The primary data were collected from the workers who previously exited or graduated from the EPWP in the Thulamela Municipality. These data were used to address the graduation component of the study. The secondary data was collected from the EPWP website and Stats SA data set. The EPWP quarterly report prepared by the Department of Public Works and the results from the survey that was conducted on EPWP by Stats SA was used to address the adequacy and coverage of EPWP in this study. The adequacy and coverage of the EPWP are at the national level while the Graduation of EPWP was data collected from Thulamela Municipality through a close-ended questionnaire developed for this study.

3.7.3 The coverage of EPWP

This part of the study used secondary data to assess the coverage of the EPWP. The study focused more on the number of people covered by EPWP against the unemployed population. The study seeks ways to increase the coverage of EPWP.

3.7.4 Adequacy of EPWP

Data from Stats SA on the poverty line (all three inflation-adjusted national poverty lines for 2019) and the minimum national wage were used to measure the adequacy of the EPWP. The study also used the international poverty line as a measure to determine adequacy. The study aimed to ascertain if the EPWP wage rate received is above the national poverty line or international poverty line or not, to determine if the EPWP wage was adequate or not.

All three inflation-adjusted national poverty lines for 2019 (per person per month in Rands) were used (Stats SA, 2019).

- (i) “Food poverty line: This refers to the amount of money that an individual will need to afford the minimum required daily energy intake. This is also commonly referred to as the “extreme” poverty line.”

- (ii) “Lower-bound poverty line: This refers to the food poverty line plus the average amount derived from non-food items of households whose total expenditure is equal to the food poverty line.”
- (iii) “Upper-bound poverty line: This refers to the food poverty line plus the average amount derived from non-food items of households whose food expenditure is equal to the food poverty line (Stats SA, 2019).”

3.7.5 Graduation of EPWP

The primary data for this component of the study were collected from workers who previously participated in the EPWP in the Thulamela Municipality. This was done through a structured questionnaire.

The graduation of the EPWP helped us find out what happens after exiting the EPWP programme. Martin and Grubb (2001) state that if training is included in programmes it should be kept small in scale, and must target the specific needs of both job seekers and local employers. McCord (2008) further argues that the South African EPWP is one instance of a programme that does not follow these guidelines because the training offered is not strictly allied with the skills shortages identified in South Africa which are primarily for semi-skilled and skilled workers. This limitation is a consequence of the inadequate training contact time possible during the brief period of EPWP employment (McCord, 2008).

The literature review has shown that the EPWP skills and training is inappropriate and workers who exit the programme might not be competitive in the labour market. Skills improvement remains a crucial aspect of the National Development Plan (NDP) 2030, and of Phase III of the EPWP. Training, therefore, remains an essential performance indicator for the EPWP because it has the capacity to provide the EPWP participants with the necessary skills to go into formal employment after participation in the EPWP. The training factor must be taken into consideration as an integral part of the EPWP exit strategies (Public Works, 2018).

Investigating the element of EPWP graduation helped us find out what happens after exiting the EPWP programme. Below is a list of concepts that aided in the understanding of the EPWP in this study:

- i. EPWP graduation.
- ii. EPWP training.
- iii. EPWP skills.
- iv. Graduation approach.
- v. Social protection.

3.8 Data analysis

The study employed quantitative data analysis approaches. Figures, tables and statistical approaches were used in the study analysis using SPSS and R studio.

3.8.1 Statistical approach

Neuman (2000) defines statistics as a tool to collect, organize and analyse numerical facts or observations. During data analysis, the researcher must choose a suitable statistical approach that is relevant to the nature of the survey conducted. The study used both descriptive statistics and inferential statistics. Descriptive statistics involve the organising and summarising of quantitative data in the form of a chart or graph, and inferential statistics allow the researcher to make predictions from that data. With inferential statistics, data are taken from samples and used to make generalizations about a population (Stephanie, 2014).

IBM SPSS V26 and R Studio (statistical software) were used to analyse data from the EPWP website and Stats SA to determine the adequacy and coverage of EPWP. The first section of the analysis entailed descriptive statistics, to determine trends and patterns from the data. The subsequent section dealt with inferential statistics (such as the chi-square, regression and relevant tests).

Binomial logistic regression analysis was conducted to get a better understanding of the factors influencing graduating from the EPWP programme while binary logistic regression was conducted to assist in estimating the likelihood of getting a job or starting a new business. Panel data regression analysis was used to evaluate how dependent variables such as EPWP work opportunities created can be predicted by independent variables and follow up tests thereof. For panel data regression to be conducted, two assumptions tests were performed, namely the Augmented Dickey-Fuller test and the Multi-collinearity test. The Augmented Dickey-Fuller test's null hypothesis is that a unit root is present in time series data. If the p-value is greater than 0.05, the test indicates that the data for all the variables has a unit root. On the other hand, multicollinearity addresses problems that might arise due to high correlation between predictors, or independent variables in a model, which, if present, can adversely affect the regression results. Following the assumptions, fixed effects and random effects were performed and then the Hausman test was used as a follow-up test to determine the most appropriate model between the fixed and the random effects. If the p-value is greater than 0.05, then we use the random-effects model. Data panel regression is a combination of cross section data and time series. Panel data allows you to control for variables you cannot observe or measure. With panel data you can include variables at different levels of analysis (Anna & Angelo 2014).

The fixed-effects model

The fixed-effects model explores the relationship between predictor and outcome variables within an entity. One important assumption is that time-invariant characteristics are unique to the individual and should not be correlated with other individual characteristics (Anna & Angelo 2014).

The fixed-effects model is:

$$Y_{it} = \alpha_i + \beta_1 X_{it} + u_{it} \quad [\text{eq.1}]$$

- α_i ($i=1 \dots n$) is an unknown intercept in the model
- Y_{it} is the dependent variable where t = time and i = entity and.
- β_1 is the coefficient for that independent variable
- X_{it} represents one independent variable
- u_{it} is an error term

Fixed effects model can also be expressed through binary variables. The equation for the model becomes:

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} + \dots + \beta_k X_{k,it} + \gamma_2 E_2 + \dots + \gamma_n E_n + u_{it} \quad [\text{eq.2}]$$

Where,

- Y_{it} is the dependent variable where i = entity and t = time.
- β_k is the coefficient for the independent variables,
- $X_{k,it}$ represents independent variables,
- u_{it} is an error term
- γ_2 represent the coefficient for the binary repressors (entities)

The random-effects model

The logic behind the random-effects model is that the variation across entities is assumed to be random and uncorrelated with the predictors included in the model. One of the advantages of random effects is that you can include time-invariant variables (Crisci *et al.*, 2013).

The random-effects model is:

$$Y_{it} = \alpha + \beta X_{it} + u_{it} + \epsilon_{it} \quad [\text{eq.3}]$$

Empirical regression model

Fixed effects model:

$$\text{EPWP_work_opportunities_created} = \alpha_i + \text{EPWP_average_daily_wage_rate} \\ + \text{unemployed_population} + \text{EPWP_expenditure_on_projects} + c \text{ (control factor)} + \text{uit}$$

Where,

- α_i ($i=1 \dots n$) is an unknown intercept in the model
- EPWP_work_opportunities_created is the dependent variable
- EPWP_average_daily_wage_rate represents independent variable
- unemployed_population represents independent variable
- EPWP_expenditure_on_projects represents independent variable
- c (control factor) represents independent variable
- uit is an error term

Random effects model:

$$\text{EPWP_work_opportunities_created} = \alpha_i + \text{EPWP_average_daily_wage_rate} \\ + \text{unemployed_population} + \text{EPWP_expenditure_on_projects} + \text{uit}$$

Where,

- α_i ($i=1 \dots n$) is an unknown intercept in the model
- EPWP_work_opportunities_created is the dependent variable
- EPWP_average_daily_wage_rate represents independent variable
- unemployed_population represents independent variable
- EPWP_expenditure_on_projects represents independent variable
- uit is an error term

3.8.2 Figures and tables

Various figures and tables are used to analyse and present the data. According to Kabir (2016) tables are useful as they enable the researcher to present a large amount of data in a small amount of space professionally and save space compared with running text. Tables usually show exact numerical values, and the data are arranged in an orderly display of columns and rows, which aids comparison. In this study, tables, graphs and

charts were utilised to analyse and present numerical data on the coverage, adequacy and graduation of the EPWP.

3.9 Ethical considerations

This research involves the participation of people in this study. Ethical consideration is taken into account. All the interviewees in this study were given consent forms to complete before starting with data collection. The researcher has taken into account the following ethical considerations;

Informed consent and voluntary participation

The research participants were given a chance to ask questions concerning their involvement in the study to ensure an informed decision to participate in the study.

Anonymity and confidentiality

The respondents were given the assurance that their responses would remain anonymous and information provided would be treated as confidential at all times.

No harm to participants

There will be no way of connecting the names of respondents with the data presented.

Rights to their privacy

Assurance was given to the Interviewees that their identity will remain unknown.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter explains the data analysis and presents the findings of the study as well as their interpretation with respect to the main objective of the study. As highlighted above, the main aim of the study was to investigate the coverage, adequacy and graduation of the EPWP in South Africa in order to determine its importance in preparing the active population for labour markets and entrepreneurial activities. Three critical objectives were pursued in order to achieve this aim. These are (1) to assess the coverage of EPWP in South Africa, (2) to analyse the adequacy of EPWP in South Africa, and (3) to evaluate the graduation model of the EPWP in Thulamela local municipality. The chapter starts by providing descriptive statistics of the demographic characteristics of the graduation sample. Lastly, we present a summary of the data findings in correspondence to the research questions.

4.2 Response rate

This section presents the responses rate of usable questionnaires for data analysis. The number of questionnaires distributed was 140 but only 101 completed questionnaires were received back and usable making it a 72% total response rate.

4.3 The socio-demographic characteristics of the participants in Thulamela municipality

This chapter provides an exposition of the analysis performed in SPSS after capturing data on Microsoft Excel. The interpretation of the results addressed the main objective of the study, which was to investigate the coverage, adequacy, and graduation of the EPWP in South Africa. To achieve this aim, we considered three objectives, that is, to assess the coverage, adequacy and graduation model of the EPWP.

Table 2: Socio-economics characteristics of former participants in Thulamela municipality.

Variable	Features	Frequency	Percent
Qualification	no formal qualification	30	29.7
	less than matric	19	18.8
	Matric	26	25.7
	FET and Higher	26	25.7
Age	21-30 years	17	16.8
	31-40 years	38	37.6
	41-50 years	24	23.8
	51 years and above	22	21.8
Gender	Male	39	38.6
	Female	62	61.4
Disability	Disabled	6	5.9
	no disability	95	94.1

As indicated in table 2 , the participant’s qualifications were classified into four categories, which are FET and higher, matric, less than matric and no formal qualification. Nearly 30% of the participants (n=30) had no formal qualification, which implies that skills acquisition during the EPWP program is crucial for their success. However, 25.7% of the respondents who attained FET or higher qualification join the program with a certain level of skills.

The gender of the participants considered in the study were males and females as shown in table 2. Most of the respondents were females, which is in line with the targets of the programme. Though the programme is meant to alleviate poverty in general, one of its objectives is to empower females who are disadvantaged in the job market.

The age characteristic was organised into four categories as shown in table 2. Despite that, the minimum age required by law for a person to work is 15, we purposefully considered the first age category from 21 to 30 as per the EPWP records. The highest proportion of the respondents (about 38%) were within the 31 to 40 age group. This supports the notion that the EPWP was designed to meet the needs of working-age adults. The least represented age category was the 51 years and more (21.8%).

In terms of disability, participants were categorised into either having disabilities or not having disabilities as shown in table 2. The results indicated that the majority 94% of the respondents were not having any disability that could prevent them from working. The marginal percentage of persons

having a disability indicates that the EPWP programme creates work opportunities for all including persons with disabilities that do not prevent them from working.

4.4 Descriptive statistics for coverage, adequacy and graduation of EPWP.

Descriptive statistics were performed on all aspects considered in the study and are presented in the section that follows.

4.4.1. Coverage

According to the ILO (2019), coverage is a metric used to determine the population covered by at least one social protection benefit. In this case, coverage is a proportion of people employed under the EPWP relative to the unemployed population.

Table 3: The table shows the EPWP opportunities created, the unemployed population and coverage

	EPWP WORK OPPORTUNITIES CREATED	UNEMPLOYED POPULATION	COVERAGE
Mean	160,328.4	1,075,985	0.185
Standard Deviation	233,219.3	1,630,251	0.100
Range	1,101,792	9,899,000	0.489
Minimum	2,191	95,000	0.007
Maximum	1,103,983	9,994,000	0.496
Count	130	130	130

Table 3 shows that the mean coverage metric is 0.185 SD = 0.100 (10%). Based on this, the study notes that the national proportion of the EPWP work opportunities that were created between 2008 and 2020 was approximately 18,5% relative to the total unemployment population. However, the deviation from the mean indicates variation in proportional coverage of EPWP opportunities created in various places across South Africa's provinces. In support of this, the coverage range 0.489, indicates a 48.9% difference between minimum coverage 0.007 (0.7%) for one area compared to the maximum recorded coverage of 0.496 (49.6%). Thus, the creation of the EPWP opportunities is varied across South Africa. The underlying assumption is that there are areas that are receiving more funding than others not taking

into consideration the unemployed population resulting in the creation of more EPWP opportunities in some areas than in others.

To understand the variations in coverage, the EPWP work opportunities created were also assessed. The mean number of EPWP work opportunities that were created nationally between 2008 to 2020 was 160,328 with a standard deviation of 233,219.3. This high deviation from the mean supports the coverage variations noted in this study. It entails that between 2008 and 2020 there are some areas within the various provinces where more EPWP opportunities were created than others as indicated by the high range of 1,101,792. This range explains the huge differences observed between a minimum of 2191 EPWP work opportunities created in an area compared to the maximum of 1103983 EPWP opportunities that were created in another area.

a) The trend of the EPWP coverage in all provinces

The line graph in figure 2 presents EPWP coverage over a period of 13 years (2008 to 2020) for all the South African provinces. The graph shows that Eastern Cape EPWP coverage performed best in 2014 where it was slightly more than the 0.3 (EPWP work opportunities created over unemployed population ratio) while its minimum was realised in 2008 where it went below the ratio of 0.2. The Eastern Cape EPWP coverage ratio was equal to KwaZulu Natal EPWP coverage ratio in 2008, 2009, 2013, 2014 and 2017. The Eastern Cape EPWP coverage ratio was less than the Northern Cape EPWP from 2008 to 2014 and 2016 to 2020, but all other provinces. From 2010 until 2020, the Eastern Cape coverage ratio was below the Limpopo EPWP coverage ratio.

The KwaZulu Natal EPWP coverage ratio was more than the Eastern Cape EPWP coverage ratio in 2009, 2014 and 2017. However, it reached its minimum ratio in 2012 and its maximum ratio in 2014. Furthermore, the graph illustrates that the Limpopo EPWP coverage ratio reached its lowest in 2008 while the highest EPWP coverage ratio occurred in 2014. The North-West EPWP coverage ratio reached its lowest in 2009 and its highest coverage ratio in 2015. However, the greatest improvement in the EPWP coverage ratio was realised between 2009 and 2012 while the worst performance was realised from 2013 to 2014.

In the Mpumalanga province, the lowest coverage ratio was realised in 2008 where it was below 0.1 and the maximum coverage ratio was realised in 2013 where it was slightly above 0.2. The Free State EPWP coverage ratio was below 0.1 from 2008 to 2009 then it increased to a maximum of 0.2 in 2015 but then it decreased to below 0.1 in 2017. In KwaZulu Natal, the EPWP coverage ratio reached its lowest level in 2010 and 2012 then raised to more than 0.3 in 2014 then decreased until it reaches 0.2

in 2017. As for the Western Cape province, the lowest level of EPWP coverage ratio occurred between 2010 and 2011 while the maximum coverage ratio achieved was 0.2, which occurred in 2013. As shown in the graph, the least EPWP coverage ratio in the Northern Cape occurred in 2008 where it was slightly below 0.2, while the maximum coverage ratio was 0.5 occurring in 2019, which was the highest coverage ratio ever achieved by EPWP in all provinces. In Gauteng, the coverage ratio reached its uttermost in 2009, which was 0.1 and its lowest in 2016. On average, the national coverage ratio peak was 0.2 experienced between 2013 and 2015 while the minimum coverage ratio was 0.1 in 2019.

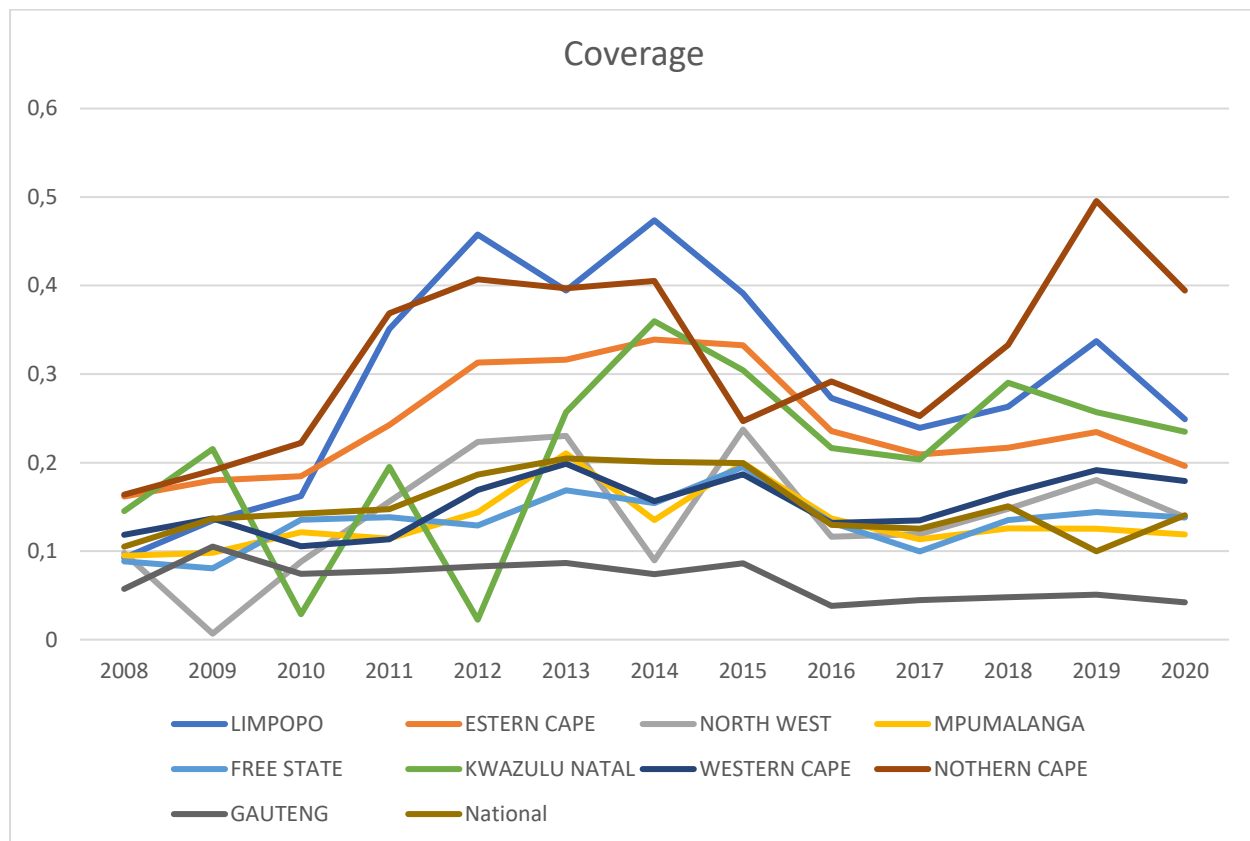


Figure 2: Coverage ratio

4.4.2. Adequacy

Adequacy determines if the benefits provided by the EPWP can lift people out of poverty. Data collected from Stats SA on the poverty line and minimum national wage was used to determine the adequacy of the EPWP. Key indicators used were the EPWP minimum daily wage rate, daily international poverty line, food poverty line, lower-bound poverty and the upper-bound poverty line.

a) Is the EPWP minimum daily wage rate adequate?

The summary statistics for the EPWP minimum daily wage rate, daily international poverty line, food poverty line, lower bound poverty and upper-bound poverty are presented in table 4.

Table 4: Descriptive statistics for EPWP wage rate.

	EPWP Minimum Daily Wage Rate(R)	Daily International Poverty line (R)	Food Poverty Line (FPL)	Lower- bound Poverty Line (LBPL)	Upper-bound Poverty (UBPL) Line
Mean	80.3076	15.8933	12.9762	19.2286	29.4452
Std. Deviation	30.28764	7.73703	3.67075	4.74656	6.92841
Minimum	26.92	8.48	7.30	12.33	19.17
Maximum	152.27	27.95	18.70	27.00	40.90

The mean EPWP minimum daily wage rate was R80.31 with a standard deviation of R30.29, a minimum of R26.92 and a maximum of R152.27. The daily international poverty line maximum was R27.95, the minimum was R8.48, mean was R15.89 with a standard deviation of R7.74. On average the EPWP minimum daily wage rate was more than the daily international poverty line rate. This implies that the EPWP programme performs better than the daily international poverty line standards.

The food poverty line was described by the maximum of R18.70, minimum of R7.30 and mean of R12.98 with a standard deviation of R3.67. Therefore, compared with EPWP minimum daily wage rate, it is evident that EPWP programmes contribute better than the food poverty line standards.

In terms of the lower bound, the mean was R19.23 with a standard deviation of R4.75, a maximum of R27 and a minimum of R12.33. The mean of the upper-bound poverty line was R29.45 with a standard deviation of R6.93, a minimum of R19.17 and a maximum of R40.90. Based on the descriptive statistics, we observe that the EPWP minimum daily wage rate was higher compared to all other

metrics used in the study, which implies that EPWP significantly impacts the unemployed population and therefore it is adequate.

b) Summary statistics of the adequacy differences between the EPWP minimum daily wage and other indicators

The difference between EPWP minimum daily wage and poverty lines indicate how bad or well the EPWP minimum daily wage is compared to poverty lines. The difference, therefore, determines if the EPWP minimum daily wage is adequate or not adequate. A positive difference would mean the EPWP minimum wage is adequate.

Table 5: Adequacy differences.

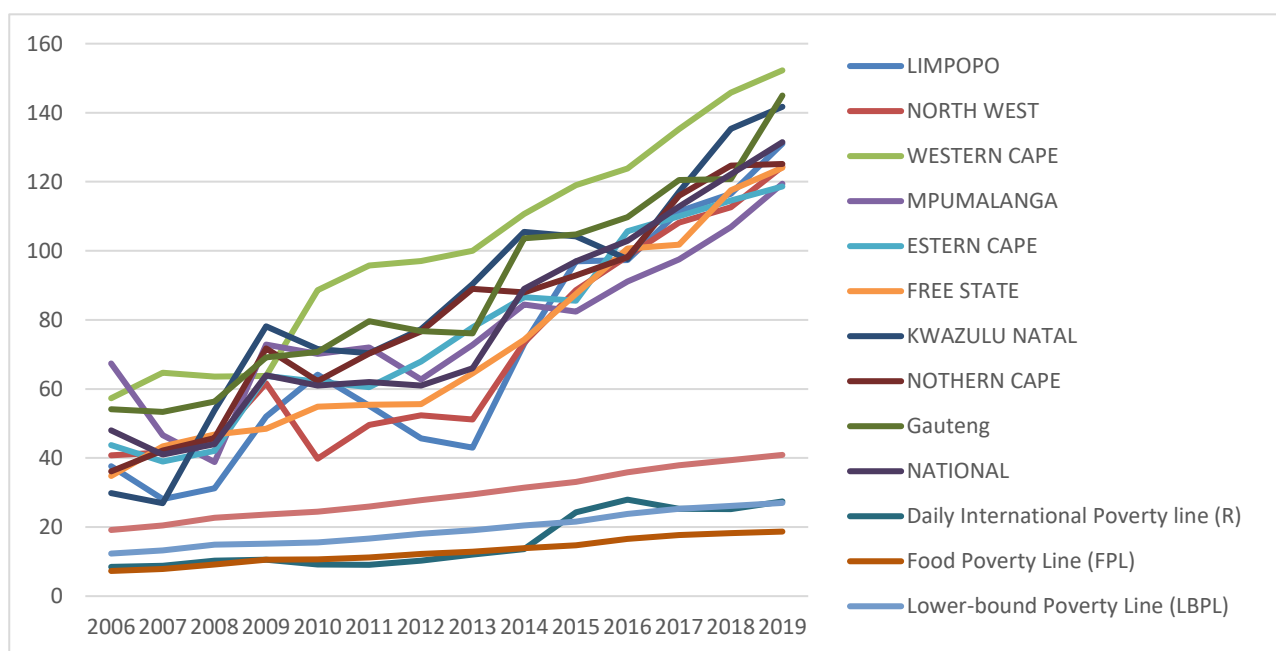
	Daily Poverty difference (R)	International line (R)	Food Poverty Line difference	Lower-bound Poverty difference	Upper-bound Line difference
Mean	64.41425		67.33138095	61.079	50.86233333
Standard Deviation	24.09050555		26.98343106	26.04561215	24.1431787
Minimum	18.095		19.02	13.72	6.486666667
Maximum	124.796		133.57	125.27	111.37

The summary statistics for the adequacy differences were illustrated in table 5. The daily international poverty line and EPWP minimum daily wage difference mean was R64.41 with a standard deviation of R24.09, a minimum of R18.10 and a maximum of R124.80. The food poverty line difference had a mean of R67.33 with a standard deviation of R26.98, a minimum of R19.02 and a maximum of R125.27. As for the lower bound poverty line difference, the mean value was R61.079 with a standard deviation of R26.05, a minimum of R13.72 and a maximum of R125.27. The upper-bound line difference has a mean value of R50.86 with a standard deviation of R24.143, a minimum of R6.48 and a maximum of R111.37. The highest mean difference observed was the difference between EPWP minimum daily wage rate and the food poverty line.

c) EPWP minimum daily wage rate, the daily international poverty and the food poverty line in the provinces.

The graph shows the EWPW minimum daily wage rate per province, national, daily international poverty, food poverty, lower-bound poverty and the upper-bound poverty line.

Figure 3: Adequacy



The findings show that the food poverty line has been gradually increasing from 2006 to 2019. Similarly, the lower-bound poverty and upper-bound poverty line consistently increased from 2006 to 2019. The daily international poverty line was also following an upward trend from 2006 to 2019 in an oscillating way as a result of the exchange rate, meaning that the daily internationally poverty converted in Rand's changes year after year due to the exchange rate. The daily international poverty line was equal to the food poverty line from 2006 to 2009 and then increased until 2019.

The EPWP minimum daily wage rate in Limpopo decreased from about R40 to R30 between 2006 and 2008. As time progressed, the rate increased from almost R30 to more than 60 between 2008 and 2010, then fell gradually to around R40 in 2013. Finally, the rate increased to R131 in 2019. In comparison with the daily international poverty line, food poverty line, lower and upper bound poverty line, the EPWP minimum daily wage rate was relatively better.

The Western Cape EPWP minimum daily wage rate (R57.31) was higher than all the provincial EPWP minimum wage rates, it oscillated increasingly from marginally less than R60 to slightly more than

R60 within the period 2006 and 2009 then improved to R152.27 in 2019 and stayed above all other EPWP minimum daily wages. The Western Cape EPWP minimum daily wage rate was the highest from 2009 until 2020.

The EPWP minimum wage rate in Mpumalanga was the best (almost R65) compared to all provinces in 2006, but then decreased to R38.83 in 2008 and an improvement was experienced which was slightly less than R80 in 2009 then increase in a fluctuation manner from R60 to R120 between 2012 to 2019.

In the Eastern Cape, EPWP minimum daily wage rate was approximately R40 between 2006 and 2008 then increased marginally to more than R60 between 2009 to 2011 before gradually increasing from R60 in 2011 to R120 in 2019. In 2006, in the Eastern Cape, the EPWP minimum daily wage was slightly less than R40 then steadily improved to more than R120 in 2019.

The Gauteng EPWP minimum daily wage rate was close to R60 in 2006 then increased to 65 in 2009 then vacillated increasingly until it reached R140 in 2019. The Gauteng EPWP minimum daily wage rate was moderately performing compared to other provinces.

The Free State EPWP minimum daily wage rate was slightly less than R40 in 2006. However, it increased gradually up to slightly less than R60 in 2012 then increased from slightly less than R60 to slightly more than R120 from 2012 to 2019.

The EPWP minimum wage rate in KwaZulu Natal was R30 between 2006 and 2008 then increased to R60 in 2010, then declined to R40 in 2013. Finally, an increase was realised from nearly R40 in 2013 to R130 in 2019. The KZN EPWP minimum wage rate was shown in an increasing trend from 2006 until 2019. This implies that the minimum wage rate was improving year after year.

In the Northern Cape, the EPWP minimum wage rate was slightly below R40 in 2006, then slightly increased to more than R40 in 2008 then increased to R50 in 2009. The trend fluctuated in an increased manner from 2010 to 2019, where it reached R120. In general, the Northern Cape EPWP minimum wage rate shows a moderately continuous progression. The differences between the EPWP daily wages across all provinces could be a result of different sectors in the EPWP paying different wages and budgets allocations or expenditures that are different across the provinces.

From the national frame of reference, the EPWP minimum wage rate was R50 in 2006, then decreased to R40 in 2007. There was a steep increase from R40 to slightly above R60 between the period 2008

and 2009, a constant rate of R60 was maintained between 2009 to 2012 then increased to R130 in 2019.

The results indicated that the EPWP minimum daily wage rate performed very well, way above the daily international poverty line, the food poverty line, and the lower and upper bound poverty lines. Therefore, this shows that the EPWP wage rate was adequate in all provinces and nationally.

d) Further analysis (Panel data regression on the coverage of EPWP)

In this regression, two assumptions tests were performed, that is, the Augmented Dickey-Fuller test and the Multicollinearity test. Following the assumptions, fixed and random effects tests were performed and then Hausman as a final test to decide on the most suitable model between the fixed and the random effects.

Unit root test

Unit root test was performed using the Augmented Dickey-fuller test. The results are shown in the table below.

Augmented Dickey-Fuller Test

data: dataPanel\$EPWP_WORK_OPPORTUNITIES_CREATED

Dickey-Fuller = -2.5616, Lag order = 4, p-value = 0.3434

alternative hypothesis: stationary

data: dataPanel\$UNEMPLOYED_POPULATION

Dickey-Fuller = -0.38515, Lag order = 4, p-value = 0.9855

alternative hypothesis: stationary

data: dataPanel\$EPWP_EXPENDITURE_on_projects

Dickey-Fuller = -3.2765, Lag order = 4, p-value = 0.07856

alternative hypothesis: stationary

data: dataPanel\$EPWP_Average_Daily_Wage_Rate

Dickey-Fuller = -5.7502, Lag order = 4, p-value = 0.01

alternative hypothesis: stationary

Using the Augmented Dickey-Fuller test, the study tested the null hypothesis that a unit root is present in time series data. The test indicated that the data for all the variables have unit root since the p-value is greater than 0.05, except for EPWP average daily wage rate ($p < 0.01$).

- **Multicollinearity test**

To address the multicollinearity, a variance inflation factor was performed. Multicollinearity refers to the correlation between predictors in a model. Its presence can adversely affect the regression results. The function VIF was used for all independent variables. The unemployed population and the EPWP expenditure values were below 5 while the EPWP daily wage rate has a value above 5. For severe multicollinearity to be problematic, the value should be more than 10.

Table 6: Multicollinearity test

Province	Year	Unemployed Population	EPWP Expenditure on projects	EPWP Average Daily Wage Rate
1.68	8.369	1.656	1.488	8.875

- Panel data Regression on the coverage of EPWP

Table 7: Fixed effects Model

Model info:				
Observations: 117				
Dependent Variable: EPWP_WORK_OPPORTUNITIES_CREATED				
Model fit:				

F(9,107) = 28.59, p = 0.00				
R ² = 0.71				
Adj. R ² = 0.68				

The R ² was 0.71, which implies that the independent variable explains 71% of the model and it is significant (p-value=0.00)				
Standard errors: OLS				
	Est.	S.E.	t val.	p
(Intercept)	43675.78	12633.74	3.46	0.00
EPWP_Average_Daily_Wage_Rate	625.64	127.11	4.92	0.00
UNEMPLOYED_POPULATION	-0.02	0.02	-0.94	0.35
EPWP_EXPENDITURE_on_projects	0.00	0.00	0.62	0.54
Factor (Eastern Cape)	57925.71	14787.56	3.92	0.00
Factor (North West)	-42966.84	12351.48	-3.48	0.00
Factor (Mpumalanga)	-27985.77	12288.43	-2.28	0.02
Factor (Free State)	-39711.82	11960.48	-3.32	0.00
Factor (Kwazulu Natal)	66438.41	16115.07	4.12	0.00
Factor (Western Cape)	-18726.44	13186.39	-1.42	0.16
Factor (Northern Cape)	-61524.73	13908.25	-4.42	0.00
Factor (Gauteng)	37079.86	36614.19	1.01	0.31

The regression analysis indicates that the p-value for the EPWP average daily wage rate (0.000) was significant while the unemployed population (0.35) and the EPWP expenditure (0.54) were not significant. The EPWP average daily wage rate coefficient was 625, the unemployed population was -0.02 and the EPWP expenditure was 0.000. EPWP average daily wage rate impacted EPWP opportunity created significantly with positive effects, meaning an increase in EPWP wage rate was associated with more job opportunities. This could be as a result of the EPWP wage rate annual review.

The unemployed population was not a useful predictor of EPWP work opportunities with negative effects. EPWP expenditure was also not a useful predictor of EPWP work opportunities, however, it had a positive effect. Meaning, more money allocated to the project could result in more job opportunities. p-values for provinces, except for Gauteng and Western Cape were statistically significant.

The base factor used in this regression was the Limpopo province. The results show that the Eastern Cape created 57,925 more job opportunities than Limpopo. The North West created 42,966 fewer work opportunities than Limpopo, Mpumalanga created 27,985 fewer work opportunities than Limpopo, Free state also created fewer work opportunities compared to Limpopo by 39711, on the contrary, 66,438 more work opportunities were created in KZN than in Limpopo, Western cape created fewer work opportunities compared to Limpopo by 18,726, while Northern Cape similarly created fewer work opportunities by 61,524 and Gauteng created 37,079 more job opportunities compared to Limpopo.

Table 8: Random effects using plm

Effects:				
	<u>var</u>	<u>std.dev</u>	<u>share</u>	
idiosyncratic	917036547	30283	0.699	
individual	395425471	19885	0.301	
theta: 0.6109				
Residuals:				
<u>Min.</u>	<u>1st Qu.</u>	<u>Median</u>	<u>3rd Qu.</u>	<u>Max.</u>
-113783	-20289	-6517	15477	100988
Coefficients:				
	<u>Estimate</u>	<u>Std. Error</u>	<u>z-value</u>	<u>Pr(> z)</u>
(Intercept)	1.9589e+04	1.3571e+04	1.4434	0.14890
EPWP_Average_Daily_Wage_Rate	4.8866e+02	1.1514e+02	4.2440	2.195e-05 ***
UNEMPLOYED_POPULATION	1.7360e-02	1.4743e-02	1.1775	0.23899

EPWP_EXPENDITURE	6.2979e-06	2.7555e-06	2.2855	0.02228 *
Total Sum of Squares: 1.5922e+11				
Residual Sum of Squares: 1.1911e+11				
R-Squared: 0.25192				
Adj. R-Squared: 0.23206				
Chisq: 38.0543 on 3 DF, p-value: 2.7526e-08				

The EPWP average daily wage rate and expenditure impacted EPWP opportunities created significantly (P-value <0.05) with positive effects. Therefore, expenditure and daily wage were useful predictors of work opportunities. An increase in the EPWP expenditure and wage rate resulted in more work opportunities created. The unemployed population was not a useful predictor of EPWP work opportunities with negative effects.

- **Hausman Test**

Chi sq = 0.97012, df = 1, p-value = 0.3246

Alternative hypothesis: one model is inconsistent

The Hausman test was performed to determine the test to use between the fixed and the random-effects model.

H0: Random-effects model is consistent.

H1: Fixed effects model is consistent.

In this case, since p-value > 0.05, we fail to reject the null hypothesis, then the random-effects model is consistent and efficient.

4.4.3 Graduation of EPWP

The study also sought to understand the perceptions of respondents after exiting or graduating from the EPWP programme (see table 8). The primary data for this component of the study was collected through a structured questionnaire from workers who previously participated in the EPWP in the Thulamela Municipality.

Table 9: Benefits of EPWP programme

	Yes	No	N/A
Received training or coaching during the EPWP programme	29,7%	70,3%	-
Training had an impact on skills development	27,7	6,9%	65,3%
EPWP training and support provided to beneficiaries was sufficient to get long-term employment	41,6%	58,4%	-
Contacts made by any relevant public office to check employment status.	2%	98%	-

a) Training or coaching received during the programme.

The respondents who exited or graduated from the EPWP programme were asked to indicate if they received training or coaching to enhance their skills whilst they were still active members of this programme. The majority of the respondents (70.3%, n=71) did not receive the training while in the programme. This could have been impacted by the number of respondents who joined the program while they had attained FET or higher qualifications. This high number of people who did not receive training or coaching may also be attributed to a lack of proper planning, capacity, or resources needed to identify the skills, coaching and training needs for the people being recruited in the programme. The time frame of employment within the EPWP programme also impact training received as short contracts will also result in most beneficiaries not getting a chance to attend the training.

b) Training impact on skills development

The EPWP graduate respondents were also asked to indicate if training provided during the course of their work in the EPWP programme had an impact on enhancing skills development. Table 9 shows the majority (65.3%) of the participants did not attend the training, whereas 27.7% of the respondents found the training beneficial. This raises a huge question, EPWP programme is not only intended for temporal relief of poverty and unemployment but to impart beneficial skills to those participating implies that the EPWP training programme meets the needs of the working-age adults.

c) Sufficiency of training and support provided to EPWP beneficiary

The respondents were requested to specify if any training and support provided to them during the EPWP programme assisted them in getting long-term employment. The majority (65.4%) indicated that they did not exit into long-term employment after the EPWP programme, while only 34.6% exited into long term employment. These findings imply that training and support offered by the EPWP did

not help participants find work or enter into long term employment opportunities after they had exited the programme. This indicates that to a larger extent the EPWP programme is not fulfilling its aim of ensuring that people get long term employment opportunities. The reason for this can be assumed that the temporary contracts for the EPWP are being reissued, renewed, cut or terminated prematurely or so that employers can get away from offering full-time employment.

d) Follow-up on Graduates.

The EPWP programme is intended to offer temporary relief towards reducing unemployment as one of its key performance areas, with the broad view of securing stable employment for some graduates from this programme. Thus, as part of assessing its progress, the relevant public office has to make efforts of contacting those who exited the EPWP as a way of finding if they secured employment. However, the majority (98%) of the respondents indicated that they were not contacted by the relevant public office to check their employment status. These results indicate that the EPWP lacks the aspect of feedback or monitoring and evaluation. It can be assumed that this might also be attributed to a lack of capacity as the coordinators are failing to make a follow up to see if beneficiaries of the EPWP have indeed benefited in the long run.

e) Participants' views

Figure 4 illustrates the findings relating to training received from participating in the programme. Benefits of the programme were classified into nine categories, which were “provided knowledge about the workplace”, skills acquired to be used in the workplace”, “obtained a certificate in safety, not sufficient training provided”, “workplace training was given”, “safety training at the workplace”, “field training” and “N/A” as shown in the figure below. As shown in figure 7, most respondents were in the comment category “Did not comment” (71%, n=72), followed by “safety training at the workplace” account for 15%, n=15) of the sample. The responses” provided knowledge about the workplace”, “skills acquired to be used in the workplace”, “obtained a certificate in safety “and “not sufficient training provided “have each account for 1%, n=1) of the sample.

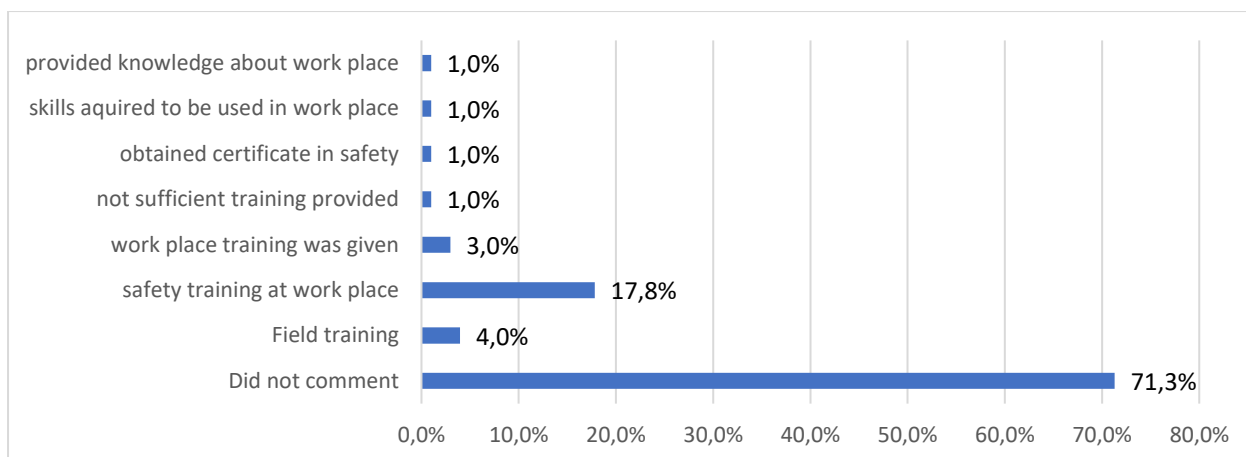


Figure 4: Benefits of the programme

The majority (71,3%) of the participants did not comment because they did not attend any training. However, most of those who attended some form of training commented mentioned that it was safety training at the workplace, followed by field training. It was also noted that some participants indicated that there was no sufficient training provided; some were of the view that the training provided knowledge about the workplace. It is noticeable that most of the respondents preferred not to comment rather than give their views concerning the training provided by the EPWP.

f) Determinants of EPWP graduation

Binomial logistic regression analysis was conducted to get a better understanding of the factors influencing whether participants found a ‘job or not’ after graduating from the EPWP programme. The study found that “job or not” was the dependent variable, whereas demographic variables, received any training or coaching, training beneficial, EPWP training and support sufficiency were used as independent or predictor variables. Model fitting information for this analysis is presented in table 10.

Table 10: Model summary

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	64.748 ^a	.525	.700

Results in table 10, indicate that pseudo R^2 (Nagelkerke $R^2 = .700$) which explains that based on the model used, 70% of the variance in whether an EPWP graduate found a job or not (dependent variable) can be explained by the predictor variables.

Table 11: Classification table

	Observed		Predicted		Percentage Correct
			Yes	No	
Step 1	Individuals who found a job after exiting the EPWP programme	Yes	43	7	86.0
		No	5	46	90.2
Overall Percentage					88.1

a. The cut value is .500

Binary logistic regression conducted in this study assisted in estimating the likelihood of getting a job from the people who graduated from the EPWP programme. Table 11 shows the cases correctly classified by the model in relation to predicting whether an EPWP graduate got a 'job or not'. The results show that 88.1% of the cases were correctly predicted in the model in relation to whether an EPWP graduate would get a job or not after exiting the programme. Further details on the individual contribution of the predictor variables included in the model are presented in table 12.

Table 12: Variables in the equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 ^a	Qualification	-1.409	.444	10.054	1	.002	.244	.102	.584
	Age	.130	.438	.088	1	.767	1.139	.482	2.689
	Gender	-1.228	.700	3.076	1	.079	.293	.074	1.155
	Disability	-.138	1.310	.011	1	.916	.871	.067	11.351
	Received any training or coaching?	2.841	2.304	1.520	1	.218	17.131	.187	1567.322
	Training beneficial?	-1.408	1.192	1.395	1	.238	.245	.024	2.531
	Sufficient EPWP training and support	3.240	.806	16.167	1	.000	25.542	5.264	123.947
	Constant	-2.121	3.508	.366	1	.545	.120		

a. Variable(s) entered on step 1: Qualification, Age, Gender, Disability, Received any training or coaching? Training beneficial? EPWP training and support sufficiency

Results presented in table 12 show that qualification ($p = .002$), gender ($p = .079$), sufficient EPWP training and support ($p < 0.001$) were statistically significant in the model on predicting whether an EPWP graduate will find a job or not after exiting the programme. The coefficient of .244 for qualification is positive, showing that a higher level of education increases the likelihood of getting a job. The coefficient of 25.542 for sufficient EPWP training and support is positive. Thus, sufficient hands-on experience from the EPWP training and support increases the likelihood of getting a job as it can be assumed that one will be possessing the sought-after skills required in the industry.

Gender was statistically significant at 10% with a positive coefficient of .293. This means that being a male or female had a bearing on whether one got a job or not after graduation. The respondents of the study comprised 61% females and 39% males. One of the EPWP target groups is “poor and unemployed women”. This is in keeping with the attempts to reduce gender inequality and poverty. On the other hand, the independent variables such as age ($p = .767$), disability ($p = .916$), “training or coaching received” ($p = .218$), and “whether training was beneficial” ($p = .238$) did not statistically significantly add to the model.

4.5 Conclusion

This chapter analysed and presented the results of the research. The chapter concluded by presenting and analysing the graduation of the EPWP. The demographic information of the participants who participated in the EPWP was presented and analysed. A summary and inferential statistics of the three key critical concepts used to assess the impact of EPWP were also presented. The aspects were coverage, adequacy and graduation of EPWP. The study used IBM SPSS v25 to analyse data and Microsoft Excel for data capturing and visualisation.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter provides a summary and the conclusion as well as the recommendations from this study. This study set out objectives in the first chapter which guided this research enquiry. The objectives were to assess the coverage of the EPWP in South Africa; to analyse the adequacy of the EPWP in South Africa; and lastly, to evaluate the graduation model of the EPWP in the Thulamela Local Municipality. These objectives were guided by an overarching positivist paradigm, aided with a quantitative research approach and quantitative research design. The study focused on EPWP opportunities created between 2008 and 2020. The instruments that were used for data collection included StatsSA data sets and questionnaires distributed to former EPWP workers for Thulamela Local Municipality. Data were analysed using both descriptive and inferential statistics (e.g. regression analysis). Results were then presented in graphs and tables. The following sections provide a summary of findings, recommendations, future research areas and study conclusion.

5.2 Summary of findings

The findings with regards to the first objective on coverage of EPWP in South Africa are that EPWP work opportunities that were created across South Africa greatly contributed to the temporal relief of unemployment, even though in some areas the contribution was minimal. On the national scale, the Gauteng Province recorded the highest coverage. However, a work opportunity created by the EPWP is still not enough to address poverty and unemployment in South Africa. Empirical evidence has shown that sustainable employment and employment guarantees have a more positive effect in terms of reducing poverty. According to Kaniki and Omilola (2014), social protection has a significant impact in addressing poverty, inequality and vulnerability.

In relation to the objective on the adequacy of the EPWP in South Africa, the summary of findings are as follows, South Africa's EPWP wage daily rate is higher compared to both the daily international poverty line and the daily food poverty line. Compared with international standards, the EPWP programme in South Africa is providing a minimum daily wage rate which is higher than international rates. This has a major impact on the effectiveness and attractiveness of the program. Studies have shown that countries have opted for very different wage levels. The wage level has a major impact on the effectiveness of the program, a competitive wage would attract many unemployed people to

participate in the programme (Zimmermann, 2014). A good example is the Mahatma Gandhi Guarantee Scheme in India. The programme wage was set equal to the minimum wage. The program seems to attract poor households and a few rich people. However, the targeted disadvantaged group was still reached (Zimmermann, 2014). The EPWP minimum daily wage rate across all provinces in South Africa was high compared to the daily international poverty line, food poverty line, and the upper-bound poverty line (UBPL).

The third objective of the study was to evaluate the graduation model of the EPWP in the Thulamela Local Municipality. The study found that the majority of people who exited from this programme did not receive training or coaching during this programme. Of those who did receive some training, they reported receiving safety training at the workplace. Furthermore, the majority of the participants did not get long term employment after exiting the programme.

A binary logistic regression was further performed to ascertain the effects on the determinants of EPWP graduation. The study found that qualification, gender and EPWP training and support were statistically significant to the model predicting whether an EPWP graduate would find a job or not after exiting the programme. Edgley *et al.* (1991) carried out a study on the determinants of employment status and found age and education to be among the most important factors. Education and age were significant determinants of employment status. Dunga and Sekatane (2014) also carried out a study on the determinants of employment status and its relationship to poverty in Bophelong Township, Gauteng Province, South Africa. Gender, level of education, age, marital status and labour force were selected factors and were analysed to determine their impacts on the employment status. The results from a logistic regression showed that education level, age, marital status were significant determinants of employment status.

Increasing the sufficiency of EPWP training and support or having higher qualifications were associated with an increased likelihood of finding a job after graduating from the EPWP programme. Being a male or female also contributed to the likelihood of finding a job after graduating from the EPWP programme. Wamuthenya (2010) conducted a study on the determinants of employment in the formal and informal sectors. The study revealed that higher qualification levels enhance the opportunities for working relative to no qualification. In terms of gender, the results showed that being female rather than male enhances the likelihood of employment. Females were the majority of participants in the study and this is not surprising as the EPWP focus more on employing poor women. Most participants who got a job or started their own businesses after exiting the programme were females compared to males.

5.3 Recommendations

This section provides recommendations from this study on ways to improve the EPWP programme and its intended outcomes. The coverage of EPWP programmes indicated that there are disparities in employment opportunities across South African provinces. This study recommends that a model must be developed that guides the allocation of funds in a manner that takes into consideration areas with a big unemployed population. In doing so this will ensure that unemployed people will not migrate to bigger cities, as they will also be having as much chance to get an EPWP opportunity even in their home area or province. It is also recommended that all the areas or provinces with the least coverage be identified, and funds channelled towards such disadvantaged communities

To ensure equity in social development without leaving the marginalized communities behind, there is a need for multiple stakeholders to come together and work towards the social development of local communities. The EPWP is a mandate for all government departments who must also be involved in identifying projects that create more EPWP opportunities in various areas and thus create jobs for those who need employment. This will ultimately contribute to not only increased EPWP coverage but also may lead to social development across South Africa. Furthermore, even though the EPWP is designed to provide temporary employment, sustainable or employment guarantees are a factor that policymakers should also consider as this has been shown to have a positive effect on poverty reduction.

In relation to the adequacy of the EPWP minimum daily wage rate, this study noted that some provinces have higher rates compared to others. This study recommends that there be a review of the minimum daily wage rate to address such variances. The current daily wage scale shows that some provinces are exploiting the unemployed population by paying less daily wage rates whereas others are being paid more. Such a system, if it remains in place, maintains and widens the inequality gap between the rich and the poor. Although it can be argued that the daily wage rates are higher than the international poverty rate, there is still room for improvement. Previously disadvantaged communities in provinces like the Mpumalanga study had the lowest EPWP minimum daily wage rates. On the other hand, “affluent” provinces such as the Western Cape had the highest EPWP minimum daily wage rates. These findings indicate that inequality across South Africa may still be rife, and such must be addressed so to ensure equity in the social development of our communities.

The EPWP programme is intended to enhance people’s skills so that they can gain the experience essential for long term employment. Thus, to attain these broader goals the EPWP employment

opportunity host sectors must be capacitated. They need to get proper training so that they can be able to design their EPWP activities in a manner that incorporates skills development and training from the onset. People must not be taught about the workplace environment they are working in only. There is also a need to expand the scope of the training so that the broader goal for this programme can be attained. In addition to this, a database must be created to monitor and evaluate the progress of the EPWP in getting participants long term employment opportunities. Also, memoranda of the agreement must also be established so that various government sectors and departments participating in this programme do not exploit the unemployed population. Instead, they should come to an understanding that should lead to long term employment without contracts being terminated prematurely.

5.4 Areas for future research

Areas for future research emerging from this study include an investigation into the factors contributing to differences in EPWP coverage from one province to another. This will help understand the factors driving certain areas to create more EPWP opportunities than other areas. Similarly, another area that can be further researched is determining the factors causing the difference in minimum EPWP daily wage rate between different provinces across South Africa. It is a concern that people in the same programme are paid different daily wage rates, this raises questions is it because of qualifications, nature of the community i.e., developed compared to previously disadvantaged areas. Another possible future research area includes an investigation into training and skills development programmes conducted by the EPWP host employers as part of enhancing the human capital development of their employees. It is concerning that, even though unemployed graduates need opportunities to grow and develop in preparation for long term employment, they often exit the programme without acquiring the much-needed skills for personal and professional growth and development.

5.5 Conclusion

The research investigated the coverage, adequacy and graduation of the EPWP in South Africa. It is concluded that the overall EPWP coverage for South Africa is fairly small, compared to the coverage rates noted in other provinces. This is understandable because the EPWP on its own cannot address the high levels of unemployment in different provinces. Therefore, more can still be done to increase EPWP opportunities in provinces with low coverage. With regards to the adequacy, the EPWP daily wage rates for South Africa are higher than the international standards such as the international poverty daily rate. This shows that rates being paid are internationally competitive. However, there is a disparity in the wage rates between the various provinces, which may potentially exacerbate the

marginalization of the previously disadvantaged provinces in South Africa. Graduation from the EPWP in the Thulamela Local Municipality revealed that the programme is not meeting its broader goals of equipping people with skills and training required for getting access to long term employment opportunities. (Ncube, 2014) Thus, this study concludes that the EPWP programme is really helping as a temporal relief for unemployment but much still have to be done to maximize the potential of this programme in contributing towards social development in various communities. (Aliber *et al.*, 2006)

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Appendix 1: Questionnaire

QUESTIONNAIRE ON THE GRADUATION OF EPWP PARTICIPANTS AFTER THEY EXIT THE PROGRAMME IN THE THULAMELA MUNICIPALITY.

Respond to the following questions by putting an X on the relevant box in the right hand column that corresponds with your particulars

1. QUALIFICATIONS

No formal qualification	
Less than matric	
Matric	
FET and higher	

2. AGE

Less than 20 yrs	
21-30 yrs	
31-40 yrs	
41-50 yrs	
51 yrs and above	

3. GENDER

Male	
Female	

4. DISABILITY

Disabled	
No disability	

5. Did you receive any kind of training or coaching while you were still in the programme? if no, please skip question 6.

Yes	
No	

6. Did you find the training beneficial? Please elaborate on your answer.

Yes	
No	

Comment:

7. Was the income received from the programme adequate to meet your basic needs? If No please skip question 5.

yes	
No	

5. Were you able to save some money from the wage you received while you were still participating in the EPWP?

yes	
No	

7. What, if any, were/are the benefits of participating in the programme (multiple answers?)

Got a permanent job	
Started own business using skills and experience acquired	
Opportunity for further training d) Obtained temporary work e) Other, specify	
Obtained temporary work	
Other, specify:	

8. Do you think that the training and support provided to you as the EPWP beneficiary is sufficient to exit into long term employment?

Yes	
No	

9. Have

you ever been contacted by any relevant public office to check your employment status?

Yes	
No	

Appendix 2: Budget

OPERATIONAL COSTS			
CATEGORY	ITEM	AMOUNT	MOTIVATION
1. Research assistance	1. Stata training	R 1200 X7=8400	Stata is the data analysis tool that the study will utilise; thus training is needed
2. Materials & consumables	1. Stationary	R 2500.00	Stationary such as writing pads, USB, questionnaire boards
	2. Books	R 3000.00	Research books are essential for research
3. Data collection	1. field workers remuneration	R 2000.00X2=4000	The study will require 2 field workers to assist with the data collections to speed the data collection process.
	2. Travelling expenses	R 10000.00	The researcher, together with the field workers, will need, transport at the field.

4. Language editing	1. Technical & Language editing	R 5000.00	Research proposal and when the study is completed , will go through language editing
5. printing & banding	1. Printing	R 4000.00	Printing for making as well as marking for the final dissertation
	2. banding	R 3500.00	Banding both ring band and the leather banding is once done.
		TOTAL R 40 400.00	

Appendix 3: project plan

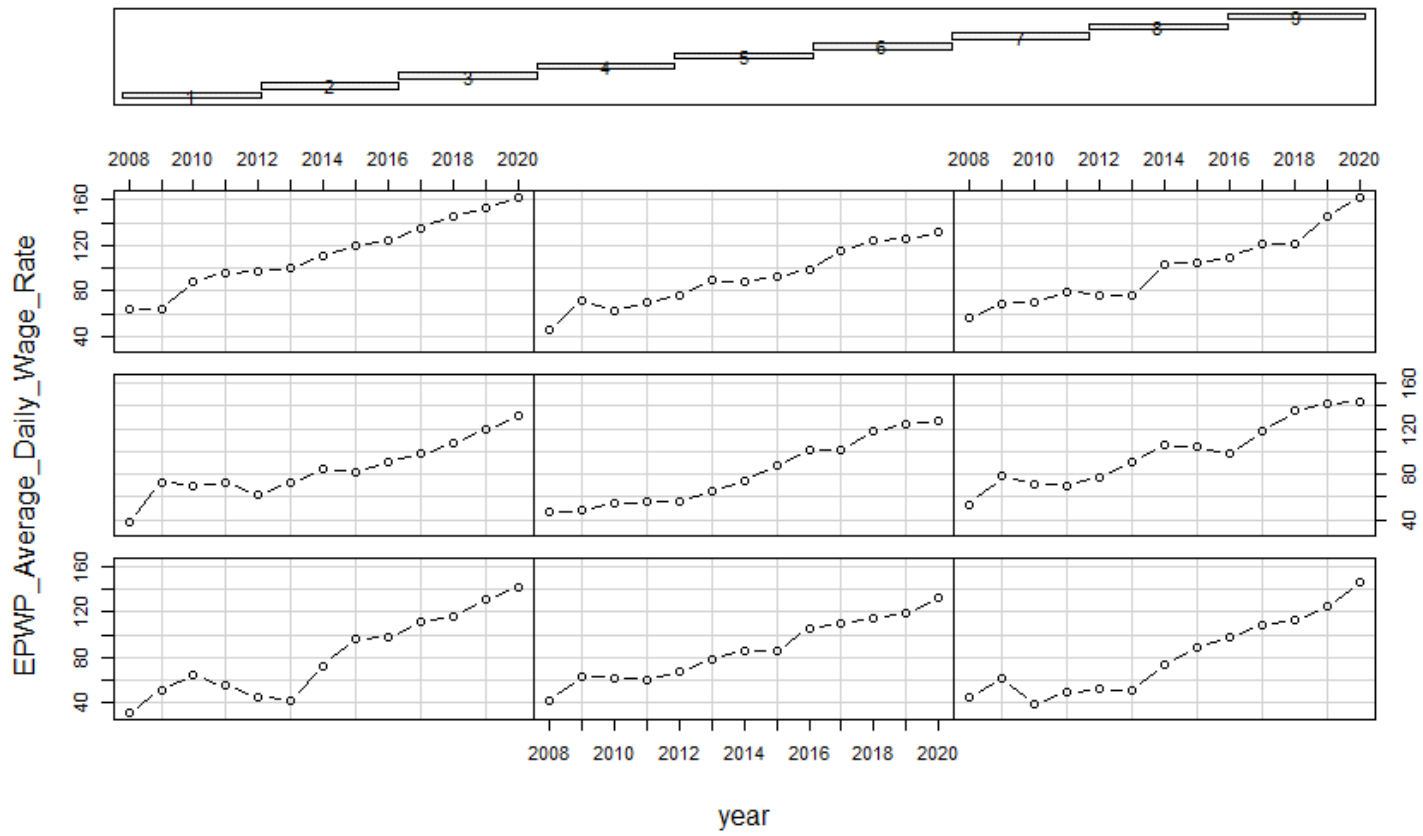
	Month of completion											
	J	F	M	A	M	J	J	A	S	O	N	D
2019												
Registration												
Proposal development												
Proposal presentation to the Department												
2020												
Submission of Research Proposal to the School board												
Adjustments of the research proposal												
Submission of Research proposal to the University Higher Degrees Committee												
Data collection												
Data Analysis and Interpretation												
Submission of Draft Thesis												
2021												

Revision																			
Submission of Final Research																			
Graduation																			

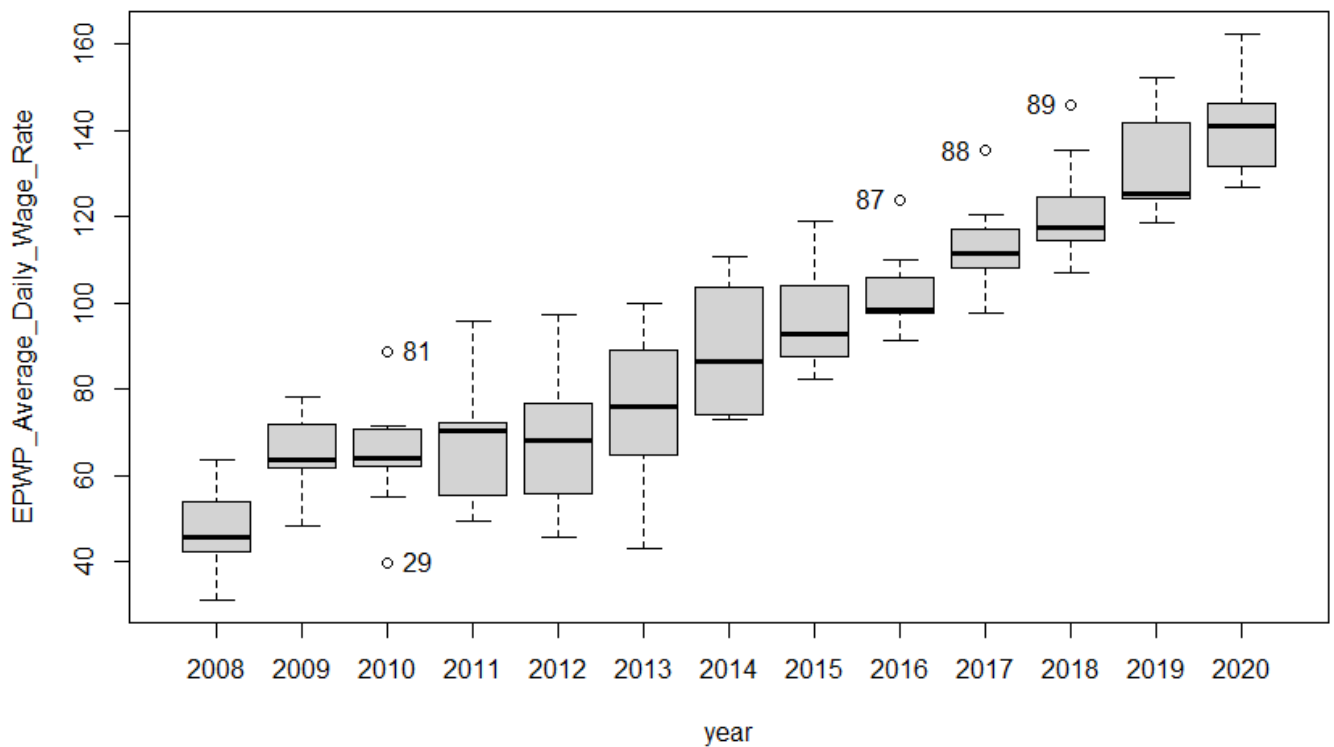
Appendix 4: Panel Data

Data exploration

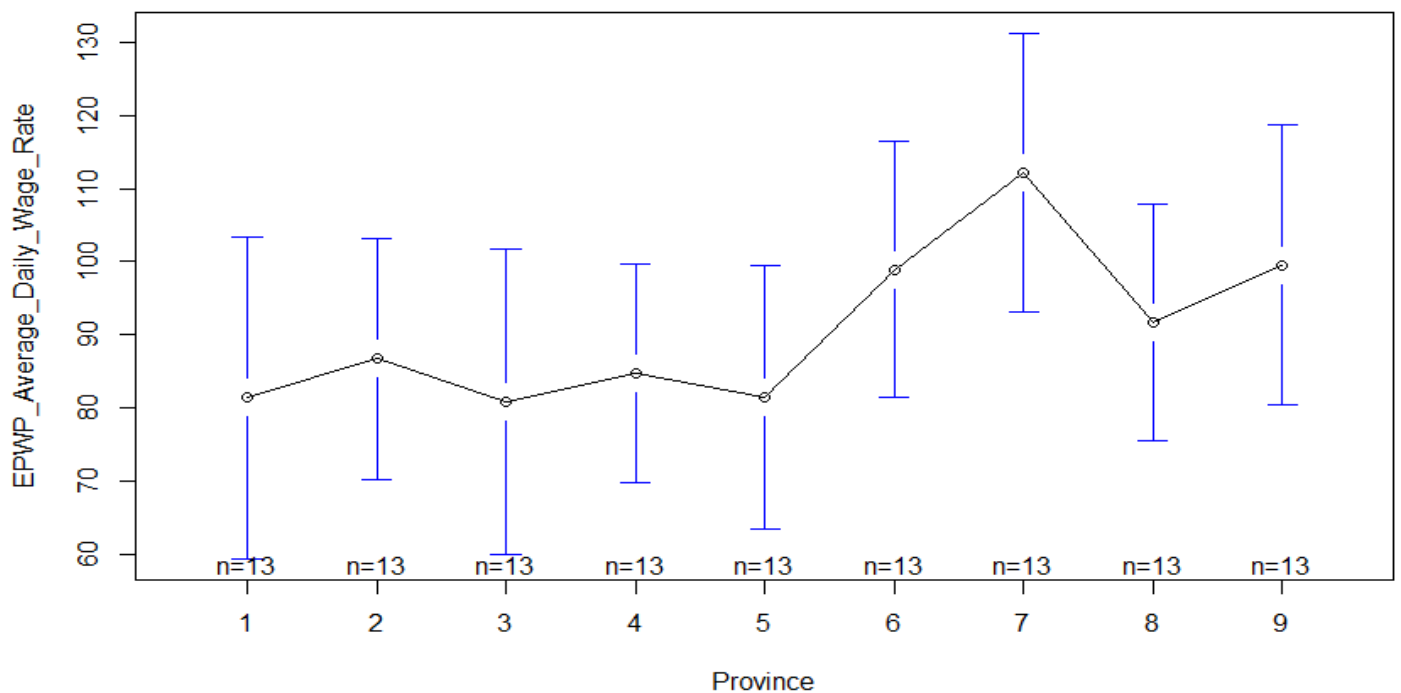
Given : Province



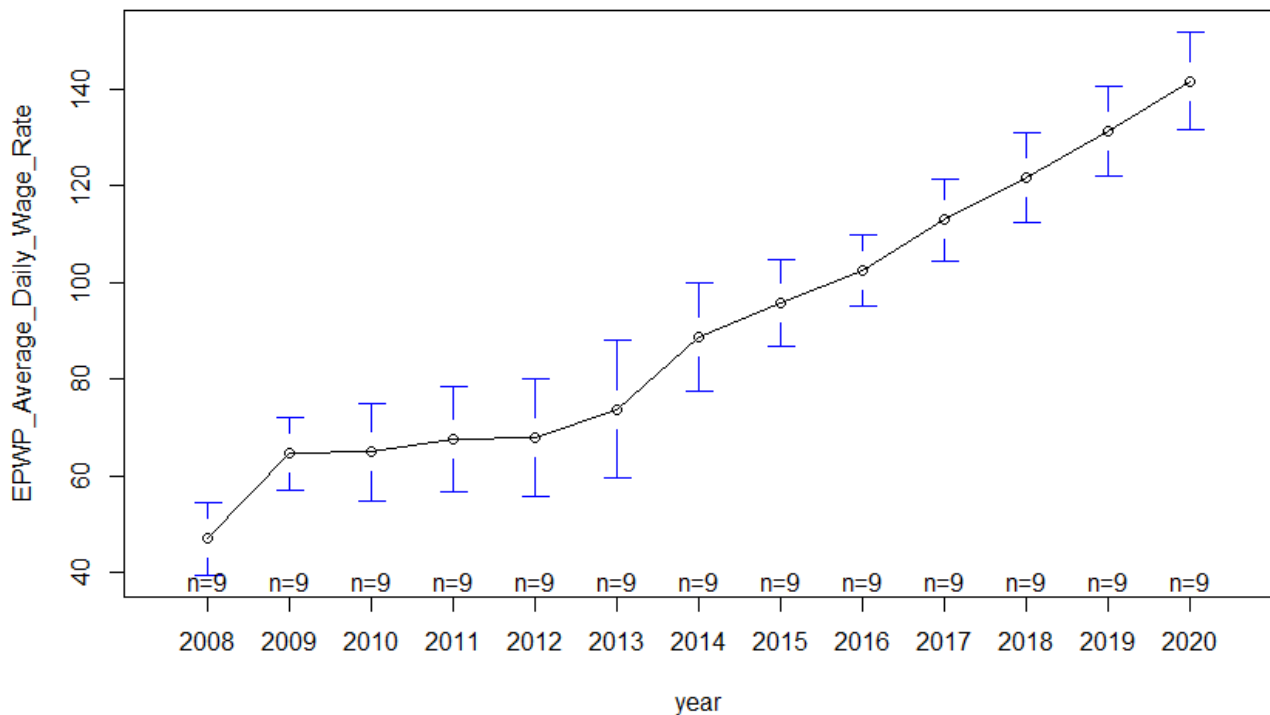
Scatterplot of EPWP average for the 9 provinces over from 2008 to 2020



Heterogeneity of EPWP average daily wage across Provinces



Heterogeneity of EPWP average daily wage across s



Basic OLS regression model

Residuals:

Min	1Q	Median	3Q	Max
-50.057	-23.053	-1.708	18.821	68.988

Coefficients:	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	6.958e+01	5.481e+00	12.694	< 2e-16 ***
EPWP WORK OPPORTUNITIES CREATED	1.950e-04	5.948e-05	3.278	0.00139 **
UNEMPLOYED POPULATION	1.638e-05	6.454e-06	2.537	0.01254 *
EPWP EXPENDITURE	-2.495e-09	2.238e-09	-1.115	0.26738

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 28.27 on 113 degrees of freedom
 Multiple R-squared: 0.19, Adjusted R-squared: 0.17
 F-statistic: 8.896 on 3 and 113 DF, p-value: 2.425e-05