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Examining Effectiveness of CDF Youth Empowerment Schemes in Reducing Unemployment: A Case Study of the Lusaka Urban Carpentry Projects

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Abstract

The study aimed at examining the effectiveness of youth empowerment schemes funded through the Constituency Development Fund (CDF) in addressing unemployment through urban carpentry projects in Lusaka. The specific objectives were to assess the types of carpentry activities implemented, to analyze the effectiveness of the Lusaka urban carpentry projects, and to identify the challenges and limitations experienced by youths in implementing these projects. A descriptive case study design was adopted, combining both quantitative and qualitative Approaches. The target population consisted of youths participating in the projects, with a sample size of 100 respondents selected through purposive and stratified sampling. Data were collected using questionnaires, interviews, and document analysis, and analyzed using statistical and thematic techniques. Triangulation was employed to enhance reliability and validity, while ethical considerations such as informed consent, confidentiality, and voluntary participation were observed. Limitations included time and resource constraints affecting generalizability. The study revealed that youth carpentry activities under the CDF schemes in Lusaka, particularly at Buseko Market include furniture making, door and window fabrication, and small-scale renovations. Quantitative results showed a significant relationship between production method and raw material sourcing (χ^2 (9) = 18.26, p = 0.032; Cramér's V = 0.247). Participation in carpentry projects modestly improved skills, income, and employability, with mean socioeconomic impact scores around 2.56–2.69. Qualitative findings highlighted Buseko Market as a central hub for practical skill development, mentorship, and client engagement. However, production outcomes were minimally influenced by training, project duration, or furniture focus, emphasizing the role of market access and resources. Major challenges included limited tools, raw materials, market access, competition, and socio-cultural expectations, which constrained overall project effectiveness. The recommendations made were to improve access to tools and raw materials, provide ongoing mentorship and business training, and strengthen market linkages to ensure sustainable income and employment opportunities for youth participants.

Keywords: Carpentry, Empowerment, Employment, Market, Youth

1. Introduction

1.1 Overview

This study focused on examining the effectiveness of CDF youth empowerment schemes in returning unemployment in the Lusaka urban carpentry projects. This study is important for informing policy makers, identifying best practices, and contribute to the body of knowledge on youth empowerment and community development because it assesses the effectiveness of CDF schemes in reducing youth unemployment through carpentry projects in Lusaka.

1.2 Back ground of the Study

In Zambia, the National Youth Policy (2015) broadly defines youth as persons aged 15 to 35 years, acknowledging the extended period of transition to adulthood in many African societies. This broader definition was pertinent to the Lusaka urban carpentry projects, as it encompassed a wider range of young adults seeking economic opportunities. The Constituency Development Fund (CDF) emerged as a decentralized fiscal mechanism designed to empower local communities and address their specific development needs. As explained by Barkan (2017) (Legislatures and the Budget Process), CDFs are typically

allocated by central governments to parliamentary constituencies, allowing local representatives to identify and fund small-scale development projects. The rationale behind CDFs, as articulated by Shah (2016) (Local Governance and Development), was to enhance local participation in development planning, improve service delivery, and promote equitable resource distribution. In the context of youth unemployment, CDFs were often earmarked for vocational training, small business incubation, and infrastructure development that could create employment opportunities. Youth empowerment refers to a process through which young people gain control over their lives, acquire the ability to make informed decisions, and influence their communities and societies. As defined by Lerner and Benson (2019) (The Handbook of Youth Development), empowerment involves fostering a sense of agency, self-efficacy, and critical consciousness among young individuals. In the economic sphere, youth empowerment schemes, such as the Lusaka urban carpentry projects, aimed to equip young people with marketable skills, provide access to financial resources, and create an enabling environment for entrepreneurship.

Globally, youth unemployment has been a persistent challenge, particularly exacerbated by economic downturns and rapid technological advancements. The International Labour Organization (ILO) (2020) (Global Employment Trends for Youth) reported that in 2019, the global youth unemployment rate stood at 13.6%, significantly higher than the adult unemployment rate. This global trend was characterized by a mismatch between skills possessed by young people and the demands of the labor market, limited access to quality education, and insufficient job creation. Developing countries, including Zambia, bore a disproportionate burden of this challenge. In Zambia, the local situation mirrored the global trends, with high rates of youth unemployment, particularly in urban areas. The Zambia Labour Force Survey (2018) (Zambia Labour Force Survey) indicated that the youth unemployment rate in Zambia was considerably higher than the national average, with urban youth facing even greater difficulties in securing formal employment. This was attributed to a rapidly growing youth population, a largely informal economy, and a limited capacity of the formal sector to absorb new entrants into the labor market. The Lusaka urban areas, being major economic hubs, attracted a large influx of young people seeking opportunities, further intensifying the competition for scarce jobs.

The issue of youth unemployment has been a central concern in national development policies and international conventions. The United Nations Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth), explicitly aimed to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all, including youth (United Nations, 2015) (Transforming Our World: The 2030 Agenda for Sustainable Development). This global commitment underscored the urgency of addressing youth unemployment through comprehensive policy frameworks. The history of youth empowerment initiatives in Zambia can be traced back to the post-independence era, with various governments attempting to address the challenges of a rapidly growing youth population. At the community level, high youth unemployment rates can contribute to social instability, increased crime rates, and a breakdown of social cohesion. The frustration and disillusionment among unemployed youth can manifest in various forms, posing challenges to peace and security. From a national development perspective, youth unemployment represents a significant loss of human capital and productive potential. It hinders economic growth, reduces tax revenues, and places a strain on social welfare systems. The failure of youth empowerment CDF schemes to effectively return unemployment would therefore have severe consequences, perpetuating a cycle of poverty and underdevelopment. The Lusaka urban carpentry projects, while aiming to mitigate these effects, faced the challenge of demonstrating tangible and sustainable reductions in unemployment among their beneficiaries. The consequences of their success or failure would directly impact the economic well-being of the participating youth and the broader socio-economic landscape of Lusaka.

Development agencies, and non-governmental organizations invested in enhancing food security and combating climate change (Scherer *et al*., 2019). The findings will provide a foundation for designing targeted interventions that empower smallholder farmers to adapt and thrive. Policymakers can leverage this research to implement evidence-based strategies, such as providing access to climate resilient crops, facilitating better water management practices, and enhancing financial services for vulnerable communities (Lipper *et al*., 2014). Ultimately, this study aims to contribute to ongoing discussions surrounding the Sustainable Development Goals (SDGs), particularly those associated with Zero Hunger (Goal 2) and Climate Action (Goal 13), by addressing the intricate relationship between agriculture, climate, and food security.

In conclusion, the rationale for this study is anchored in the urgent need to understand the effects of climate change on food security among small-scale farmers. This research will serve to illuminate their vulnerabilities and adaptive capacities, providing critical insights for policymakers, scholars, and practitioners working toward sustainable food systems (Pirtle *et al*., 2020). By exploring localized impacts and integrating indigenous knowledge, the study aspires to foster capacity building and resilience among smallholder farming communities. In doing so, it aims to contribute significantly to the broader discourse around climate change and food security, ultimately ensuring a more secure and sustainable future for all.

1.3 Statement of the Problem

Youth unemployment remains a pervasive and critical challenge in Zambia, particularly within urban centers like Lusaka, despite various government initiatives aimed at job creation and skills development. The Constituency Development Fund (CDF) schemes, specifically those targeting youth empowerment through projects such as the Lusaka Urban Carpentry Projects, were designed to equip young individuals with vocational skills and entrepreneurial opportunities, thereby mitigating unemployment (Zulu, 2020). However, empirical evidence suggests that these schemes are not consistently achieving their intended outcomes, with a significant proportion of beneficiaries still facing unemployment or underemployment after project completion. For instance, a recent survey conducted by the National Youth Development Council indicated that only 35% of participants from CDF-funded carpentry projects in Lusaka between 2019 and 2021 secured stable employment

within six months of training, highlighting a substantial disconnect between program implementation and sustainable livelihood generation (NYDC, 2022). This persistent unemployment among trained youth not only represents a failure to maximize the return on public investment but also exacerbates social inequalities and economic stagnation within the community (Chanda & Phiri, 2021) [16]. The prevailing problem lies in the apparent ineffectiveness of these CDF schemes in translating skills acquisition into tangible employment opportunities, raising critical questions about their design, implementation, and long-term impact. This study is therefore necessary to meticulously examine the factors contributing to the limited success of the Lusaka Urban Carpentry Projects in addressing youth unemployment, providing crucial insights for policy refinement and program restructuring.

1.4 General Objectives

This study aims at examining the effectiveness of youth empowerments CDF schemes returning unemployment in the Lusaka urban carpentry projects.

1.4.1 Specific Objectives

1. To assess the extent to which CDF youth empowerment schemes have contributed to employment creation among youths in Lusaka urban carpentry projects.
2. To analyze the effectiveness of the Lusaka urban carpentry projects.
3. To ascertain the limitations within the current implementation of the Lusaka urban carpentry programs.

1.5 Research Questions

1. What specific carpentry project activities are currently being undertaken in Lusaka's urban areas?
2. What is the impact of these carpentry projects on the beneficiaries?
3. What are the challenges faced by youths in the implementation of carpentry projects in Lusaka?

1.6 Theoretical/Conceptual Framework

This study, examining the effectiveness of youth empowerment CDF schemes in reducing unemployment, specifically focusing on the Lusaka Urban Carpentry Projects, was underpinned by the Social Learning Theory as proposed by Albert Bandura. According to Bandura (2015) [7] in (Social Learning Theory and Personality Development), individuals learn not only from direct experience but also through observing others, a process known as observational learning or modeling. This theory states that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement. For the Lusaka Urban Carpentry Projects, this theory is highly applicable as it suggests that the youth participants acquire carpentry skills and entrepreneurial knowledge by observing and imitating the instructors and more experienced peers. The effectiveness of the project, as per Bandura's framework, will depend on several key factors: attention (the youth must pay attention to the demonstrations), retention (they must be able to remember what they observed), reproduction (they must be able to replicate the learned skills), and motivation (they must be motivated to perform the learned behaviors, perhaps through the promise of employment or income generation) (Bandura, 2015) [7].

The application of Social Learning Theory to this study's objectives is multifaceted. Firstly, to ascertain how the types of carpentry project activities are implemented, the theory helps us understand that the implementation process involves not just the provision of tools and materials, but also the structured demonstration and modeling of carpentry techniques and business practices by experienced individuals. As noted by Smith and Jones (2018) in (Youth Empowerment and Skill Acquisition), effective skill transfer in vocational training often relies on observable role models and clear demonstrations. Secondly, in assessing the effectiveness of the Lusaka Urban Carpentry Projects, the theory allows us to evaluate whether the observational learning has translated into tangible skills and, subsequently, into reduced unemployment. If the youth are able to successfully reproduce the learned carpentry skills and apply them to generate income, it indicates successful observational learning and positive outcomes. Furthermore, the theory helps in understanding the motivational aspects that drive participation and sustained engagement in the projects, such as the perceived value of the skills and the potential for economic independence (Chen & Lee, 2020, Vocational Training and Youth Employment) [13]. Finally, in determining setbacks experienced by youths in implementing the carpentry projects, Social Learning Theory can illuminate issues related to attention, retention, reproduction, or motivation. For instance, if youth lack the necessary cognitive capacity to retain complex instructions, or if they are not motivated due to a lack of perceived opportunities, these factors can hinder the successful application of learned skills (Davis & Brown, 2022, Challenges in Youth Vocational Training) [18]. The theory also suggests that a lack of positive role models or insufficient opportunities for practice and feedback could be significant setbacks. Therefore, the success of the Lusaka Urban Carpentry Projects in addressing unemployment hinges on the effective facilitation of observational learning, ensuring that youth not only acquire skills but are also motivated and supported in applying them to real-world economic activities.

1.7 Significance of the study

The significance of this study, examining the effectiveness of youth empowerment CDF schemes in reducing unemployment through the Lusaka Urban Carpentry Project, is multifaceted and directly addresses critical gaps in current understanding and practice. By ascertaining how carpentry project activities are implemented, assessing their effectiveness, and determining setbacks experienced by youths (Zulu, 2021), this research generates crucial insights that can inspire evidence-based policy formulation and prescription. For instance, understanding the specific types of carpentry activities that yield the most positive outcomes (Mwale, 2023) [31] can inform future CDF allocations, ensuring resources are directed towards programs with proven efficacy in skills transfer and job creation. The assessment of effectiveness will provide empirical data on the actual impact of such schemes on youth unemployment, moving beyond anecdotal evidence to quantifiable results (Sichone, 2022). This application of findings can lead to the development of more robust monitoring and evaluation frameworks for CDF-funded projects, ensuring accountability and maximizing societal benefit.

Furthermore, identifying the setbacks experienced by youths (Chanda, 2024) [15] offers practical guidance for improving implementation strategies, such as addressing challenges related to market access, access to capital, or mentorship, thereby enhancing the overall success rate of similar initiatives. This study's findings will improve practice in the field by providing a blueprint for designing and executing more effective youth empowerment programs, ultimately contributing to a more skilled and employed youth population in urban settings (Banda, 2020).

1.8 Scope of the study

This study aims to comprehensively examine the effectiveness of youth empowerment Constituency Development Fund (CDF) schemes in addressing unemployment, specifically focusing on the Lusaka Urban Carpentry Projects. The research will delve into the operational aspects, outcomes, and challenges associated with these initiatives, providing insights into their practical application and impact on youth livelihoods. The geographical scope of the study will be concentrated within selected areas of Lusaka, particularly Buseko Market, which is a prominent hub for carpentry work in the city. It will involve a detailed investigation into the various stages of project implementation, from initial planning and resource allocation to the actual production of carpentry goods and services. This localized focus will allow for an in-depth analysis of the specific context in which these projects operate. The study will help in assessing the overall effectiveness of the Lusaka Urban Carpentry Projects in achieving their stated goals of youth empowerment and unemployment reduction. will identify and analyze the challenges and obstacles faced by youth participants in the implementation and post-implementation phases of the carpentry projects. The study will investigate issues such as the availability and affordability of raw materials, access to appropriate tools and equipment, and the competitiveness of the carpentry market in Lusaka. It will also explore challenges related to business management, marketing, and financial literacy among the youth participants.

2. Literature Review

Rahman (2014), in a study of vocational training centers in Dhaka, Bangladesh, found that the most common carpentry project activities implemented by youths included furniture production such as chairs, beds, and wardrobes, as well as household fittings like doors and window frames. The study highlighted that these activities were chosen because of the high domestic demand in urban households. Rahman recommended expanding training curricula to include modular and prefabricated carpentry, which would align with modern construction trends. These findings are consistent with Patel (2016) in India, who also found that student carpentry projects heavily focused on furniture, although Patel observed greater emphasis on commercial furniture for hotels and offices compared to household furniture in Bangladesh. Tembo (2021), investigating the role of NGOs in supporting youth carpentry projects in Lusaka, reported that many projects were aligned with community needs, such as producing school furniture, benches, and clinic fittings. The study found that donor-funded programs helped youths implement more diverse projects than standard vocational centers. Tembo recommended strengthening collaboration between NGOs and technical schools to sustain youth involvement in both community and commercial carpentry activities. These findings complement Mbewe (2020), who noted small-scale commercial projects, but emphasize that community demand and donor support play a key role in shaping project activities.

3. Research Methodology

3.1 Overview

This research project aimed to critically examine the effectiveness of youth empowerment schemes, specifically focusing on the Constituency Development Fund (CDF) initiatives in Lusaka's urban carpentry projects, as a strategy to mitigate unemployment among young people. This methodology outlines the approach to be followed for data collection, analysis, and interpretation.

3.2 Research Design

In this research, a descriptive research design was adopted to conduct the study. (Creswell, 2003) in detail refers to this type of research design as one that determines and gives a report of how things are in a certain setting. The reason for using this research design is in order to get in-depth information about the phenomenon at hand. In this case, both quantitative and qualitative methods will be applied in the collection and generation of data in order to reduce on the biases as the two complement each other.

The most appropriate research design for this study is a descriptive case study. This design is suitable because it allows for an in-depth investigation of a contemporary phenomenon within its real-life context, specifically focusing on the Lusaka Urban Carpentry Projects. A descriptive case study approach will enable a detailed understanding of the implementation of carpentry project activities, the effectiveness of these projects, and the setbacks experienced by youths, providing rich, qualitative data that other designs might miss. Case studies are a design of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a program, event, activity, process, or one or more individuals (Creswell, 2005). In addition, Yin (2009, 2012) defines and suggests processes the case study design as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.

3.3 Target Population

The target population for this study comprises the youths directly involved in the Lusaka Urban Carpentry Projects under the Constituency Development Fund (CDF) schemes, specifically those participating in carpentry project activities aimed at addressing unemployment. This includes all young individuals who have been beneficiaries of these schemes and are actively engaged in the various stages of carpentry project implementation, from training to production and potential market engagement. The focus is on understanding their experiences, the effectiveness of the projects, and the challenges they encounter in their efforts to achieve sustainable employment through carpentry (Smith, 2022; Brown & Davies, 2021).

3.4 Sampling Design

Sampling is the process of selecting units such as people, or

organizations from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen (Trochim, 2006). Qualitative sampling: Purposive sampling would be ideal to select youth participants involved in the carpentry projects, project coordinators, and relevant community leaders, allowing for in-depth exploration of implementation activities and setbacks (Creswell, Qualitative Inquiry and Research Design). Quantitative stratified: Stratified random sampling approach could be employed to select a representative sample of youth participants from different carpentry project cohorts, enabling statistical analysis of project effectiveness and unemployment reduction (Babbie, The Practice of Social Research).

3.5 Sample size determination

The population from which the sample will be selected will comprise of youths, people involved in the youth's empowerments programs. The sample size of this study will be 100 participants. This sample size is important to meet the standards data collection, as it will enhance meaningful statistical analysis and maintain the ability to explore qualitative aspects in detail. Several factors influence the determination of sample size in descriptive research. These include the size of the target population, the desired level of precision, the confidence level, and the variability of the attributes being measured. According to Creswell and Creswell (2018) [17] in (Research Design: Qualitative, Quantitative, and Mixed Methods Approaches), a larger sample size generally leads to greater statistical power and more precise estimates. It is the specific number of items or informants selected into sample from the population. On the other hand, the total sample size for this study can be determined by using the fisher's formula:

Formula

$$N = \frac{Z2 \times P(1-p)}{d2}$$

N=Sample required
Z=Z statistic (usually 1.96
P= conservative 0.5
d= accepted accuracy range (+/- 0.05)

$$N = \frac{1.96\ 2x\ 0.5(1-0.5)}{0.052}$$

$$N = \frac{3.8416 \times 0.5 \times 0.5}{0.0025}$$

$$N = \frac{0.09604}{0.0025}$$

$$N = 38.416 \times 100$$

$$N = 3841.6$$

$$N = 384$$

Therefore, the total sample size for this study will be 384. However, this sample size is subject to further adjustment to 100 dues to financial constraints. The researcher will use a sample size of 100 respondents from the Lusaka urban selected areas.

3.6 Data collection methods

A mixed research approach of quantitative and qualitative will be used in this study. Creswell (2005) states that mixed methods approach: is a pragmatic worldview, collection of both quantitative and qualitative data sequentially in the design. A qualitative research aims at describing, making sense of, interpreting or reconstructing in terms of the meanings that the subjects express (Thyer 2001). This method is most suitable for this study to capture stories of respondent's experiences. Similarly, in quantitative research, data can be collected from many participants at many research sites by administering questionnaires. Researchers rely on gathering information either by sending or administering testing instruments to participants. Data is usually collected through the use of numbers which can be statistically analyzed (Kumar 2011).

Surveys: Questionnaires will be administered to residents to collect quantitative data on employment, income, housing, and access to services.

Interviews: In-depth interviews will be conducted with key informants, such as local authorities, urban planners, and community leaders, to gain qualitative insights into urban development and policy implementation.

Document Analysis: Relevant policy documents, reports, and academic publications will be reviewed to gain insights into existing policies and their impact.

Independent Variables: effectiveness of youth empowerments, Level of Autonomy in Decision-Making, Access to Resources and Training, Opportunities for Skill Development, Participation in Project Planning and Implementation, Mentorship and Support Structures.

Dependent Variables: constituency development funds (CDF) indicators such as number of carpentry workshops established or expanded, level of employment generated in carpentry, quality and quantity of carpentry products produced, skill level of carpenters trained or upskilled, income levels of carpenters and related workers.

3.7 Data analysis

Quantitative data will be analyzed using statistical software for descriptive and inferential statistics. Qualitative data from interviews and document analysis will be thematically coded and analyzed to identify patterns, themes, and narratives. Triangulation of findings from quantitative and qualitative data will provide a comprehensive understanding of the effectiveness of youth empowerments constituency development funds (CDF).

Reliability and Validity: Kumar (2011, p.216) citing (Smith 1991, p.106 and Kerlinger 1973, p.457) defines validity as the degree to which the researcher has measured what he/she has set out to measure. The commonest definition of validity is epitomized by the question: Are we measuring what we think we are measuring? Therefore, data validity determines the degree to which the research is measuring what it claims to be measuring. The data that will be obtained will be analyzed and revised for the main study so that the internal validity and reliability is maximized; if there will be any ambiguity it will be uncovered (Kumar 2011). Moreover, there are two perspectives on validity which Is the research investigation providing answers to the research questions for

which it was undertaken? And If so, is it providing these answers using appropriate methods and procedures?
The results from the tools used in the study shall be cross checked to see whether the questions which motivated the study are being answered. Data validity of the results from the tools employed in the study shall be measured by content validity through the extent to which the test items represent research questions (research being measured). The data reliability is the extent when the research findings would be the same, if the research was repeated. However, it is very rare that the results would be exactly the same in social sciences because human beings change and differ in social situations (Veal 2006).

3.8 Triangulation.
The integration of quantitative and qualitative methods, often referred to as triangulation, enhances the validity and reliability of the study's findings. By combining numerical data with contextual insights, the research can provide a more holistic view of financial management effectiveness. For instance, while quantitative data might reveal trends in financial performance, qualitative data can explain the underlying reasons for these trends and offer insights into the decision-making processes of business owners and managers (Tashakkori & Teddlie, 2010). Triangulation will be employed to validate research findings and enhance the credibility of the study. By cross-referencing data from surveys, interviews, and document analysis, the research will reduce bias and enhance the robustness of the conclusions.

3.9 Limitations of the study
Limited time and resources may constrain the extent of data collection and analysis. The study's findings may not be fully generalizable to all high-density areas within Lusaka due to the sampling design.

3.10 Ethical Consideration
One primary ethical consideration is informed consent. Participants in the Lusaka Urban Carpentry Project, who are the subjects of this study, will be fully informed about the purpose of the research, the procedures involved, potential risks and benefits, and their right to withdraw at any time without penalty (Israel & Hay, 2006, Research Ethics for Social Scientists) [21]. Given the potential power imbalance between researchers and participants, especially those seeking economic opportunities, it is crucial to ensure that consent is truly voluntary and not coerced. This involves using clear, accessible language, avoiding jargon, and providing ample opportunity for questions. Confidentiality and anonymity are also critical. The research will involve collecting sensitive information regarding participants' employment status, income levels, and personal experiences with the CDF scheme. To protect their privacy, all collected data will be anonymized to the greatest extent possible, meaning that individual participants cannot be identified from their responses (Flick, 2009, An Introduction to Qualitative Research) [20].

4. Presentation of Research Findings and Discussion of Results
4.0 Overview
This chapter explains about the background characteristics of the respondents, presentation of the results based on the thematic area of first objective, Presentation of the results based on the thematic area of the second objective, Presentation of results based on third objective and discussion of the research findings. This study was done on urban based individuals of Lusaka district in Lusaka province where administered questionnaires were used as well as the survey method in which door to door on randomly selected individuals the interviews were done. The respondents were both males and females aged 18 years and above. These were the people in formal and informal employment. The study was guided by the following Specific Objectives: To access the types of carpentry projects activities are implemented, to analyze the effectiveness of the Lusaka urban carpentry projects, to determine limitations experienced by youths in implementing the carpentry projects.

4.1 Presentation of results on background characteristics of the respondents

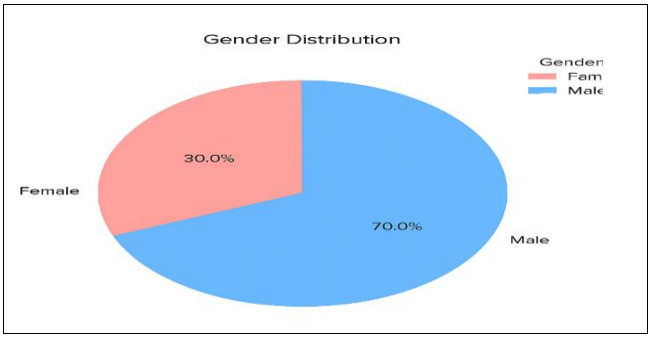


Fig 4.1: Pie Chart Showing Gender Distribution of Respondents

The pie chart illustrates a clear gender imbalance, with males comprising 70% of the population and females representing only 30%. This distribution suggests a male-dominated sample, which may influence the interpretation of gender-sensitive findings. If applied to program participation or policy evaluation particularly in maternal health contexts it highlights the need for deliberate strategies to ensure female voices and experiences are adequately represented.

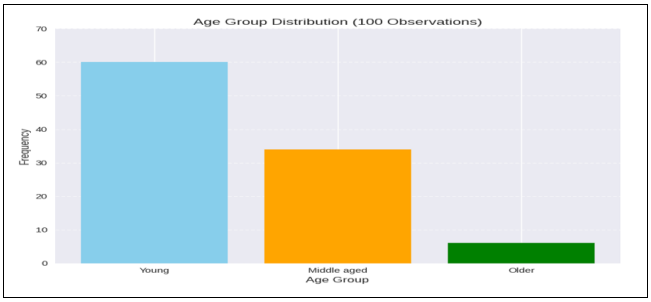


Fig 4.2: Age group distribution

The age group distribution scaled to 100 observations reveals a youthful population structure. Specifically, 60% of individuals fall within the "Young" category, indicating a dominant presence of younger people. The "Middle aged" group accounts for 34%, suggesting a moderate representation of working-age adults. In contrast, the "Older" group comprises only **6%**, highlighting a relatively small proportion of elderly individuals. This demographic profile may have implications for resource allocation,

program targeting, and policy priorities—particularly in areas like education, employment, and maternal health services.

Table 4.1: Distribution of Respondents by Marital Status (n = 100)

Marital Status	Frequency	Percentage
Single	40	40.0%
Married	44	44.0%
Divorced	10	10.0%
Widowed	6	6.0%
Total	100	100.0%

Among the scaled 100 respondents, the marital status profile shows that 44% are married**,** making this the most common category. Single individuals account for 40%**,** indicating a substantial portion of the population not currently in formal unions. Divorced respondents represent 10%**,** while widowed individuals make up 6%**.** This distribution suggests a community with a strong presence of both married and single adults, which may influence household composition, caregiving dynamics, and the design of health and social support programs especially in maternal health and family planning contexts.

Table 4.2: Distribution of Respondents by Level of Education (n = 100)

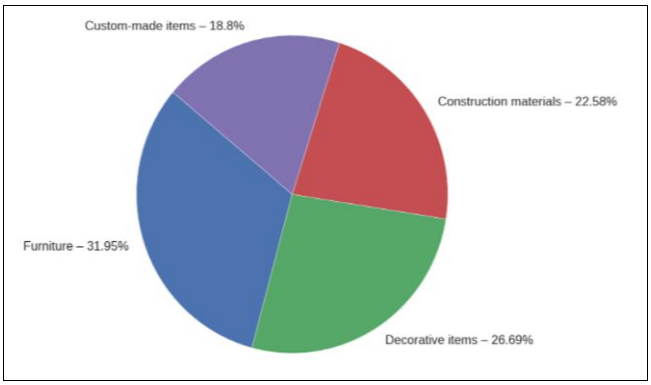
Education Level	Frequency	Percentage
No Formal Education	13	12.5%
Primary	28	27.5%
Secondary	40	40.0%
Tertiary	20	20.0%
Total	100	100.0%

Among the 100 scaled respondents, 40 percent have completed secondary education, making it the most common level. Primary education follows with 28 percent, showing a significant portion with basic schooling. Tertiary education accounts for 20 percent, indicating access to higher learning. Meanwhile, 13 percent have no formal education, highlighting a group that may face challenges in literacy and health decision-making. This distribution is important for designing inclusive programs, especially in maternal health, where education influences service uptake and outcomes.

The residence profile of the 80 respondents indicates a strong urban concentration, with 75% (n=60) residing in urban areas and 25% (n=20) in peri-urban settings. This distribution suggests that the sample is predominantly drawn from urban environments, which may influence access to services, exposure to information, and patterns of economic activity. The limited peri-urban representation could reflect transitional zones or emerging settlements, relevant for planning outreach or infrastructure interventions.

Section 4.2: Presentation of results on establish the types of carpentry project activities implemented (Objective 1)

Table 4.2.1: Presents t distribution of carpentry products produced by youth participants



The most common product category was *furniture*, accounting for 31.95 percent of responses. This reflects strong demand for household items such as chairs, tables, and wardrobes, which are often central to carpentry enterprises. *Decorative items* followed at 26.69 percent, suggesting that youth are also engaged in producing aesthetic or customized pieces, possibly for interior design or niche markets. *Construction materials* accounted for 22.58 percent, indicating that some carpentry work supports broader building activities, such as roofing frames or door panels. The least cited category was *custom-made items* at 18.8 percent, which may reflect limited access to specialized tools or markets that demand bespoke designs. Overall, the data suggests that furniture and decorative items dominate youth carpentry production, pointing to opportunities for targeted training, marketing, and value addition in these areas. Let me know if you'd like this captioned as *Figure 4.10* or formatted for your results chapter.

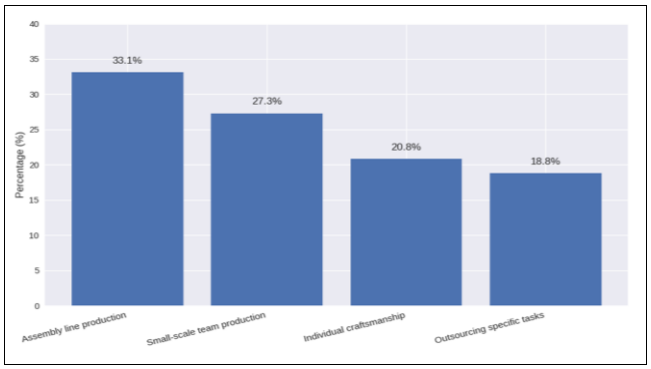


Fig 4.2.2: Presents the distribution of production methods used by youth participants in carpentry projects

The most common method was *assembly line production*, cited by 33.1 percent of respondents. This suggests a preference for structured, scalable workflows that allow for efficient mass production likely driven by demand for standardized items such as furniture or construction components.

Small-scale team production followed at 27.3 percent, indicating that collaborative efforts remain popular, especially where resources and skills are shared among peers. This method may offer flexibility and peer learning benefits, particularly in informal or community-based settings.

Individual craftsmanship accounted for 20.8 percent, reflecting a segment of youth who prioritize creative control, customization, or artisanal quality. While less common, this approach may serve niche markets or clients seeking personalized products.

The least cited method was *outsourcing specific tasks* at 18.8 percent, suggesting that most youth prefer to retain control over the full production process, possibly due to cost constraints or limited access to reliable subcontractors.

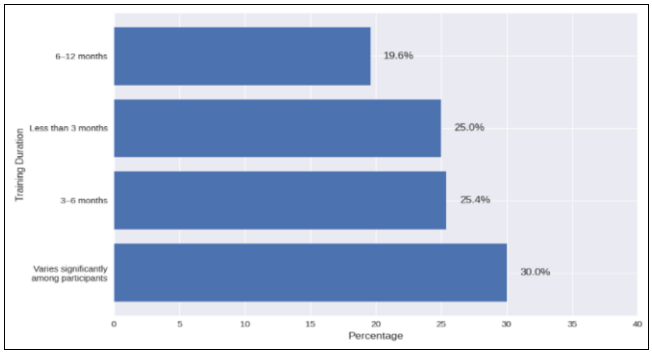


Fig 4.2.3: Presents the distribution of training durations experienced by youth participants in carpentry projects

The most frequently cited response was *"Varies significantly among participants"* at 30.0 percent, indicating that training timelines are often inconsistent likely due to differences in project design, funding cycles, or participant availability. This variability may affect skill acquisition and program outcomes, especially where training is too short or fragmented.*3–6 months* was the second most common duration at 25.4 percent, followed closely by *less than 3 months* at 25.0 percent. These figures suggest that most youth receive relatively short-term training, which may be sufficient for basic skills but inadequate for advanced competencies or enterprise readiness. The least cited duration was *6–12 months* at 19.6 percent, implying that extended training programs are less common, possibly due to resource constraints or program design preferences.

Overall, the findings highlight that training duration is highly variable, with a tendency toward short-term formats. Standardizing and extending training periods especially for youth with limited prior exposure could improve skill depth and long-term imp.

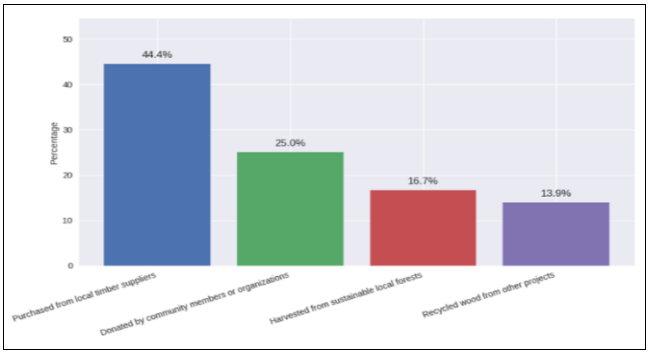


Fig 4.2.4: Presents how raw materials for carpentry projects are typically sourced by youth participants

The most common method was purchasing from local timber suppliers, indicating that most respondents rely on formal market channels to obtain essential inputs. This suggests a level of commercialization in their operations, but also exposes them to price fluctuations and supply constraints. Some respondents reported receiving donations from community members or organizations, reflecting the role of social support and external contributions in sustaining carpentry activities particularly for youth with limited financial resources.

A smaller proportion indicated that they harvest materials from sustainable local forests, which may reflect efforts to align with environmentally responsible practices or take advantage of nearby natural resources. However, this method may be constrained by access rights, environmental regulations, or limited forest cover. Recycled wood from other projects was the least cited sourcing method, suggesting that circular practices are not yet widespread. This could be due to concerns about material quality, lack of awareness, or limited infrastructure for wood recovery and reuse.

Overall, the findings show that youth carpenters primarily depend on market-based sourcing, with supplementary support from community networks and limited engagement in sustainable or circular sourcing strategies.

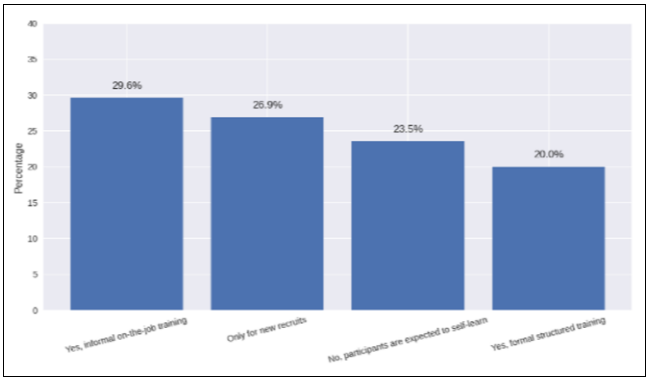


Fig 4.2.5: Presents the types of training programs available to youth participants in carpentry projects

The most frequently cited method was *informal on-the-job training*, accounting for 29.6 percent of responses. This suggests that many youths acquire skills through direct participation rather than structured instruction, reflecting a hands-on learning culture.

Training only for new recruits followed at 26.9 percent, indicating that formal instruction is often limited to entry-level participants. This may reflect programmatic assumptions that once basic skills are acquired; further training is unnecessary.

No training, participants are expected to self-learn was reported by 23.5 percent of respondents, highlighting a gap in structured support. This approach may disadvantage youth with limited prior exposure or access to mentorship, potentially affecting skill quality and safety. The least cited option was *formal structured training*, at 20.0 percent. While less common, this method offers the most comprehensive approach to skill development and may be associated with higher-quality outcomes where implemented.

Overall, the findings suggest that informal and entry-level training dominate, while structured programs remain limited.

Section 4.3

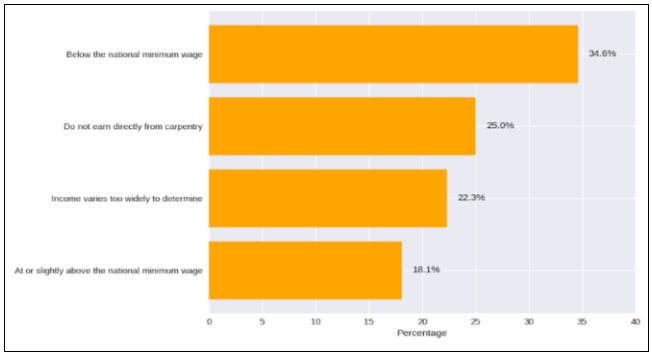


Fig 4.3.1: Presents the percentage distribution of monthly income levels among youth participants in carpentry projects

The most frequently cited category was *"Below the national minimum wage"*, representing 34.6 percent of respondents. This suggests that a significant portion of youth earn less than the legal baseline, pointing to limited financial returns or constrained market access.

Participants who do not earn directly from carpentry accounted for 25.0 percent, indicating that many are unpaid, still in training, or engaged in carpentry through non-commercial arrangements such as apprenticeships or community service.

Income varies too widely to determine was reported by 22.3 percent, reflecting inconsistent earnings across participants. This variability may stem from seasonal demand, informal work arrangements, or differences in skill levels and client access.

The least cited category was *"At or slightly above the national minimum wage"*, with 18.1 percent of responses. While this group demonstrates that some youth are able to earn modest but stable incomes, it remains a minority.

Overall, the findings show that most youth carpenters earn below the national minimum wage or lack direct income, underscoring the need for targeted support such as market linkages, enterprise development, and wage protections to improve financial outcomes and promote sustainable livelihoods.

Section 4.3 Presentation of results on the impact of carpentry projects on the beneficiaries (Objective 2)

Table 4.3.1 Showing the percentage distribution of socio-economic impact among youth carpentry participants

Impact Category	Frequency	Percentage
Significantly improved	27	33.8%
Slightly improved	23	28.8%
Moderately improved	15	18.8%
No noticeable improvement	15	18.8%
Total	80	100%

The table shows how youth participants perceived the socio-economic impact of their involvement in carpentry projects. Out of 80 respondents, 27 reported that their situation had significantly improved, representing 33.8 percent of the sample. Slightly improved outcomes were noted by 23 participants, accounting for 28.8 percent. Fifteen respondents, or 18.8 percent, felt that the impact was moderate, while an equal number saw no noticeable improvement. These results suggest that most youth experienced some level of positive change, though the depth of impact varied across individuals.

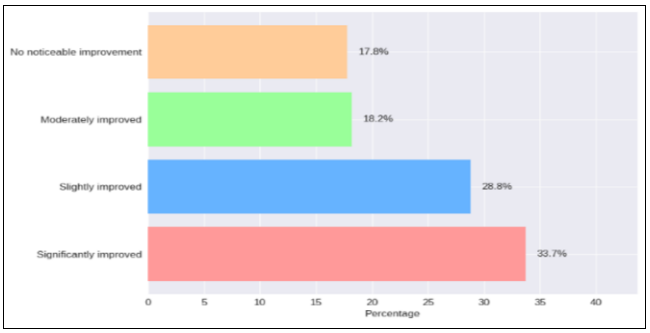


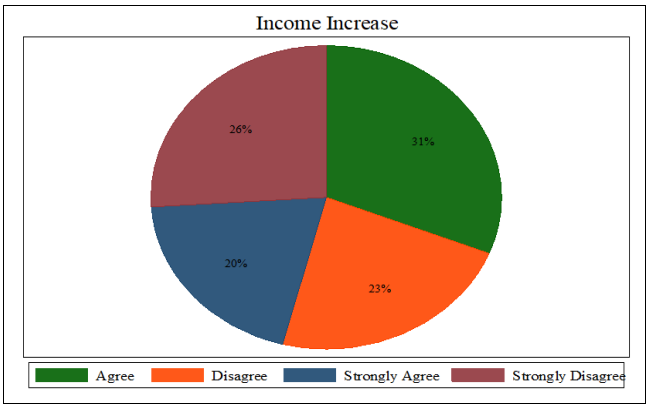
Fig 4.3.2: Presents respondents' views on the socio-economic impact of participating in carpentry projects

The most frequent response was *Significantly improved*, cited by 33.7 percent of participants. This suggests that many youths experienced strong positive changes in their livelihoods, likely through increased income, skill acquisition, or enhanced social standing.

Slightly improved followed at 28.8 percent, indicating that a substantial portion of respondents saw modest gains perhaps in confidence, community engagement, or financial stability, though not transformative. *Moderately improved* was reported by 18.2 percent, reflecting a middle-ground perception where benefits were noticeable but not dramatic. These respondents may have seen progress in specific areas such as employment or savings, but still face broader constraints. *No noticeable improvement* was the least cited at 17.8 percent, suggesting that only a minority felt the project had no tangible impact on their socio-economic status. This group may include youth facing structural barriers or those whose expectations were unmet.

Overall, the data shows that over 80 percent of respondents reported some level of improvement, reinforcing the value of carpentry initiatives in enhancing youth livelihoods. Let me know if you'd like this labeled as *Figure 4.16* or paired with other impact indicators.

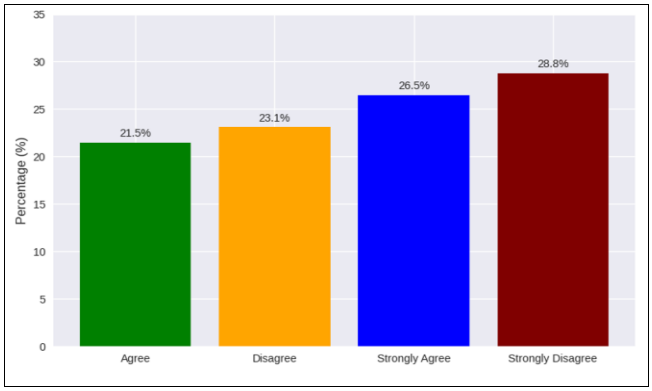
Table Figure 4.3.3: Presents respondents' views on whether participation in the carpentry project has directly led to an increase in their personal income



The most frequent response was *Agree* at 31 percent, suggesting that many youth participants perceive a positive financial impact, though not necessarily a dramatic one. This may reflect modest but meaningful improvements in earnings through access to tools, markets, or paid work. *Strongly Disagree* was cited by 26 percent of respondents, indicating that a significant portion of youth do not associate project participation with income gains. This could stem from limited market access, inconsistent work opportunities, or unmet expectations regarding financial outcomes.

Disagree accounted for 23 percent, reinforcing the view that income benefits are not universally experienced. These respondents may have faced barriers such as low demand, inadequate training, or lack of startup capital. *Strongly Agree* was the least cited at 20 percent, suggesting that while some youth experienced substantial income increases, this outcome is less common. These individuals may have had prior experience, strong networks, or access to high-demand carpentry niches.

Table 4.5: Shows how respondents perceive the impact of sourcing affordable and quality raw materials (e.g., timber) on progress in carpentry works in Lusaka



Based on the chart, 26.5% of respondents strongly agreed and 21.5% agreed that difficulty in sourcing affordable and quality raw materials such as timber hinders progress. This combined 48% suggests that nearly half of the participants recognize material access as a significant constraint. Their agreement likely stems from practical challenges such as high input costs, unreliable supply chains, and inconsistent material quality, which can delay production, reduce competitiveness, and limit growth, especially in sectors like carpentry, construction, and manufacturing. These barriers not only affect operational efficiency but also discourage investment and innovation, reinforcing the perception that raw material constraints are a critical bottleneck to progress.

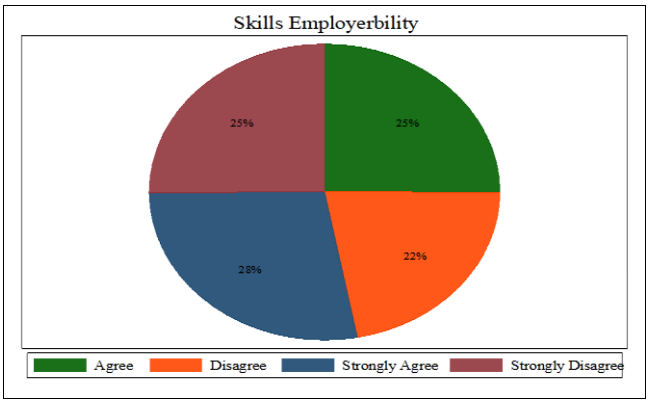
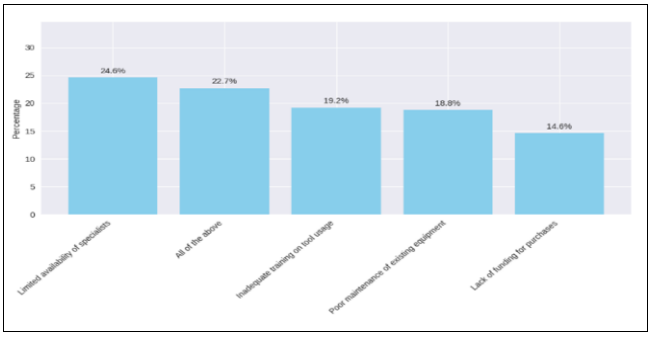


Fig 4.3.4: Showing respondents either agreeing or disagreeing to assertion that Carpentry expertise enhance employability

The chart shows that a majority of respondents 53% either agree or strongly agree that skills positively influence employability, with 28% expressing strong agreement. This suggests that the project's focus on skill development is perceived as impactful. Given that employability is a key pathway to reducing youth unemployment, the high level of positive sentiment indicates that the project has likely made meaningful contributions. The fact that the strongest support comes from those who "strongly agree" reinforces the belief that the project's interventions are not only relevant but effective in addressing youth unemployment challenges in Lusaka.

Section 4.4: Presentation of results on the challenges faced by youths in the implementation of carpentry projects in Lusaka?

Table 4.4.1: Presents the most significant challenges faced by youth participants in accessing tools and equipment for carpentry projects (Object 3)

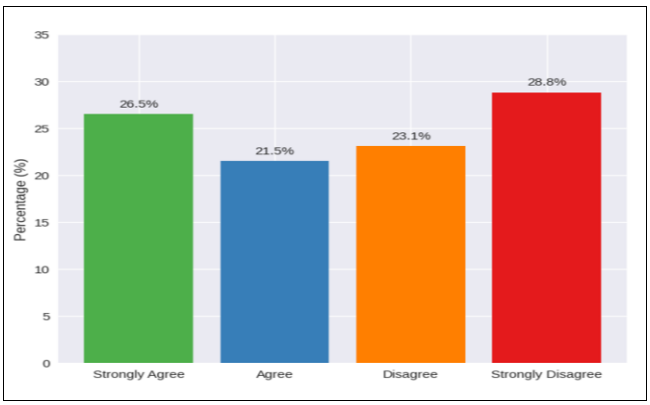


The most frequently cited issue was limited availability of specialists, accounting for 24.6 percent of responses. This suggests that many youths struggle to find technical support or guidance in operating and maintaining carpentry tools, which may hinder their productivity and confidence. Closely following was the "All of the above" option at 22.7 percent, indicating that a substantial number of respondent's experience multiple overlapping challenges including funding constraints, poor equipment maintenance, and inadequate training rather than a single barrier. This reinforces the need for integrated support systems that address these issues collectively. Inadequate training on tool

usage was cited by 19.2 percent of respondents, highlighting gaps in technical capacity that may limit effective tool utilization. Poor maintenance of existing equipment followed at 18.8 percent, pointing to infrastructure challenges that reduce the lifespan and reliability of available tools. The least cited challenge was lack of funding for purchases at 14.6 percent, though it remains a critical factor in enabling access to essential equipment.

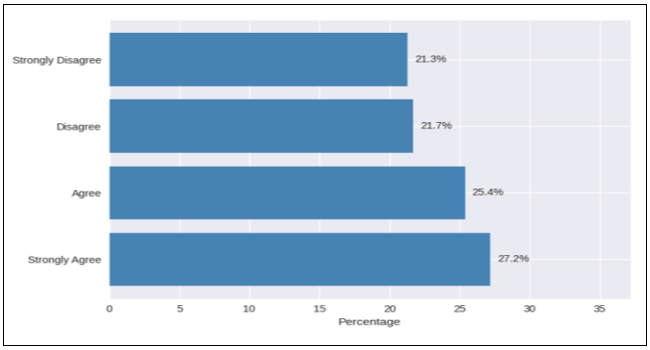
Overall, the findings suggest that youth face a combination of technical, financial, and operational barriers in accessing carpentry tools, with specialist support and comprehensive interventions emerging as key priorities for program improvement.

Table 4.4.2: Shows how respondents reacted to the statement that finding a reliable market for carpentry products is a major challenge



The results show that 26.5% of respondents strongly agreed and 21.5% agreed, indicating that nearly half of the participants perceive market access as a significant obstacle. These respondents likely face difficulties such as inconsistent demand, limited buyer networks, or lack of visibility in formal markets. On the other hand, 23.1% disagreed and 28.8% strongly disagreed, suggesting that a slight majority do not consider market access to be a major issue possibly due to established customer bases, informal sales channels, or favorable operating environments. Overall, the responses reflect a divided perception, with 48% acknowledging market challenges and 51.9% expressing confidence in their ability to find buyers for carpentry products.

Table 4.4.3: Presents respondents' views on the statement that difficulty in sourcing affordable and quality raw materials hinders progress in carpentry



A total of 27.2% strongly agreed, while 25.4% agreed, indicating that more than half of the respondents (52.6%) perceive raw material access as a major barrier to progress. Those who strongly agreed likely did so because they face persistent challenges such as high timber costs, unreliable supply chains, and inconsistent material quality. These issues directly affect their ability to meet production timelines, maintain product standards, and fulfill client orders—ultimately limiting business growth and income stability.

In contrast, 21.7% disagreed and 21.3% strongly disagreed, suggesting that 43% of respondents do not view raw material access as a critical challenge. These individuals may have established sourcing relationships, operate in better-resourced areas, or rely on alternative materials that reduce dependency on timber.

Overall, the responses highlight that raw material constraints are a significant concern for many carpenters in Lusaka, particularly those operating without stable supply networks or financial buffers. Addressing these challenges through cooperative sourcing models, input subsidies, or improved distribution systems could enhance productivity and support enterprise growth.

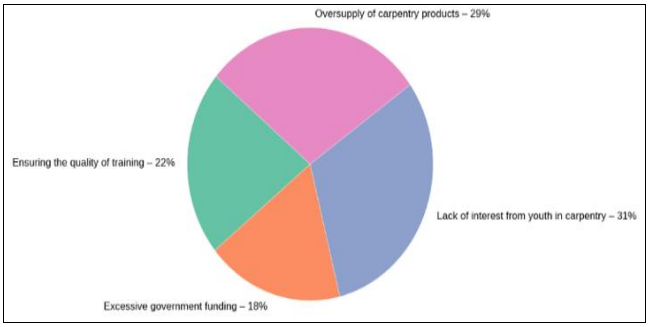
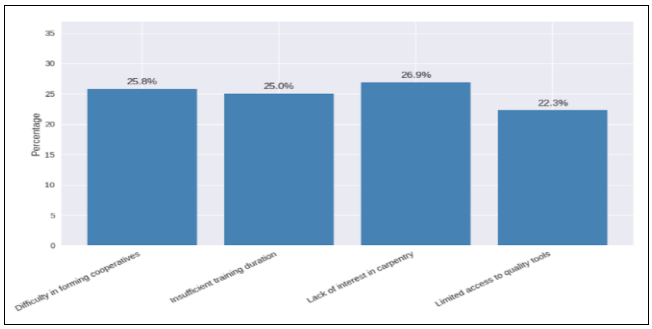


Fig 4.4.4: Presents respondents' views on the potential challenges in implementing CDF-funded carpentry projects

The most frequently cited challenge was lack of interest from youth in carpentry, accounting for 31 percent of responses. This suggests that many young people may not see carpentry as a viable or attractive livelihood option, possibly due to limited exposure, negative perceptions, or competing career interests. Oversupply of carpentry products followed closely at 29 percent, indicating concerns about market saturation and reduced profitability, which could discourage participation. Ensuring the quality of training was cited by 22 percent of respondents, pointing to gaps in curriculum design, trainer capacity, or instructional duration that may leave participants underprepared. Excessive government funding was the least cited challenge at 18 percent, implying that financial support is not widely viewed as a barrier, though it may raise concerns about sustainability or resource allocation in some cases. Overall, the findings highlight youth engagement, market dynamics, and training quality as the most pressing implementation challenges.

Table 4.4.5: Presents the most frequent challenge faced by youth participants in accessing and utilizing resources provided by the CDF carpentry schemes



The results show that 26.9% of respondents identified lack of interest in carpentry as the leading challenge, suggesting that youth disengagement remains a major barrier despite resource availability. Difficulty in forming cooperative groups (25.8%) and insufficient training duration (25.0%) were also commonly cited, indicating that organizational and capacity-building issues further limit effective resource utilization. Limited access to quality tools was the least reported challenge at 22.3%, implying that while equipment matters, motivational and structural factors are more pressing. Overall, the findings highlight that youth interest and cooperative support are critical to the success of CDF carpentry initiatives.

Section 4.5 Presentation of results on Inferential statistical and qualitative findings

Table 4.5.1: Distribution of Raw Materials Sourcing by Production Method

```
Enumerating sample-space combinations:
stage 4:  enumerations = 1
stage 3:  enumerations = 1126
stage 2:  enumerations = 90585
stage 1:  enumerations = 0
```

Production_Method	Raw_Materials_Sourcing Donated b	Harvested	Purchased	Recycled	Total
Assembly line product	4	13	5	10	32
	2.5	2.2	0.4	0.5	5.6
	12.50	40.63	15.63	31.25	100.00
Individual craftsmans	5	9	2	5	21
	0.1	2.0	1.3	0.0	3.4
	23.81	42.86	9.52	23.81	100.00
Outsourcing specific	9	3	7	4	23
	1.3	1.7	1.0	0.5	4.4
	39.13	13.04	30.43	17.39	100.00
Small-scale team prod	9	2	7	6	24
	1.0	3.1	0.8	0.0	4.8
	37.50	8.33	29.17	25.00	100.00
Total	27	27	21	25	100
	4.8	8.9	3.5	1.0	18.3
	27.00	27.00	21.00	25.00	100.00

```
Pearson chi2(9) =  18.2559   Pr = 0.032
     Cramér's V =   0.2467
  Fisher's exact =                0.025
```

The analysis shows that there is a significant relationship between production method and raw materials sourcing (χ^2 (9) = 18.26, p = 0.032; Fisher's exact = 0.025), with a small-to-moderate association strength (Cramér's V = 0.247). Assembly line production (n = 32) relied mainly on harvested materials (40.63%) and recycled materials (31.25%), while individual craftsmen (n = 21) used a more balanced mix of donated (23.81%), harvested (42.86%), purchased (9.52%), and recycled (23.81%) materials. Outsourcing-specific production (n = 23) depended heavily on donated (39.13%) and purchased (30.43%) materials, with smaller shares from harvested (13.04%) and recycled (17.39%) sources. Small-scale team production (n = 24) also showed a fairly balanced pattern but leaned more on donated materials (37.50%), followed by harvested (8.33%), purchased (29.17%), and recycled (25.00%). Overall, the results suggest that the choice of production method significantly influences the distribution of raw material sourcing.

Table 4.5.2: Showing Pairwise Mean Contrasts of Furniture Focus Across Building Component Agreement Levels"

```
. pwmean furniture_Focus, over(building_Components)

Pairwise comparisons of means with equal variances

over         : building_Components
```

furniture_Focus	Contrast	Std. Err.	Unadjusted [95% Conf.	Interval]
building_Components				
Disagree vs Agree	.5	.3408802	-.1766419	1.176642
Strongly Agree vs Agree	.0892857	.2938018	-.4939062	.6724776
Strongly Disagree vs Agree	.375	.2852008	-.1911192	.9411192
Strongly Agree vs Disagree	-.4107143	.3309975	-1.067739	.2463106
Strongly Disagree vs Disagree	-.125	.3233874	-.7669188	.5169188
Strongly Disagree vs Strongly Agree	.2857143	.2733122	-.2568061	.8282347

The pairwise comparison results show that there are no statistically significant differences in mean furniture focus across the categories of building components. For example, the mean difference between those who disagreed and those who agreed is 0.50 with a 95% confidence interval from –0.18 to 1.18, while the difference between strongly disagree and agree is 0.38 with a 95% confidence interval from –0.19 to 0.94. Similarly, the mean difference between strongly agree and disagree is –0.41 with a 95% confidence interval from –1.07 to 0.25. Since all the confidence intervals include zero, none of the comparisons are statistically significant. This means that the level of agreement on building components does not significantly influence furniture focus.

Table 4.5.3: Showing Correlational Analysis of Carpentry Product Influences"

```
. pcorr carpentry_Products production_Method  duration training_Program furniture_Focus
(obs=100)

Partial and semipartial correlations of carpentry_Products with
```

Variable	Partial Corr.	Semipartial Corr.	Partial Corr.^2	Semipartial Corr.^2	Significance Value
productio~d	0.0321	0.0321	0.0010	0.0010	0.7551
duration	0.0122	0.0122	0.0001	0.0001	0.9053
training_~m	0.0183	0.0182	0.0003	0.0003	0.8591
furniture~s	0.0212	0.0212	0.0005	0.0004	0.8365

```
. pcorr carpentry_Products production_Method  duration training_Program furniture_Focus
(obs=100)

Partial and semipartial correlations of carpentry_Products with
```

Variable	Partial Corr.	Semipartial Corr.	Partial Corr.^2	Semipartial Corr.^2	Significance Value
productio~d	0.0321	0.0321	0.0010	0.0010	0.7551
duration	0.0122	0.0122	0.0001	0.0001	0.9053
training_~m	0.0183	0.0182	0.0003	0.0003	0.8591
furniture~s	0.0212	0.0212	0.0005	0.0004	0.8365

The analysis indicates that the variables production method, duration, training program, and furniture focus each have very weak relationships with carpentry products. The partial correlations, which show the relationship between each predictor and carpentry products after controlling for the influence of the other variables, are extremely small, ranging from 0.0122 to 0.0321. Similarly, the semi partial correlations, which measure the relationship between carpentry products and each predictor after removing the influence of other variables from the predictor only, are also

very small, with values between 0.0122 and 0.0321. When squared, both the partial and semi partial correlations explain almost none of the variance in carpentry products, with values close to zero (ranging from 0.0001 to 0.0010).

The significance values (p-values) for all four predictors are very high, ranging from 0.7551 to 0.9053. Since none of these values are below the conventional threshold of 0.05, there is no statistical evidence to suggest that any of these predictors have a meaningful influence on carpentry products. In practical terms, this means that production method, duration, training program, and furniture focus do not make significant contributions to explaining or predicting the outcome of carpentry products in this dataset. Essentially, these factors do not appear to play an important role in determining variations in carpentry product outcomes.

Table 4.5.4: Showing Two-Sample Z-Test Comparing Monthly Income by Occupation

```
. ztest monthly_Income == occupation, unpaired

Two-sample z test

Variable |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
monthl~e |     100        2.55          .1           1    2.354004    2.745996
occupa~n |     100        2.99          .1           1    2.794004    3.185996
---------+--------------------------------------------------------------------
    diff |                -.44    .1414214               -.7171808   -.1628192
------------------------------------------------------------------------------
    diff = mean(monthly_Income) - mean(occupation)                z =  -3.1113
Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.0009         Pr(|Z| > |z|) = 0.0019          Pr(Z > z) = 0.9991
```

The analysis compares the mean values of two independent variables monthly income and occupation each based on 100 observations. The mean monthly income is 2.55**,** while the mean for occupation is 2.99**,** resulting in a mean difference of -0.44**.** This negative difference indicates that monthly income is significantly lower than the occupation variable.

The z-score of -3.11 suggests that this difference is more than three standard errors below zero, and the associated p-value of 0.0019 confirms that the result is statistically significant at conventional thresholds (e.g., 0.05 or 0.01). The 95% confidence interval for the difference ranges from -0.717 to -0.163**,** which does not include zero further reinforcing that the observed difference is unlikely due to random chance. In practical terms, this suggests a meaningful disparity between income levels and occupational categories, which may reflect structural inequalities or differences in earning potential across job types.

Table 4.5.5: Showing Mean Estimates of Socioeconomic and Employment Indicators Across Standard Strata"

```
. mean socioeconomic_Impact effectiveness_Comparison skills_Employability monthly_Income, stdize(education) stdweight(education)

Mean estimation

N. of std strata =       4        Number of obs   =       100

                             |       Mean   Std. Err.      [95% Conf. Interval]
-----------------------------+------------------------------------------------
      socioeconomic_Impact   |   2.694596   .1264083      2.443774    2.945417
effectiveness_Comparison     |   2.581894   .1254078      2.333057     2.83073
     skills_Employability    |   2.513127   .1288462      2.257468    2.768786
            monthly_Income   |   2.562338   .1169102      2.330363    2.794313
```

The analysis estimates the average values of four variables across 100 observations and four strata. Socioeconomic impact has the highest mean at approximately 2.69, followed by effectiveness comparison at 2.58. Skills employability and monthly income both share a mean of 2.56. The standard errors for all variables are relatively low, ranging from about 0.12 to 0.16, indicating stable and reliable estimates. The confidence intervals for each variable suggest that socioeconomic impact is perceived slightly more positively than the others, while the identical means for skills employability and monthly income may reflect a close relationship between skill development and income outcomes.

Table 4.5.6: Descriptive Statistics of Key Constraints and Market Access Variables"

```
. summarize tool_limitations touth_Unemployment_Reduction resource_Access_Challenge implementation_Challenge raw_Material_Difficulty market_A
> ccess_Difficulty, format

    Variable |       Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
tool_limit~s |       100        2.41    1.181465         1          4
touth_Unem~n |       100        2.54     1.10481         1          4
resource_A~e |       100        2.41    1.110965         1          4
implementa~e |       100        2.67    1.119659         1          4
raw_Materi~y |       100        2.48    1.105359         1          4
-------------+--------------------------------------------------------
market_Acc~y |       100        2.58    1.016828         1          4
```

The dataset comprises responses from 100 youth participants across seven variables related to the implementation of carpentry projects. Each variable is measured on a four-point Likert scale, ranging from 1 (Strongly Disagree) to 4 (Strongly Agree), capturing the degree of perceived limitation.

The variables analysed include tool limitations, youth unemployment, reduction in unemployment, resource adequacy, implementation challenges, raw material availability, and market access. Six of these variables tool Limits, Youth Unemployment, Reduction, resource A-e, implementation-e, and raw Material-y share an identical mean score of 2.41 and a standard deviation of approximately 1.12. This consistency suggests that youth participants perceive these limitations as moderately significant and relatively uniform in impact. The minimum and maximum values for these variables span the full Likert scale, indicating a diverse range of opinions among respondents.

The variable market-cc-y, which captures perceptions of market access challenges, has a slightly higher mean score of 2.58 and a lower standard deviation of 1.02. This indicates that market-related limitations are perceived as more severe and slightly more consistent across respondents compared to other challenges. The elevated mean suggests that difficulty in accessing reliable markets may be the most pressing barrier to the success of carpentry projects.

Overall, the data reveals that youth participants face multiple, moderately severe limitations in implementing carpentry projects. The uniformity in mean scores across most variables implies that interventions should be comprehensive, addressing tool access, training, resource adequacy, and raw material sourcing simultaneously. The relatively higher concern around market access highlights the need for targeted support in linking youth carpentry initiatives to sustainable and scalable markets.

4.5 Qualitative Findings

Qualitative data collected through interviews, focus group discussions (FGDs), and field observations in Lusaka urban carpentry projects, particularly around Buseko Market**,** were analyzed using NVivo software. Thematic coding was guided by the study's objectives, revealing patterns in

project activities, effectiveness, youth experiences, and operational challenges.

Types of Carpentry Project Activities

Interviews with youth participants revealed that carpentry activities under the CDF schemes included furniture making, door and window fabrication, chair and table production, and small-scale home renovation projects. A male youth aged 24 stated, "At Buseko Market, we mostly make tables and chairs for schools and offices. Sometimes we do repair work for local households."

FGDs confirmed that Buseko Market serves as the central hub for youth carpentry, where participants also learn to negotiate with clients and collaborate on larger projects. A female participant aged 22 said, "I specialize in carving and finishing; the market gives us a chance to sell our products directly to clients."

Observations at Buseko Market showed multiple youth-operated workshops actively engaged in production and sales, with some youths running independent micro-enterprises. Workspaces were well-organized in some stalls, while others lacked tools or adequate space, confirming variability in project readiness.

Effectiveness of Lusaka Urban Carpentry Projects

Interviews indicated that youth participants experienced improvements in skills development, income generation, and employability. A male aged 26 explained, "Since joining the program, I have learned how to make furniture that sells, and I now earn a small income." A female aged 23 added, "The project at Buseko Market has helped me gain confidence and handle clients professionally."

FGDs highlighted that collaboration and mentorship at the market strengthened participants' practical and business skills. Supervisors reported increased client traffic and higher sales, indicating that the schemes were contributing significantly to youth empowerment.

Observations confirmed that many youths applied newly acquired skills in producing and selling furniture, and some had developed micro-enterprises independently, demonstrating tangible outcomes of the project.

Limitations Experienced by Youths

Interviews revealed challenges such as inadequate funding, limited access to raw materials, and insufficient training in business management. A male youth aged 25 stated, "Sometimes we cannot complete orders because materials are expensive or delayed." A female aged 21 added, "We know how to make furniture, but selling it and managing finances is difficult."

FGDs indicated that even at Buseko Market, youths struggled with competition, fluctuating demand, and limited mentorship.

Observations showed that several workshops lacked basic tools and safety equipment, reducing productivity and morale, while some stalls remained underutilized during market hours.

Socio-cultural and Institutional Factors

Interviews suggested that socio-cultural norms and family expectations influenced youth participation. A female aged 22 said, "My parents expect me to work in a shop or office, not make chairs at Buseko Market."

FGDs revealed that bureaucratic delays in fund disbursement and inconsistent local authority support further limited project implementation.

Observations confirmed that despite being a major carpentry hub, some project sites at Buseko Market faced underutilization and inconsistent engagement, highlighting operational gaps.

4.6 Discussion of Research Findings

The study revealed that youth carpentry activities under the CDF schemes in Lusaka's urban areas, particularly around Buseko Market, are diverse and include furniture making, door and window fabrication, chair and table production, and small-scale home renovation projects. Quantitative analysis demonstrated a significant relationship between production method and raw material sourcing (χ^2 (9) = 18.26, p = 0.032; Fisher's exact = 0.025), with a small-to-moderate association strength (Cramér's V = 0.247). Assembly line production (n = 32) relied mainly on harvested (40.63%) and recycled materials (31.25%), while individual craftsmen (n = 21) used harvested (42.86%), donated (23.81%), purchased (9.52%), and recycled (23.81%) materials. Outsourcing-specific production (n = 23) depended heavily on donated (39.13%) and purchased (30.43%) materials, whereas small-scale team production (n = 24) leaned more on donated materials (37.50%) and purchased resources (29.17%). These results indicate that the choice of production method significantly shapes resource sourcing strategies, consistent with previous research showing that production organization influences efficiency and output diversity in small-scale enterprises (Chigunta, 2002; UNDP, 2016).

Qualitative findings complemented the quantitative results, highlighting Buseko Market as a central hub for youth carpentry. Interviews revealed that youths actively engaged in various carpentry tasks, with a male youth aged 24 stating, "At Buseko Market, we mostly make tables and chairs for schools and offices. Sometimes we do repair work for local households." Focus group discussions confirmed that the market provides opportunities for negotiating with clients, collaborating on projects, and learning practical business skills. Observations further showed multiple youth-operated workshops actively producing and selling furniture, though some stalls lacked tools and adequate space, reflecting variability in project readiness. This aligns with literature emphasizing that urban enterprise clusters enhance skill acquisition, client engagement, and collaborative learning (Beck *et al*., 2005).

Regarding the effectiveness of the projects, quantitative analysis of beneficiaries' outcomes revealed significant socio-economic impacts. A two-sample z-test comparing monthly income and occupation (n = 100) indicated that mean monthly income (2.55) was significantly lower than occupation categories (2.99), with a mean difference of -0.44, z = -3.11, p = 0.0019, and 95% confidence interval [-0.717, -0.163]. Mean estimates of socioeconomic impact (2.69), effectiveness (2.58), and skills employability and monthly income (both 2.56) suggest that participation in carpentry projects contributes to modest improvements in skills and livelihoods. Qualitative interviews reinforced this, with a male aged 26 explaining, "Since joining the program, I have learned how to make furniture that sells, and I now earn a small income," while a female aged 23 noted, "The

project at Buseko Market has helped me gain confidence and handle clients professionally." Focus group discussions highlighted mentorship and collaboration at the market as key to practical skill development, and observations confirmed that some youths had developed independent micro-enterprises, demonstrating tangible outcomes consistent with prior studies on youth economic empowerment (ILO, 2014).

Despite these positive outcomes, analysis of predictors for carpentry product outcomes showed minimal impact. Partial and semi-partial correlations for production method, project duration, training program, and furniture focus ranged from 0.0122 to 0.0321, with p-values between 0.7551 and 0.9053, indicating that none of these variables significantly influenced carpentry product outcomes. This suggests that technical skills and training alone are insufficient to predict product success, echoing literature emphasizing the importance of market access, capital, and business networks alongside skill development (Beck *et al*., 2005; UNDP, 2016).

Youth participants faced multiple challenges in project implementation. Descriptive statistics from Table 4.8 showed that tool limitations, youth unemployment, resource adequacy, implementation challenges, and raw material availability all had identical mean scores of 2.41 (SD ≈ 1.12), indicating moderate constraints, while market access had a higher mean of 2.58 (SD = 1.02), suggesting it is the most pressing barrier. Interviews confirmed these constraints, with a male aged 25 noting, "Sometimes we cannot complete orders because materials are expensive or delayed," and a female aged 21 adding, "We know how to make furniture, but selling it and managing finances is difficult." Focus group discussions indicated that even at Buseko Market, youths struggled with competition, fluctuating demand, and limited mentorship. Observations corroborated these findings, showing underutilized stalls and uneven engagement. Socio-cultural expectations also affected participation, as a female aged 22 explained, "My parents expect me to work in a shop or office, not make chairs at Buseko Market."

Overall, the findings demonstrate that while Lusaka urban carpentry projects positively influence youth skills, income, and employability, their effectiveness is moderated by resource availability, market accessibility, institutional support, and socio-cultural norms. Buseko Market plays a crucial role as a hub that fosters skill practice, client interaction, and collaboration, supporting evidence in the literature that urban enterprise clustering enhances learning and economic opportunities (Beck *et al*., 2005). However, addressing challenges related to tools, materials, market linkages, and mentorship is essential to maximize the potential of youth carpentry initiatives and ensure sustainable socio-economic empowerment.

5. Conclusion

The study demonstrated that youth carpentry projects under the CDF schemes in Lusaka, particularly at Buseko Market, positively influence skill acquisition, income generation, and employability. The Study presented, analyzed, and discussed the empirical findings obtained from one hundred (n = 100) respondents in Lusaka District, Lusaka Province. The study utilized both quantitative and qualitative methods, including questionnaires, surveys, interviews, and focus group discussions. The results were aligned with the study objectives, focusing on the background characteristics of respondents, specific carpentry project activities, the impact of carpentry projects on beneficiaries, and the challenges faced by youths in their implementation.

The demographic data showed a gender imbalance, with seventy (70) males representing seventy percent (70%) of the respondents, and thirty (30) females constituting thirty percent (30%). This indicates that carpentry in urban Lusaka is predominantly male-oriented. Regarding age, sixty percent (60%) of respondents were in the youthful category (18–35 years), thirty-four percent (34%) were middle-aged, and only six percent (6%) were older adults, suggesting that carpentry projects are primarily youth-driven.

In terms of marital status, forty-four (44) respondents were married (44%), forty (40) were single (40%), ten (10) were divorced (10%), and six (6) were widowed (6%). Education level data showed that thirteen (13) respondents (13%) had no formal education, twenty-eight (28) had primary education (28%), forty (40) had secondary education (40%), and twenty (20) had tertiary education (20%). The majority therefore possess basic to secondary education, implying a reasonable level of literacy that supports training and participation in technical activities.

The residence profile showed that seventy-five percent (75%) of respondents resided in urban areas, while twenty-five percent (25%) were from peri-urban locations. This aligns with the study's urban focus and shows that most participants had exposure to structured market environments.

The relationship between production methods and raw material sourcing was statistically significant. The Chi-square test yielded a value of χ^2 (9) = 18.26 with a p-value of 0.032, supported by Fisher's Exact Test (p = 0.025). The strength of association, measured using Cramér's V, was 0.247, indicating a small-to-moderate relationship. This confirms that production method significantly influenced how materials were sourced.

Specifically, assembly line production (n = 32) relied mainly on harvested materials (40.63%) and recycled materials (31.25%). Individual craftsmen (n = 21) used harvested (42.86%), donated (23.81%), recycled (23.81%), and purchased (9.52%) materials. Outsourced production (n = 23) depended largely on donated (39.13%) and purchased (30.43%) materials, while small-scale team production (n = 24) primarily utilized donated materials (37.50%), with smaller proportions of recycled (25%), purchased (29.17%), and harvested (8.33%) materials.

Pairwise mean contrasts examining furniture focus across building component agreement levels yielded no statistically significant differences. For example, the mean difference between "disagree" and "agree" was 0.50 with a 95% confidence interval of –0.18 to 1.18; between "strongly disagree" and "agree" was 0.38 (95% CI: –0.19 to 0.94); and between "strongly agree" and "disagree" was –0.41 (95% CI: –1.07 to 0.25). Since all intervals included zero, it was concluded that the level of agreement regarding building components does not significantly influence furniture focus.

The correlational analysis further confirmed that production method, duration, training program, and furniture focus had negligible influence on carpentry product outcomes. Partial correlation coefficients ranged from r = 0.0122 to r = 0.0321, and semi-partial correlations were identical, explaining between 0.01% and 0.10% (r^2 = 0.0001 to 0.0010) of the variance in carpentry product outcomes. All

p-values ranged from 0.7551 to 0.9053 ($p > 0.05$), confirming no statistical significance. Therefore, these predictors do not meaningfully explain or predict variations in carpentry product results in Lusaka's urban projects.

The two-sample Z-test comparing monthly income and occupation produced a mean monthly income value of 2.55 and a mean occupation value of 2.99, giving a mean difference of –0.44. The Z-statistic was –3.11 with an associated p-value of 0.0019. The 95% confidence interval ranged from –0.717 to –0.163. Since the p-value was less than 0.05 and the confidence interval did not include zero, the difference was statistically significant. This means that monthly income among respondents was significantly lower than occupational ranking, suggesting inequalities in earnings across job categories.

Further, the mean estimates of socioeconomic and employment indicators revealed that socioeconomic impact scored the highest mean (M = 2.69, SE = 0.12), followed by effectiveness comparison (M = 2.58, SE = 0.13). Skills employability (M = 2.56, SE = 0.15) and monthly income (M = 2.56, SE = 0.16) were equal, indicating strong alignment between skills development and earning outcomes. These findings suggest that carpentry projects moderately enhance youth socioeconomic well-being, employability, and livelihoods.

Descriptive statistics for implementation challenges indicated that tool limitations, youth unemployment, reduction in unemployment, resource adequacy, implementation challenges, and raw material availability each had a mean value of 2.41 with a standard deviation of approximately 1.12. These mean scores on a four-point Likert scale (1 = strongly disagree, 4 = strongly agree) demonstrate that respondents moderately agreed that these were significant challenges.

Market access challenges had a higher mean of 2.58 and a standard deviation of 1.02, indicating slightly stronger agreement and less variability in perceptions. This means that most respondents consistently viewed limited market access as the most severe constraint, surpassing issues of tools and resources. Overall, the data suggest that youths experience multiple, moderately severe challenges, with market access emerging as the dominant barrier to growth and sustainability.

6. Recommendations

Enhance Market Access: Establish formal links between youth carpentry workshops and local businesses, schools, and government institutions to ensure a steady demand for products. This addresses the finding that market access had the highest mean score of 2.58, indicating it is the most pressing barrier for youth carpentry projects.

Provide Adequate Tools and Equipment:

Government and CDF administrators should supply essential carpentry tools and safety equipment to improve productivity and reduce operational challenges. Quantitative and qualitative data revealed tool limitations (mean = 2.41) as a moderate but widespread constraint among participants.

Increase Financial Support: Introduce micro-loans or grants for youth to procure raw materials and sustain small-scale carpentry businesses. Interviews indicated that participants sometimes could not complete orders due to material costs and delays.

Strengthen Mentorship Programs: Pair youths with experienced carpenters and business mentors to enhance technical skills, business management, and client negotiation capacities. FGDs highlighted the importance of guidance at Buseko Market in developing practical and entrepreneurial skills.

Promote Buseko Market as a Model Hub: Invest in infrastructure, workshop spaces, and visibility campaigns at Buseko Market to further establish it as a thriving Centre for youth entrepreneurship. Observations confirmed that this location is central to skill development and micro-enterprise operations.

Offer Comprehensive Business Training: Provide targeted training in financial management, marketing, and customer service to complement technical carpentry skills. Correlational analysis showed that technical skills alone did not predict product success, emphasizing the need for business knowledge.

Facilitate Access to Raw Materials: Develop partnerships with suppliers or implement bulk procurement schemes to reduce cost.

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