MASINDE MULIRO UNIVERSITY
OF SCIENCE AND TECHNOLOGY

2ND PROFESSORIAL INAUGURAL LECTURE

CITATION ON

PROF. STEPHEN ODEBERO, PhD FIEEP

PROFESSOR OF EDUCATION PLANNING

Tuesday, 28th November, 2023

MOTTO

The University of Choice

PHILOSOPHY

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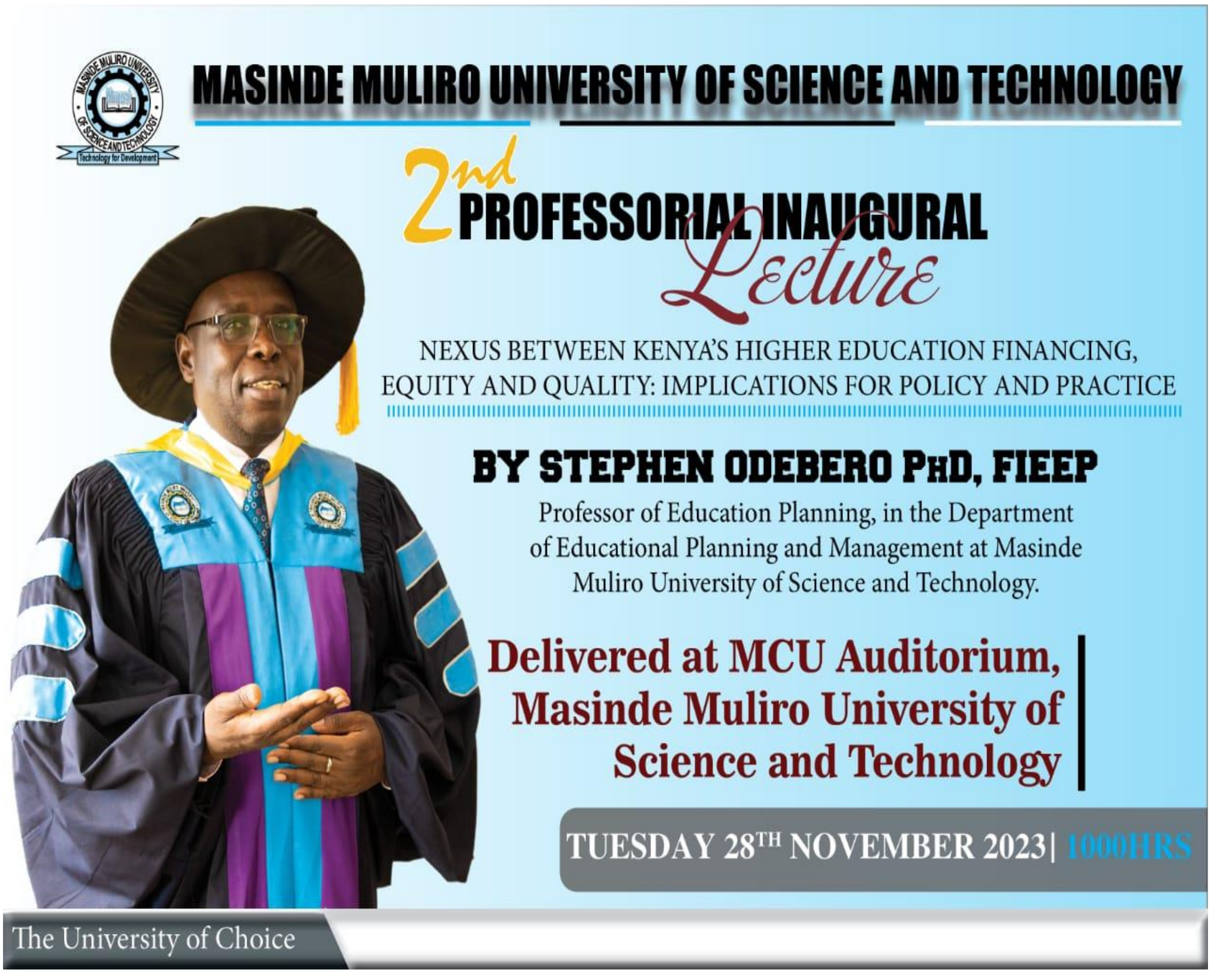

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THE CITATION

PROF. STEPHEN ODEBERO, PhD FIEEP

Early Life

Stephen Odebero was born on 12th December 1971 at Thika District Hospital. He hails from Bukadi Village of Samia Sub county, Busia County, Kenya in the family of the late George Luchu Odebero and Mama Jescah Odebero. He is the second born in his family. His siblings are: Godfrey, Cammilita, Roseline, Joseph (late) Elizabeth, Frankline and Mediatrix (Late). Professor Odebero, together with his elder brother received nursery school education at Thika Railways in Thika town where his dad worked. He would then relocate to Nerobia, Sagania and Ganjala Prmary schools in Funyula constituency where he sat and passed his Certificate of Primary Examinations (CPE) as the last cohort of the 7-4-2-3 system. He was admitted to Sigalame High School where he sat his Ordinary level examination and passed with Division II. At Sigalame, he joined choir and traditional dance named '*Abwoga*''which the school exelled in upto national level but in Form 3 he graduated to drumming the long drum "*engabe*" which supported the drum set named *arutu* and this where he developed his dancing hobby which he upholds to-date. In 1988 he joined Tala School in Machakos County where his Principal Anthony Mutua appointed him dormitory prefect. He passed his 'A' level examination with flying colors obtaining 14 out of 19 points and qualified for LLB which was his first choice but was not placed in LLB degree because of the 1990 double intake.

Despite his sterling performance in KACE, he was admitted to Egerton University's Laikipia Campus to pursue a BA degree in Sociology for which he was mocked by his cousins who called it bachelor of anything but this did not dampen his spirit but he changed his degree to B.Ed. While at Egerton, the young Odebero started distinguishing himself as an astute scholar reading late in the Library until his peers christened him '*professor*'. He wrote the best term papers as attested to by his lecturers among them Prof. Peter Bukhala, Prof G. Kuppuram, Prof Onyango Ogola, Mr Albert Ngare Gituku, Chacha Daudi Chacha, Dr Charles Choti and Mr Augustine Muindi.

The teacher

Professor Odebero taught Kiswahili and History at Bungoma High school in 1993. While on teaching practice he was surprised by the high number of students in his Form three Kiswahili Classes. He was later to learn that some form four students sneaked into his classes attracted by his eloquence in Kiswahili when he addressed parade and staff meetings. Upon finishing his TP, form 4 students went on rampage and demanded his return and the then Principal Mr. Stanley Ashitiva (late) had to call the young Odebero back to school to convince the candidates that he was on TP and quelled riots.

In 1994, Odebero graduated with 2nd class honours B.Ed degree at Egerton and was among the top 5% of his graduating class. He taught briefly at St Paul's Nyacheki secondary school in Kisii and Friends School Milani in Bungoma County where he met his wife Irene. Prof and Irene are blessed with children namely: Michael, Shane, Netty (late), Miriam, Richard and Hoppe-Stephanie. He would later move to the Ministry of Education where he served as a Schools Inspector in Maseno and Kombewa Divisions between 1999-2002. During a routine inspection in rural schools in Otwenya Zone of Maseno Division, heavy rains with hailstones pounded him for hours leaving him unconscious for days. As a result, he resigned from the Ministry. He later rejoined TSC and was posted to Kaimosi Teachers College where he taught Kiswahili and doubled up as the volleyball couch and also couched Instrumentals Music up to National level, indeed he also competed in the solo instrumental class and emerged 3rd at the national drama festivals of 2002, a man of many talents!

In 2002, he was the first in his cohort to graduate with M.Ed degree in planning and economics of education from Maseno University and enrolled for a PhD in Educational Planning at Egerton University. He graduated in 2008, again, as the first in his cohort. His PhD thesis was feted as best thesis in the Faculty of education that year.

Career at the university

Prof. Odebero's career in the university started at Egerton in 2003 when he was employed as an assistant lecturer after a very competitive interview. The Chairperson of Department then Dr. Moses W. Ngware would later remark, *I advertised for two Positions, politics came in but I insisted and ended up with 3 appointments. When I look back the journey in that boardroom, I think I made the best decision and you have vindicated me.* In 2008, Odebero was interviewed and promoted to the position of lecturer in the same university before moving to MMUST in the same grade. In 2011, he was promoted to the position of senior lecturer and in 2014, the university management interviewed him and promoted him to the position of associate professor of educational planning. In 2021, he attained the position of full professor.

In his university career, he has held several administrative positions rising to the highest level including: founding Coordinator Bishop Sulumeti Campus, Founding Director ODeL, Founding Deputy Principal, Administration, Finance and Planning at Turkana University College, and now Director Post Graduate Studies. In 2020, he applied for the position of Vice Chancellor at the prestigious University of Kigali in Rwanda and was privileged to receive the appointment after a competitive interview but could not take it up because of Covid-19 lock down. He has also been Acting Vice Chancellor of MMUST and represented the university in Inter-University

Council of East Africa (IUCEA) meeting in Kampala Uganda in 2015. He has acted severally as Deputy Vice Chancellor Planning Research and Innovation and as Principal at Turkana University College.

Prof. Odebero has served on several committees namely: Abstracts Committee for the Scientific Conferences, Senate committees and ISO 9001-2008 certification of MMUST committee. He has chaired several Ad hoc Committees to investigate students' cases on examination irregularities, Chaired committee to investigate students unrest and been the Secretary deans committee on restructuring of ODeL and ODeL learning centers and Convener, ushering subcommittee. Prof Odebero was appointed Member of Honoris Causa award Committee for H.E Dr. Wycliffe Musalia Mudavadi (Hc).

In 2022, he was the Convener Guests, transport and accommodation committee that is credited with the invitation of H.E the President William Samoei Ruto PhD, EGH to preside over 18th Graduation Ceremony as Chief Guest and still chairs the same committee to date. He also serves as member of Senate committee on appointment of Chancellor.

Prof. Odebero is hardworking, strict, firm but fair. Students find Prof Odebero an interesting lecturer, and to his credit, he has supervised over 24 masters and PhD thesis and examined over 100 masters and PhD theses locally and internationally. In 2019, a female undergraduate student on her own volition declared to the then Dean of School of Education, "*this is the best lecturer I have met.*' However, the educated Professor regrets that as a Professors he is rarely allocated undergraduate classes.

Prof Odebero is also credited with a Key Research Innovations/Patent of an *Online Means testing App (MTA) for needy students and registered a copyright of the same.* He has over 80 publications including articles, book chapters and textbooks. He has attended several training key among them KSG training on Cooperative Governance Course for Council, Management Board, Deans/Directors; Job description and analysis among others.

National and international acclaim

In 2022, he was voted and invited as the chief guest speaker at the annual Kenya Secondary Schools Heads (KSSHA) meeting in Mombasa, and presented a moving paper on "*Protection of budget for quality secondary school education*" for which he received a standing ovation.

In March 2021, Prof Odebero received a distinguished international award by *Red Talks International* for ***professionalism, academic decency, commitment to best practices and standards of research in Education Planning*** and became the first African to receive the Fellow of Indo-African Excellence in Educational Planning (FIEEP).

In 2014, he was appointed on Special Assignment by Masinde Muliro University of Science and Technology (MMUST) Management to lead a study on '*Optimal Operation of Functional Units: toward a cost recovery strategy of Masinde Muliro University of Science and Technology.* The study is credited with generating viable policy proposals that turned round the fortunes of MMUST when it reeled under the heavy burden of debts.

In 2019, he was gazetted by the then CS Education Prof. George Magoha for another Special GoK Assignment as a member of CBC Task Force on enhancing access, relevance, transition, equity and quality in effective curriculum reforms but ended up being elected Vice Chairman of the Taskforce. He is therefore one of the brains behind the new CBC system of education.

In 2011 Prof Odebero was competitively awarded an international consultancy by Society of International Development (SID) to study '*Education Inequalities and Opportunities in the East African Region.*" He is credited with proposing the regional integration policy on credit transfer in the EAC universities. Arising from this highly rated study, Odebero received a DAAD scholarship to study *Factors Influencing*

Unequal Cross-Border Higher Education Student Mobility in The East African Community', which was hosted at the **Centre for Area Studies, University of Leipzig** in the Federal Republic of Germany.

Prof Odebero **received Post-Doctoral Training** Funded by the Government of Peoples Republic of China christened "Training for Presidents of Universities in Anglophone Africa" and understands Development of International HE in China and developed economies.

In 2007-2010 he became a member of African Higher Education Collaborative (AHEC) a division of the Council of International Exchange of Scholars and participated in the authorship of an International Handbook '*Private Financing as a Means to Improve Access to Higher Education in Africa* edited by Professor Pundy Pillay.

Prof. Odebero has served as national chairman of the of County education boards in Kenya, founding Chairman County Education Board, Busia County, and Chairman BOM, Sigalame High School, member BOM Musingu High School, Bumbe Technical institute, Chairman of Board Matili Technical Institute, among others.

He is currently an LLB student at Maseno University and with God's favor, he believes that he will obtain a second PhD in law.

Educated Professors, distinguished academics, ladies and gentlemen, a standing ovation for a distinguished academic, Professor Stephen Onyango Odebero PhD, FIEEP

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Abbreviations and acronyms

VLSF: Loans and Scholarship Fund
HELB: Higher Education Loans Board
HEL: Higher Education Loans
HE: Higher Education
MOEST: Ministry of Education Science and Technology
MMUST: Masinde Muliro University of Science and Technology
MTI: Means Testing Instrument
MTA: Testing Application
Odemmusta: Odebero, MMUST and Amwayi
FIEEP: Fellow of Indo-African Excellence in Educational Planning
DUC: Unit Cost
KUCCPS: Universities & Colleges Central Placement Service
JAB: Joint Admission Board
BOOM: Acronym for HELB loan support to university students for living expenses
SEDU: School of Education
EPM: Educational Planning and Management
COD: Chair of Department
Prof: Professor
DVC: Deputy Vice Chancellor
ASA: Academic and Students Affairs
M.ED: Master of Education
SAPS: Structural Adjustment Programs
HELB: Higher Education Loans Board
CHE: Commission for University Education
KU: Kenyatta University
UON: University of Nairobi
CUE: Commission for University Education
BA: Bachelor of Arts
B.ED: Bachelor of Education
PWPER: Presidential Working Party on Education Reforms
GOK: Government of Kenya
KMPDU: Kenya medical Practitioners and Dentist Union
TVET: Technical and Vocational Education Training
KIPI: Kenya Industrial Property Institute
SES: Socio-Economic Status
hSES: High Socio-Economic Status
LSES: Low Socio-Economic Status
MSES: Medium Socio-Economic Status

NEXUS BETWEEN KENYA'S HIGHER EDUCATION FINANCING, EQUITY AND QUALITY: IMPLICATIONS FOR POLICY AND PRACTICE

Prof. Stephen Odebero, PhD, FIEEP, Professor of Educational Planning, Masinde Muliro University of Science and Technology. Email:sodebero@mmust.ac.ke

My journey towards *this inaugural lecture dates back to 1998/99 when I was the director of studies. I sat in the committee that identified needy students for bursary allocation in high school and came face to face with not just the high number of needy cases but also what I considered a flawed means testing tool. This inspired my study on,* ***Equity implications of bursary as a method of financing secondary school education*** *as the Lorenz curve and Gini-Coefficients for all the years studied measured above 0.5 index. Later, I delved into the unending challenge of* ***Equity in Access to University Education in Kenya through HELB Loans in Relation to Demand Supply and Effectiveness in Loan Recovery.*** *The focus was on the strong link between equitable financing of university students and increased access to higher education recommending amendment of the HELB Act 1995 to make it more effective in loan recovery. HE financing in Kenya has been marked by shifting socio-political regimes determined by micro-economic fluctuations and policy shifts of international funding agencies. I identify and trace four distinctive evolving phases of funding which underpin the current state but all of which have implications on equity and quality. I link these with my works of over 20 years to establish the nexus between financing, equity and quality. Inability by HELB to effectively recover funds from past loan recipients is established implying that efforts towards creation of a revolving fund to minimise financial burden on the* ***exchequer remains a mirage.*** *A strong Justification for increased financing of HE is advanced on the link between growth in the ratio of tertiary education enrolments and growth in national income, signalling a departure from earlier education policy for developing countries that put higher premium on investment in primary education. The new VSLF model is recommended as it will increase revenue at the disposal of HE institutions. MOEST is urged to invest in a technical study to establish the actual cost of programmes in each university without relying on individual university costing of programs and use it to improve the model. Similarly, the proportions of students in each household category be determined scientifically and imputed into the funding formula. HELB is urged to embrace means testing app (MTA) akin to the 'Odemmusta app' rather than means testing instrument (MTI) to render the* process ***more efficient, convenient, cost-effective and verifiable****. I caution that if capital and salary costs are factored into the costs of the programmes, costs of HE would rise beyond the reach of most Kenyans. I recommend the amendment of the Procurement Act as it has either been abused or not been effective in lowering costs of higher education in the procurement of goods and services.*
Key words: Higher education financing, means testing app, loan recoveries.

Operational Definition of key terms and Concepts

As used in this inaugural lecture paper, the following terms and concepts have been operationalised as follows:

Nexus: Refers to the connection, relationship or link between education financing in Kenya and the twin problem of equity and quality and how this can be tackled through appropriately planned policy.

Higher education: This will mainly refer to education offered at postsecondary school level especially at the university level.

Higher education financing: This will refer to the means by which government and other stakeholders are able to contribute pecuniarily to the attainment of higher education historically traced from independence to date with view to extracting the implications to planned policy to improve higher education performance.

Equity: In this study, tis will refer to the degree to which normative fairness and justice is applied in the financing and distribution of higher education resources to attain highest possible standards while at the same time considering the unique differences in the populace and making adjustments to cater for such differences.

Quality: This will refer to the degree to which higher education conforms to excellence by fulfilling societal expectations as measured by the curriculum, infrastructure and employability of the graduates for socio-economic development.

Policy: This will refer to action plan adopted or proposed set of ideas, list of rules or framework to be used as a basis of making decisions so as to plan for higher education in Kenya so as to accelerate socio-economic development.

Model: Refers to the framework for the operationalisation of the Odemmusta means testing app

Odemusta: Will refer to Odebero Stephen, Masinde Muliro University of Science and Technology and Amwayi Hesborn

Practice: will refer to a series of steps adopted to achieve the desired result.

Abstract

Key words: *Equity: Access, quality, policy, higher education financing, model, qualitization, massification*

1.0: INTRODUCTION

The Chairperson of Council, Dr. Pamela Sitienei,

The 5TH Vice Chancellor of MMUST Prof. Solomon Igosangwa Shibairo,

The Deputy Vice Chancellor of Academics and Students Affairs, Planning Research and Innovation and Administration and Finance

Registrar Academic Affairs and other Registrars

The Dean School of Education (SEDU) and other Deans

Directors of Directorates, Centres and Institutes

COD Education Planning and Management (EPM) and other CODs,

Invited guests

Distinguished audience ladies and gentlemen

Vice Chancellor Sir, It gives me great pleasure and privilege to give this inaugural lecture which is the first of its kind in the school of education and only the second inaugural lecture in the entire university. The first inaugural lecture titled, *Conceptualising peace, security and development: A critical discourse.* was delivered by Prof. Frank Khakina Matanga from the Centre of Disaster Management and Humanitarian Assistance (CDMHA) on 22/2/ 2018.

I thank the university management and more particularly the Vice Chancellor Prof Solomon Igosangwa Shibairo for accepting my request to deliver this inaugural lecture. I also thank the DVC ASA Prof Hussein Golicha for spearheading the policy on MMUST inaugural lectures which put in place the Dean SEDU as the chair of this Inaugural Lecture, members of the faculty and the entire team that spearheaded the delivery of this special inaugural lecture.

My journey towards *this inaugural lecture dates back to 1998/99 when I was the director of studies. I sat in the committee that identified needy students for bursary allocation in high school and came face to face with not just the high number of needy cases but also what I considered a flawed means testing tool.* When I enrolled for M.Ed degree, our then lecturer Dr. David T.K Serem now Professor asked each one of us why we had decided to enrol for master Degree and my response was that I had come to study how fairness could be enhanced in the allocation of bursaries. He went on to confirm that as my title of study on the first day of our lectures. I would proceed to study on, '*Equity implications of bursary allocation as a method of financing secondary school education".* The Lorenz curve and Gini-Coefficients for the four years studied measured above 0.5 hence confirming high levels of inequalities in bursary allocations to secondary school students (Odebero, 2002) and confirmed my worsed fears. The study also established that the relationship between bursary allocation and participation rates showed a significant but linear relation suggesting that an increase in bursary allocation would lead to an increase in participation rates. However, the study established that the criteria developed for the selection of needy students by the Ministry of

Education was flawed in aiding the administrators to equitably target support to the most needy equitably. Later on I delved into the unending challenge of *"Equity in the financing of university education through HELB loans in relation to demand, supply and effectiveness in loan recovery*" (Odebero, 2008, Odebero, 2010). Which I will intermittently refer to in my presentation.

1.1: Status of Financing Higher Education in Kenya as it Relates to Equity and Quality

Higher education financing in Kenya has been marked by shifting socio-political regimes determined by local micro-economic fluctuations and policy shifts of international funding agencies, mainly the World Bank and the International Monetary Fund (IMF). I identify and trace four distinctive evolving phases of funding university education namely, the era of *free university education* which dominated the 60's and 70's; the era of *cost sharing* which dominated the 1990's, the era of *privatisation* in the 2000's and finally the era of *qualitization* of university education 2010-date and which underpins the current state but all of which have implications on equity and quality.

I now attempt to discuss each of the phases as follows:

1.1.1: The Era of Free University Education

This era emerged at independence when university education in Kenya was free. The exchequer funded both tuition and living expenses. The rationale was based *interalia* on the country's desire to create highly trained manpower that could replace the departing colonial administrators and also ensure equity in access to university education (Gravenir, Wangenge & Njihia, 2005). It was argued that the state had to subsidise the highly expensive university education to enable many Africans to access it. The university was also seen as the epicentre of social and economic development (Merisotis and Wolanin, 2002; Sanyal, 1998).

The small number of students further made free provision of university education possible. In 1964/65 Academic Year for instance, there were only 651 students enrolled at the then University College of Nairobi (Republic of Kenya, 1967,1968, 1969, as cited in Gravenir, Wangenge & Njihia, 2005). However, it became impossible to carry on with free university education. After Kenya attained political independence, the demand for higher education rose significantly while economic growth could not adequately support a faster rate of expansion for university education hence cost sharing was introduced (Koigi, 2006; Odebero, 2010).

1.1.2: The Era of Cost-sharing in University Education

Changes in the financing of university education in Kenya can be traced from the 1988 World Bank prescribed reforms in the financing of higher education. World Bank published an influential policy paper: *Education in sub-Saharan Africa: Policies for Adjustment, Revitalization and Expansion* (World Bank 1988). This report had major implications on the entire education sector in sub-Saharan Africa. The paper condemned the cost of university education in sub-Saharan Africa as being needlessly high, and called upon African governments to relieve the burden on public resources of financing by increasing the participation of beneficiaries and their families (World Bank, 1988). The paper also decried the high levels of government subsidy for university education.

Governments were directed to "introduce fees in public universities, initially for non-instructional services such as food and lodging and then as tuition for instruction" (World Bank,1988:79). Besides financial and institutional reforms, the world Bank argued that beneficiaries of higher education needed to make significant monetary contributions to their education since they stood to gain more from the system (World Bank, 1988). Effectively, the bank prescribed reduced funding by the government to university education sub sector. The initial response to the declining state budget for university education was the introduction of cost sharing in 1988 via Sessional Paper No. 6 of 1988 (Republic of Kenya, 1988).

Cost sharing required students or their parents to cover both tuition and the cost of their maintenance. The severity of these adjustments started being felt in 1994 when the government cut allocations to the Ministry of education from about 40% to 30% and at the same time adopted the unit cost mode of financing university education, where universities were allocated Ksh 120,000 for every student. Indeed, Ksh 120,000 remained the assumed unit cost of university education upto October 2023 when the new funding mode set in (Republic of Kenya, 2023). Out of the Ksh 120,000 the government contributed Ksh 70,000 and the students Ksh 50,000. This has been said to be inadequate especially for institutions that train science programmes. HELB loans had also been pegged on the unit costs and are meant to supplement the students' contribution.

The introduction of cost sharing also saw the abolition of all student allowances (AKA BOOM), fully subsidised food and accommodation, which university students had hitherto been enjoying (Mondoh, 2004). Kihara, (2003), cites a study carried out in 1997, which showed that after the introduction of the unit based method of financing university education, the institutions were under funded in the range of between 10 per cent and 35 per cent, depending on the nature of the academic programmes. The survey showed that the institutions required about ksh 130,000 annually for every student in social sciences, Ksh 175,000 for pure and natural sciences and Kshs 256,000 for those in medical related courses. This is exclusive of Ksh 40,000 required by the students for accommodation and subsistence (Kihara, 2003).

Overwhelmed by the universities' funding requirements, the government directed public universities to turn to other sources to be able to meet their staff costs, learning and research materials and even capital development expenditure. This marked the beginning of a number of radical measures in the financing of university education in Kenya including introduction of small fees to cover registration and examination, caution money, removing students grants (boom), removal of subsidy on food and accommodation by making students pay upfront for the services and the introduction of direct tuition fees (Abagi, 1999; Kihara, 2003).

Gravenir, Wangenge & Njihia (2005), observed that cost sharing went hand in hand with heavy subsidy of the system. The subsidy, which still applies to date, covers all students admitted through Joint Admission Board (JAB and now KUCCPS, irrespective of their ability or inability to pay. The policy perpetuates inequality of opportunity to access university education for the children of the poor emphasising that heavy subsidy financed from general taxation is paradoxically, a gift provided by the poor to the privileged members of society who dominate higher education.

These views must be interpreted within the context of the general taxation regimes used in the country. According to Todaro (1980), Psacharopoulos & Woodhall (1985) a tax is progressive if it takes a larger proportion of the income of the rich than of the poor taxpayers; it is regressive if the reverse is the case and proportional if it takes the same percentage of income from all income groups.

Todaro (1980) however warns that in many developing countries progressive tax structures on paper often turn out to be regressive in practice where the lower and middle income groups pay a proportionately larger share of their incomes in taxes than the upper income groups because the poor are often taxed at the source of their income or expenditures (by withholding taxes from wages, general poll taxes or indirect tax levied on goods such as cigarettes and beer). On the other hand, the rich derive by far the largest part of their incomes from the return on physical and financial assets, which often go unnoticed. They often also have the power and ability to avoid paying tax without fear of government reprisal. Thus policies to enforce progressive rates of direct taxation on income and wealth especially at the highest levels are what is most needed in this area of redistribution activity.

Whereas it is true that higher education accrues higher returns to an individual and hence the benefiting private families have a reason to contribute substantially to higher education, this should be done with caution because higher education is traditionally expensive and allowing families to finance higher education would confine access to richer families hence leading to intergenerational inequalities. Besides, massification of higher education is necessary for political expediency and to spur economic development of a country and this has been used to justify public financing of higher education.

In a bid to sustain massive access to higher education, the government has had a strong control on fees charges which has remained at kshs 120, 000 upto this year. This has made it possible for children of the poor and lower middle class to access university education. However, universities have had a rather low capital outlay at their disposal to develop infrastructure and human capital necessary to assure quality of programmes and outputs. The expansion of physical infrastructure in public universities has been rather slow compared to the number of students admitted. Most universities now experience inadequate lecture spaces, halls of residence, play fields, inadequate laboratories and also inadequate qualified faculty. Besides, children of the very poor still require financial support through bursaries and HELB loans which still face inequitable targeting of the needy. In the final analysis, university education is still dominated by those in high and middle income social groups.

The unit cost mode of financing, good as it may be has a mixed bag. No proper study was carried out to establish the actual cost of each programme before implementing the tuition charges on differentiated unit cost (DUC) and even if it were, costs of programme change over time and the DUC analysis needed to be done annually and new charges implemented after every 4 years. This could have had the net effect of generating sufficient revenue for universities to grow the quality of infrastructure and other requirements. Besides, in advising universities to turn to other/alternative sources of financing, the government did not have a proper policy to assist universities implement public private partnership (PPP) as an alternative source of financing. Hence, many universities are struggling financially in a situation where opportunities exist to generate support through the PPP (Odebero, et al, 2023; Oketch, et al, 2023; Kalunda, et al 2023; Odebero, 2010).

1.1.3: The Era of Privatisation of University Education

During this era, the Kenyan government intensified withdrawal from taking an active and direct role in funding public universities. The government through pronouncement at graduation ceremonies of public universities and other forums, called upon public universities to increase their revenue by diversifying their sources of income (Kiamba, 2004). Public universities were thus discouraged from relying on the exchequer, which was already struggling to put up with the demands of the sub- sector.

In response to the government's challenge, and their own need for survival, universities embraced both privatisation and commercialisation. Privatisation refers to the admission of privately sponsored fee paying students over and above the quota of students that come in with government subsidy (Kiamba, 2004). Since the introduction of parallel programmes, a debate around issues of quality and equity in access has persisted. It was observed that the parallel programmes opened up access to university education because in the past, public universities admitted only about 8600 students annually which was only about 28% of the KCSE candidature. Some 17,000 Kenyans missed higher education places every year, after about 1200 were absorbed in private institutions and 3000 in foreign universities (Onyango, 2002;Muleka, 2005).

Whereas critics of the parallel degree programmes accused it of compromising the quality of higher education in the country citing the massive numbers admitted (Mwiria, 2005; Bone, 2003) and the low entry behaviour (Chacha, 2004; Ramani, 2004). Other scholars on the subject (Gravenir, Wangenge & Njihia, 2005; Odebero, 2011) sought to dispel the notion that parallel students are always less qualified. They argued that a reasonable number of the privately sponsored students scored highly in KCSE examinations but JAB failed to place them in their preferred programmes where some students with A- and even plain A, failed to survive JAB's screening citing limited capacity as the reason. Such students turned down JAB's offers and instead enrolled into their preferred courses through the parallel programmes. This was used as the reason to bargain for HELB loans to be extended to privately sponsored students. However, it is difficult to imagine how a student would opt for private admission on the account of preferred course without due consideration of how the programme would be funded. This has been used to argue that such students come from privileged backgrounds and may not necessarily need the assistance of HELB loans (Odebero et al, 2007b).

In the final analysis, the era of privatisation and commercialisation posits both positive and negative implications. Government direction of universities to diversify sources of income can not be effectively implemented by public universities without a functioning PPP policy that specifies how government and private investors can get into partnership to support universities. One such a way would be to allow private investors to invest in development of infrastructure such as hostels on public land with a formula on how they can recoup their investment. Land is the single most expensive investment especially in towns where most universities are located yet government has massive trucks of land in strategic places. In Kakamega for example, Masinde Muliro University of Science and Technology can only accommodate 2,134 students out of a total students' population of close to 21,000 with bed capacity for females being lower at 726 while male capacity remains at 1408. This means that less than 10% of the students admitted can be accommodated. Majority of students stay outside the university in rented hostels with most opting to stay far and walk long distances to reach university while some stay in dilapidated structures in slums where their security cannot be guaranteed.

In diversifying resources, universities world over rely heavily on research and consultancy to grow their revenue base. Kenya does not have a clear policy on how universities can be used by government to do policy impactful research in their niche areas and earn revenue from government. Besides, the uptake of research to impact policy is still low and political expediency and roadside pronouncements still dominate major decisions affecting higher education.

In their bid to survive, of course the universities embraced privatisation and commercialisation of their programmes. They have admitted private fee paying students and charged them tuition fees directly. However, this was done in a vacuum without a proper policy to regulate admissions. The universities ended up over admitting students without regard to available faculty and infrastructure to assure quality teaching and learning.

Privatisation and commercialisation of university education also opened debate on equity in access to competitive courses such as Medicine, Engineering, Law, Nursing, Public health, architecture among others. JAB had been accused of denying students from poor backgrounds access to such completive courses as those placed by JAB required to score highly to access such courses. However, under module II programme, some students especially those who could afford rejected placement by JAB and opted for module II programmes to access their preferred courses.

Whereas privatisation and commercialisation of university admissions opened up access to university education and spurred socio-economic development of the country, more premium must be placed on how students from deprived socio-economic backgrounds can be assisted to access competitive courses.

1.1.4: The era of qualitization of university education

This set in from around the year 2010 and obtains to date. During this era, the government came to the realisation that demand for university education had outstripped the available infrastructure and human capital resources. As a result, quality of education had been compromised such that Kenya risked international censorship and there was need to institute ingenuity to manage the situation. The public was concerned about the quality of education and there was talk that the international community was beginning to question the degrees got from Kenya. The debate started revolving around developing regulatory framework for universities.

As already pointed out, during the era for free university education, Government set the cut off points for university entry at 10 points in the A-Level examinations and C+ in the 8-4-4 examination system. As a result, only a few students were able to gain entry into the prestigious university education. However, in a distinct departure from the norm, the government realised that a number of eligible students were locked out of university education and more especially those from poor families wanted to gain entry into universities. Of significance, the social demand for university education continued to soar especially among private families that could pay for their children's education to access better courses and expand space for university education. Government yielded to this pressure by opening up spaces for private investment in university education. As more private universities came up such as Catholic, Mount Kenya, Kenya Methodist, Nazarene and others, the government also allowed public universities to admit private fee paying students in public universities. However, this space was abused by both public and private universities who enrolled ineligible students and numbers beyond their capacities to offer quality education.

This led government to think of new ways to bring sanity in higher education. Thus during this era, Government published an influential policy document, the Universities Act 2012 (Republic of Kenya, 2012). The Act provided for the development of university education by providing for establishment, accreditation, and governance. It also established the Commission for Higher Education (CHE) later CUE, the University Funding Board and the Kenya universities and Colleges Central Placement Service Board (KUCCPS). The Commission for university education 2014 *interalia* set out to among other things to set standards and ensure relevance in the quality of university education, accredit universities, and regulate university education in Kenya (Republic of Kenya 2014, Republic of Kenya, 2012).

The enactment of the two crucial policy documents was informed by the realisation that university education had fallen in standards and there was need to put in place policy documents to re-invent quality in the system. Hitherto, universities had adopted the expansionist mode and over enrolled students beyond the capacity of their physical and human resources. In what became known as the PSSP or module II students, universities continued to admit students over and above the share declared to them by KUCCPS/JAB. The proceeds from the tuition fees charged on module II students were majorly shared by teaching and non-teaching staff depending on the services offered. Universities with huge enrolment of module II students raked in millions with top managers at the university making a fortune as they were allocated a percentage of the total cash collected. For example, those in top management at Masinde Muliro University of Science and Technology were allocated up to 4 percent of the total collection. The university collected upto two hundred million per session hence upto ksh 8 million was allocated to top management over and above their salaries. One single year carried three sessions hence, upto 24 million ksh was set aside for top management. Bigger universities like the University of Nairobi, Kenyatta university, Moi University and Egerton university had a larger financial allocation for its top managers.

In a bid to generate more revenue, public universities opened campuses in major towns and cities. In Nairobi City, almost every university had a campus. Other towns which attracted university campuses are Edoret, Kisumu, Nakuru, Kapsabet, Kisii, Kakamega, Lodwar and Busia. However, concern was raised by stakeholders about the quality of infrastructure where the campuses were housed. Besides, most of the campuses lacked the requisite human and internal infrastructure to guarantee quality education. **This prompted the Commission for University Education (CUE) to enforce its rules that led to the closure of most of the campuses.** However, closure of campuses and sate light centres affected universities as their enrolments reduced substantially. Reduction in enrolments meant that revenue sources through appropriation in aid also plummeted substantially. This affected university operations such as payment of salaries.

A major blow to the module II admitted students came in the year 2015 when the Ministry of Education directed that all students who scored C+ and above would be placed in both public and private universities by KUCCPS. Placement by KUCCPS meant that the PSSP students or module II students ceased to exist. The MOEST also tightened on the marking and grading at the KNEC hence the performance in KCSE plummeted and subsequent to this the demand for university spaces also dropped as shown in the subsequent Table.

Table 1: Placement of students in Universities 2016-2020

Year	Candidate who qualified C+ and above	No placed for Bachelor Degree	No placed for Diploma	Total	% placed for degree
2016	88809	88620	189	88809	99.9
2017	69151	68598	553	69151	99
2018	90755	89486	1269	90755	99
2019	125463	122831	2632	125463	98
Total	374178	369535		374178	99

Source: KUCCPS 2020

From the table, it is evident that in 2016, up to 88,809 students scored C+ and above hence were placed by KUCCPS for university entry. However, in the year 2017 only 69,151 students qualified for university entry thus representing a drop in student numbers by over 19,658. The fall in student numbers scoring C+ and above had implications on enrolment in both public and private universities and revenue streams at the disposal of the universities to run quality programmes as shown in the Table below.

Table 2: Trend in enrolment in universities 2016-2020

Category of university	2016/2017	2017/18	2018/19	2019/20
Public universities	452,494	441,131	441,131	412,845
Private Universities	85,195	80,928	86,217	96,628
Total	**537,689**	**522,059**	**519,462**	**509,473**

Source: Economic Survey 2020, cited in Republic of Kenya, 2020

From the foregoing table, it is evident that enrolment in both public and private universities has continued to plummet from 2016 to 2020. The table shows that whereas upto 537,689 students were enrolled in public and private universities in 2016/17 Ay, the number plummeted to 522, 029 in 2017/18 and only 509, 473 in 2019/20. Thus between 2016 and 2020 universities lost upto 28,216 students, of which public universities lost over 39,649 students. Since financing of both public and private universities is based on students' capitation, continued drop in student numbers means that revenue streams allocated and collected through appropriation in aid to finance universities will continue to drop unpredictably. It should be noted that government capitation is pegged on the number of students where universities are expected to raise upto 40% of their budget while government capitation is pegged at 60% of the total budget. The universities hitherto relied on module II programme to finance part of its budget and the policy shift to allow all students scoring C+ and above to be admitted through KUCCPS greatly ate into their income base. Moreover, the change in policy shift to allow private universities admit students through KUCCPS means that some of the students who would have been admitted to public universities and generate revenue from government got their share go to private universities. It also means that for KUCCPS students admitted in private universities, it diverted capitation to private universities including HELB loan financing. Proponents of government financing of students in private universities argue that this opens up more opportunities for access to higher education while maintaining quality since public universities have strained their facilities through module II programme. However, critics have argued that it is reckless for government to finance private universities when public universities are constrained with underfunding.

However, amidst drop in student numbers, some universities have continued to gain numbers while others have borne the brunt in declining enrolment. As demand for university places continues to nosedive, Government has opened up university places in every county which have competed for capitation and new universities have been heavily affected by low enrolment as shown in the subsequent Table.

Table 3: :Public universities with highest and lowest enrolments

S/NO	University	Highest Enrolment	Lowest Enrolment
1	University of Nairobi	80,056	
2	Kenyatta	48,833	
3.	Moi	32,640	
4.	Kisii	23,134	
5.	MMUST	19,875	
6.	Egerton	17,392	
7.	Jommo Kenyatta University of Agriculture and Technology	17,389	
8.	Taita Taveta		3,044
9.	Kaimosi Friends		1,892
10.	Garissa		1,407
11.	Tharaka		1,007
12.	Alupe		631
13.	Bomet		473
14	Turkana		400

Source: CBC Taskforce data 2020

From the Table, it is clear that some universities like UoN, KU and Kisii are over enrolled relative to established infrastructure at 80,056, 48,833, and 23,134 students respectively. Newer universities like Bomet, Alupe, Turkana and Garissa are under enrolled and may be operating below optimum levels. Quality goes hand in hand with available infrastructure such as lecture halls, staff offices, laboratories, playfields, seminar rooms, demonstration rooms, teaching and non-teaching staff among others (Odebero, 2015). Enrolment in universities must be guided by available infrastructure and when the regulations established by CUE are considered older universities like UoN, KU, Moi, Egerton, JKUAT, Maseno and MMUST will be considered as operating beyond optimal levels while relatively younger universities like Alupe, Garrissa, Bomet, and Turkana will be considered as operating below optimal level (Odebero *et al* (2015).

Some of the reasons advanced for under enrolment in newly stablished universities include poor location especially in arid and semi-arid areas such as Lodwar, Garissa and Kitui. Such areas have harsh climatic conditions considered not favourable for academics. Insecurity is another reason especially in Lodwar and Garissa. Kenyans still remember vividly the Carissa university Al-Shabaab attack in 2015 that left over 148 students dead and 78 of them injured. Turkana has been in news for banditry attacks on the Pokot Lodwar highway and this scares away potential students from traveling to take up studies in Turkana.

To delve further into the issue of quality, here is a casual look at the available staff by qualifications in Kenyan universities.

Table 4: Academic Staff by Qualification in public and private universities

University category	PhD	Master	Bachelor	Diploma	Total
Chartered public universities	4,215	5,661	1,004	530	**11,410**
Constituent colleges of public universities	133	292	100	78	**603**
Chartered private universities	923	1936	168	43	**3070**
Constuent colleges of private universities	113	91	6	2	**212**
Private universities with LIA	220	713	87	3	**1023**
Total	**5604**	**8693**	**1365**	**656**	**16,318**

The table shows that less than 30% of the staff have the requisite qualifications to handle academic programmes at the university level as per the CUE guidelines of PhD and above. Over 53% have masters qualifications. However, over 12.3% have bachelors and diploma qualifications.

`1.1.5: Other consideration for quality

Quality in university education is determined by programmes, curricula, pedagogy, infrastructure and other relevant resources. It is also determined by the available human capital for successful curriculum implementation. Quality of academic programmes includes adherence to set standards, public accountability and fitness for purpose (Republic of Kenya, 2020). Section 3(2) (a) of the University Act requires a university to promote quality and relevance when they develop an academic programme. Staffing in universities plays a critical role in the delivery of academic programmes. Available data indicates that universities rely considerably on part time services some of which are not paid for. It is also noted that some of the staff are barely qualified to teach academic programmes as per the CUE guidelines (CUE Audit Report, 2017). The CUE guidelines stipulate that to teach and handle academic programmes at university level one needs PhD qualifications. Lecturers with Masters degree can handle undergraduate programmes as tutorial fellows while those with undergraduate qualifications can be engaged as graduate assistants or support staff (Republic of Kenya, 2020). The CUE regulation also recommends a full time staff student ratio as follows:

Table 5: Staff Students full ration

Cluster	Full time staff student ratio
Applied sciences	1:10
Arts and Humanities	1:15
Medical and Allied sciences	1:7
Pure and natural sciences	1:10
Social sciences	1:18

Going by CUE regulations, most universities have not attained the full time staff students' ratio in most cluster subjects and the situation may be more dire in newly established universities like Alupe, Turkana, Tom Mboya, Taita Taveta and Garissa. Some universities have resorted to using part time staff to fill the gap owing to inadequate funding to engage permanent staff. Some universities have been unable to raise enough revenue to pay part time staff leading to court battles and in fact, some part time staff have disappeared with students' scripts and this contributes to the pandemic problem of missing marks. Hence inadequate staffing can be said to have greatly undermined quality of university education.

2.0. EQUITY IMPLICATIONS IN FINANCING HIGHER EDUCATION

2.1 Students Financing Through Higher Education Loans Board

In an attempt to have a proactive institution, which could address the needs of the vulnerable against dwindling financial resources, and to recover outstanding loans in order to minimise the financial demands from the treasury, HELB was created in 1995 under an Act of Parliament (HELB Review, 2002). HELB is an autonomous body charged with the responsibility of receiving loans already lent out to Kenyans who benefited from the scheme since 1974 and disbursing it to needy Kenyan students pursuing higher education within and outside Kenya (HELB review, 2004).

The Board 's main source of funds has been the exchequer, which released averagely Ksh 600 million per year while about Ksh 400 million (as at 2004) was sourced from recoveries. This form about 40 percent of the funds disbursed (HELB review, 2004). However, Muchungu (2023) established that as of 2023, 37% HELB's budget was financed from loan recoveries and the default rate stood at 27%. Otieno (2023) in *Business daily*, states that the Board requires ksh 10.5 B from treasury to process loans and bursaries for university and college students. This means that the Board has gained only 3% towards creating a revolving fund since 2004 when the recoveries accounted for 40% of the budget to 37% in 2023.

This paints a gleam picture on the Boards recovery effort in a period of 19 years. Empirical study (Odebero, 2010) showed that HELB had largely been ineffective in the loan recovery effort since out of 15.2 billion disbursed between 1995-2004, only ksh 3 billion had been recovered. One of the main functions of the board is to receive loans already lent out to recipients and plough it back to the kitty to assist needy students fiancé their education. Inability by the Board to effectively recover funds from past recipients implies that the Board will be unable to create a revolving fund to minimise financial burden on the exchequer.

This school of thought is confirmed by the same study (Odebero, 2010) which revealed that recoveries were mainly derived from GOK ministries and parastatals where it was easier for HELB to truck down past loan recipients especially through centralised records such as the payroll. The Board is yet to develop ingenious record system which is linked to the KRA and other data management systems of Government to truck past recipients so as to improve on loan recoveries.

As of November, 2023 the situation in loan recoveries is as follows:

Table 6: Status of Loan Recoveries and Government Capitation

	Total GOK Funds (Capitation)	Loan Recoveries
Financial Year	Kshs	Kshs
2011/2012	883,512,500	2,745,057,607
2012/2013	2,745,230,212	3,267,275,334
2013/2014	3,340,055,500	3,191,376,592
2014/2015	4,889,055,500	3,304,063,898
2015/2016	6,533,055,500	3,917,191,051
2016/2017	6,642,881,825	4,057,154,812
2017/2018	7,657,260,924	4,917,689,067
2018/2019	7,493,838,580	4,353,730,591
2019/2020	8,575,686,406	4,508,401,051
2020/2021	9,134,248,542	4,349,133,776
2021/2022	11,304,248,542	5,208,898,364
2022/2023	11,093,598,080	4,523,038,100

Source: HELB statistical data 2023 Nov

From the year 2011/12 HELB loans were mainly drawn from recoveries while GOK capitation accounted for only 32% of the total loans disbursed. However, from the year 2014, the main source of HELB loans has been Government capitation. As of the year 2022, HELB loan recoveries dropped to only 31.5% of the total budget. When trend analysis is considered, it indicates that whereas the Government capitations is growing exponentially, loan recoveries remained constant relative to government capitation and growth in students' numbers.

From 2019/2020 FY, exchequer loan doubled and has continued to grow hitting 11.3 billion mark in 2022. Loan recoveries have averaged at ksh 4.5 billion in the past five years while GoK capitation has averaged 10.5billion over the same period. This implies that HELB management effort towards creation of a revolving fund still remains a mirage hence higher education students financing will continue to be a burden to the tax payer. A study by Odebero (2010; Odebero 2008; Odebero et al, 2006) made similar conclusions when it pointed out that effective demand for HELB loans generally outstrips recovery rates and concluded that financing of university education in Kenya may continue to be a burden to the exchequer. Although HELB has improved in its loan recovery effort targeting Government of Kenya ministries, NGOs, professionals in the diaspora and mobilised resources from other sources other than government revenue, the efforts have not been sufficient to create a revolving fund to relieve the exchequer.

This finding is exemplified by HELB sectoral recoveries as shown in the Table below.

Table 7: Comparison of HELB loan recoveries in the formal and informal sectors

Financial Year	Formal Sector	Informal Sector	Total Collected
2011/2012	2,051,079,751	693,977,856	2,745,057,607
2012/2013	2,018,644,144	1,248,631,190	3,267,275,334
2013/2014	2,284,781,149	906,595,443	3,191,376,592
2014/2015	2,341,430,459	1,015,937,540	3,357,367,998.92
2015/2016	2,796,203,310	1,341,133,476	4,137,336,786.93
2016/2017	3,606,245,373	1,383,679,916.47	4,989,925,289.28
2017/2018	2,358,134,318	2,091,131,094.35	4,449,265,412.50
2018/2019	2,952,727,584	1,559,767,821.49	4,512,495,405.49
2019/2020	2,984,316,917	1,365,478,398.79	4,349,795,315.70
2020/2021	3,235,465,551	1,114,329,764.49	4,349,795,315.70
2021/2022	3,484,618,927	1,724,279,443.05	5,208,898,369.62
2022/2023	3,322,518,250	1,200,519,849.85	4,523,038,100.00

Source:HELB data November, 2023

From the Table, it is evident that HELB's main source of revenue to finance its operations is from the formal sector. In addition, HELB has largely grown its revenue collection from the formal sector from 2 billion in 2011 to ksh 3,2 billion in 2023. On the other hand, revenue collections from the informal sector have grown from 694 million to 1.2 billion thus doubling its collections from that sector. However, the collections from both formal and informal sector remain relatively low and more particularly the informal sector. This may be indicative of the encumbrances encountered by the Board in recovering HELB loans from the informal sector such as the self-employed and *jua kali* sector. It also means that HELB has not developed sufficient ingenuity to track and recover funds lent to recipients working in the informal sector.

Table 8: Trend in Loan recoveries 2015-2018

FY/SECTORS	Column1	2015-16	2016-17	2017-18
Self Employed	1,015,937,540	1,341,133,476	1,383,679,916	2,091,131,094
Agricultural Sector	21,835,703	27,382,601	28,508,597	28,653,735
Diplomatic Missions	2,345,504	2,918,460	3,038,470	3,218,501
Educational Institutions	1,031,182,993	998,395,980	1,039,450,847	1,239,422,047
Financial Institutions	169,575,003	317,878,266	330,949,683	272,524,803
Insurance Companies	31,159,663	41,128,499	42,819,737	48,097,105
Manufacturing Sector	60,122,047	79,086,537	82,338,641	83,150,644
Government Ministries	337,609,555	379,279,996	394,876,302	418,878,444
NGOs	69,251,590	95,102,812	99,013,518	96,180,948
Parastatals	140,290,762	157,971,895	164,467,830	165,557,920
Professional bodies	47,836,533	68,004,515	70,800,917	77,114,701
Service Sector/Industry	430,221,106	477,746,979	497,392,329	465,995,347
	3,357,367,999	**3,986,030,017**	**4,137,336,787**	**4,989,925,289**

Source: HELB data November, 2023

From the data its evident that HELB has specialised in recoveries from educational institutions, financial institutions and parastatals. In effect, the recoveries have targeted the ordinary workers employed in the formal and non-formal sectors. However, the emerging innovative areas of self-employment such as the bloggers, You -Tubers, content creators and online workers have not been targeted to boost the recoveries and this ought to be encouraged.

2.2 HELB Loan Disbursements

According to Odundo and Njeru (2005), HELB loan scheme provided a maximum of Ksh 54,000 for successful applicants and a bursary of Ksh 8000 to needy student paid directly to the university in which the student is enrolled. Although these loans were originally targeted to students enrolled in public universities, the board later widened its mandate to assist student in private universities as well. All the students who are admitted through KUCCPS automatically qualify for HELB loans and Government capitation. HELB disburses between ksh 35,000-45000 per student every semester out of which ksh 4000 goes towards tuition fees in their respective universities while ksh 31,000-41000 is retained in students' accounts towards their upkeep. The rest of the tuition fees is paid directly to universities through government capitation which is declared by universities according to number of students admitted through KUCCPS. As a result, universities receive monthly capitation from government which they use to fiancé salaries and other university programmes. However, government capitation has been dwindling from as high as 70% of the university budget to as low as 40% . The decline in monthly capitation to public universities has heavily affected universities with some accumulating huge debts in major operations such as payment of salaries and pending bills.

In 2022, the President appointed Presidential Working Party on Education Reform (PWPER) (Republic of Kenya, 2023) and tasked it *interalia* to review and recommend a governance and financing framework for university education training and research. The PWPER reached the following reforms:

2.2.1 Recommendations on Financing of Tertiary Education

1. Government to implement the Variable Scholarship and Loan Funding (VSLF) Model to replace the Differentiated Unit Cost Model (Appendix 10.2). The Model combines scholarships and loans and is appropriate for different categories of students: Vulnerable, extremely needy, needy, and less needy. Scholarships and loans were to be distributed to four distinct categories of Universities/TVETs/TTCs students as shown below:

Table 9: VSLF Funding Formula

Student Category	Scholarships	Loans	Household %
Vulnerable	82%	18%	0
Extremely needy	70%	30%	0
Needy	53%	40%	7
Less Needy	38%	55%	7

Source: Republic of Kenya, 2023

According to the PWPER Report (2023), the funding model was to be based on the actual cost of the programme. Universities will be required to undertake a comprehensive survey on the actual cost of the programmes for funding through the model. Programme costs are stated as follows:

Table 10: Program costs as reported by PWPER

Cluster	Subject Area	Annual Cost (Ksh)
Ia	Medicine – Pre-Clinical	360,000
Ib	Medicine – Clinical	720,000
IIa	Dentistry – Pre-Clinical	360,000
IIb	Dentistry – Clinical	720,000
IIIa	Veterinary Medicine – Pre-Clinical	324,000
IIIb	Veterinary Medicine – Clinical	564,000
IVa	Pharmacy-Pre – Clinical	324,000
IVb	Pharmacy — Clinical	504,000
Va	Architectural Studies — Architecture Part I	360,000
Vb	Architecture — Professional (Part II)	432,000
VI	Engineering Surveying	396,000
VII	The Built Environment and Design — Construction, Real Estate, Urban and Regional Planning, Landscape Architecture, Design, Computing.	360,000
VIII	Agriculture, Health Sciences, Food Sciences, Natural Resource Management and the Natural Environment- Agriculture, Food Science and Technology, Medical Laboratory Science and Technology, Animal Science, Nursing, Clinical Medicine (BSc.), Radiography, Agribusiness Management, Sport Science, Foods and Nutrition, Medical Psychology, Physical therapy, Public Health, Environmental Health, Community Health and Development, Wildlife Science and Management, Agribusiness Management.	324,000

If the model is to be implemented, the actual cost of dentistry and science programmes will result in the following scholarship support and HELB loans. House hold contribution is also computed.

Table 7:

Table 11: Scholarship and HELB loans as computed from funding model

Cluster	Scholarships %	Dentistry	Agric	HELB Loans	Dentistry	Science	Household %	Agric
Vulnerable	82%	590,000	265380	18%	129,600	58320	0%	
Extremely needy	70%	504,000	226800	30%	216,000	97200	0%	
Needy	53%	381,600	171720	40%	288,000	129600	7%(50,400)	(22680)
Less needy	38	273,600	123120	55%	396,000	178200	7%(50400)	(22680)

Source: Derived from PWPER, 2023

The table indicates that for the Dentistry and Medicine Course with clinical, the student from vulnerable background will receive upto ksh ksh 590,0000 in form of scholarship while those from extremely needy and needy backgrounds would receive government scholarship of ksh 504,000 and ksh 381,000 respectively. However, the vulnerable, extremely needy and needy cases would require HELB loans of ksh 129,000, kshs 216,000 and kshs 288,000 respectively.

The needy and less needy would be required to give a household contribution of kshs 50,400. This implies that in total Government would be required to set aside upto ksh 720,000 to support a medical student through scholarships and HELB loans. For first and second year when medical students are in pre-clinicals, government support through scholarships and HELB loans stands at kshs 360,000.

At MMUST where the enrolment stands at 43 students in the first year, the government will give up to ksh 15,480,000 per annum but from third year to 6th year when students take clinicals, Scholarships and HELB support would rise to kshs 30, 960,000/= per annum. The amount will be funded as GOK scholarships at 82% and 70% for vulnerable and extremely needy while for HELB loans it would be at 18% and 30% respectively. The needy and less needy would also get HELB loans at 40% and 55% respectively.

The new funding model places a heavier responsibility on the government to finance higher education through scholarships and HELB loans. On the other hand, universities will receive higher funding through the actual costing of the programmes funded through HELB and scholarships. However, despite the increased funding, if we cost the lecturers salaries at kshs 229, 500 for 7 lecturers, it would amount to ksh 19,278,000/= per annum against a tuition fees collection of kshs 15,480,00/= that would be raised through new funding model. This is exclusive of other operational and fixed costs. This means that at the moment, MMUST medical programme is operating below the optimal level and will continue to operate inefficiently with high unit costs and low out output.

This finding is in line with a study by Odebero et al (2015:) which concluded that between 2007-2009, MMUST experienced higher average costs than marginal costs and the institution operated below the required capacity and was advised to enrol more fees paying students to reach the optimal level. However, for medical courses which are heavily regulated by Kenya Medical Practitioners Pharmacists Dentist Union (KMPDU) which restricts the number of students, it would require an assessment of other facilities to support increased enrolment. However, to launch medical programmes, the KMPDU and CUE should be considerate of numbers that can sustain optimal operation otherwise the course which requires highly specialised training and is capital intensive will continue to be a devour to university resources raised by other programmes.

For Science related courses the PWPER recommended a rationalised fees charges of kshs 324,000.

(ii) An average of 61% of the University and 58% in TVET of the cost of the programme shall be a Government Scholarship;

(iii) An average of 36% for the University and 32% in TVET of the cost of the programme shall be Government Loan;

(iv) An average of 7% for the University and 10% in TVET of the cost of the programme shall be household contribution.

The implementation of the new funding model will see universities raise more revenue for their operations at actual costs of the programmes. However, Government will be required to increase exchequer allocation for the ministry of education to finance students through scholarships, bursaries and loans through the proposed Tertiary Education Placement and Funding Board (TEPFB).

The implementation of the new funding model comes with a mixed bag. The framers of the new funding model mainly focused on how to cure the perennial problem of inadequate funding in higher education institutions and implemented what they call actual costs of the programmes to aid universities raise more revenue. However, the following challenges emerge.

(i) Nothing is explained how actual cost of the programme is determined.

(ii) Besides, actual cost of the programmes must differ from one university to another with universities operating at an optimal level posting low cost of the course by leveraging on numbers not a unified cost.

(iii) As pointed out funding based on actual cost of the course will lead to students who are loan beneficiaries receiving bigger loans and therefore paying more interest and more loans. With the current state of unemployment and low recovery rate of the loaned funds, the burden to the exchequer will continue to grow thus affecting the provisions of other services by Government.

(iv) High unemployment rates will add interest to the already bigger loans given to students and this may be a subject of future political campaigns when unemployed graduates will urge politicians campaigning for presidency to abolish interest on student aid, and call off students loans in exchange for votes. Simply put in the coming years, student loans is likely to be the centre for political campaigns.

(v) There is no evidence of a national empirical survey to establish households falling under vulnerable, extremely needy, needy and less needy to establish equity in the proposed funding models and allocations under each category. In any case, the model ignores '**the not needy**' category falling under the highest income categorisation of households.

(vi) No framework was established to incentivise loan recipients who decide to repay their loans immediately by offering discounted rates.

(vii) The funding models under HELB loans that are based on actual cost of the programmes with increased loans from HELB will result into increased higher education loans and this will lead to reduced private rates of return to higher education investment and this has the net effect of lowering demand for higher education.

(viii) Nothing is said in the model of students who repeat or take too long to complete studies for reasons beyond their making.

(ix) There is no provision for fees or loan waiver for top students or those who complete on time.

(x) The family contribution of 7% is not based on any rigorous empirical finding or rationale with the end result that a paltry contribution of only 7% from households that are less needy or higher in social status means the funding model shifts the burden of higher education provision largely to the exchequer. This will result into the poor subsidising education of the rich and has serious implication on the sustainability and affordability of the funding formula.

(xi) The funding model as proposed by PWPER says nothing about recovery of the loaned funds which is already experiencing challenges hence setting the stage for increased financial burden to the exchequer and this may lead to reduced social rates of return to higher education investment in the long run without cushioning the public coffers

(xii) Nothing is said about collateral of the increased loans for those who die, or refuse to pay or exit education system before completion for whichever reasons.

(xiii) In the final analysis, the model is silent on how the various family categorisation of vulnerable, extremely needy, needy and less needy will be determined as no means testing tool is appended to guide the disbursement process to the various social groupings. This resulted in inordinate delays in the disbursement of loans and bursaries to higher education institutions hence disrupting provision of services to higher education institutions.

In an interview with HELB officer, it was revealed that because of these inherent weaknesses, and by invoking the provisions of the constitution of Kenya 2010, the funding formula was revised and students categorised into Band 1, 2,3,4,5. Those in band 1 are allocated more bursaries and less loans and house hold contributions while those in Band 5 receive less bursaries but get higher loans and have a higher household contribution. The revised formula now places household contribution at 5%, 10%, 20%, 30% and 40% in band 1,2,3,4,5 respectively. Of concern however is that all household categorisations receive scholarships this begging the question as to whether no household in Kenya can afford university education without government support. Similarly, the creation of household categorisation into bands requires an empirical study to support the financing burden given for Variable Scholarship and Loan Funding (VSLF) Model.

2.3: The means Testing Tool

Before the inception of the new funding model, higher education funding model through HELB allocated loans to almost every student admitted through JAB/KUCCPS. Most students received between ksh 35,000-45000 for tuition and personal expenses. A study by Odundo and Njeru reveals the following bursary allocations in relation to family income.

Table 12: University of Nairobi Bursary Disbursements in Relation to Family income ,1993/94.?

Household's Income Bracket pm (Ksh)	Number of Applicants	Total Number Awarded	Percentage Award
0-3,500	1,854	1,314	70.87
3,501-10,000	685	262	38.25
10,001-20,000	498	104	20.88
20,001-30,000	329	58	17.63
30,001-40,000	195	22	11.28
40,001-50,000	145	17	11.72
50,001-60,000	81	6	7.41
60,001-70,000	49	3	6.12
70,001-80,000	56	2	3.57
80,,001-90,000	27	0	0.00
90,001-100,000	30	1	3.33
100,001-110,000	28	0	0.00
110,001-160,000	59	4	6.78
160,001-210,000	16	1	6.25
210,001-260,000	13	1	7.69
260,001-300,000	3	0	0.00
Over 300,000	12	0	0.00
Total	4,080	1,789	43.84

Source:Odundo and Njeru, 2005

The Table above reveals that more of those from low income quintiles are received bursaries relative to those from High economic class. However, it is clear that a good number of applicants from poor families missed out on bursary allocation by HELB. Equally a good number of applicants in middle and high income families received the bursary and resulted led to inequality in bursary allocation.

Odebero, 2008;Odebero et al 2007:;Odebero 2010) established that about 70% of those who access university education in Kenya hail from medium and high income classes and only 30% come from low SES. In private universities 85% of those who are enrolled hail from medium and high income social groupings. The study also established that about 68% of the loan recipients hailed from medium and high SES and only 30% came from low income social groupings. The study showed that since the means testing tool used by HELB could not effectively discriminate students according to SES for differentiated HELB loans allocations, it recommended that HELB seeks professional assistance to develop a proper means testing tool that can effectively discriminate applicants according to their SES from low, medium and high income groups. This, the study revealed can be achieved through the use of a composite measures of SES measured by several indicators each with its own scoring criteria on the continuum. The use of several indicators is supported by several studies (Ngware, 2000; Odebero, 2002;Ishengoma, 2003;Wachiye, 2006:Otieno,2005;Odebero,Bosire, Sang and Ngala 2007).

Statistical test for equality of means showed that no statistically significant difference existed between HELB loan allocation and students gender, and between HELB Loan allocation and the location of university. However, there was a statistically significant difference in means for type of university in favour of private universities. This implied that HELB loan disbursements were the same for male and female recipients and for recipients in urban and rural universities, but differed by type of university in favour of private universities.

i) Programme of study

The Scheffe's multiple comparison tests results confirmed that there existed a statistically significant difference in loan allocation between the arts based programmes and the rest of the programmes such as Agriculture, Engineering, Business and Science related programmes in favour of Arts related programmes. Paradoxically, arts based programme are cheaper than technological, medical, law, and engineering related courses.

ii) socio-economic status

Multiple comparisons tests showed that there existed a statistically significant difference in loan allocation between students' socio-economic status in favour of low SES. However, results showed that the mean difference between medium SES and high SES were not significant for all the years studied. This means that HELB MTI was only able to identify the students according to Low socio-economic status while medium/high income groups were lumped together.

iii)Access to Programmes of Study by Socio-Economic Status

The study showed that apart from Educational and Arts based courses, which attracted students from across the board, other programmes had an inclination towards one's social class. Such courses included Medicine which attracted 75 percent of its students from hSES with no student (0%) from LSES and only 25 percent of the registered students came from mSES. Similarly, Commercial/Business related courses had over 80 percent of its registered students drawn from mSES and the rest from hSES. Technology related courses also had all its registered students drawn from mSES (66.7%) and hSES (33.3%) only. This again means that in determining the MTI, cognizance must be taken on the decision to fund such programs. In funding applicants, proper means testing must be done and mechanism must be put in place to ensure students from deprived backgrounds access competitive courses equitably.

2.4: Loan disbursement for top and bottom quintiles

Although HELB loan disbursements are generally inequitable, a comparison of the top and bottom quintiles for HELB loan allocations showed that there was greater inequity in HELB loan allocations by quintiles whereby 20.1 percent of the recipients in the top quintile got 39 percent of the total loan compared to 19.9 percent of the recipients in the bottom quintile who received only 9.1 percent of the total loan deserved for this quintile. There is evidence that each recipient in the bottom quintile got only 0.5 percent of the total loan awarded compared to recipients in the top quintile where each recipient in the quintile got 1.9 percent of the total loans for the period. Thus on average, recipients in the top quintile got 1.5 % more loans than recipients in the bottom quintile. Consequently, a comparison of HELB loan allocations between the top and bottom quintile allocations shows that those in top quintile tended to receive more loans than what was deserved to them while those in lower quintiles got less loans than what they merited.

2.5: The Odemmusta Means Testing Instrument

In realisation of the need to speed up the means testing for the needy and in order to eliminate the human error in the means testing process, Odebero, MMUST and Amwayi (2023) innovated a computerised on-line app for equitable identification for the needy.

The app which is published by KIPI and copyrighted by Copyright Society of Kenya sets out to solve the following challenges

i) It employs empirical findings to give weight to the various inputs into the differentiated means testing for the most needy and least needy persons and this renders the Odemmusta Means Testing App (MTA) more accurate in determining the various levels of needs.

ii) The App renders the means testing process more efficient and cost-effective.

iii) Above all it renders the loan and bursary application process convent and easy and verifiable to customers and other stakeholders

3.0: Justification for public financing of higher education

Justification of public financing of higher education is premised on studies that showed a relationship between a country's economic development and a balanced investment across all education sectors with a growing focus on higher education (Fehnel, 2003) cited in Teferra and Altbach (2003). The findings of this study signalled a departure from World Bank's earlier education policy for developing countries that put higher premium on investment in primary education (Carnoy, 1995b: Psacharopoulos and Woodhall, 1995). The shift in focus on investment in higher education is linked to the knowledge and information revolution and a new reality that affirms that investment in the production of skilled workers yields greater economic returns for a country than investment in the production of goods (Serageldin, 2000). Another study of global higher education also affirms the link between growth in the ratio of tertiary education enrolments and growth in national income (Taskforce on Higher Education and Society, 2000).

In support of this school of thought, Carnoy, (1995c) points out that Ghana and Korea were similar in population, GNP and percentage budgetary investment in education in the 60's. Korea made the long term commitment to massive access to education at all levels and changed curricular to put more emphasis on maths and science but Ghana continued with the same education polices. Since the 60's economic development of the two countries has continued to sharply diverge with Korea becoming an important player in the global economy while Ghana lags behind.

By implication, Kenya as a country must develop and implement policies that shift focus to investment in higher education to harness knowledge and information revolution. More particularly, the country ought to support policies that affirm massive investment in the production of skilled workers to attract greater economic returns for a country. However, this will depend on the curricular and more emphasis should be put on Maths and science subjects.

In an influential study "'*The roles of science and technology in national development'*; Anaeto, *et al* (2015) posit that science and technology are the blood birth to socio-economic development of any nation because technology is the foundation of wealth creation, improvement of the quality of life and transformation of any society. The study observed that the gap between the developed and developing countries is largely attributable to the differences in technology and its application and recommends re-orienting the educational curriculum to scientific thinking in order to develop new technologies and adapt the existing ones to improve societal wellbeing. This is supported by South Korea's economic development that is contingent on high quality education system at all levels that has created the world's most educated workforce with over 70% of the 25-34 year olds having attained a bachelor's degree regarded as one of the highest in the world (http//www,en,wikipedia.org.).

3.1: CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS FOR POLICY AND BEST PRACTICE

I now make my deductions and recommendations most of which have implications for policy and best practice as follows:

3.1.1: Era of free university education

If we put the **Era of free university education into perspective,** offering highly subsidised university education, free of any direct charges was justified so as to stimulate economic growth and access to university education. However, from the time of independence to-date the demand for higher education rose significantly while economic growth could not adequately support a commensurate rate of expansion for university education. Consequently, cost sharing and cost recovery measures were justified as a policy in higher education financing.

3.1.2: Era of cost sharing

The unit cost mode of financing implemented during this era, good as it may be has a mixed bag. It was implemented for long as a single unified cost without a proper study to establish the actual cost of each programme in different universities. Besides, costs of programme change over time and the DUC analysis needed to be done annually and new charges implemented after every 4 years without too much political restrictions on tuition charges. This could have had the net effect of generating sufficient revenue for universities to substantially grow the quality of infrastructure and other requirements.

Besides, in advising universities to turn to alternative sources of financing, there was no proper policy to assist universities implement public private partnership (PPP). Hence, many universities are struggling financially in a situation where plenty exist to generate support through the PPP. As best practice, a proper, inclusive consultative and practical policy ought to ensue to support public private partnership as an alternative source of financing higher education.

3.1.3: Era of privatisation and commercialisation

Undoubtedly, parallel programmes opened up access to university education because it opened up public universities for admission of private fee paying students who had missed out opportunities in higher education. Besides, privatisation afforded students an opportunity to access preferred courses and programmes. However, this needs to be regulated through a known policy framework that ensures the students from socially deprived backgrounds are not denied opportunities to access university education and their preferred programmes in favour of private fee paying students. Also, the policy framework should have regard for quality regulatory frame work for programmes, infrastructure and faculty.

In diversifying resources, universities world over rely heavily on research, consultancy and innovation to grow their revenue base. Kenya does not have a clear policy on how universities can be used by government and the private sector to do policy impactful research in their niche areas and earn revenue. Besides, the uptake of research to impact policy is still low and political expediency and roadside pronouncements still dominate major decisions affecting higher education. This must stop and research and innovation uptake be used to generate at least 50% of the policies implemented by government. The best practice is not to just use public participation as a political shield but also legislate research, innovation and community outreach as a viable pre-condition for policy uptake.

Privatisation and commercialisation of university education also opened debate on equity in access to competitive courses such as Medicine, Engineering, Law, Nursing, Public health, architecture among others. JAB and even KUCCPS has been accused of denying students from poor backgrounds access to completive courses as those placed by JAB required to score highly to access competitive courses. This still remains a concern and KUCCPS ought to develop an admission formula that shows how competitive and non-competitive courses will be accessed equitably by students from deprived socio-economic backgrounds. Equally, equity experts be invited to audit KUCCPS reports every year and progressively show how the country moves towards intergenerational equity.

3.1.4: Era of qualitization of university education

Since financing of both public and private universities is based on students' capitation, continued drop in student numbers means that revenue streams allocated and collected through appropriation in aid to finance university operations will continue to drop unpredictably especially for universities less attractive to students. Universities that are more attractive to students especially more established universities will receive more funding and this may result in disproportionate allocation of national resources. It calls for universities to plan location of universities in accessible areas and to create niche areas in unique courses with competitive skills and programmes that drive or should drive the economy to attract more students. Also, public universities and communities where universities are located must uphold good manners in the management of public resources, be friendly to other communities and uphold nationalism to attract students.

Expenditure patterns on physical resources reveal open abuse of power and the procurement process. Similarly, procurement process has not helped matters as it is evident that the tendering process through the Procurement Act has not helped to lower the costs of goods and services and this has raised the costs of university operations. It is recommended that the Act be reviewed and allow for more cost-effective ways of accessing goods and services.

In leveraging on demand, some universities have tended to enrol students beyond their capacity. The capacities declared by universities to KUCCPS are not realistic and KUCCPS has consumed them without questions hence leading to over enrolment in some universities and under enrolment in others. KUCCPS should be empowered financially to carry out an independent survey to establish optimal capacities in every university per programme and use this report to place students. It is recommended that Government develops and enforces stiffer regulations and policies on optimal operation of universities and other higher education institutions such that more established universities are not allowed to over enrol beyond optimal capacities and this will have the net effect of offering surplus numbers to upcoming universities for growth.

However, less attractive universities with dismal numbers can lower the costs of their programmes to attract students and seek support from development partners such as county governments, bilateral and multilateral partners and NGOs to break even. HELB should also develop a policy on affirmative action such that students admitted in universities like Turkana, Garisa and other far flung areas requiring affirmative action are assisted. There is need to find a way of cushioning vulnerable universities to protect them from winding up.

The change in policy to allow private universities admit students through KUCCPS means that some of the students who would have been admitted to public universities and generate revenue from government have their share go to private universities. Proponents of government financing of students in private universities argue that this opens up more opportunities for access to higher education while maintaining quality since some public universities have strained their facilities through module II programme. However, critics have argued that it is inappropriate for government to finance private universities where government capitation is not subjected to audit by Auditor General and when public universities are reeling from underfunding.

There are more compelling reasons for private universities to admit students through KUCCPS so as to open up space for access to higher education and stimulate the country's economic growth. Besides, the new funding formula through variable scholarships and loans now eliminates capitation and introduces scholarships, loans and house hold contribution and these are tenable in both public and private universities. Some private universities have also been said to have unique courses which are market driven which students from deprived backgrounds can benefit from.

However, Government must take charge and invest in an empirical study by competent experts that will lead to the development of an equitable MTI to be used by HELB and other funding agencies to ensure equitable financing of students in public and private universities. Specifically, KUCCPS placement of students in private universities should be regulated by policy in circumstances where programmes enrolled by students are stretched in public universities and/or are missing or even where the cut off points in public universities hinders eligible students from accessing such programs among other considerations. The net effect is, that the poor must not be seen to be subsidising education of the rich.

3.1.5: Other consideration for quality

The CUE guidelines stipulate that to teach and handle academic programmes at university level one needs PhD qualifications. Lecturers with Masters degree can handle undergraduate programmes as tutorial fellows while those with undergraduate qualifications can be engaged as graduate assistants or support staff. Going by CUE regulations, most universities have not attained the full time staff students' ratio in most cluster subjects and the situation may be more dire in newly established universities. Some universities have resorted to using part time staff to fill the gap owing to inadequate funding to engage permanent staff. Some universities have been unable to raise enough revenue to pay part time staff leading to court battles and in fact, some part time staff have disappeared with students' scripts leading to the pandemic problem of missing marks. Hence inadequate staffing can be said to have greatly undermined quality of university education.

The study recommends that the government solves perennial problem of staffing in universities through viable and sustainable financing options. The new and revised financing model a recommended by the Presidential Working Party based on variable scholarship and loans with an option of house hold contribution is based on cost of the programme. It is not likely that the capital costs and salary costs were factored into the costs of the programmes. If this was to be done, then the costs of university education would rise beyond the reach of most of Kenyans. Undoubtedly, the new funding model raises critical revenue needed for universities but it may not be the panacea to university financing problems.

Actual cost as published by PWPER is understood to mean that the expenses cover the requirements to implement the programme such as field work and cost of teaching and learning materials. This in no way means that tuition fees can be used to finance capital and salary costs.

In TVET institutions, secondary schools and primary schools, salary is paid by TSC and MOEST respectively without regard to tuition fees. Costing the programmes to include salary and capital costs would render higher education too expensive beyond the reach of many Kenyans and using tuition fees to fiancé salary and capital costs would deny the programmes the requisite infrastructure hence compromising quality beyond measure. Financing universities purely through students variable financing model renders university education a private good that is demanded and supplied. I submit that the new funding model be implemented alongside equitable government support for universities for salaries and physical capital.

A more realistic costing of programmes must differ from one university to another with universities operating at an optimal level posting lower costs of the courses. Consequently, Kenyan Government is encouraged to move away from unified costs of the programme across all universities as published in the PWPER. To avoid fraud, MOEST must invest in a technical scientific survey to establish the actual cost of programmes per university and use it to fund universities through the revised funding model equitably. Unfortunately, in costing programmes, educational planners and economist of education are rarely utilised yet this is their area of expertise. Government and other stakeholders are strongly urged to recognise technical expertise rather than technical know-who where it matters.

In launching medical programmes in universities, the KMPDU and CUE should be considerate of critical student numbers that can sustain optimal operation otherwise the course which requires highly specialised training and is capital intensive will continue to be a devour to university resources raised by other programmes.

3.4: Ingenuity in Loan Recoveries

The Board lost 3% towards creating a revolving fund since 2004 when the recoveries accounted for 40% of the budget to 37% in 2023. One of the **main functions of the board is to receive loans already lent out to recipients** and plough it back to the kitty to assist needy students fiancé their education. The current scenario paints a gleam picture on the Boards recovery effort in a period of 19 years where instead of making gains, from 40% to say 60%, the contribution of recoveries as a percentage of total HELB budget plummets. Inability by the Board to effectively recover funds from past recipients implies that the Board will be unable to create a revolving fund to minimise financial burden on the exchequer. Audit of the Boards activities must include meticulous and transparent action plans on recovery effort such that annual and 5 year plans are released showing steps towards creation of a revolving fund and reducing the burden on the exchequer.

It is evident that HELB's main source of recoveries to finance its operations is from the formal sector. In addition, HELB has largely grown its revenue collection from the formal sector from 2 billion in 2011 to ksh 3.2 billion in 2023. On the other hand, revenue collections from the informal sectors is low at 1.2 billion. The informal sector is known to employ more products of the education system than the formal sector and its expected that recovery effort shows sufficient growth where it matters most. The encumbrances encountered by the Board in recovering HELB loans from the informal sector notwithstanding, the board must invest in technology, collaboration and networking with Safaricom, Celtel, KRA and other government and non-governmental agencies such that those in the informal sector within and outside the country are trucked to repay their loans. The board is also called upon to develop other ingenious incentives that can allow higher loan recoveries.

Funding based on VSLF will lead to beneficiaries receiving bigger loans and therefore paying more interest and more loans. With the current state of unemployment and low recovery rate of the loaned funds, the burden to the exchequer will continue to grow thus affecting the provisions of other services by Government. High unemployment rates will add interest to the already bigger loans given to students and this may be a subject of future political campaigns when unemployed graduates will urge politicians campaigning for presidency to abolish interest on student aid and call off students' debts in exchange for votes.

Going forward, government must invest in **sensitization of students** and families **to understand that HELB loan** is a loan like any other and not a grant that must be paid such that those whose family backgrounds can afford part or all the fees resolve to finance their studies and this will not just reduce the burden to the exchequer but also reduce the burden on the students' debts.

To equitably implement the new funding based on Variable Scholarship and loan fund, there is need for a **survey to establish number of students from low, middle and high income** backgrounds to justify the funding formula. Upon implementation, there is need to provide for discounted rates of loan repayments for those who repay immediately. Loan and scholarship recipients who take long to complete studies because of unnatural factors must be made to lose the scholarships and loans and be required to repay immediately. However, top students and those who complete earlier should be incentivised through some form of waiver. The family contribution should be scientifically justified while at the same time another category of not needy should be created in the funding model. The funding model should inbuilt mechanisms to aid the Board to not only effectively and efficiently disburse the loans and scholarships through a transparent MTA but also **recover the loans efficaciously** and create a revolving fund to reduce financial burden on the exchequer.

3.5: Use of technology in equitable financing

It turns out that there is disparity between the factors influencing demand and what is captured in the HELB MTI and this calls for a scientific inquiry to remedy the MTI to make it more effective in addressing students' needs.

3.6: The Odemmusta Means Testing App (Odemmusta MTA)

In order to eliminate the human error in the means testing and speed up the process, HELB should turn to a means testing app with an in built scientific instrument such as the Odemmusta MTA. This will render the means testing process for loans, scholarships, bursaries house hold contribution and any other form of financial support to students more efficient, easy, convenient, cost-effective and verifiable to stakeholders, it will also render the recovery process easy and verifiable through the app.

3.7: Justification for public financing of higher education

Since there is a link between growth in the ratio of tertiary education enrolments and growth in national income, Kenya is called upon to encourage commitment to massive access to education at all levels but should develop and implement policies that shift focus to investment in higher education to harness knowledge and information revolution. As this is encouraged, premium should be placed on equity, relevance and quality with emphasis in STEM subjects and the 21st century skills.

3.8: The quandary of unemployed graduates

Kenya as a country has had heavy investment in education without commensurate investment in the placement of the products of the education system. The country now faces a real danger of unemployed youths being a danger to the existing political set up through youth groups, gangs and political pressure groups that will pause a threat to future governments. Kenyan Government must make deliberate effort to invest in job creation and it is my considered view that total budgetary allocation to higher education by the exchequer must be commensurate to total allocation to job creation and the said exchequer allocation should be invested efficiently, innovatively and meticulously in placement of the products of the education system. However, higher education institutions must work to eliminate academic fraud especially at PhD level where less than 10 % are qualified. They should inculcate positive values, and attributes including strong work ethics, honesty, tolerance, respect for authority, punctuality, pursuit of excellence, inquisivity and innovative skills necessary for work place and job creation.

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