

THE TRANSFORMATION OF HIGHER EDUCATION IN KENYA: CHALLENGES
AND OPPORTUNITIES

Prof. Kabiru Kinyanjui

Commission of Higher Education

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I: INTRODUCTORY REMARKS

Transformation and Paradigm shift in Higher Education: The Public University Inspection Board report has called for a paradigm shift and a radical rethinking on how to address the increasing demand for access and equity; the way students are initiated and socialized into university community life and the way the quality of learning and research is processed, ensured and maintained.

The other issues which require rethinking include the way staff are recruited, utilized and rewarded and their teaching and research environment is catered for; how the universities are funded and account for their resources, and how they are governed; and how the sector can drive socio-economic development.

The paradigm shift envisaged entails transformation of higher education their concrete context of meeting national challenges of socio-economic development, innovation, creativity, adoption and adaptation of scientific and technological changes for the benefits of Kenyans, and to confront global challenges of competition in the Knowledge economy.

Why higher education? To deal with post-secondary education broad needs for knowledge, skills and competence which can be provided through a diversified and differentiated, and to give opportunities to increasing number of people needing continuous and life-long learning.

The Board viewed partnership as a critical element in the transformation of Higher Education in Kenya. Partnership entailing cooperation and collaboration of state/state institutions, universities, staff, students, private sector, professional bodies, households, communities, civil society and development agencies.

II: THE CHALLENGE OF INCREASING ACCESS

Challenges Affecting Access

The main challenge is how to increase access to higher education to cater for the increasing high number of school leavers and others who desire tertiary education (university), while maintaining quality and ensuring equity and affordability. The number of students who qualified for university entry in 2005 was slightly over 68,000. About 50,000 of them miss opportunity to join a state or private university of their choice. The number of students seeking university entry by 2015 will range from 160,000 to 180,000. The number of those who will miss the opportunity to join university in 2015 will be over 100,000, unless additional opportunities for access are created. In 1995, only 7.1 per cent of the cohort completing secondary education had access to public university education in the country. This proportion declined to 4.2 per cent in 2005. The ideal state is to increase the proportion of

those accessing university from the relevant cohort to a respectable ratio of at least fifteen percent (15%) by 2020.

PROPOSED RESPONSES TO THE CHALLENGES OF ACCESS

Existing state and private universities should be expanded, targeting specific programmes which are backbones of socio-economic development such as medicine, engineering and the sciences. Expansion of private universities will require enhanced private sector investment and participation. Policies on infrastructural and financial incentives should be developed to attract increased private investments.

A state university in Coast Province should be established focusing on fisheries, oceanography, tourism and marine studies. Another one should be established in Eastern Region focusing on dry-land farming, environmental and water studies; and another one at North Eastern focusing on livestock development, renewable energy (solar and wind) and environmental studies.

The new universities should be established on the basis of proper planning, availability of resources, and their potential to open up new frontiers of knowledge, research and economic opportunities. New universities should be well-planned, appropriate and where possible utilize existing facilities.

Technical degree programmes are to be introduced in two polytechnics, Kenya and Mombasa. Upgrading of the Polytechnics into degree granting institutions should be professional. A roadmap to be followed by other institutions (Kisumu and Eldoret Polytechnics, Kenya Technical Teachers College, Kenya Science Teachers College etc.) that wish to move to degree awarding status should be developed. Technical co-operations should be established with countries (India, Italy, South Africa, France or United Kingdom) that have gone through similar processes of transforming polytechnics into degree-granting institutions. This would enable our polytechnics to learn from the experiences of others, get exposure and hopefully secure technical assistance that would enable them to fast track the envisaged institutional changes. Targeted support to national polytechnics should continue until the institutions have matured and become viable with capacities to offer technical degrees, while retaining their status as polytechnics.

While university education has expanded by opening new universities, colleges and campuses, vocational and technical education and skills training opportunities have not followed suit. University education has developed at times at the expense of middle level colleges. Expansion and modernization of these institutions is paramount to increasing access and also making training relevant and adequate to the demands of the economy. A systematic planned and demand driven development of middle level colleges as well as upgrading of the existing ones is required for modernization, innovation and industrialization of the country.

The ministries of Education and Science and Technology should spearhead the establishment of community colleges and institutes by commissioning a thorough study on CCIs before they are promoted by the local communities. This kind of studies should include learning from past experiences of institutes of technology as well as experiences of other countries such as India, North America and the Peoples Republic of China. Guidelines on the establishment, government support and what is expected of those initiating community colleges should be spelled out. This offers great opportunities for partnership between government, communities and universities. Constituency development resources could be utilized to fortify community initiatives in the development of CCIs.

A national policy on Open and Distance Learning to address capacity building, infrastructure, learners' support systems and funding should be formulated in consultation and partnership with all stakeholders. The Open University of Kenya (OUK) should be established by 2008, drawing on the experiences and expertise available in the local universities. A technical task force for setting up the Open University of Kenya should start its work in 2006/07...(UK, India, SA, TZ)

Pre-conditions for expansion of State Universities

The admission of students to state universities should be de-linked from bed spaces, but be linked to availability of academic and tuition facilities.

Intensive and concurrent training of postgraduate students should be done in order to sustain national capacity for university teaching and research during the envisaged period of expansion and related university reforms.

Private universities should be supported to realize their full potential in development and expansion of higher education.

Pre-Conditions for Expansion of Private Universities

Private universities should be facilitated by the government to admit more students or introduce new strategic courses by initial provision of grants and infrastructural development (land, sewage, access roads, water, security, electricity and communication systems). The expectation is that they would increase the number of students admitted and introduce new courses that are relevant to the economic needs of the country. Private universities should also compete for public research funds and staff development funds. The expectation is that they would increase the number of students admitted and introduce new courses that are relevant to the economic and strategic needs of the country. Private universities should also compete for public research funds and staff development etc funds on equal footing as public universities as they are providing a 'public good' to Kenyans.

Access into Postgraduate Programmes (10-20%)

A critical and comprehensive study of graduate programmes in the country should be undertaken in light of current and projected needs. Concerted efforts should be made to address any shortcomings and identify the required investment funds by the government, private sector and development partners.

Linkages and partnerships should be forged between local universities and highly trained Kenyan professors or foreign researchers and scientists working abroad to enable them participate in postgraduate training and research in the country.

A portion of research funds should be set aside for postdoctoral training in disciplines which are critical for smooth faculty succession, national development and essential for the advancement of knowledge, research and acquisition of specialized skills. These training funds should be accessed competitively.

Positioning Kenya as a Regional Provider of higher and University Training

Universities should strive to have, in the long term, ten to fifteen per cent of their students as international students. To realize this objective, the Ministries of Education and Foreign Affairs should market Kenya as an education destination for students from the region. Kenya should formulate policies to mobilize resources and identify strategic areas for education and training of professionals from neighbouring countries (Southern Sudan, Somalia and Democratic Republic of Congo) to enhance regional reconstruction, peace building and security.

III: THE CHALLENGE OF ENHANCING EQUITY IN HIGHER EDUCATION

Equity issues which are characterized by gender, regional, ethnic, and social disparities and inequalities should be addressed in expanding higher education.

Admission policies into state and private colleges and universities should articulate criteria for attracting more students from disadvantaged regions, gender and poor communities which are under-represented in strategic and competitive degree programmes such as sciences, medicine, engineering and law.

There is lack of systematic and comprehensive studies on equity in provision of higher education. Policy research oriented to as who gets higher education in Kenya is needed and the impact of affirmative actions at various levels demonstrated.

Institutional mechanisms and arrangements to support needy and underprivileged students access to higher education should be a matter of high priority.

IV: THE CHALLENGE OF PROVIDING STUDENTS WITH AN ENABLING ACADEMIC AND LEARNING ENVIRONMENT

The Critical Issue here is to facilitate building capacities of students and make them succeed as intellectuals, leaders, professionals, researchers and creative human resource. There are a number of opportunities that present themselves in this regard.

The transition period Between Secondary School and University Entry should be reduced. In this case, the proposed JAB committee of CHE should complete its work within six months after release of KCSE results to eliminate the two-year waiting period. In addition, Universities should ensure that tuition and learning facilities comply with the standard specifications prescribed by the quality assurance unit of CHE. State universities should privatize the management of accommodation facilities and partner with private entrepreneurs to provide appropriate, affordable and secure accommodation to all categories of students, including married students, within set standards.

The existing health facilities within universities should be strengthened and upgraded. Universities should also explore possibilities for pooled insurance medical cover for students. The government, universities and other stakeholders should collaborate in putting up infrastructure such as street lights and roads within students' residential estates so as to improve quality of life including enhancement of security for students and the community.

Universities should implement policies to increase access and completion rate of students with special needs. Each university should ensure that its facilities are user friendly for all students and staff with special needs and student leaders should be trained on leadership, governance, management and conflict resolution to assist them discharge their responsibilities effectively.

The rules governing students' conduct and discipline should be enforced fairly. Students' disciplinary regulations need to be reviewed to indicate, among others, minimum period of resolving cases, reporting and appeals....score cards. Universities should utilize alumni and parents in management of student affairs and conflicts. Mechanisms should also be put in place to reward exemplary behaviour and conduct.

V: THE CHALLENGE OF QUALITY ASSURANCE

The Board noted that there was a widespread perception that the quality of education and training in public universities has declined as a result of increased student enrolment, inadequate and outdated equipment and facilities, frequent university disturbances, and low staff morale. The Board confirmed, however, that suitable internal quality assurance mechanisms (for teaching, learning, assessment and research) exist in many local universities.

Some of these internal quality assurance mechanisms have been in existence without being modified for many years and need to be strengthened.

The Board also noted that there was need for an external quality assurance agency for both the private and state universities. A restructured and revitalized CHE should be able to play this role of external quality assurance, by ensuring compliance with established internal and external quality assurance processes in the universities.

Opportunities

Each university should establish a Quality Assurance Office (QAO) with responsibility for ensuring that academic and management functions are compliant with declared standards. The Quality Assurance Unit at CHE should coordinate the development of programme-based quality indicators which will be used in all universities for self-assessment and for external validation of the self-assessment data. An inventory of the number, type and status of teaching and research equipment in public and private universities, as well as in national and locally based international research institutes, should be undertaken to establish the available capacity in science and technology infrastructure in the country and to suggest where additional capacities are needed.

CHE, in consultation with the university Senates, should identify academic programmes that do not attract enough students, are not cost-effective, and are not responsive to market needs for restructuring, consolidation or gradual phasing out. Existing strategic programmes (e.g. agriculture and livestock) that may not be attractive to students should continue to be offered in selected universities. CHE should spearhead the establishment of comprehensive guidelines for mounting new academic programmes in local universities. The relevance, quality and capacity to advance national economic goals of any new programme proposed for establishment in the public or private universities should be vetted by CHE.

All primary and secondary schools in Kenya should be required to employ teachers who are appropriately certified by a National Teachers Accreditation Board (NTAB) that should be established within the provisions of the Higher Education Act. The current four-year B.Ed. programmes should be restructured to focus primarily on subject content and depth for four years, followed by at least one-year of professional teacher training course. The TSC should concentrate its efforts on the employment, discipline and deployment of teachers certified by the NTAB.

Research should be made an integral part of the responsibilities of every academic member of university staff. Academic staff should be evaluated and appraised annually on the basis of research output, in addition to teaching, administration, mentoring and community service. A national science policy should be enacted to formalize mechanisms for funding and

utilizing research output (a national research foundation is being recommended to undertake this function).

For purposes of collaboration and related synergies, a legal and policy framework for establishing and managing shared or jointly owned facilities for use by university students and staff in Kenya should be created. Such facilities may consist of a National Innovation and Instrumentation Centre (NIIC) as a joint Innovation Centre which also houses shared expensive equipment.

VI: THE CHALLENGE OF ATTRACTING, RETAINING AND REWARDING TALENTED STAFF

Opportunities

For planning purposes, the gross national Staff to Student Ratios (SSR) for universities in Kenya should be pegged at a ratio of 1 to 15 for the next ten years. The SSR for each academic programme to be determined individually. The government and universities should put in place an academic staff development programme to ensure that the additional staff required over the next five years are trained in a phased manner of at least 200 staff per year over the next five years.

The stalled projects in state universities, especially those projects which will strengthen infrastructure for teaching and research in the sciences, should be completed. Universities should allocate adequate budgetary support to purchase modern equipment; upgrade and repair broken down equipment and continuously maintain laboratory equipment to enable teaching staff to conduct research. In case of expensive laboratory or workshop equipment, mechanisms and guidelines should be explored for joint procurement, use, and management of such equipment by several institutions.

The universities should develop mechanisms of sharing resources within themselves and with other institutions in the country. A networked National Union Catalogue of journals, books and specialized publications should be set up and made accessible to students and staff from all the local universities, colleges and research institutes.

The Terms and Conditions of Service of all university staff should be reviewed at regular intervals by a standing Public Universities Service Committee, taking into account cost of living indices, inflation rates, national economic performance, comparative salaries elsewhere, as well as purchasing power parity.

Universities should develop and institutionalize an enforceable bonding system that is legally binding and determinable in case of default by members of staff who undergo training on Government or institutional sponsorship.

For purposes of ensuring compliance, the government should spearhead development of suitable bilateral agreements to ensure that talented professionals whose services are required return from other countries after training.

The government should spearhead a debate on reimbursement for education and training expenses in situations where locally trained professionals choose to work in developed countries, via 'purchase-of-talent or talent reimbursement schemes.

State universities should institutionalize staff performance appraisal systems to identify training needs for staff development and to recognize exemplary performers. The universities should set aside a fraction of the personnel emoluments budget (5-10%) for training and development of staff.

VII: THE CHALLENGE OF PRODUCTION, DISSEMINATION AND UTILIZATION OF KNOWLEDGE AND TECHNOLOGICAL INNOVATIONS

Characteristics of the 21st Century University

In order to address the emerging challenges legitimately, local higher education institutions should review inherited traditions their missions, visions and strategic objectives to capture the essence and ideal characteristics of the developmental and entrepreneurial tertiary (university) of the 21st century.

For relevance, the government should partner with industry and national universities to undertake regular training needs assessments for current and future human capital requirements. Statistical projections of the number of people who will be seeking tertiary education in the future should be made, based on anticipated economic and industrial needs for knowledge and skilled workers.

The quest for responsiveness to economic imperatives need not obscure the need for a vibrant intellectual community engaged in social and cultural development.

Recommendations

In order to generate responsive curricula, universities should partner with the private sector in the development of curricula. Industry-university liaison committees should be set up to ensure regular review of university programmes, promote their relevance and quality in the light of rapid scientific and technological advances, and skills requirements. Universities should recognize and give due credit to courses offered by accredited post-secondary institutions. The universities should be flexible in the admission of students from such institutions to university programmes. CHE should facilitate this credit transfer and recognition.

An immediate screening should be carried out to establish the basis of the low enrolment rate in agriculture and related courses in local universities, and propose how the courses should be rejuvenated to take into consideration new developments in the sector.

The optimum capacity of the existing medical programmes at Moi, Nairobi, Aga Khan and UEA-Baraton universities should be determined in order to establish the maximum number of students who can be effectively trained within the existing facilities, and to propose where expansions can be carried out. For painless expansion of medical training facilities, regional medical training campuses should be established using facilities in existing provincial and district hospitals. A legal framework should be developed for establishing the ownership, management and utilization of university hospitals in the country. Medical schools should collaborate with KEMRI in extending research on alternative treatment regimes such as herbal medicine.

Kenya has a significant head start in regional peace and security initiatives, and its role as a regional peacemaker and mediator is recognized internationally. We should capitalize on this experience by establishing strong university programmes on peace studies, conflict resolution, human security and reconstruction of societies recovering from war and internal strife. Local universities should also build strong research and human resource capability in fields of security, management of conflicts and peace building.

The government should allocate at least 1.5 per cent of the GDP for funding competitive research and development by 2015.

Sustainable collaborations between universities, research institutes and industry should be mainstreamed into the nation's science, technology and innovations system. As a first step, data on scientific facilities, equipment and expertise available in the country should be compiled and be made freely available. Universities should share information on their capacity for consultancy, testing, certification and practical research with industry.

VIII: THE CHALLENGE OF FINANCING AND MOBILIZING RESOURCES OF HIGHER EDUCATION

There is need for universities to diversify their sources of income by mobilizing more financial resources from, business community households and development partners. They should also ensure more efficient and cost-effective use of the available institutional resources. Accountability and transparency is definitely needed in utilization of the existing resources.

Recommendations

State universities should be funded on the basis of the unit cost. The ideal unit cost should meet the tuition costs of students as well as for research. The differentiated unit cost should bring government sponsored students in line with those in private universities, and self-

sponsored students. Universities should also mobilize additional resources through alumni, endowments and through prudent investment of their resources. The government should determine the number of students to sponsor in a given programme based on national needs and the differential unit cost of the programme.

The level of government funding of universities in future should be based on the quality of academic programmes and research output in addition to the unit cost. The efficient and effective utilization of resources by the universities should also be taken into account in disbursing public funds to universities.

The government should provide targeted funding to support the poor, vulnerable students from underserved regions of the country to ensure that they are not adversely affected by the implementation of differentiated unit cost.

The government should develop a system of incentives for enhancing private sector participation in financing higher education, such as establishing and sustaining philanthropies and endowment funds. Additional incentives should be developed for setting up partnerships between the universities and private sector for supporting research and development.

State universities should de-link themselves from non-core businesses such as security, transportation, cleaning, students' catering and accommodation by out-sourcing for these services. State universities should unlock and maximize returns from the vast assets at their disposal by recruiting competent investment managers to manage their assets and investments. Universities should spearhead the creation of partnerships and collaboration with private sector in the development and operationalization of science parks, instrument centers and a national union catalogue for joint use.

The current loan repayment interest rate of 4% should be adjusted to reflect the real cost of borrowing, by being pegged to the Treasury Bills interest rate. To raise and manage the substantial funds for student loans, HELB should be restructured and the capacity of its staff strengthened. The government should act as a guarantor to enable HELB borrow adequate funds from the financial markets. HELB should be legally empowered to facilitate and coordinate sharing of information on the sponsorship of students from various sponsors in institutions of higher education and training.

The University Grants Committee (UGC) should be re-vitalized through the proposed Higher Education Act. The UGC will process universities' financial needs, allocation and disbursement to strategic and innovative areas. The new UGC should formulate a formula to determine the needs of each institution and a mechanism for equitable and transparent allocation of the available resources. The terms of reference and modes of operation of UGC should be worked out in partnership with the main stakeholders.

IX: THE CHALLENGE OF LEADERSHIP, GOVERNANCE AND MANAGEMENT IN HIGHER EDUCATION

Visionary and creative Leadership is critical to the transformation of higher education. Restructuring of the leadership, governance and management systems of each institution should be a top priority. Critical issues include ambiguity and conflicts between CHE and individual universities Acts; inconsistency between the Acts and modern management and leadership practices. Besides, long process in amending the Acts hinders fast decision making. The appointment and role of the Chancellors of public universities as well as of other Senior Managers -Deans, Chairmen of departments, and Principals also poses a challenge. There are ongoing Reforms (Appointment of Chancellors, competitive appointment of Vice Chancellors and senior administrators, Task Force on Legal Framework in Education Sector, measures to rationalize academic programmes, performance contracts etc.)

Opportunities

The enactment of a Higher Education Act to provide for the establishment of institutions of higher education, among them: Public and private Universities and Commission for Higher Education. The power to establish new universities should be provided for in the Higher Education Act. The Commission for Higher Education through the Act should be empowered to undertake accreditation process similar to what it does for private universities and recommend granting of charter to qualified institution to the Minister for the time being responsible for education. The Minister shall recommend the granting of the charter by the President. The existing public universities should review their statutes to conform to the Higher Education Act, within three years. Institutional mechanisms to deal with sexual harassment and other unethical behaviour within the universities and in the regulatory bodies governing all Universities should be established. A mechanism for dealing with unresolved complaints from students and staff should be established outside of Universities as a fall back position for complainants and state owned universities should be exempted from the State Corporations Act.

The administrative and management structures of the public universities should be analyzed and streamlined to create efficient, effective, responsive and lean structures to avoid wastage of resources, duplicated responsibilities and overlapping mandates where members of different levels are members at next level and to institute checks and balances. This should be done by professional independent management consultants. Funds should be allocated to this crucial exercise for a period of three years (2006 - 2009). While members

of organized unions should not be in university management bodies to avoid conflicts of interest, they should nevertheless be fully consulted in process of change. Partnership and participation should be the hallmarks of good governance. Power to make decisions be devolved to operational units (Faculties, Institutes and Departments). These operational units should be strengthened to enable them to discharge their functions effectively. The recruitment of Deans, Directors of institutes, heads of departments, administrators and managers for the operational units should be done competitively at all levels and remuneration be pegged to competence and performance.

University Courts be established in all public universities to be chaired by the Chancellor and comprising of university community, (the council, alumni, emeritus professors); benefactors, the private sector and any other friends of the university. Membership of University Councils should be streamlined and reduced to a minimum of 11 and a maximum of 15 members.

The Chancellor should be appointed by the President from a list of three names submitted to him by the Council. To identify possible candidates a search committee appointed by the Council and comprising of Senate members and other university stakeholders and taking into consideration gender balance will consult widely with all stakeholders. Such a committee should take into consideration the traditions, identity, history and the needs of the university in making its recommendations.

Functions of the Chancellor

The Chancellor should be the Senior Elder of the university and the custodian of the history, values and dignity of the university. He should confer degrees and grant diplomas, certificates and other awards. The Chancellor should also be the major fundraiser for the university and take charge of the university's endowment fund besides presiding over the University Court.

The appointment of vice-chancellors of all public universities should continue to be done in a competitive and transparent manner by the Council in consultation with the Chancellor. This should be incorporated in the amended legal framework of each university. Care should be taken to bring in specific competences required of a Vice-Chancellor. The Appointment of all other officers and staff of public universities will be recruited in a competitive and transparent manner by the Council with the advice of the vice chancellor.

The Higher Education Act should empower CHE to treat all the universities the same manner. The composition of the Commission for Higher Education should be reduced from the current size of 28 to between 11 to 15. For purposes of good management, the membership of CHE should not include those with vested interests. It should include strong representation of private sector and people with relevant competences to add value to the Commission. CHE

should establish mechanisms to facilitate the transfer of academic credit across institutions of higher learning and regulate the establishment and management of University campuses for both public and private universities. The Public Universities Inspection Board recommends the establishment of Higher Education Quality Assurance Unit within CHE. The unit would provide external mechanism for Monitoring and evaluation of quality for all universities.

On the other hand, the legal framework of HELB should be strengthened so it can be a strong financial institution capable of mobilizing and investing funds for the benefit of students of Higher Education. Every beneficiary of HELB loan should be identified with a Pin number issued by KRA to strengthen loan recovery mechanisms.

A Bi-annual Congress on Higher Education in Kenya (CHEK) to deliberate critical issues in development of higher education should be sponsored by the Ministry of Education and hosted by one of the institutions of higher learning on a rotational basis. This would be an opportunity to enhance proactive and inclusive development of Higher Education. It is recommended that the National Education Advisory Council should review the performance of the entire higher education sector once every four years, and report to the Minister of Education.

X: CHALLENGES OF IMPLEMENTATION OF REFORMS AND CHANGE

There is lack of systematic follow up and implementation of recommendations of commissions/Boards/Committees leading to skepticism of Government will for reforms by Kenyans. In addition, there is inadequate capacity and resources for implementation and lack of political will to take unpopular but necessary decisions. The critical challenge is the implementation of the envisaged reforms and sustaining the momentum for change.

Opportunities

The Board recommends appointment in each institution (public universities, CHE, HELB and the Ministry of Education) a champion or a committee to spearhead implementation of the reforms. The Ministry of Education should be the overall champion/driver of reforms in the higher education sector. Adequate resources for strengthening capacities for reform, research and jumpstarting/accelerating implementation of the envisaged changes should be allocated by the Ministry of Education and development partners.

CONCLUSION: A WINDOW OPPORTUNITY

There is need for fundamental changes in the way we envision and develop universities for the 21st century (access, equity, quality, research, excellence, application of knowledge, entrepreneurship, innovation, etc.). This entails interrogating how these institutions are governed and managed, how the students are initiated, socialized into academic communities

and hold themselves; attraction, training, and utilization of talent, rewarding and retention of staff; diversified funding based on competition, accountability, results and efficient utilization of resources, and institutional autonomy and accountability to the stakeholders.

This needs us to rethink the role of the state in the rapidly changing higher education landscape. Kenyans are already sacrificing and investing heavily in university education. The emerging democratic space allows universities wide latitude to develop and assert themselves in terms of scholarships, research and independence of thought and debates. Competition in access to knowledge and skills is within our borders. The emerging visionary leadership in the universities at various levels, need to seize upon existing opportunities and space to deal with existing challenges. Their imagination is the limit.

Finally, to paraphrase what one professor has said: delays, postponement and inaction are the most dangerous lines of action that institutions of higher learning can take in times of rapid and dynamic socio-economic, political and technological change.