

An appraisal of guidelines and practices for municipal infrastructure support agent to execute labour-intensive construction projects in South Africa

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Abstract

Purpose – Several studies have shown that the mechanism of labour-intensive construction (LIC) projects can mitigate high unemployment and create skilled development, especially in developing nations. The guidelines and practices for implementation may have faced some encumbrances in some countries. Whether the current guidelines and practices for municipal infrastructure support agent (MISA) to execute LIC projects face hindrances in South Africa has yet to receive in-depth studies. Thus, this study attempts to proffer policy solutions to improve the proposed revised guidelines and practices for MISA in LIC project execution in South Africa.

Design/methodology/approach – The study's objectives were accomplished via a combination of 16 virtual interviews of built environment professionals and government officials involved in LIC project execution in South Africa and supported by the analysed documents. A thematic approach was used to analyse the data and presented two main themes.

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Findings – Findings show lax enforcement of discretionary funds, lax institutional capacity and inadequate individual skills, among others, as the gaps in existing South Africa's LIC guidelines and practices. Also, policy solutions to address the gaps were proffered.

Practical implications – The suggested feasible policies will improve the proposed revised guidelines and practices for MISA in LIC project execution in South Africa. This guide will promote the development of individual skills, institutional capacities and increase employment across South Africa.

Originality/value – This study promotes the use of LIC to create employment and contribute to proffering measures that will improve the proposed revised third edition of the guidelines and practices for MISA to execute LIC.

Keywords Construction projects, Guidelines, Labour-intensive, Municipal infrastructure, South Africa

Paper type Research paper

1. Introduction

The global construction industry is one of the largest drivers of economic growth. The industry contributes about 10% annually to the world's gross domestic product (Economy Watch, 2021). The author stated that about 7% of the employed persons worldwide are from this sector. It is the base of the world economy. This is because the sector is one of the labour-intensive sectors. The concept "labour-intensive construction (LIC)" has been described in many ways by scholars (Department of Public Works, 2015; McCutcheon, 2001, 2017; Meintjes, 2020) across the globe. Ng and Tang (2010) and Meintjes (2020) described labour-intensive tasks as tasks that demand human force, for example lifting, lowering, digging, pushing, pulling, etc. LIC involves activities conducted with manpower and reinforced by plant and equipment only where direct labour cannot be carried out the task (Department of Public Works, 2015; McCutcheon, 2017). The positive economic impact of LIC is one area that should be explored but outside the scope of this paper. It is not a threat to the digitalisation of the industry. McCutcheon (2017) identified two main objectives of LIC: (1) good quality and accessible competent products parallel to conventional construction without compromising quality, time and cost and (2) an improvement in the direct labour per unit of operation (Jairam and Allopi, 2018).

Many countries are facing a high level of unemployment associated with poverty (World Bank, 2020) and more complicated with the COVID-19 pandemic across the globe. Mitigating the impacts of this unemployment is of great concern to many countries. Considering the high unemployment rate that has been attributed to the COVID-19 crisis across the world, Natrass and Seekings (2015) opined that a country with a high unemployment rate needs to utilise its available human resources fully. LIC creates employment opportunities, especially in developing countries (McCutcheon, 2001, 2008; Emuze and Sorenson, 2014; Natrass and Seekings, 2015). However, construction projects, as a rule of thumb, are labour-intensive. This validated the submission of CIDB (2005) and Emuze and Sorenson (2014) that found construction projects such as dams, roads, irrigation canals, stormwater drainage, water supply and treatment plants, residential and commercial houses, among others, are inherently labour-intensive. These projects are termed "employment-intensive construction (EIC)" or "labour-intensive construction (LIC)" in the construction industry, especially in developing countries such as South Africa. Many developing nations, including South Africa, encourage LIC via policy to mitigate unemployment and enhance economic growth (CIDB, 2005; Meintjes, 2020). McCutcheon (2017) found that LIC is a platform for skills acquisition and development apart from job creation.

LIC is mostly promoted in developing countries to reduce high unemployment. In Yemen, Alaghbari *et al.* (2019) discovered that construction activities are labour-intensive, and poor construction labour productivity may cause cost and time overruns in projects. They identified labour's experience and skills, materials availability, and site operation efficiency as top factors influencing construction labour productivity. In Ghana, Boadu *et al.* (2020) and Bamfo-Agyei *et al.* (2022) asserted that many construction firms rely on labour-intensive mechanisms because they are relatively cheap and more accessible than equipment-intensive

or capital-intensive methods. In Nigeria, [Olanrewaju et al. \(2020\)](#) suggested that the Nigerian Government should adopt a labour-intensive strategy to accommodate disadvantaged households into productive activities for optimal outcomes. Labour mobility was one of the drivers during the vote for Brexit as a response to the issues arising from intra-European Union (EU) labour mobility ([Bickerton, 2019](#)). The LIC concept is familiar to the South African Government as a platform to create jobs and mitigate unemployment. Still, the guidelines and practices are not without some encumbrances that may have affected the full implementation. In 2021, MISA invited suitably qualified research entities to study the existing LIC guidelines and practices and update the guidelines to suit the current environment for MISA, Sector Departments and Local Government (Municipalities) ([MISA, 2021](#)). However, [Meintjes \(2020\)](#) attempted to address the issues from the ergonomics perspective and found that it was not applied to the designs of labour-intensive projects during the construction phase.

Apart from a paucity of materials in this area, few that attempted to work either conducted a review or quantitative approach, such as [Thwala \(2011\)](#), [Mfusi and Govender \(2015\)](#), [Altbeker and Masiangoako \(2019\)](#) and [Mkhize \(2022\)](#). [Thwala \(2011\)](#) focused on how initiatives like expanded public work programmes and skill development can be harnessed to proffer measures to low skills level and the rising unemployment in South Africa. In a review, [Altbeker and Masiangoako \(2019\)](#) emphasised that investing in infrastructure development is key to growing labour-intensive sectors like the construction industry. They found job creation through infrastructure development has been challenging because of the mechanisation involved. However, besides the quantitative approach and employment generation, [Mkhize \(2022\)](#) found that LIC is more expensive and time-consuming when compared to conventional methods (plant machines). The reviewed literature above shows that none addressed the issue of LIC projects within and outside South Africa from the perspective of appraising the gaps in the existing guidelines and practices for a labour-intensive agency such as MISA. This study fills the gaps in existing South Africa's LIC guidelines and practices and proffer policy solutions to improve the proposed revised guidelines and practices for MISA in LIC project execution in South Africa. This is one of the study's motivations. This research identifies the missing issues in the current guidelines and practices and suggests feasible solutions that will promote LIC use across the 44 district municipalities of South Africa. Thus, this paper attempts to proffer policy solutions to improve the proposed revised guidelines and practices for MISA in LIC project execution in South Africa via the following objectives:

- (1) To identify the perceived gaps in existing South Africa's LIC guidelines and practices that may have hindered full implementation.
- (2) To proffer policy solutions to improve the proposed revised guidelines and practices for MISA in LIC project execution in South Africa.

1.1 Labour-intensive construction (LIC) projects

The concept "labour-intensive construction (LIC)," "employment-intensive construction (EIC)" or "Labour-based construction (LBC)" is not a new concept to many governments, especially in developing nations. The mechanism allows the government to generate jobs for the geometric unemployed via various public work programmes against a mechanical approach ([ILO, 2011](#); [McCutcheon, 2017](#); [Jairam and Allopi, 2018](#)). They stated that this approach, if well managed, is sustainable. There is opposition to this mechanism because of quality concerns, but extensive international experience shows otherwise. Records show that the Employment Intensive (EI) mechanism has operated since the 1930s in Europe, the USA, Asia and Africa. Many civil engineering projects have been executed using this mechanism. There is no universal definition for "labour-intensive construction (LIC)." For this study, [McCutcheon et al.'s \(2006, p. 400\)](#) definition was adopted and defined LIC "as the economically

efficient employment of as great a proportion of labour as is technically feasible, ideally throughout the construction process including the production of materials, to produce as high a standard of construction demanded by the specification and allowed by the funding available; labour-intensive construction results in the generation of a significant increase in employment opportunities per unit of expenditure by comparison with conventional capital intensive methods.” This definition encompasses project performance’s basic constructs: cost and quality. This indicates that LIC projects can enhance high value for money to the client if well executed and create employment (Ng and Tang, 2010; Jairam and Allopi, 2018).

The labour-intensive sector demands substantial human labour to generate industrial outputs (Shahidul and Syed-Shazali, 2011). Labour-intensive sectors use labour extensively for tasks with a higher proportion than machines (Shahidul and Syed-Shazali, 2011). In the labour-intensive sectors, investment in labour is much more significant than investment in machineries. Hospitality, construction, garments manufacturing and coal mining are examples of labour-intensive sectors. For developing economies like South Africa, the labour-intensive sector could be a better choice than a machine-intensive one. ILO (2011) highlighted some of the advantages of LIC in a developing economy like South Africa. They are job creation for the people, opportunities for the women and youth through social security, emerging local entrepreneurs, promoting local economic development and reducing rural-city movement (Jairam and Allopi, 2018). Others are creating a platform for skills transfer to workers, optimisation of local materials, demands for fewer skilled operators and construction projects less dependent on foreign exchange. Deb and Das (2009) identified China, India and Bangladesh as examples of countries benefiting from LIC. Parida and Pradhan (2016) opined that the Government of India has been using a labour-intensive approach to improve employment opportunities in the manufacturing sector by absorbing both unskilled and skilled manpower.

Africa, where South Africa belongs, is one of the regions with the highest unemployment rate globally (Nattrass and Seekings, 2019; Francis and Webster, 2019; Bikitsha and Amoah, 2022). In Ghana, the mechanism (LIC), called Labour-Intensive Public Work (LIPW) programme under the Ghana Social Opportunity Project (GSOP) was utilised to create jobs and income-earning for the rural residents during the provision of basic infrastructure (Eshun and Mpho, 2019). The authors suggested that the community should be engaged in the wage rates before the commencement of the project. Nattrass and Seekings (2019) claimed that the capacity to create new employment to enhance economic growth worsened in the late 20th and early 21st centuries. The labour-intensive sectors have been abandoned in the manufacturing sector. This is one of the significant labour-intensive industrial sectors. South Africa’s unemployment issue is largely structural (Nattrass and Seekings, 2018). They identified employment decline in some sectors, such as agriculture and mining, as the root cause. Nattrass and Seekings (2018) acknowledged that the high unemployment rate in countries such as South Africa could only be mitigated with more labour-intensive growth and encouraged labour-intensive companies to generate employment as fast as possible via driven supportive industrial policy.

In South Africa, Thwala (2007), Musekene (2015) and McCutcheon (2017) described LIC as one of the approaches that are in use to mitigate unemployment and grow the economy. They affirmed that labour-intensive work methods have long been utilised in generating noteworthy infrastructure works. Labour-intensive programmes generate more direct and indirect local job opportunities and income by engaging locally available materials. Previous studies such as Thwala (2007) and McCutcheon (2017) show that investment in construction and engineering projects has a huge potential to mitigate the high unemployment and poverty levels in South Africa. McCutcheon (1995, 2017) found that unemployment is one of South Africa’s most pressing issues. To address this issue, the government engages the LIC mechanism to mitigate the high level of unemployment. It has been used in urban housing and infrastructure (storm-water drainage, water supply, street electrical supply, sewerage reticulation and treatment and waste disposal) and rural

(roads, irrigation canals and dams). [Musekene \(2015\)](#) argued that labour-intensive mechanisms assisted in executing the Gundo Lashu programme, especially in the road sector. Lack of planning for sustainable financing, absence of community engagement and poor product quality participation were identified as the programme's challenges during implementation. This approach has been extended to major programmes in Kenya, Botswana, Malawi, Lesotho and Botswana for labour-intensive road construction and maintenance.

1.2 Labour-intensive construction guidelines

The guideline mainly focuses on small-scale contractors and their supervisors in LIC projects. This guideline is a reference book for construction contractors, sanitation, water provision, solid waste, building construction works, professionals in the built environment, technologists, technicians, project managers and planners, among others, for labour-intensive engagement and related construction supervision services ([International Labour Organisation \(ILO\), 2011](#)). The guideline is primarily developed from ILO-Advisory Support, Information Services and Training (ASIST) publications and modified to the Southern African context ([ILO, 2011](#)). The guideline targets LIC-related programmes where the government and other key stakeholders in the private sector cooperate to mitigate the unemployment rate. [ILO \(2011\)](#) identified the public sector, non-government organisation and the private sector as the key users of the guideline. The public sector comprises the central government and provincial and local government.

The current and third editions of the guidelines for implementing labour-intensive infrastructure projects under the expanded public works programme (EPWP) came out in 2015 ([Department of Public Works, 2015](#)). This is one of the South African Government's long-term programmes to reduce poverty and mitigate joblessness. The LIC is one of the instruments to accomplish this goal via job opportunities and construction-based training to acquire skills for independent engagement, such as plumbing, steel fixing, masonry and carpentry. The training programme covers infrastructure, social, non-state, environment and culture ([Department of Public Works, 2015](#)). One of the aims is to utilise line function budgets so that government expenditure outcomes will be more job creation, especially for unskilled workers. This edition (third) is an improved version of the second edition, but there is an opportunity for a better improvement with the recent trend in the construction sector. Thus, this paper needs to proffer policy solutions to improve the existing guidelines and consider them in the revised version.

1.3 Hindrances to labour-intensive construction (LIC) projects

Hindrances to LIC projects are issues that cannot be overlooked. [Natrass and Seekings \(2019\)](#) identified international competition and government policies that undermined the competitiveness of South African producers. One of the outcomes was increased unemployment. Unemployment is a major root cause of poverty and inequality worldwide, including in South Africa. Similarly, [ILO \(2011\)](#) and [Mkhize \(2019\)](#) found that unemployment and inadequate decent employments are some drivers of poverty. [Natrass and Seekings \(2019\)](#) emphasised that this is one of the reasons labour-intensive development and a rising job elasticity of development are pertinent for inclusive growth. Among the government policies that undermined the locals is wage regulation across South Africa's industries ([Natrass and Seekings, 2021](#)).

[Natrass and Seekings \(2018\)](#) identified bad policies and assumptions as components of the hindrances to labour-intensive sector. [Natrass and Seekings \(2018\)](#) opined that setting minimum wages at a level only the high-ranked firms can afford without considering the workers in these high-ranked firms. This will rule out the growth of more labour-intensive

jobs. The authors suggested a commission of inquiry to explore how to grow labour-intensive development. Also, they suggested different minimum wages for different sectors to allow adequate wages for expanding labour-intensive sectors such as the construction sector. The recent proliferation of recruiter-initiated cooperatives poses hindrances to South Africa's system and has made the labour-intensive unattractive to the operators. The government's strategy of implementing minimum wages has forced employers to upgrade mechanically with less labour-intensive usage (Nattrass and Seekings, 2018). Institute of Municipal Engineering of Southern Africa (IMIESA) (2020) identified lax enforcement of discretionary funds in people's engagement in LIC. Nattrass and Seekings (2018) discovered that if this mandatory condition, as contained in the Division of Revenue Act was enforced, people would be engaged to execute the work being executed by heavy equipment. This would have reduced the unemployment rate in the job market.

2. Research method

The research method adopted for this investigative paper was qualitative via phenomenology. Phenomenology is a qualitative research design that appropriately deals with the study context (Garcia and Gluesing, 2013; Ebekoziem and Aigbavboa, 2021; Aigbavboa *et al.*, 2023a, b). Given the unexplored dimension of the research content, this approach is better accepted and strengthened by a similar study conducted by Emuze and Sorenson (2014) that adopted the same methodology. Emuze and Sorenson (2014) investigated LIC in South Africa. Sixteen semi-structured virtual interviews were adopted as the instrument for the data collection and supported by the analysed documents (Leedy and Ormrod, 2009; Springer, 2010), and saturation was achieved. This aligned with the study of Wiltshire (2016), who interviewed eight participants in a similar study but focused on public work scheme and how it relates to theories in South Africa. The study population of Wiltshire (2016) guided this current study. The researchers ensured that all key stakeholders were represented regarding participants' selection. The engaged participants were knowledgeable about the subject matter. This includes academicians in the built environment, construction practitioners and government officials that have been involved and knowledgeable about LIC projects in South Africa, as presented in Table 1. The collected data were analysed through a thematic approach. Johannesburg was adopted as the study area because it is the largest commercial hub city in South Africa and construction activities are high. Accessing participants to share a live experience will be straightforward. In Table 1, the interviewees' brief job descriptions, years of experience and ranks were captured. The background of those engaged confirms they are well-informed concerning LIC as it is applied in the South African construction industry. The interview questions are appended in Appendix and assisted in providing answers to the main paper's objectives.

The paper adopted snowball and purposive sampling techniques. The purposeful selected the participants across the board, followed by snowball sampling (Teddlie and Tashakkori, 2010). The combination enhanced the saturation and a better representation. Also, a similar approach was adopted by Emuze and Sorenson (2014), as previously explained. The collated data were coded (Corbin and Strauss, 2015; Ebekoziem, 2020a, b). The conducted virtual interview adopted online WhatsApp video, Zoom, and Microsoft Teams and lasted 60 min on average for each participant. The data were analysed via thematic analysis. One hundred and two codes emerged. From the emerged 102 codes, eight categories were developed. Finally, two themes emerged (perceived gaps in existing South Africa's LIC guidelines and practices and proffer policy solutions to improve the proposed revised guidelines and practices for municipal infrastructure support agent (MISA) in LIC projects execution in South Africa).

Table 1.
Summary of
interviewees'
description

ID	Participant	Years of experience	Rank/Firm
P1	Construction Manager/ Academician	22 years	Senior lecturer (part-time) and operational manager pf medium contracting firm
P2	Quantity Surveyor/ Academician	9 years	Lecturer and practicing QS
P3	Architect/Academician	16 years	Senior lecturer and practicing architect
P4	Architect/Academician	20 years	Reader/Associate Professor
P5	Engineer/Academician	16 years	Senior lecturer and practicing engineer
P6	Engineer/Academician	12 years	Senior lecturer and practicing engineer
P7	Contractor	22 years	Managing director/Small firm
P8	Contractor's staff	18 years	Operational manager
P9	Contractor	20 years	Director/Medium contracting firm
P10	Contractor	21 years	CEO/small contracting firm
P11	Municipal representative body	10 years	Water and sanitation specialist
P12	Health and safety officer	15 years	Director
P13	Contractor	3 years	Senior staff of a large construction firm
P14	Contractor	8 years	Management staff of a medium contracting firm
P15	MISA staff	16 years	Management staff
P16	MISA staff	20 years	Management staff

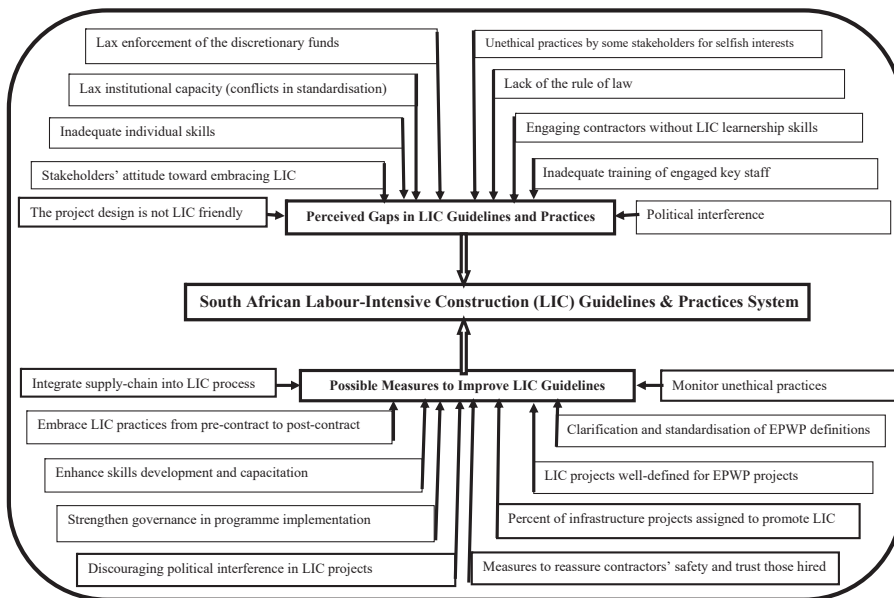
Source(s): Created by Authors

3. Results and discussion

The significance of LIC for employment creation and economic growth through poverty reduction in South Africa cannot be over-emphasised. However, implementing this short- to long-term programme is challenging. Subsequent sub-sections present analysed findings from the identified perceived gaps in the existing LIC guidelines and proffer measures to improve the proposed revised guidelines and practices for MISA in LIC project execution in South Africa. [Figure 1](#) illustrates the thematic network of the perceived gaps in the existing LIC guidelines and proffers measures to improve subsequent revised versions. Therefore, findings and discussion from this study are presented.

3.1 Theme one: perceived gaps in LIC guidelines

This sub-section presents the perceived issues facing existing South Africa's LIC guidelines and practices. One germane point that emerges is that findings across the board agree that there is a lacuna in existing guidelines and practices. It has hindered government and its partners from implementing infrastructure and construction projects using LIC. This shows that the EPWP vision and mission may have been affected. South Africa's Government introduced EPWP to mitigate poverty and create employment by engaging citizens in direct labour construction (P6, P9, P12 and P19). Findings agree with the study of [Mfusi and Govender \(2015\)](#) and [IMIESA \(2020\)](#). [Mfusi and Govender \(2015\)](#) affirmed that EPWP was established to address unemployment and poverty alleviation issues, especially in rural areas. [IMIESA \(2020\)](#) reported that President Cyril Ramaphosa planned to use LIC method for four rural roads of 50 km each. Creating jobs, developing skills transfer and effective cost control are essential. The programme spans four sectors. This includes infrastructure, social, non-state and environment and culture sectors ([Department of Public Works, 2015](#)). The EPWP is supervised by the National Department of Public Works (P4). The programme intends to use a line budget to create work opportunities for unskilled labourers in construction and maintenance projects



Source(s): Created by authors

Figure 1. Thematic network of perceived gaps in South African LIC guidelines and practices

(Thwala, 2011). All public organisations engaged in infrastructure or construction projects should contribute to the programme via the established guidelines and practices (P1, P3, P14, P17 and P20). Findings reveal a lacuna in the guidelines and may have hindered implementation. The study identified key gaps in existing South Africa's LIC guidelines and practices. This includes lax enforcement of the discretionary funds, lax institutional capacity (conflicts in standardisation), inadequate individual skills, project design is not LIC friendly, stakeholders' attitude toward embracing LIC and political interference. Others are inadequate training of engaged key staff, engaging contractors without LIC learnership programme skills, lack of the rule of law and unethical practices by some stakeholders for selfish interest, as presented in Figure 1.

Regarding the gaps, Participant P13 says, "[. . .] I believe the gap is in the definitions of a 'job' in terms of EPWP guidelines and the measurement thereof. Lack of the rule of law regarding Business Forums that intervene and take over the site while people work. So, contractors are forced to hire machinery that can do the work as quickly as possible before Business Forums take over the site [. . .]." Findings reveal a gap in the existing LIC guidelines and practices that would have put these Business Forums on the spot check during construction to mitigate pressure on the contractors knowing the terms and conditions of the approach agreed to use for the project execution. Participant P5 says, "[. . .] the framework is flimsy at best, and opportunities for its use are not promoted [. . .]." The government is a major client in the construction industry and can influence the methodologies adopted for her projects via policies agreed upon in the contract agreement. Thus, promoting the LIC concept should be government's hallmark by taking the lead via a sound institutional framework. The existing framework needs a critical overhaul regarding the first choice for labour that is economically viable and technically feasible without conceding the product or service quality (P2, P5, P12 and P14). This is presently missing. The outcome will enhance good practice and employment creation (Mfusi and Govender, 2015).

Participant P15 says, “[...] during the conceptual project phase, LIC practices are not fully embraced, filtering to designs that are not necessarily LIC implementable. But at the execution phase, geared a lot of emphasis of LIC, which is rather late for yielding desired benefits [...]” Does this raise questions about whether the design team was not briefed regarding the project programme (LIC)? Was the government agency that approved the design not notified of the intention of the construction project? These and many more questions may have triggered MISA to review the existing efficiency and capacity-building guidelines. Participant P11 says, “[...] LIC is seen as optimal with very poor monitoring and enforcement by government. This should not be the case [...]” Findings agree with [IMESA \(2020\)](#), and it was found that lax enforcement of the discretionary funds contributed to LIC implementable issues. The inability to address these issues has increased engaged contractors without LIC learnership programme called Vuk’uphile Contractor Learnership Programme (P7, P9 and P11). The contractor’s training aims to train and build promising contractors to carry out work per the stipulated guidelines and practices.

Also, contractors should go through all levels of special accredited training programmes in LIC. This is missing (P2, P4 and P12). Participant P15 rebuffed the latter claim. Participant P4 says, “[...] guidelines that ought to provide government and its other stakeholders with the necessary tools to implement LIC projects may have contributed more issues because of the lacuna [...]” Findings show one of the intents is to train the labourers to become technically skilled, but this is missing. “[...] no skill is left to workers besides elementary stuff [...]” said P16. Findings agree with [Thwala \(2011\)](#) that skills shortages are a challenge facing South African construction. Participant P14 says, “[...] the implementation of the LIC strategies somehow does not directly benefit the intended beneficiaries due to malpractices. Political interferences that undermine such good efforts by manipulating the system and using their own companies and resources in packages targeted for labour intensive [...]” Political interference may influence bad policy for selfish interests (P4). Findings agree with the study of [Nattrass and Seekings \(2018\)](#) that bad policy and assumptions are hindrances facing labour-intensive sector.

3.2 Theme two: measures to improve proposed revised guidelines and practices

This sub-section offers the interviewees a platform to proffer measures to improve the proposed revised LIC guidelines and practices document in South Africa. [Figure 1](#) presents the possible measures in the bottom section of the thematic network. Most interviewees agree that LIC can develop skills, promote entrepreneurship, mitigate joblessness, and enhance economic growth in South Africa’s construction industry. Findings agree with the study of [McCutcheon \(1995\)](#) that LIC creates institutional capacities, skills and mass employment programmes. Thus, measures to ensure that LIC is sustained and fruitful cannot be over-emphasised (P2, P15 and P16). Participant P2 says, “[...] fruitful LIC can enhance entrepreneurship that will assist in creating and maintaining assets [...]” Policies encouraging long-term programme on employment-intensive construction is germane (P3, P10 and P14). Findings agree with [Thwala \(2011\)](#) that government should develop programmes that will be long-term driven for LIC activities. The measures that emerged include embracing LIC practices from pre-contract to post-contract administration, integrating supply-chain into LIC process, enhancing skills development and capacitation, strengthening governance in programme implementation, and discouraging political interference in LIC projects. Others are monitoring unethical practices among stakeholders, clarification, and standardisation of EPWP definitions and measurements, LIC projects well-defined for EPWP projects, percentage of infrastructure projects assigned to promote LIC and measures to reassure contractors’ safety and trust those hired, as presented in [Figure 1](#).

Concerning LIC institutional framework and skills development, Participant P15 says, “[...] embracing LIC practices at concept and design development phases within specific

construction projects . . . and supply delivery chain participation into LIC process [. . .] Policy to mandate stakeholders to use LIC for specified projects should be enforced and complemented with incentives and disincentives (Participant P11). Findings also suggest sanctions for erring parties (design team/approval agency) that deliberately ignore the sensitivity of the specific projects designated for the programme (P1, P7, P9, P10 and P13). Upskilling and reskilling to boost capacitation cannot be over-emphasised. Findings agree with the study of [Thwala \(2011\)](#). It suggested that government should be involved in skills development in all EPWP projects and skilled import staff to train South Africans. Participant P13 says, “[. . .] *clarification and standardisation of EPWP definitions and measurements are key. Contractor’s safety must be reassured in the proposed review and trust those hired for the direct labour job. There have been conflicts between contractors and the hired direct labourers, leading to site disruption. Also, well-defined public-funded projects for LIC should be restricted to EPWP projects and a certain percentage of all infrastructure projects assigned for LIC [. . .]*” The outcome will promote LIC and sustain the initiative, leading to economic growth. Findings agree with [Nattrass and Seekings \(2018\)](#) that the high unemployment rate in South Africa cannot be mitigated without more labour-intensive growth. Thus, labour-intensive companies should be encouraged to generate employment quickly via driven supportive industrial policy. Participant P16 says, “[. . .] *focus more on skills capacitation for complex projects, not just basic trades [. . .]*” Findings agree that successful LIC implementation with government support and an enabling environment can enhance skills transfer. The process will upgrade labourers to skilled workers and add value to their economic growth. Findings agree with [IMIESA \(2020\)](#) that EPWP renewed focus on LIC techniques will boost and develop skills and generate employment for the unemployed.

Participant P14 says, “[. . .] *strengthen governance in the implementation of empowerment initiatives so that only designated groups benefit from these initiatives without any political interference [. . .]*” Governance, accountability and transparency are key elements that can drive pro-poor initiatives to succeed. No matter how sound the initiative and regulatory framework are, without these components, the success rate will remain weak (P5 and P11). This is because stakeholders’ unethical practices could hinder pro-poor initiatives and integrated construction projects (P14). Findings agree that the government should enforce the mandatory conditions in the Division of Revenue Act ([Nattrass and Seekings, 2018](#)). It is one of the easiest ways to train and graduate enterprising independent contractors rather than sitting at home doing nothing. Findings agree with [IMIESA \(2020\)](#) that South Africa’s Government might start the enforcement with the support of the Attorney General.

4. Contribution to theory and practice

From the literature review, LIC relevance in the context of employment creation in South Africa is essential in mitigating poverty and improving economic growth. It has been established that implementable LIC will create employment, transfer skills, enhance entrepreneurship and improve economic growth. Evidence from the reviewed literature shows possible gaps in existing South Africa’s LIC guidelines and practices that may have hindered full implementation. The next subsections present the study’s theoretical and practical contributions.

4.1 Contribution to the theory

The study has established methodological and theoretical gaps. From a theoretical perspective, there are motivations for advocating the establishment of carefully formulated, long-term programmes using LIC mechanism to construct and maintain specific projects. These programmes will enhance institutional capacities and develop individual skills (upskilling and reskilling). Also, the study offers an assessment that reveals the issues influencing LIC

implementation and proffers measures to improve the programmes in South Africa's context. Theoretically, this research anticipates improving researchers' knowledge of South Africa's LIC and how best to improve it (Thwala, 2011; IMIESA, 2020). The study's emerged a thematic network of the key findings, as shown in Figure 1, is part of the theoretical implications. This aligns with Ebekzoe (2021), Jaafar *et al.* (2021) and Ibrahim *et al.* (2022), which adopted their paper's thematic network as part of the theoretical implication.

4.2 Contribution to practice

The study's practical implications confirm that implementing LIC on specific construction and maintenance projects will enhance skills development and transfer, increase labourers' employability, promote entrepreneurship and enhance economic growth (Thwala, 2011; IMIESA, 2020). Among the identified key gaps in existing South Africa's LIC guidelines and practices are lax enforcement of the discretionary funds, lax institutional capacity (conflicts in standardisation), inadequate individual skills (Thwala, 2011), project design not LIC friendly, stakeholders' attitude to embrace LIC and political interference (Nattrass and Seekings, 2018). The study's findings would stir up key stakeholders, especially MISA officers and other relevant agencies connected with reviewing the LIC guidelines and practices concerning implementation. Also, the study proffers measure to promote LIC usage across the 44 district municipalities of South Africa by identifying the missing issues in the current guidelines and practices. This document is pertinent to be reviewed to improve on the challenges identified. This is because LIC has a substantial role, considering infrastructure development is a major activity in many areas.

5. Limitations and future research directions

The study has shortcomings that should be considered for future research. The current research underscored the perceived issues and proffer measures from the participants' perceptions. Second, the study engaged 16 participants via a virtual interview in South Africa. Third, the sample size was limited to two provinces in South Africa. Notwithstanding these constraints, it does not influence the findings' quality and could be used in other developing countries with similar high unemployment challenges. Therefore, future research direction is required to build on this research's results. Also, a quantitative approach can further validate the constructs that emerged.

6. Conclusion and recommendations

Past governments have attempted to address the issue of unemployment in South Africa, yet it remains one of the most pressing issues with inadequate skills and a sustainable institutional framework. The significance of LIC for specific construction and maintenance projects for skills and employment creation was identified in the study. Also, a wide range of the perceived gaps in existing South Africa's LIC guidelines and practices that may have hindered full implementation was investigated. Measures to improve the guidelines were proposed via a qualitative approach, as summarised in Figure 1. Lax enforcement of the discretionary funds, lax institutional capacity (conflicts in standardisation), inadequate individual skills, project design not LIC friendly, stakeholders' attitude to embrace LIC, and political interference were identified as the perceived issues facing the full implementation of the LIC. Others are inadequate training of engaged key staff, engaging contractors without LIC learnership programme skills, lack of the rule of law and alleged unethical practices by some stakeholders for selfish interest. This research proffer measures to promote LIC usage across the 44 district municipalities of South Africa. Proffering measures to improve LIC implementation was pertinent because LIC relevance in skill development, job creation and capacity building cannot be over-emphasis. The major recommendations are as follows:

- (1) The study recommends that a sustainable and institutional framework via large programmes of LIC and maintenance should be developed and monitored for success to be accomplished. The framework should be all-inclusive and dynamic to achieve the desires of LIC programme. The outcome will promote a long-term programme on LIC and skills development.
- (2) EPWP should be positioned to continue facilitating skill development through support systems such as Construction Education and Training Authorities (CETAs) and the Sector Education and Training Authorities (SETAs) mandatory grant systems. Training will mitigate issues linked with clarification and standardising EPWP definitions, measurements and strong governance.
- (3) The study suggests that South Africa's Government should enforce the existing mandatory conditions contained in the Division of Revenue Act with the support of the Attorney General. This ensures that LIC construction and maintenance projects are financially viable and funding is not a barrier. Also, integrating the supply chain into LIC process from pre-construction to post-construction is germane to integrated project delivery via LIC.
- (4) Politics and unethical issues are human factors that should be addressed tactically and sincerely. The study recommends that key stakeholders set aside these factors when dealing with LIC and maintenance projects. Political interference and unethical issues can promote nepotism and triviality if poorly managed.
- (5) Labour-intensive companies should be encouraged to generate employment quickly via driven supportive industrial policy. The outcome will mitigate the high unemployment rate in South Africa.

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Appendix

Semi-structured interview questions

Dear Participant,

Request for Virtual Interview.

Studies across the globe affirmed that labour-intensive construction (LIC) projects mechanism could mitigate high unemployment and create skilled development, especially in developing nations. The guidelines and practices for implementation may have faced some encumbrances in some countries. Whether the current guidelines and practices for municipal infrastructure support agent (MISA) to execute LIC projects faces hindrances are yet to receive in-depth studies in South Africa. Therefore, this research is titled: *An Appraisal of Guidelines and Practices for Municipal Infrastructure Support Agent to Execute Labour-Intensive Construction Projects in South Africa*. Specifically, this research is proposed to be achieved through the following objectives:

- (1) To identify the perceived gaps in existing South Africa's LIC guidelines and practices.
- (2) To proffer policy solutions to improve the proposed revised guidelines and practices for municipal infrastructure support agent (MISA) in LIC projects execution in South Africa.

Please note that questions for the virtual interview via Zoom will be within the stated objectives. Also, responses will be collated and analysed together with that of other interviewees. This will make up the valued and helpful contribution to achieving the success of this work, and all information provided will be handled with the greatest confidentiality.

Hence, your valuable time, other inputs in answering the questions and other contributions will be highly cherished.

Kind regards.

Yours faithfully, (Research Coordinator)

Basic questions for the participants

- (1) Please, for record purposes, what is the name of your organisation?
- (2) What service does the organisation render?
- (3) Please, what is your position in the organisation, and how long have you been working?
- (4) Please, are you knowledgeable regarding labour-intensive construction (LIC) projects in South Africa?
- (5) If yes to question 4, from your perception, how can you describe the relevance of LIC in mitigating joblessness and enhancing economic growth?
- (6) Please, from your experience, can you identify the perceived gaps in existing South Africa's LIC guidelines and practices regarding LIC global best practices?
- (7) What role can the major stakeholders play in mitigating these perceived gaps?
- (8) What are the missing things in the Third Edition (2015) of the LIC that ought to be there to promote enhanced LIC project execution across the country?
- (9) Do you think the suggested policy solutions should be part of the revised version of the Third Edition of the LIC?
- (10) If yes, why?

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