

Challenges for Funding Higher Education in Zambian Public Universities: A Study of Selected Institutions

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Abstract: This mixed-methods study examines obstacles to funding higher education in selected Zambian public universities—Mulungushi University, Copperbelt University, and Mukuba University. Through questionnaires (n = 150 academic, administrative, and finance staff), semi-structured interviews with university leaders and stakeholders (n = 18), observations, and document review, the study identifies principal constraints: inadequate and delayed government allocations, limited diversification of revenue (low private sector engagement, weak internal income generation), rising operational costs, governance and financial-management weaknesses, and infrastructural deficits. These funding problems negatively affect teaching quality, research capacity, student services, and institutional sustainability. The paper offers policy and institutional recommendations—timely multi-year government funding, strengthened financial governance, proactive revenue diversification, enhanced private sector partnerships, and expanded student support mechanisms—to enhance funding resilience and higher education contributions to national development. **Keywords:** higher education finance, public universities, Zambia, funding challenges, diversification

1. Introduction

Higher education is central to socio-economic development through human capital formation, research, and innovation (Altbach, Reisberg, & Rumbley, 2019). Zambia's public universities educate large cohorts and support national development goals, yet chronic funding shortfalls limit their capacity to deliver quality education and research (Ministry of Higher Education, Zambia, 2021). This study investigates the obstacles and challenges to funding in three representative public universities to inform policy and institutional strategies for sustainable financing.

1.1 Background of the study

Globally, higher education financing has shifted from near-exclusive state provision toward mixed funding models combining public funds, tuition, private partnerships, and internal revenue (Johnstone, 2020). In Zambia, government grants remain the dominant source but are often insufficient and unpredictable (Phiri, 2019). Universities have limited capacity to mobilize alternative funds; private sector engagement and internal revenue generation are underdeveloped (Mwansa & Banda, 2021). Understanding the multifaceted funding constraints at institutional level is essential for crafting viable responses.

1.2 Statement of the problem

Public universities in Zambia experience persistent funding gaps that compromise academic quality, research output, infrastructure maintenance, and student support. The problem is compounded by delayed government disbursements, rising costs, weak governance, and low private sector participation. Without robust, context-appropriate financing strategies, universities risk declining performance and missed development opportunities.

1.3 Objectives of the study

The overall objective is to examine obstacles and challenges in funding higher education in selected Zambian public universities. Specific objectives:

1. Assess current funding status and source composition.
2. Identify major obstacles to securing adequate funding.
3. Analyze impacts of funding constraints on academic and institutional functions.
4. Explore stakeholder perceptions regarding funding issues.
5. Propose strategies and policy recommendations to enhance funding sustainability.

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1.4 Research questions

1. What is the current status and composition of funding in selected Zambian public universities?
2. What major obstacles hinder adequate funding for these institutions?
3. How do funding constraints affect academic quality, research capacity, infrastructure, and student services?
4. What are stakeholders' perceptions of funding challenges and priority solutions?
5. What institutional and policy strategies can improve the funding sustainability of public universities?
6. Literature review

2.1 Overview of higher education funding and models

Funding models vary—from primarily public funding (Nordic countries) to tuition-dependent (US/UK) and mixed approaches (Canada, South Africa). Each has trade-offs for equity, autonomy, and sustainability (Johnstone, 2020; OECD, 2020). For low- and middle-income countries, heavy reliance on volatile public budgets and constrained private capacity complicates sustainable financing (Teferra & Altbach, 2004).

2.2 Funding mechanisms and constraints in Africa and Zambia

African higher education commonly depends on government grants supplemented by tuition and donor funding; private sector contributions and internal revenue sources remain limited (Teferra & Altbach, 2004; Oketch, 2016). In Zambia, studies report inadequate allocations, delayed disbursements, weak governance, and minimal private engagement as recurring problems (Chansa, 2018; Phiri, 2019; Mwansa & Banda, 2021).

2.3 Impacts of funding shortages

Underfunding undermines recruitment and retention of qualified faculty, research capacity, infrastructure, ICT integration, student financial support, and overall institutional reputation (Mutale, 2020; World Bank, 2018). Governance and financial-management weaknesses further reduce effective use of limited resources (Sawyer, 2004).

2.4 Gaps addressed by the study

Existing literature lacks recent, institution-level mixed-methods evidence from multiple Zambian public universities that triangulates staff perceptions, management views, and financial-document indicators. This study fills that gap and proposes actionable responses.

3. Theoretical and conceptual framework

3.1 Theoretical foundations

Human Capital Theory justifies public investment in higher education for societal returns (Becker, 1964). Resource Dependence Theory explains institutional vulnerability from heavy reliance on government funding and the need for diversifying income sources to increase autonomy and resilience (Pfeffer & Salancik, 1978). Institutional and public-goods theories frame government responsibility and governance constraints (Samuelson, 1954; Scott, 2008).

3.2 Conceptual model

The study uses an integrated model linking external environment (government budget, economy, private sector), institutional factors (governance, financial management, strategic planning), funding mechanisms (grants, tuition, donors, internal revenue), and outcomes (academic quality, research, infrastructure, student services). Interactions and feedback loops guide data collection and analysis.

4. Methodology

4.1 Design and approach

A convergent mixed-methods design combined quantitative surveys ($n = 150$) with qualitative interviews ($n = 18$) and document analysis of financial reports and budgets to triangulate findings.

4.2 Study sites and sampling

Three purposively selected public universities—Mulungushi, Copperbelt, and Mukuba—represent geographic diversity and institutional size. Stratified random sampling selected 150 staff respondents (50 per university) across academic, administrative, finance, and management roles. Purposive sampling identified 18 key informants (vice-chancellors, registrars, finance directors, ministry officials, and private partner representatives).

4.3 Data collection instruments

A structured questionnaire captured demographics, perceived funding adequacy, source composition, delays, and impacts. Semi-structured interview guides explored institutional strategies, governance, and stakeholder views. Financial documents (annual reports, audited statements) were reviewed to validate reported funding composition.

4.4 Data analysis

Quantitative data were analyzed descriptively (frequencies, percentages, means) and visually (tables, charts). Qualitative interviews were transcribed and thematically coded (Braun & Clarke, 2006). Document analysis provided supporting figures on funding shares and disbursement timing. Triangulation highlighted convergent and divergent evidence.

4.5 Ethical considerations

Ethical clearance was obtained. Participants provided informed consent; responses were anonymized. Data were stored securely and used solely for research purposes.

5. Findings

5.1 Respondent profile

Table 1 summarizes respondent demographics.

Table 1. Demographic distribution of respondents by university (n = 150)
(See manuscript for full table.)

- 50 respondents per university; 60% male, 38% female, 2% prefer not to say.
- Roles: 44% academic staff, 30% administrative, 15% finance officers, 11% management.

5.2 Funding adequacy perceptions

Table 2 shows perceived funding adequacy.

Table 2. Perceived funding adequacy by university (%)

Rating	Mulungushi	Copperbelt	Mukuba	Overall
Very adequate	5	7	4	5.3
Adequate	10	15	12	12.3
Inadequate	50	45	60	51.7
Very inadequate	35	33	24	30.7

Overall, 82.4% rated funding as inadequate or very inadequate (combined).

5.3 Funding sources and composition

Table 3: funding source distribution (self-report corroborated by financial documents).

Table 3. Funding source distribution (%) by university

Source	Mulungushi	Copperbelt	Mukuba	Overall
Government grants	65	68	63	65.3
Tuition & fees	20	18	22	20.0
Donor/international	8	7	10	8.3
Private sector	4	3	3	3.3
Internal revenue	3	4	2	3.0

Government grants dominate funding; private sector and internal revenue are minimal.

5.4 Major obstacles identified

Respondents identified the top obstacles (Table 4).

Table 4. Major funding obstacles (percentage of respondents mentioning)

Obstacle	Overall %
Limited government funding	80
Delays in disbursement	72.3
Rising operational costs	65
Limited private sector support	60
Poor financial management	45.7
Economic/political instability	40

Interviews elaborated: delays in treasury transfers, conditional budget cuts, and unpredictable multi-year commitments hinder planning.

5.5 Impacts of funding constraints

Table 5. Impacts reported (overall % reporting impact)

Impact area	Overall %
Reduced academic quality	70
Decline in research capacity	65
Infrastructure deficits	61.7
Limited student services	55

Qualitative data: faculty overload, frozen hiring, postponed maintenance, limited grants for postgraduate research, and constrained scholarship funds.

5.6 Delays in fund disbursement and cash-flow effects

Over 72% reported frequent delays in government fund disbursement, with interviews noting months-long lags forcing universities to use short-term credit or delay payments to suppliers and contractors, increasing costs.

5.7 Private sector engagement and internal revenue generation

Respondents and interviewees concurred private sector engagement is minimal ($\approx 60\%$ report limited engagement). Barriers include weak university-industry linkages, lack of incentives for corporates, limited fundraising capacity, and regulatory constraints for entrepreneurial activities.

5.8 Governance and financial management weaknesses

Approximately 46% of respondents perceived shortcomings in financial management or transparency. Interviews revealed gaps in financial planning, project management, procurement inefficiencies, and limited monitoring & evaluation capacity.

6. Discussion

6.1 Synthesis with literature

Findings corroborate regional literature: government funding dominance, volatility, inadequate private sector contributions, and governance challenges as central impediments to higher education financing in Africa (Teferra & Altbach, 2004; Chansa, 2018; Mwansa & Banda, 2021).

6.2 Interpretation of major obstacles

Resource dependence on government exposes universities to fiscal cycles and political priorities (Resource Dependence Theory). Delayed disbursements erode operational reliability. Limited diversification is due to both supply-side (institutional capacity) and demand-side (private sector incentives) constraints.

6.3 Consequences for institutional performance

Funding shortfalls translate into larger class sizes, reduced instructional contact, curtailed research, outdated infrastructure, and reduced student support—directly undermining universities' mission and national development objectives.

7. Conclusions

Public universities in Zambia face systemic funding challenges rooted in inadequate and unpredictable government financing, weak diversification of income, rising costs, and internal governance weaknesses. These factors combine to undermine academic quality, research outputs, infrastructure, and student welfare. Addressing these problems requires coordinated policy and institutional responses.

8. Recommendations

8.1 For government and funding bodies

- Increase allocations and adopt multi-year predictable funding frameworks to improve planning.
- Improve timeliness of disbursements through streamlined budget execution and ring-fenced institutional transfers.
- Design performance-informed grants that balance base funding with incentives for quality and research outputs.
- Strengthen national student-loan and scholarship schemes to expand access while protecting equity.

8.2 For universities (institutional strategies)

- Strengthen financial management and transparency (modern budgeting, procurement reforms, internal audits).
- Establish dedicated external-relations and fundraising units to pursue private partnerships, alumni giving, and donor grants.
- Develop income-generating services (continuing education, consultancies, incubation services) with clear governance and reinvestment policies.
- Invest in capacity building for grant writing and partnership management.

8.3 For private sector and donors

- Create incentive frameworks (tax breaks, recognition schemes) to encourage corporate contributions, sponsored research, and internships.
- Promote joint research and innovation partnerships aligned to national development priorities.

8.4 For further research

- Longitudinal studies tracking funding trends and impacts on student outcomes.
- Evaluations of specific diversification interventions (e.g., fundraising offices, PPP pilots).
- Comparative studies including private universities and regional benchmarking.

9. Limitations

The purposive selection of three universities and reliance on staff perceptions constrain generalizability, though document review and mixed-methods triangulation strengthen validity.

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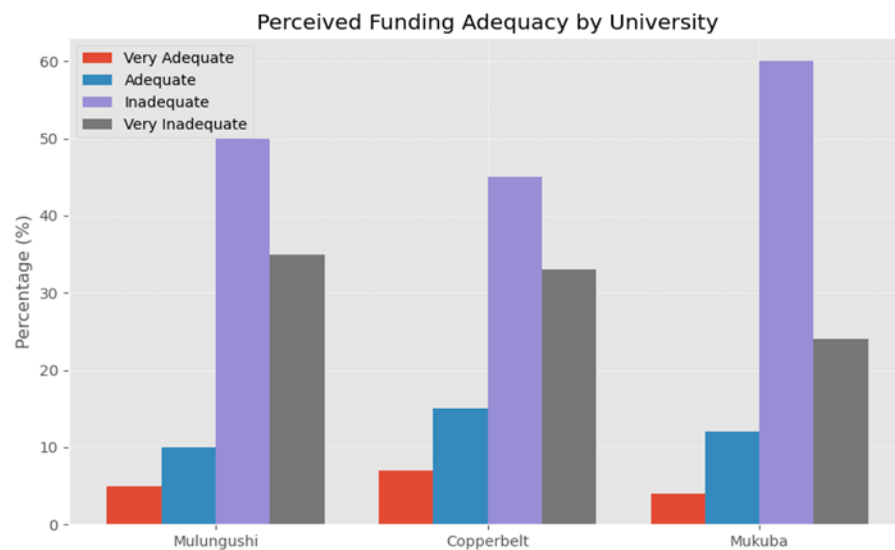
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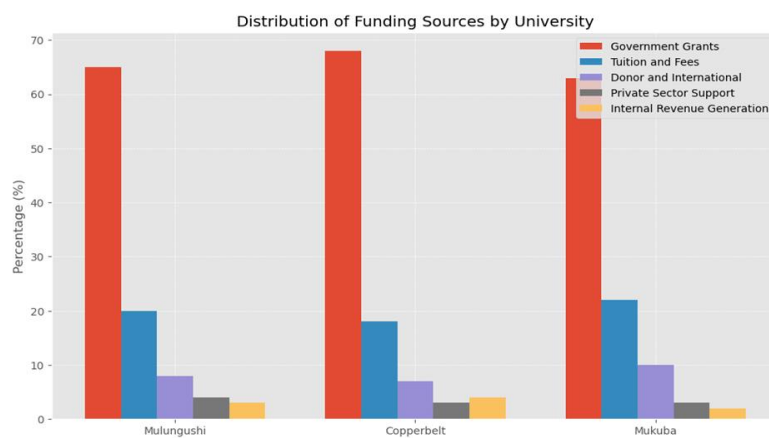
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Figures

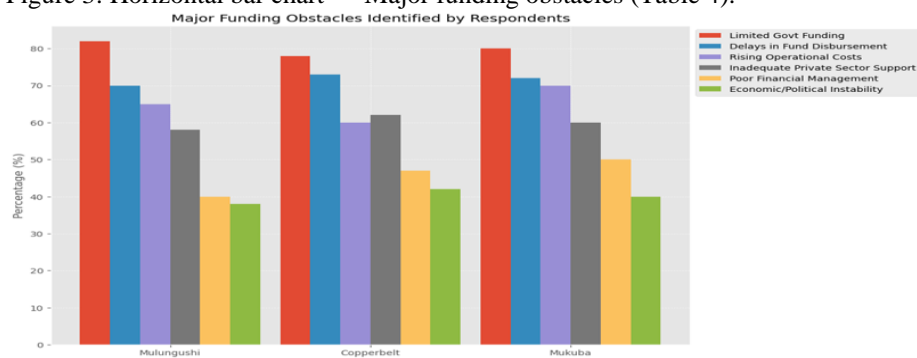
- Figure 1: Bar chart — Perceived funding adequacy by university (Table 2).



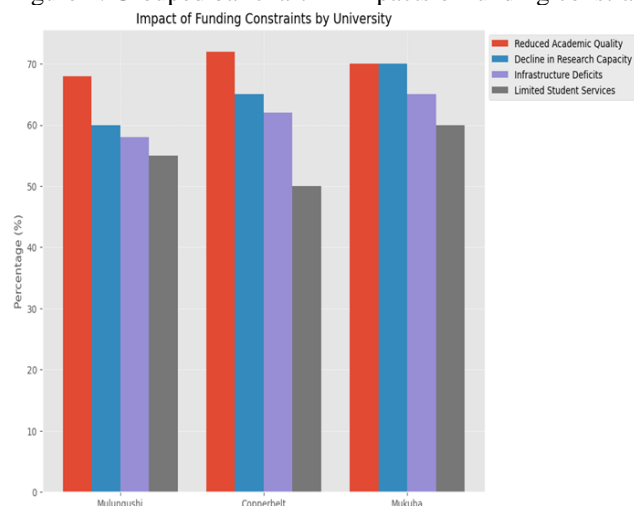
- Figure 2: Pie charts — Funding source composition by university (Table 3).



- Figure 3: Horizontal bar chart — Major funding obstacles (Table 4).



- Figure 4: Grouped bar chart — Impacts of funding constraints by university (Table 5).



Appendixes available on request.

Author declaration

I declare that this manuscript is my original work and has not been previously submitted for publication elsewhere.

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