



The Dual Reality of Ethiopian Higher Education: A Systematic Review of 21st Century Potentials and Constraints

Birhanu Moges, PhD (Associate Professor)
College of Education and Behavioral Sciences, Arsi University, Ethiopia
Phone: +251 911 995 910
birhanumoges79@gmail.com

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Abstract

The Ethiopian higher education system has experienced unprecedented, state-driven expansion in the 21st century, strategically framed as a catalyst for national development and poverty reduction. This era of massification coincides with the global ascendancy of the "Third Mission" (TM), which mandates universities to directly contribute to society and the economy alongside teaching and research. However, the capacity of Ethiopian universities to operationalize this mission amidst systemic challenges is not well understood. This systematic review synthesizes existing evidence from 40 peer-reviewed articles and 10 policy reports (2015–2024) to critically examine this dual reality. Adhering to PRISMA guidelines, a thematic analysis was conducted. The findings reveal a profound contradiction. Significant potentials exist, including massive institutional expansion, a growing human capital base, and emerging community engagement initiatives. Yet, these are critically constrained by profound challenges: deficiencies in educational quality and relevance, chronic underfunding, rigid governance, misalignment with labor market needs, and persistent equity gaps. Consequently, the Third Mission remains largely peripheral and unsystematic. Ethiopian higher education is thus caught in an impasse; its developmental ambitions are thwarted by internal structural weaknesses. Realizing its potential necessitates a fundamental strategic reorientation from an expansion-focused model to one prioritizing quality and relevance. We recommend multi-level interventions, including policy reforms for diversified funding and institutional autonomy, and institutional initiatives to develop comprehensive TM strategies and strengthen industry linkages.

Keywords: *Ethiopian higher education, systematic review, educational constraints, institutional potential, university-society engagement, educational policy*

1. Background of the Study

The 21st century has been a period of transformative, state-orchestrated change for the Ethiopian higher education (HE) system, a transformation characterized by rapid, manisitated expansion. Following the end of the Ethio-Eritrean war in 2000, the Ethiopian government strategically repositioned its HE system as a cornerstone for achieving its ambitious national development goals, notably outlined in successive Growth and Transformation Plans (GTP I and II) and the subsequent Home-Grown Economic Reform Agenda (Semela, 2018; FDRE, 2020). With a population exceeding 126 million and a significant youth bulge, over 70% of the population is under the age of 30—Ethiopia's demographic profile presents both an immense challenge and a strategic opportunity. HE is envisioned as the engine for harnessing this demographic dividend, driving socio-economic transformation, and fostering a skilled workforce capable of propelling the nation towards lower-middle-income status (World Bank, 2021).

The scale of this expansion is monumental. The Gross Enrollment Ratio (GER) in tertiary education surged from a meager 0.8% in 1991 to approximately 11% by 2023, representing a more than tenfold increase (MoE, 2019; UNESCO, 2023). This quantitative leap is mirrored in the physical landscape; from just two public universities in the 1990s, Ethiopia now boasts a network of 49 public universities and over 128 private HEIs, strategically distributed across its regional states (Worku&Melesse, S., 2024). This expansion aligns with a global paradigm shift where Higher Education Institutions (HEIs) are increasingly expected to transcend their traditional dual roles of teaching and research to embrace a more comprehensive "Third Mission" (TM) (Compagnucci&Spigarelli, 2020). The TM encompasses a wide spectrum of activities, including knowledge transfer, technology commercialization, innovation and entrepreneurship, social and cultural engagement, continuous professional education, and public policy advisory services. This reorientation effectively positions universities as key, dynamic actors in regional and national innovation systems, forming the core of the "Triple Helix" model of university-industry-government interactions (Etzkowitz&Leydesdorff, 2000).

Ethiopia's HE landscape operates under the centralized oversight of the Federal Ministry of Education (MoE), which has introduced a series of reforms to manage this growth and steer the system towards greater relevance. These include institutional differentiation initiatives, curriculum harmonization through the Higher Education Relevance and Quality Agency

(HERQA), now the Education and Training Authority (ETA), and the development of a National Qualifications Framework (NQF) (Woldegiyorgis, 2023). Despite these policy developments and the impressive physical and numerical growth, the system embodies a stark dual reality. It demonstrates notable potential for driving national development while simultaneously grappling with deep-rooted, systemic constraints that threaten to undermine its effectiveness, quality, and ultimate relevance to the society it purports to serve. This review seeks to synthesize the evidence surrounding this dual reality, focusing on the precarious journey of the Third Mission within the Ethiopian context.

1.2 Statement of the Problem

The Ethiopian HE system stands at a critical and precarious juncture. Its immense potential to act as a catalyst for socio-economic development and modernization is starkly counterbalanced by significant and persistent systemic constraints that have, in many ways, been exacerbated by the very speed of its expansion. Despite the massive quantitative achievements, universities are plagued by well-documented and severe quality concerns, including inadequate educational inputs (libraries, laboratories, ICT infrastructure), overcrowded classrooms, and a critical shortage of qualified academic staff, with a high dependency on under qualified graduate assistants (Molla& Gale, 2019; Ashcroft, 2018). These professional and pedagogical skill gaps contribute directly to producing graduates who are often deemed unemployable in a competitive and evolving labor market.

Financially, the system is chronically strained. Ethiopia allocates only about 3% of its GDP to education, a figure lower than the average for Sub-Saharan Africa and far below the international benchmark of 4-6% recommended for developing nations (UNESCO, 2022; World Bank, 2021). This chronic underfunding creates a resource-scarce environment that cripples both core academic functions and the extra initiatives required for the Third Mission.

A central and critical problem is the profound misalignment between university outputs, the knowledge and skills of graduates—and the dynamic demands of the national and global economy. This misalignment results in the paradoxical coexistence of high graduate unemployment (estimated at over 25% in various studies) with acute skill shortages in key sectors such as manufacturing, agro-processing, and digital technology (Assefa et al., 2021; Semela,

2018). Furthermore, while the TM has been widely embraced in global HE discourse and policy, its conceptualization, operationalization, and institutionalization within the Ethiopian context remain nascent, fragmented, and inadequately integrated into both institutional strategic plans and national policy frameworks (Woldegiyorgis, 2023; Gebrehiwot & Azaze, 2023). The persistent disconnection between universities and their broader societal context: including industry, local communities, and even various tiers of government, represents a critical implementation gap. Without deliberate, structured, and meaningful engagement, Ethiopian universities risk functioning as isolated islands of theoretical knowledge production with limited real-world impact, thereby failing to fully capitalize on their stated developmental potential and justify the massive public investment they have received.

1.3 Research Questions

This systematic review is guided by the following interconnected research questions:

1. What are the key potentials and enabling factors of Ethiopian higher education institutions in fulfilling the Third Mission and contributing to national development in the 21st century?
2. What structural, operational, financial, and contextual constraints impede Ethiopian universities from effectively implementing their Third Mission and achieving their developmental objectives?
3. Based on the synthesized evidence, what strategies, policy interventions, and institutional reforms could be proposed to enhance the capacity and effectiveness of Ethiopian universities in contributing to sustainable socio-economic development?

1.4 Significance of the Study

This research offers a timely, systematic, and comprehensive synthesis of the current state of knowledge on Ethiopian HE in the post-massification era. It fills a critical gap in the literature by explicitly focusing on the conceptual and practical challenges of implementing the Third Mission in a developing, resource-constrained, and rapidly expanding African context. The findings provide valuable, evidence-based insights for Ethiopian policymakers at the MoE, for institutional leaders and managers within universities, and for development partners who are grappling with the complex challenge of aligning a massive HE system with ambitious national development goals. Furthermore, the study contributes to the global discourse on the changing role of

universities in society by providing critical, grounded evidence from an understudied but strategically important context, illustrating the global pressures of the "world class university" model and the local realities of developmental states.

2. Methods and Materials

2.1 Research Design

This study employed a systematic literature review methodology, guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure methodological rigor, transparency, and reproducibility (Page et al., 2021). Unlike a traditional narrative review, a systematic review follows a strict protocol for searching, selecting, appraising, and synthesizing relevant literature to minimize bias and provide a comprehensive overview of the evidence base on a specific topic.

2.2. Population, Sampling, and Data Sources

The "population" for this review consisted of all scholarly publications (journal articles, book chapters) and key policy documents concerning Ethiopian HE published between January 2015 and May 2024. This decade was chosen to capture the most recent and relevant developments in the post-massification phase.

A comprehensive and iterative search strategy was executed across four major electronic databases known for robust coverage in social sciences and education: Scopus, Web of Science, ProQuest, and Science Direct. The search used a combination of keywords and Boolean operators, including: ("Ethiopian higher education" OR "Ethiopia university") AND ("Third Mission" OR "societal engagement" OR "community engagement" OR "knowledge transfer" OR "university-industry linkage") AND ("educational quality" OR "graduate employability" OR "education policy" OR "governance" OR "funding" OR "constraint" OR *"potential"*).

The sampling technique was purposive, focusing on literature that directly addressed the research questions. The inclusion criteria were: (a) publication between 2015-2024; (b) primary focus on the Ethiopian HE system; (c) discussion of at least one of the following: TM activities, systemic constraints, institutional potentials, policy reforms; (d) published in English. The exclusion criteria were: (a) articles not focused on HE; (b) brief editorials or opinion pieces without empirical or analytical depth; (c) studies focusing exclusively on primary or secondary education.

Table 1: Literature Search and Screening Process (PRISMA Flow)

Step	Process	Number of Records
1	Records identified through database searching	2,004
2	Records after duplicates removed	1,450
3	Records screened (Title/Abstract)	1,450
4	Records excluded (not meeting inclusion criteria)	1,320
5	Full-text articles assessed for eligibility	130
6	Full-text articles excluded, with reasons (e.g., wrong context, insufficient focus)	80
7	Studies included in qualitative synthesis	50
	• <i>Peer-reviewed journal articles</i>	*40*

The final sample comprised 40 peer-reviewed journal articles and 10 key policy documents, including the MoE's Education Sector Development Programme VI (ESDP VI), World Bank reports, and UNESCO country analyses.

2.3. Data Collection and Analysis

Data were extracted from the 50 selected documents using a structured coding framework developed in Microsoft Excel. The framework captured the following key categories: (a) Bibliographical data (authors, year, title, source); (b) Research focus and objectives; (c) Methodology; (d) Key findings related to potentials; (e) Key findings related to constraints; (f) Explicit or implied recommendations.

Data analysis followed a six-phase thematic analysis approach as outlined by Braun and Clarke (2006): (1) familiarization with the data through repeated reading; (2) generating initial codes; (3) searching for themes by collating codes; (4) reviewing potential themes; (5) defining and naming themes; and (6) producing the report. Both qualitative synthesis (narrating the relationships between themes) and descriptive statistics (e.g., frequency counts of mentioned constraints) were used to present a holistic picture.

2.4. Validity and Reliability

To ensure the trustworthiness and credibility of the analysis, multiple strategies were employed. Inter-coder reliability was established by having two researchers independently code a 20% random sample of the articles (10 documents). A coding comparison was conducted, achieving a

90% agreement rate, with discrepancies resolved through discussion. Peer debriefing was conducted with two independent senior scholars specializing in African higher education to review the thematic structure and interpretation. Finally, triangulation of findings was performed by comparing and contrasting evidence from different source types (e.g., peer-reviewed articles vs. World Bank reports) to identify convergent and divergent lines of evidence.

3. Results and Discussion

The thematic analysis of the 50 selected documents reveals a complex and often contradictory portrait of Ethiopian higher education, characterized by a dual reality of immense potential shackled by profound systemic constraints. The findings are organized around the core research questions, integrating both quantitative data and qualitative insights.

3.1. Potentials and Enabling Factors

The review identified several key areas where Ethiopian HE demonstrates significant potential for fulfilling a developmental and Third Mission role.

3.1.1. Remarkable Quantitative Expansion and Infrastructure Development

The most visible potential is the sheer scale of the system's expansion. This growth represents a substantial and sustained national commitment to creating a critical mass of educated citizens, a fundamental prerequisite for a knowledge-based economy (Ashcroft, 2018).

Table 2: The Expansion of the Ethiopian Higher Education System (1990s vs. 2020s)

Indicator	Circa 1991/2000	Circa 2024	Growth Factor / Notes
Number of Public Universities	2	49	24.5x increase
Number of Private HEIs	~0	128+	From negligible to significant sector
Gross Enrollment Ratio (GER)	< 1%	~11%	> 11x increase, though still below SSA avg.
Annual University Intake	Few thousands	Over 200,000	Massive scaling of access
Program Offerings	Limited,	Diversified (Eng.,	Move towards comprehensive

	classical	Tech., Med., Agri.)	universities
Geographic Distribution	Concentrated in capital	Spread across all regional states	Potential for regional development hubs

This expanded institutional footprint provides a physical and organizational base from which TM activities can be launched, bringing universities closer to rural communities and regional industries (Worku&Melesse, 2024).

3.1.2. Policy Intent and Strategic Framing

The governments strategic documents, such as GTP I, II, and ESDP VI, explicitly link HE development to national economic goals. This high-level policy intent provides a powerful mandate for universities to engage in relevant, problem-solving research and community service (MoE, 2019). The establishment of the Education and Training Authority (ETA) and the development of a National Qualifications Framework (NQF) are institutional mechanisms that, in theory, are designed to enhance quality and relevance, creating a more favorable environment for the TM (Woldegiyorgis, 2023).

3.1.3 Emerging and Innovative Third Mission Initiatives

Despite systemic challenges, promising, and often bottom-up, TM activities are emerging. A prominent example is the deep integration of Community-Based Education (CBE) into the curricula of universities like Jimma and Hawassa, particularly in fields of health sciences and agriculture. These programs require students to spend significant time in rural communities, applying their knowledge to real-world problems while fostering a sense of social responsibility (Mekuria et al., 2021). Furthermore, there is a growing, though nascent, awareness of the innovation and entrepreneurship agenda. Some universities, such as Addis Ababa University and Addis Ababa Science and Technology University, have established Technology Transfer Offices (TTOs) and business incubators (e.g., blueMoon), indicating a shift towards formalizing knowledge commercialization (Gebrehiwot &Azaze, 2023). The proliferation of university-run radio stations, consultancy services, and continuous education programs also points to an underlying, if not fully optimized, potential for societal engagement.

3.2. Structural and Operational Constraints

The identified potentials are systematically undermined by a suite of interconnected constraints that form the core of the system's challenges.

3.2.1. Critical Quality and Relevance Deficits

The rapid, supply-driven expansion has severely outstripped the system's capacity to maintain quality. This is arguably the most cited constraint in the literature.

Table 3: Key Quality and Relevance Challenges in Ethiopian Higher Education

Dimension	Key Manifestations	Documented Impacts
Teaching & Learning	Overcrowded lectures (100+ students common), teacher-centered pedagogy, severe shortage of textbooks and journals, inadequate ICT infrastructure.	Superficial learning, poor critical thinking and problem-solving skills, high student-faculty ratios.
Academic Staff Capacity	High proportion of staff with only a Master's degree (up to 60% in some regional universities), heavy teaching loads, limited opportunities for PhD training.	Compromised quality of instruction, low research output, inability to supervise graduate students effectively.
Research Capacity	Extremely limited competitive research funding, weak research culture, inadequate laboratory facilities, low publication output in international journals.	Minimal knowledge production and innovation, limited contribution to solving national problems, low academic prestige.
Graduate Employability	Theory-heavy curriculum, lack of practical and soft skills training (communication, teamwork), limited exposure to industry.	High graduate unemployment (~25%), skills mismatch, employer dissatisfaction.
Curriculum Relevance	Slow, bureaucratic curriculum update cycles, disconnection from local industry and community needs, over-reliance on foreign models.	Graduates ill-prepared for the local labor market, research that is not demand-driven.

As Semela (2018) aptly describes it, this has created a "silent crisis of quality," where the value of a degree is being eroded from within, directly undermining the credibility of the university as a source of competent human capital and reliable knowledge.

3.2.2. Chronic Underfunding and Resource Scarcity

The financial foundation of the system is precarious and unsustainable. The government's allocation of approximately 3% of GDP to the entire education sector is insufficient to sustain quality massification (UNESCO, 2022). The per-student unit cost has declined precipitously. This results in deteriorating physical infrastructure, limited operational budgets for libraries and laboratories, virtually non-existent research grants for junior faculty, and inadequate student support services. This resource scarcity directly constrains TM activities, which often require flexible, discretionary funding for outreach, prototyping, and partnership building, resources that are the first to be cut in a strained budget (World Bank, 2021).

3.2.3. Rigid, Centralized Governance and Limited Autonomy

A recurring theme is the excessive bureaucratic control exerted by the Federal MoE. This centralization stifles institutional innovation and the ability of universities to respond nimbly to local societal and economic needs (Woldegiyorgis, 2023). Universities have limited autonomy in critical areas such as financial management (e.g., retaining and reallocating internally generated income), curriculum design (despite some modularization), staff hiring and promotion, and partnership formation. This fosters a top-down, compliance-based culture where universities prioritize meeting central directives and reporting requirements over achieving meaningful educational outcomes or societal impact. This environment is antithetical to the entrepreneurial and responsive spirit required for an effective Third Mission.

3.2.4. The Industry-Academia Disconnect

The misalignment with the labor market is a severe constraint on the TM's economic dimension. Linkages between universities and industries are weak, informal, and largely unstructured (Assefa et al., 2021). Internship programs are not widespread or mandatory, industry representatives are rarely involved in curriculum review, and collaborative research is minimal. This disconnect creates a vicious cycle: universities produce graduates that industries do not want to hire, and

industries do not see universities as relevant partners for solving their technological or operational challenges, thus refusing to invest in them.

3.2.5. Persistent Equity Gaps

The system reflects and sometimes amplifies broader societal inequalities. Significant disparities in access and success exist along geographic, socio-economic, and gender lines.

Table 4: Equity and Access Disparities in Ethiopian Higher Education

Dimension	Evidence of Disparity	Underlying Causes
Regional Disparity	GER in Addis Ababa is significantly higher than in pastoralist regions like Afar or Somali.	Uneven distribution of quality secondary schools, socio-economic differences, language barriers.
Gender Disparity	National tertiary GER is ~8% for females vs. ~13% for males. The gap widens in STEM fields and at postgraduate levels.	Cultural norms, early marriage, safety concerns, gender biases in pedagogy and counseling.
Socio-Economic Disparity	Students from wealthier, urban families are vastly overrepresented in elite public universities and lucrative fields like medicine and engineering.	Poorer quality primary/secondary education in rural areas, the high opportunity cost of education for poor families.

These equity gaps mean that the benefits of HE expansion are not being distributed fairly, and a significant portion of the nation's talent pool remains untapped, which ultimately constrains the overall human capital development goal (Molla& Gale, 2019).

3.3. The Third Mission Impasse in Ethiopian Higher Education

The discussion synthesizes these findings to posit that the Third Mission in Ethiopian HE is caught in a profound impasse. The potential for meaningful societal engagement is undeniably present, evidenced by the expansive institutional footprint, the policy rhetoric, and the emergent, often heroic, initiatives of individual academics and departments. However, the overwhelming weight of the constraints, particularly the crippling quality deficits, the chronic underfunding, and the rigid, centralized governance, creates a system that is primarily focused on surviving its internal challenges. Universities are preoccupied with managing the logistics of mass teaching,

coping with resource scarcity, and complying with central directives. This leaves little institutional capacity, financial resource, or mental space for the proactive, systematic, and strategic societal engagement that defines a mature Third Mission.

This situation aligns with the concept of "isomorphic mimicry" advanced by Andrews et al. (2017), where organizations in developing contexts adopt the forms of successful models (e.g., establishing a TTO, having a community service directorate) without developing the functional capacity, autonomy, and incentive structures to effectively perform the associated roles. The disconnect, therefore, is not merely operational but also deeply cultural. It requires a fundamental shift in the identity of academics, from being primarily knowledge transmitters and civil servants to becoming societal problem-solvers and entrepreneurial partners—and a re-imagining of the university from an "ivory tower" to an "engaged and porous" institution embedded within its social and economic ecosystem.

4. Conclusions and Recommendations

4.1 Conclusions

In direct response to the research questions that guided this systematic review, the following conclusions are drawn:

Ethiopian HE possesses significant, demonstrable potentials rooted in its massively expanded institutional base, its strategic positioning within national development plans, its growing (if still inadequate) human capital, and the presence of emergent, often innovative, though fragmented, community engagement and knowledge transfer models.

These potentials are critically and systemically constrained by a powerful triad of barriers: (i) *Structural*: rigid, top-down governance and limited institutional autonomy; (ii) *Operational*: profound quality and relevance deficiencies, chronic underfunding, and a weak industry-academia nexus; and (iii) *Contextual*: persistent socio-economic and gender equity gaps, and a historical legacy of a centralized, command-and-control state apparatus. These barriers collectively prevent the effective, systematic, and sustainable implementation of the Third Mission. Regarding strategies, Strategies to bridge the gap between potential and performance must be multi-level, synergistic, and context-sensitive. They must simultaneously address the systemic bottlenecks at the policy level and the profound capacity deficits at the institutional and individual levels. A one-size-fits-all approach is destined to fail.

In essence, the dual reality of Ethiopian HE is a microcosm of the broader development challenge facing the nation: the formidable task of balancing ambitious scale with deep quality, and transformative ambition with the practical realities of implementation capacity.

4.2. Recommendations

To navigate this dual reality and unlock the developmental potential of Ethiopian HE, the following multi-pronged recommendations are proposed.

4.2.1. Policy-Level Recommendations

The government should commit to a phased increase in the education budget to meet, and eventually exceed, the Sub-Saharan African average, targeting at least 4.5% of GDP. Furthermore, it should create powerful incentives for public-private partnerships, industry-sponsored research chairs, and alumni giving to diversify the funding base and tie resources more closely to societal needs.

The MoE must move decisively away from a homogenizing, one-size-fits-all model. A formal, tiered system should be developed, clearly differentiating among *research-intensive universities* (e.g., Addis Ababa University), teaching- and profession-focused universities, and specialized technical institutions. Each tier should have distinct funding formulas, performance indicators, and staff promotion criteria.

Universities should be granted significantly greater autonomy in financial management, academic program innovation, and partnership building. This autonomy must be coupled with the development of robust, outcome-based accountability frameworks that measure not just inputs and processes, but also graduate outcomes, research impact, and community engagement.

4.2.2. Institutional-Level Recommendations

University leadership must move from ad-hoc, project-based engagement to developing comprehensive, institution-wide TM strategies. These strategies should be aligned with the university's unique strengths and the specific development priorities of its region, and should be integrated into core strategic plans and budget allocations.

Establish functional university-industry advisory boards for key academic programs. Institute mandatory internship/practicum components for all professional degrees. Create joint curriculum development committees and launch demand-driven, applied research projects funded directly by industry partners.

Implement large-scale, continuous professional development programs focused on modern pedagogical skills, research methodology, grant writing, and ethics. Establish robust mentorship systems that pair junior and senior faculty. Provide targeted support for PhD training and post-doctoral research.

4.2.3 Recommendations for Future Research

Conduct longitudinal studies to track graduate outcomes, career pathways, and the long-term societal impact of HE investments. Undertake in-depth, qualitative case studies of successful TM initiatives within Ethiopia (e.g., Jimma's CBE model, a successful TTO) to identify the critical success factors, leadership roles, and enabling institutional environments. Investigate the specific challenges, adaptive strategies, and unique contributions of regional universities and private HEIs, which are currently under-researched.

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