



RIVERS STATE UNIVERSITY
NKPOLU-OROWORUKWO, PORT HARCOURT



TOPIC:

**THE TOWN AND GOWN IN SYNC:
TRANSFORMING THE NATION**

DATE:

FRIDAY, 8TH NOVEMBER 2024

TIME:

2:00pm

VENUE:

DR. EZENWO NYESOM WIKE SENATE BUILDING

DR. BABS OMOTOWA

Former CEO/MD Nigeria Liquefied Natural Gas (NLNG) Ltd, Former Vice President
Shell International. The Hague, and Current CEO/Founding President Nigeria
University of Technology & Management (NUTM)



HIS EXCELLENCY
SIR SIMINALAYI FUBARA^{GSSRS}
THE EXECUTIVE GOVERNOR, RIVERS STATE





HER EXCELLENCY
PROF. NGOZI ODU DSSRS
DEPUTY GOVERNOR, RIVERS STATE





**HON. JUSTICE
MARY UKAEGO
PETER ODILI**

CFR, DSSRS, JSC(RTD)

PRO- CHANCELLOR AND CHAIRMAN OF COUNCIL, RSU





PROFESSOR
NLERUM S. OKOGBULE, DSSRS, FCI Arb
LLB (Hons) Ife, B.L., (Lagos), LL.M. (Ife), PhD (Glasgow)
VICE CHANCELLOR, RSU



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MRS.
IBIMONIA B. S. HARRY
ACTING REGISTRAR





DR
BABS OMOTOWA

Former CEO/MD Nigeria Liquefied Natural Gas (NLNG) Ltd, Former Vice President Shell International, The Hague, and Current CEO/Founding President Nigeria University of Technology & Management (NUTM)

GUEST LECTURER





SENATOR
ANDREW I. UCHENDU OON, MPOM
CHAIRMAN OF THE CEREMONY





**HIS ROYAL MAJESTY
KING DR. EDMUND
MADUABEBE DAUKORU** CON, FIC. Mingi XII.

Amanyabo of Nembe Kingdom.

*Former GMD, NNPC, Former Minister of Petroleum, FGN. Former President OPEC,
Current Chairman Board of Directors of the
Nigeria Liquified Natural Gas Company Limited (NLNG).*

SPECIAL GUEST OF HONOUR





AMADI AMADI PhD

(Co-Sponsor of Academia and Industry Lecture Series)

KEYNOTE SPEAKER





PROF. N HUDSON UKOIMA

DIRECTOR OF ADVANCEMENT AND LINKAGES



PROTOCOL

HIS EXCELLENCY

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THE TOWN AND GOWN IN SYNC: TRANSFORMING THE NATION



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SEQUENCE OF ACTIVITIES

S/NO.	ACTIVITY AND OFFICER	DURATION
1.	ARRIVAL OF GUESTS	1:30PM- 2:00PM
2.	OPENING PRAYER BY THE AG. REGISTRAR MRS. IBIMONIA B. S. HARRY	2:00PM- 2:05PM
3.	UNIVERSITY ANTHEM	2:05PM- 2:10PM
4.	WELCOME ADDRESS BY THE DIRECTOR OF ADVANCEMENT AND LINKAGES PROF. N HUDSON UKOIMA	2:10PM- 2:15PM
5.	KEYNOTE ADDRESS BY AMADI AMADI PhD, Co-Sponsor of Academia and Industry Lecture series	2:15PM- 2:25PM
6.	OPENING REMARKS BY THE CHAIRMAN OF THE OCCASION, SENATOR ANDREW UCHENDU	2:25PM- 2:35PM
7.	SPEECH BY THE VICE-CHANCELLOR, PROFESSOR SUNDAY NLERUM OKOGBULE	2:35PM- 2:45PM
8.	SPEECH BY THE GUEST OF HONOUR, DR EDMUND DAKORU, KING OF NEMBE KINGDOM	2:45PM- 2:55PM
9.	SPEECH BY THE PRO-CHANCELLOR AND CHAIRMAN OF COUNCIL, RSU. HON. JUSTICE MARY UKAEGO PETER ODILI	2:55PM- 3:05PM
10.	CITATION OF THE PUBLIC LECTURER DR BABS OMOTOWA BY PROF. ISAAC ZEB-OBIDI	3:05PM- 3:15PM
11.	LECTURE BY THE GUEST LECTURER, DR BABS OMOTOWA	3:15PM- 3:55PM
12.	VOTE OF THANKS	3:55PM- 4:00PM
13.	CLOSING	4:00PM- 4:05PM



CITATION

OF DR BABS OMOTOWA

Dr Babs Omotowa is an international oil and gas executive with extensive expertise in strategy, commercial operations, technical, governance, energy transition, HSE, stakeholder engagement, change management, and supply chain management, honed through a distinguished career across Shell where he rose to become a Group Vice President in the Global Upstream Business.

During his tenure as CEO at Nigeria Liquefied Natural Gas (NLNG), Dr. Omotowa's leadership was pivotal in generating \$40 billion in revenue, with \$22 billion benefiting the Nigerian government, constituting 14% of the nation's income. In 2014, NLNG paid \$1.6 billion in Company Income and Education Tax, marking the highest tax payment by any company in Nigeria's history. In 2015, NLNG contributed \$2.1 billion as Dividend and Income Tax, a financial relief then known as the "Bailout Fund."

Dr. Omotowa spearheaded the construction of the Bonny Bodo Road project, which had been stalled for 40 years, by providing N60 billion support. He also led the creation of a 25-year Masterplan for Bonny, with NLNG committing N3 billion annually and SPDC contributing N600 million per year. Under his leadership, NLNG secured \$1.6b in international financing to build six LNG ships in Korea, facilitating the training of 600 Nigerians in shipbuilding, with 30 working in Korea for two years. This project marked the first export of tens of millions of dollars' worth of manufactured goods from Nigeria to Korea and encouraged the establishment of a dry dock in Nigeria.

NLNG, under Dr. Omotowa's guidance, became the fourth-ranked company (and the top-ranked homegrown company) by the Federal Government of Nigeria. He was instrumental in awarding a \$630 million, seven-year helicopter contract to a local Nigerian company and securing \$85 million in support from Shell Companies for the acquisition of new helicopters. In 2012, he facilitated the creation of the independent IUCN International Panel to improve biodiversity conservation and restore the Niger Delta mangrove. In 2011, he initiated the global transparency of all oil spills from Shell Nigeria operations and third parties.

Dr. Babs Omotowa's expansive portfolio includes significant Board roles, such as Foundation Chairman of the Advisory Board, Montserrado Oil and Gas, an international oil, gas, and infrastructure company in Netherlands focused on unlocking value in emerging markets such as South America and Sub-Saharan Africa. He is an Independent Director at Pearlhill Technologies, Idaho, USA driving innovative technologies for a cleaner world, including



carbon capture and CO2 utilization, low-level nuclear management, and electronic sensors and Trustee at the JT Omotowa Foundation. He is an Independent Non-Executive Director of Seplat Energy and Stanbic IBTC. He is the Founding President and Board Member of the Nigerian University of Technology and Management (NUTM), an institution dedicated to nurturing technologically proficient leaders to address Africa's unique challenges.

With his extensive experience and visionary leadership, Dr. Babs Omotowa continues to make significant contributions to the development and advancement of technology and management education, energy, and environmental sustainability in Nigeria and beyond. Babs is a first-time Author with a book “Storeroom to Boardroom” an Amazon bestseller and a finalist of the UK business books in 2022. He has also been a speaker at Harvard University, MIT USA, and the World Economic Forum. He is a renowned visionary, and strategist, and epitomized by his core values of Integrity, Courage, and Excellence.





TOWN AND GOWN IN SYNC: TRANSFORMING THE NATION!

DR BABS OMOTOWA

Currently

Board Member, Seplat Energy Plc,
Board Member, StanbicIBTC Holdings,
Board Member, CAP Plc
President, Nigerian University of Technology and Management

Previously

Vice President, Shell Global Upstream Companies
Managing Director/CEO, Nigeria LNG Limited



Salutation

The Executive Governor, Rivers State, His Excellency **Sir Siminalayi Fubara**, GSSRS
Deputy Governor, Rivers State, **Prof. Ngozi Odu**, DSSRS
Pro- Chancellor and Chairman of Council, RSU, **Hon. Justice Mary Ukaego Peter Odili**,
CFR, DSSRS, JSC(RTD)
The Vice-Chancellor, **Professor Nlerum Sunday Okogbule**, DSSRS, FCI Arb
Deputy Vice Chancellor Administration
Deputy Vice Chancellor Academic
Acting Registrar
And Other Principal Staff of the University
The Special Guest of Honour,
The Chairman
Distinguished ladies and Gentlemen,
Please permit me to stand on the protocol already established.
It is an honour and a privilege to serve as your Special Guest Speaker today.



I must begin by acknowledging that this marks my first visit to Rivers State University (RSU), despite having lived in Port Harcourt and Bonny for several years. I commend the State Government and the university staff for their dedication since the institution's founding in 1980, recognizing that its origins trace back to the Rivers State College of Technology, established in 1972. Furthermore, I understand that the current Governor of Rivers State, Siminalayi Fubara, along with former Governors Seriki Dickson and Nyesom Wike, as well as former Ministers Odein Ajumogobia, Usani Usani, and Minister Heineken Lokpobiri, are all distinguished alumni of this university. As the late Dr. K.O. Mbadiwe aptly stated, Rivers State University is a breeding ground for individuals of “timber and caliber”.

Over the past 35 years, my career has traversed both the industrial and academic sectors. I commenced my professional journey as a college educator in 1988, transitioned to Shell in 1993, joined NLNG in 2012, and subsequently worked at Shell’s headquarters in the Netherlands before assuming my current position as President of the Nigerian University of Technology and Management in 2021.

When Dr. Amadi recently contacted me, it coincided with a day when we had just concluded the entrepreneurship demo day at the Nigerian University of Technology and Management, where our graduates showcased their business ventures to potential investors and industry leaders. His request was straightforward yet profound: “Could you speak at RSU on the necessity for closer collaboration between academia and industry?” I could almost sense his reasoning as he posed the question—“With your experience at Shell, your tenure at NLNG, and your current role at NUTM, you must have valuable insights regarding the relationship between industry and academia.”

From my perspective, there was only a singular response to the inquiry presented. Drawing from my extensive experience in both academic and industrial realms, which has reinforced my conviction in the significant potential of collaboration between these two domains, I recognized this as an opportunity to engage in meaningful dialogue and propose innovative ideas. Too often, I have observed commentators addressing societal issues, only to express frustration or assign blame to others. What is less frequently seen is the formulation of solutions. It is imperative that we shift our focus from lamenting the challenges faced in Nigeria to fostering collaborative efforts aimed at resolving them. A citadel of learning serves as an ideal venue for such endeavours.

John Dewey famously remarked, “Education is not preparation for life; education is life itself.” My experiences in both industry and academia have consistently validated this assertion. Within the energy sector, I have come to appreciate the significance of practical, results-oriented strategies that have a tangible impact on people's lives. In the academic sphere, I have witnessed the transformative power of research, which, when effectively harnessed, can



address societal challenges. The relationship between academia and industry is mutually beneficial, and this unique intersection is crucial for tackling urgent local, national, and global issues, including poverty, inequality, economic empowerment, security, environmental degradation, climate change, and energy transition.

I would therefore like to express my gratitude to the Vice Chancellor, Professor Okogbule, for leading this initiative, and to Dr. Amadi Amadi for his vision and efforts in organizing this event, along with others who have dedicated themselves to this cause. I share in their commitment to bridge the gap between these spheres for the advancement of our nation.

What is the Town-Gown?

The term "Town-Gown" encapsulates the dynamic relationship between universities (the "Gown") and the surrounding communities, industries, and society at large (the "Town"). This concept emphasizes that academic institutions are not merely isolated entities but are essential players in the economic, social, and cultural landscape of their localities. In this partnership, the "Gown" provides intellectual assets such as research, innovation, and knowledge generation, while the "Town" presents real-world challenges and opportunities for experiential learning. When this relationship functions optimally, both parties work together to address common issues, resulting in mutually advantageous solutions that enhance societal well-being.

The interplay between academia (the "Gown") and industry (the "Town") has been a significant subject in the fields of development economics and educational reform, with various studies highlighting that such partnerships are crucial for national advancement and innovation. Nevertheless, in numerous countries, including Nigeria, this relationship is often underexploited. Closing this gap is vital not only for improving the quality of research and innovation but also for fostering economic development, social advancement, and global competitiveness.

Academic institutions form the foundation of knowledge generation and dissemination, while industries act as the platforms for applying innovations and research outcomes. The collaboration between these two sectors is essential for national progress, especially in economies driven by knowledge. As noted by Tunji Olugbodi (2023), partnerships between academia and industry can greatly boost productivity and economic growth by transforming research into market-ready products. Likewise, Ankrah and AL-Tabbaa (2015) emphasize that such collaborations stimulate innovation, providing solutions to real-world challenges through new insights and advanced research.

In various regions globally, including the United States and Europe, universities and industries have established effective partnerships that drive national advancement. A prime example is Penn State's "Invent Penn State" initiative, which links academic research with entrepreneurial activities, significantly enhancing local economic growth and job creation (Jones, 2022). These



collaborations not only assist industries in addressing critical challenges but also provide academia with research funding and opportunities for students to participate in practical experiences. By partnering with universities, industries gain access to talent, innovative ideas, and cutting-edge technologies that enhance their competitiveness in an ever-evolving global marketplace.

In contrast, Nigeria's experience with such collaborations has not been as fruitful. Nigerian universities frequently struggle to engage with industries in a substantial manner, and the reverse is also true. A striking example of this missed potential is Nigeria's palm oil sector. As noted by Akinyosoye (2021), Malaysia, which obtained palm seedlings from Nigeria in the 1960s, has emerged as one of the world's leading palm oil producers, while Nigeria has lagged significantly due to insufficient innovation and industrial partnerships.

This challenge is exacerbated by the low investment in research and development. A survey by the National Bureau of Statistics (2020) revealed that Nigeria allocates less than 0.2% of its GDP to research, a figure that falls well below the recommended 1-2% for developing countries. This lack of financial support severely restricts universities' capacity to engage in impactful research and innovation that could propel national development.

One of the foremost obstacles to enhancing town-gown collaborations in Nigeria is the insufficient communication and trust between academic institutions and the industrial sector. Olayiwola and Adeleke (2020) noted that many industries perceive academic research as overly theoretical and lacking practical relevance, while academics often regard industries as primarily focused on profit, neglecting their potential social contributions. This divergence in interests and expectations has impeded the establishment of a strong collaborative framework within the nation.

Furthermore, industries frequently hesitate to invest in university research, expressing concerns regarding the quality and applicability of the research being undertaken. According to Onwuka and Adegbite (2019), merely 10% of Nigerian industries participate in research collaborations with universities, in stark contrast to 60% in more developed countries. This reluctance to invest further aggravates the already scarce resources available to academic institutions for pursuing innovative research.

Nevertheless, significant opportunities exist for transforming the nation through enhanced town-gown partnerships. One promising area is the energy sector. Nigerian universities, especially those with departments specializing in electrical and electronic engineering, possess the capability to drive the country's shift towards renewable energy. For instance, in Abia State, Professor Barth Nnaji has initiated a project that ensures 24-hour electricity supply to the region by harnessing academic expertise in conjunction with industry collaboration (Ogunleye, 2021).



This model has the potential to be replicated nationwide, for example, with universities creating solar energy solutions to power their campuses and the surrounding communities.

An additional area of potential is found within the pharmaceutical sector. As highlighted by Ankrah and AL-Tabbaa (2015), partnerships between universities and the pharmaceutical industry in developed nations have resulted in the creation of life-saving medications and therapies. In Nigeria, similar collaborations could be initiated to tackle the urgent healthcare issues facing the country, especially concerning infectious diseases and maternal health.

For effective town-gown collaborations, it is essential for industries to take a more proactive stance in fostering research and innovation. This involvement should encompass not only the provision of financial support for academic research but also active participation with universities to formulate research agendas that correspond with industry requirements. Purdue University (2020) emphasizes that when industries invest in university research, they gain access to pioneering innovations that can enhance their competitive position in the global marketplace.

However, industries must also be prepared to hold academic institutions accountable for the quality and applicability of their research. This can be facilitated through the creation of advisory boards or committees that consist of members from both academia and industry, collaborating to establish research priorities and oversee progress. Olayiwola and Adeleke (2020) indicate that such frameworks are already operational in certain Nigerian universities, yet there is a need for them to be reinforced and broadened to encompass a wider array of industries.

As Chinua Achebe rightly pointed out, “The world is like a masquerade dancing. If you want to see it well, you do not stand in one place.” This statement underscores the notion that while there has been some degree of collaboration between the academic and local communities in Nigeria over the years, the critical question remain: has this collaboration effectively harnessed its potential? Has it adequately addressed the fundamental issues impacting the lives of Nigerians? Have the pressing challenges, ranging from agriculture to infrastructure, been resolved?

To illustrate this point, NLNG established a science prize in 2004, currently valued at \$100,000. However, there were five instances (2005, 2007, 2011, 2012, 2016) when NLNG was unable to award any prizes due to the subpar quality of research emanating from Nigerian universities, which failed to contribute meaningfully to societal advancement. It became evident that not only was the quality of research lacking but there was also a disconnect between academic inquiries and the pressing issues faced by society. Consequently, NLNG adopted a more focused approach, identifying specific societal challenges and inviting researchers to address



them in subsequent cycles. Despite this re-engineering, Nigeria Universities have not emerged successful in most cases. For instance, last year's theme was "Innovation for Enhancement of Healthcare Therapy," which was awarded to Prof. Hippolite Amadi, a Nigerian based at Imperial College in London. This year's topic was "Process Intensification Technology for Greenhouse Emission Control in Power Generation and Industry for Sustainable Fuel Production (PIC-FUEL)," awarded to Prof. Eni Oko from Newcastle University, Olajide Otitoju and Prof. Wang from University of Sheffield. Notably, while there were two Nigerian amongst the winners, none were affiliated with Nigerian universities.

Ideally, academia and industry should function as a conduit for bridging research, innovation, and the resolution of real-world challenges. However, the current landscape in Nigeria often reveals a considerable divide between academic research and the immediate needs of society. It is glaring, as evidenced by a wide array of unresolved issues that plagued the country for many years, most of which are worsening.

Let me elaborate on just 5 examples;

Oil Pollution in the Niger Delta: For decades, the Niger Delta has suffered from the detrimental effects of oil pollution, resulting in significant environmental degradation and the erosion of local livelihoods. Although Nigerian universities have conducted research on the impacts of oil spills and potential pollution control strategies, there is a notable lack of effective collaboration between these institutions and oil companies aimed at addressing the issue. While theoretical technologies and methodologies for site remediation and spill prevention are available, their practical application remains abysmal. A pertinent example is the United Nations Environment Programme (UNEP) study of the Ogoniland oil spill, which culminated in a 2011 report detailing the extensive environmental damage inflicted by years of oil spills in the region. This report proposed a comprehensive plan for environmental restoration, recommending an initial funding of \$1 billion and emphasizing the necessity for a 30-year long-term remediation strategy.

However, a significant critique of this initiative is the insufficient involvement of Nigerian universities in both the study and the remediation efforts, which impedes the development of local capacity and the transfer of knowledge. Although the UNEP report was thorough, it predominantly drew on the expertise of international specialists, failing to adequately engage Nigerian universities or research institutions to leverage their local knowledge and to establish a framework for future collaboration with oil companies for knowledge sharing and retention.

Furthermore, the clean-up efforts in Ogoniland, which commenced years after the report was published, demonstrated a lack of robust partnerships with Nigerian universities. While some local experts participated on individual capacities, the broader integration of Nigerian



universities into the process was lacking. Their involvement could have ensured that their intellectual resources were utilized effectively and that the environmental insights and methodologies derived from the clean-up were preserved for future research and educational purposes. This represents a significant missed opportunity to cultivate local expertise in environmental management.

It is recognized that lecturers and students in Nigeria have conducted extensive research on oil spills and their remediation. Nevertheless, over the past two decades, there has been a noticeable lack of patented innovations in this field. Notable advancements, such as microbes that exhibit accelerated degradation in tropical climates, substrates that facilitate large-scale oil extraction from soil and water, and in situ regeneration of microbes to prevent the recurrence of spills post-cleanup, have yet to receive regulatory certification.

This observation should not be construed as a critique of Nigerian universities, as the primary responsibility for governance and funding in this area primarily lies with the government. However, the lost opportunities underscore the ineffective relationship between academia and industry.

Food Scarcity and Agriculture: Nigeria has faced persistent challenges related to food scarcity, a situation worsened by inadequate agricultural practices, outdated farming methods, and a lack of proper storage facilities. Over the years, institutions such as the International Institute of Tropical Agriculture (IITA) in Ibadan have investigated sustainable agricultural techniques, innovative seed technologies, and crops resilient to climate change. However, a significant gap persists between these academic advancements and their application in farming communities, resulting in ongoing deficiencies in food production. Furthermore, agricultural research conducted in the 1970s at universities like Ahmadu Bello University had the potential to drive innovation in farming. Unfortunately, insufficient collaboration with local farmers hindered Nigeria's progress toward food security, leading to a reliance on imports.

In contrast, Malaysia successfully adopted palm seedlings from Nigeria and, through effective partnerships between universities and industry, emerged as one of the leading producers of palm oil globally, leaving Nigeria at a disadvantage. The lack of collaboration between academic institutions and agricultural organizations means that many research insights remain theoretical, failing to translate into practical solutions that could alleviate hunger for millions. Until research output significantly impacts society, the pursuit of large-scale implementation to transform the agricultural landscape must continue. For instance, Israel has leveraged university research to implement precision agriculture, utilizing drone technology, data analytics, and artificial intelligence to determine the precise water and fertilizer needs of each plant, while also recycling over 90% of their water. Despite its relatively small land area of 21 square kilometers, Israel exports a considerable volume of fresh produce. In comparison, Rivers State, where we currently are, covers 11.07 square kilometers, which is half the size of



Israel. Nigeria, with a land area of approximately 924 square kilometers—44 times that of Israel—continues to be a major food importer.

I recently had the opportunity to visit a university located in the middle belt region of Nigeria, encompassing an area of 15,000 hectares. As I navigated through this extensive land, I observed primarily bush on both sides of the road, which is suitable for agriculture. It appeared that less than 20% of the area had been developed for administrative offices, classrooms, laboratories, and student accommodations. This led me to question why such a significant portion of land has remained underutilized since 1975, a span of 50 years. Yet, this institution boasts a Faculty of Agriculture, staffed by numerous professors and senior lecturers specializing in various agricultural disciplines, including crop production, forest resource management, animal husbandry, aquaculture, and fisheries. One would have expected that the university would leverage its agricultural faculty and departments to implement large-scale mechanized farming, thereby cultivating diverse crops and attracting processing industries to the campus, fostering a thriving value chain between the university and the surrounding community. These represent significant missed opportunities. Some may contend that financial resources are necessary for land cultivation, crop planting, weed management, and harvesting. While I concur with this perspective, it is essential to consider how others have successfully navigated these challenges. Here, labor is relatively inexpensive, and the land has already been acquired. Thus, what is required is the development of strategic models and the determination to execute it, which could significantly contribute to addressing our immediate food security concerns. This underscores the relevance of this discussion. What can the university contribute to incentivize investors and the local community to invest in these opportunities?

Housing Shortage: According to the World Population Review, Nigeria holds the distinction of having the largest homeless population globally, with over 24 million individuals lacking access to adequate housing. The nation is currently confronted with a housing shortfall, estimated to exceed 20 million units, exacerbated by a burgeoning population and swift urbanization. Have architectural and urban planning programs within Nigerian universities developed affordable housing solutions and investigated low-cost construction methodologies? If so, have these innovations been effectively implemented on a larger scale? It is essential that academic research in this domain is integrated with government housing policies and the initiatives of private sector developers. A collaborative approach is necessary to tackle the pressing issues of homelessness and insufficient housing.

Furthermore, waste management poses a significant challenge in Nigeria's urban areas, where many cities struggle with inadequate waste disposal systems. Is there academic research focused on more efficient recycling technologies and effective waste management strategies? Are there sufficient collaborations between academic institutions, local governments, and waste management companies? For instance, Lagos produces thousands of tons of waste each day, yet insights from academia regarding waste-to-energy initiatives or advanced recycling



systems are seldom implemented. To what extent are Nigerian universities engaged in government housing and urban planning policies? How actively do they participate in the execution, quality assurance, construction methods, and municipal waste management practices?

Failing Road: The substantial high cost of road construction and the persistent deterioration of Nigeria's road infrastructure represent a critical issue where academic institutions could offer solutions. What has happened to the pertinent research publications from civil engineering departments in Nigerian universities that focus on cost-effective, sustainable road construction, alternative materials, and maintenance strategies? Where are the initiatives for collaboration with construction companies and both state and federal road agencies? In the absence of relevant research and partnerships between academia and industry, minimal progress is made in addressing these challenges. Research that has the potential to enhance the durability and quality of Nigeria's roads often remains unpublished in academic journals instead of being utilized as a basis for public infrastructure initiatives. The Niger Delta region's 188km East-West Road has posed significant difficulties for many years; one must question the role universities could have played in collaboration with the government to expedite the completion of this road and its bridges, thereby preventing much of the substandard work.

Inadequate Electricity: The electricity issues in Nigeria are well-known, with only 45% of the population enjoying reliable power access. What academic research exists on renewable energy, grid optimization, and energy-efficient technologies? Where is the partnership with power generation and distribution companies? Have Nigerian universities succeeded in developing more effective and affordable renewable energy technologies—such as solar and biomass systems—that remain largely unutilized in the broader context, rather than being implemented on a large scale to address the ongoing power shortages? What is the role of academia in tackling this issue?

A notable example is Professor Bart Nnaji, the creator of the E-design concept, who returned from the University of Massachusetts, USA. His innovative integrated Geometric Power facility is currently generating nearly 200MW of power in Aba. Why has there not been a similar novel power plant established by each university in every state, in partnership with industry?

Nigerian universities have electrical and electronic engineering departments. However, despite the increasing electricity supply challenges and costs, few have explored alternatives such as solar-powered solutions, even as they face difficulties operating generators for a full eight hours daily. It would be reasonable to anticipate that these institutions would investigate solar energy, particularly given the ample sunlight available. For example, universities could create photovoltaic cells to capture solar energy for use in classrooms, laboratories, and other facilities. This forward-thinking strategy could lead to substantial cost savings and enhanced



productivity on campuses. If universities were to undertake similar ambitious initiatives in partnership with industries, they could transform their research into viable energy solutions, benefiting not only themselves but also society at large. Rather than waiting for external assistance, they should actively utilize their expertise, as exemplified by Prof. Nnaji, to foster sustainable innovation and enhance energy resilience throughout the nation.

In various areas - such as oil pollution, food scarcity, housing, deteriorating infrastructure, and electricity - the disconnect between gown-town is evident, resulting in societal suffering. The primary question is whether Nigerian academia is engaging in research that accurately identifies problems and offers solutions to real-world challenges. The secondary question concerns the extent of collaboration with industry, government, and other essential stakeholders. If the answer is negative to either or both inquiries, the outcome is the failure we observe in society. Until these gaps are addressed, research will continue to accumulate without making a meaningful impact on the urgent issues confronting the nation. A more dynamic relationship between academia and industry, supported by government, is essential for addressing societal challenges. This partnership can leverage the intellectual resources of universities to confront the pressing societal issues that impede Nigeria's progress.

I have taken time to articulate what I refer to as the case for change. We are confronted by various issues and challenges that are undeniably present in our environment. During my journey from Lagos to Murtala Airport, followed by my flight to Port-Harcourt, and subsequently my drive from Omagwa Airport to my hotel yesterday, as well as my trip this afternoon from the hotel to this campus, the challenges confront one everywhere. They were evident at every turn, prompting me to reflect on the potential for collaboration between academia and the community to address these issues and transform the prevailing negative narratives.

Part of the essence of academia is to adapt, progress, and respond to societal changes; however, in many regions, including Nigeria, it has largely remained stagnant. Research institutions are intended to act as guiding lights for identifying and resolving societal challenges, yet much of the research produced tends to remain within the confines of academic literature, failing to translate into practical solutions in partnership with industry. The disconnect between theoretical knowledge and practical application often obstructs significant advancements in tackling the genuine challenges faced by communities. It is my assertion that any academic research lacking real-world applicability represents a squandered intellectual resource, and any societal issue that has not been examined by academia signifies a shortcoming of the academic sector and society at large.

As we consider the significance of the Town-Gown relationship, it becomes increasingly evident that its relevance is more critical than ever. In our rapidly evolving world, universities



possess the capacity to serve as centers of innovation that not only produce knowledge but also collaborate to implement it to address real-world challenges. By collaborating with industries, government and communities, academia can contribute to economic growth, social advancement, and sustainability. The emphasis must be placed on addressing the real-life challenges faced by society.

Re-thinking our impact

The role of academia and industry must be contextualized within the evolving landscape of a global economy that is undergoing significant transformation. The contemporary world has increasingly integrated knowledge into economic frameworks. Traditionally, economies have been propelled by tangible sectors such as oil and gas, manufacturing, and the technological revolution. These industries have been pivotal in driving industrialization and development, particularly in Nigeria, where oil has historically served as the cornerstone of the economy. However, there has been a notable transition towards what is commonly termed the "Knowledge Economy," wherein value is derived from intellectual capital—encompassing ideas, innovation, and research—rather than from physical commodities.

In the Knowledge Economy, the new catalysts for growth include information technology, data analytics, artificial intelligence, research, innovation, creativity and specialized expertise. Unlike oil, which is a limited resource, knowledge can be perpetually created and utilized to address challenges across various domains. This shift underscores the increasing importance of knowledge over traditional industries. As articulated by Bill Gates, “The future belongs to those who can harness knowledge, not oil.”

Recent trends reinforce this as the most highly valued companies are knowledge-based. These include Apple, Tesla, Amazon, and Facebook Meta, many of whom have market capitalization exceeding one trillion dollars, significantly surpassing that of the largest oil company, Saudi Aramco. Uber exemplifies a knowledge-driven enterprise, operating without a physical fleet of vehicles while managing millions of cars and generating substantial revenue through its proprietary software. These companies thrive on knowledge, innovation, and creativity—domains where academic institutions excel.

For Nigeria, the heavy dependence on oil has led to considerable challenges, including volatile oil prices, environmental issues, and limited effects on employment and GDP growth. As the global energy paradigm shifts, Nigeria must evolve towards a future where intellectual capital takes precedence over natural resources. Nigeria is currently confronted with considerable socio-economic difficulties. The challenges are exacerbated by a rapidly increasing population, escalating youth unemployment, inadequate infrastructure, security issues, regional conflicts, and a growing need for technological and educational progress. In this context, the urgency for knowledge-based solutions and innovations has reached unprecedented levels. The reliance on



oil and gas as the primary drivers of economic growth is no longer viable, particularly as global trends shift towards renewable energy and sustainability.

In this scenario, academia emerges as a vital stakeholder and a cornerstone of knowledge, poised to spearhead the transformation of the nation. Universities are strategically positioned to cultivate the human capital, conduct research, and develop technological innovations essential for economic growth. By promoting entrepreneurship, facilitating research into novel solutions, and equipping future leaders with critical thinking and problem-solving skills, academic institutions can significantly contribute to advancing Nigeria towards a knowledge-driven economy. Notably, Nigeria possesses a large population and a variety of challenges that can benefit from the application of knowledge.

Furthermore, universities enjoy the intellectual autonomy necessary to question, reimagine, and innovate, rendering them ideal environments for addressing complex issues such as poverty, inequality, and environmental degradation. A well-nurtured "Town-Gown" relationship can be instrumental in devising sustainable solutions to Nigeria's present and future challenges. Academia must assume a leadership role in guiding Nigeria towards a knowledge-based future. By acknowledging its dual responsibility as a generator of knowledge and a catalyst for societal change, the "Gown" can empower the "Town" to achieve enduring economic, social, and environmental advancement. It is through this collaborative partnership that we can forge sustainable futures for our nation.

Please permit me to digress for a minute to address an important issue. The current reliance on rote learning methods, characterized by memorization and repetition, prevalent in many of our universities, must be reformed to achieve the transformation we desire for our nation. Numerous graduates from Nigerian universities find themselves lacking in critical thinking and problem-solving skills, having spent their academic years engaged primarily in one-sided instruction, where information flows solely from educators to students. In large classes, often comprising hundreds or even thousands of students, meaningful interaction between teachers and students becomes a significant challenge. It is imperative that we revise this model, ensuring that class sizes are manageable enough to facilitate faculty-student engagement through case studies, experiential learning, and discussions that enhance the critical thinking and problem-solving capabilities of our graduates. Furthermore, the absence of modern equipment in university laboratories hampers the quality of research, as modern tools are essential for advancement.

To be clear, the issues are not limited to the academic sphere, as the situation requires a multifaceted perspective. Industries must acknowledge their responsibility to invest more in education. While companies frequently recruit graduates from universities and can benefit from the innovations and expertise developed within these institutions, many do not provide



adequate support to universities. In other nations, industries play a significant role in funding education, whereas Nigerian universities continue to face challenges due to insufficient financial resources. This must change. A notable example was the collaboration we did at NLNG in 2015, where we partnered with six universities to each establish \$2 million engineering laboratories equipped with state-of-the-art technology. Such partnerships should be expanded throughout the country.

In addition, research funding is significantly lacking. In developed nations, industries invest heavily in university laboratories, financing projects that lead to significant advancements. Nigerian industries ought to support universities by financing research initiatives that can benefit their enterprises and the nation as a whole. For example, Nigerian universities have the potential to develop local solar energy technologies to mitigate the increasing costs of electricity; however, without adequate support, these innovations are hindered. The project led by Prof. Barth Nnaji in Abia State exemplifies the effectiveness of localized solutions and collaboration between academia and industry. By providing continuous electricity through innovative energy solutions, he illustrated the potential outcomes when appropriate resources are allocated to address challenges. It is imperative for Nigeria's industries to meet this challenge, invest in academic institutions, and seek solutions to the country's most urgent issues.

Showcasing the potentials of “Town-Gown” partnership

To illustrate the transformative potential of Town-Gown relationships in society, it is pertinent to examine several prestigious universities, globally and within Africa, alongside their fruitful collaborations with industries and society. These instances highlight how academic institutions, in conjunction with their surrounding communities, can drive innovation, stimulate economic growth, and promote social advancement.

1. University of Oxford, Cambridge University UK and Astra Zeneca - Covid vaccine

In November 2020, barely eleven months into the COVID-19 pandemic, a significant vaccine was developed through the collaboration between the University of Oxford and AstraZeneca, bolstered by funding from the UK Research and Innovation Council and the Medical Research Council. This partnership exemplified the power of Town-Gown collaborations, enabling society to navigate one of the most formidable challenges of a generation. It serves as a testament to the efficacy of industry-academic alliances, merging pioneering university research with industrial know-how, ultimately contributing to a more resilient world.

Additionally, in 2022, the University of Cambridge, AstraZeneca, and GlaxoSmithKline joined forces in a £42 million initiative aimed at creating a "future-proof" COVID-19 vaccine capable of addressing emerging variants. Cambridge's Vice-Chancellor Stephen Toope underscored the significance of this collaboration, stating, "This initiative will build on Cambridge's global



leadership in viral research and diagnostics, and highlights the role of partnerships in tackling complex global health challenges.”

But the roots of this partnership can be traced back to the establishment of the Cambridge Science Park in 1970, which has been instrumental in the city’s evolution into a prominent technology hub in Europe. The park is home to over 5,000 technology and life sciences companies, many of which are spin-offs from university research, including AstraZeneca. Through initiatives focused on research commercialization, startup incubation, and knowledge transfer, the park has significantly contributed to the local and global economy.

2. Stanford “created” Silicon Valley

The inception of Silicon Valley is intricately linked to Stanford University’s progressive strategy in nurturing a symbiotic relationship between the institution and the surrounding community. In the 1930s, Frederick Terman, a Stanford professor often referred to as the “Father of Silicon Valley,” motivated his students to establish their own technology enterprises instead of pursuing careers with prominent firms on the East Coast. He played a pivotal role in guiding influential individuals such as William Hewlett and David Packard, who went on to create Hewlett-Packard, one of the region's earliest technology companies.

In the 1950s, Stanford University further stimulated this spirit of innovation by leasing land for the Stanford Industrial Park, which attracted technology firms eager to engage with university researchers. This distinctive collaboration between academia and industry was instrumental in transforming the area into a worldwide center for technological advancement. Companies such as Google, Apple, Intel, and Cisco, which were either founded by or significantly influenced by Stanford graduates, emerged as leaders in computing, software, and telecommunications.

The partnership between Stanford and Silicon Valley has yielded significant advantages for the academic and business sectors. Stanford has supplied cutting-edge research and skilled talent, while technology companies have provided practical applications and financial support. This synergy has generated trillions of dollars in economic value, established Silicon Valley as a global leader in technology, and revolutionized various industries across the globe.

The evolution of Silicon Valley serves as a compelling illustration of the remarkable outcomes that can arise from collaboration between universities and industries, fostering technological innovation, job creation, and a substantial global impact in a sustainable and mutually advantageous manner.

3. Harvard University & Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts, USA

The relationship between the city of Cambridge, Massachusetts, and its prestigious



institutions—Harvard University and the Massachusetts Institute of Technology (MIT)—has been a pivotal element in driving economic development and innovation within the area. These two universities have established a collaborative ecosystem that promotes partnership, entrepreneurship, and technological progress, thereby making significant contributions to the local and global economies.

A notable illustration of this is the Harvard Innovation Labs (i-Lab), which offers students and community members essential resources, mentorship, and support to transform their entrepreneurial concepts into successful enterprises. The i-Lab has been instrumental in the emergence of numerous startups that have achieved considerable success, strengthened the local economy and generated employment opportunities. Furthermore, Kendall Square, situated next to MIT, has earned the title of "the most innovative square mile on the planet." This region hosts over 150 biotech and pharmaceutical firms, many of which have been directly shaped by the research and talent cultivated at MIT and Harvard.

The economic impact of these institutions on Cambridge is significant. Estimates indicate that Harvard and MIT collectively contribute approximately \$15 billion to the Massachusetts economy each year. Their presence has attracted major global corporations such as Google, Amazon, and Biogen, further solidifying the area's status as a center for innovation and technology. This dynamic town-gown relationship not only cultivates a vibrant business landscape but also enriches the cultural and social dimensions of Cambridge, positioning it as a model for other cities aiming to leverage academic resources for economic advancement.

4. Leiden University and Leiden, Netherlands

Leiden University, recognized as one of the oldest institutions of higher education in Europe, has cultivated a robust partnership with the city of Leiden, particularly in the domains of life sciences and medical research. The Leiden Bio Science Park stands out as one of the largest life sciences clusters in Europe, accommodating over 150 companies, research entities, and academic spin-offs. This park exemplifies a collaborative effort involving Leiden University, the municipality of Leiden, and numerous industry stakeholders.

The Leiden University Medical Center (LUMC) is integral to this partnership, facilitating advancements in medical research and the application of scientific findings in clinical settings. This synergistic relationship has resulted in notable achievements in biotechnology and pharmaceuticals, with Leiden University emerging as a global frontrunner in immunology, cell therapy, and the study of rare diseases. The collaborative infrastructure and research initiatives between the university and industry have established Leiden as a center for innovation in life sciences. For instance, in the area of Stem Cell Research, researchers in Leiden have made significant strides in stem cell biology, investigating their potential applications in regenerative medicine and treatments for ailments such as Parkinson's disease and spinal cord injuries. In the



field of Biopharmaceuticals, the Leiden Bio Science Park hosts several biotech firms that have successfully created biopharmaceuticals, including monoclonal antibodies and recombinant proteins for various medical conditions. Regarding Vaccine Development, the university has actively participated in vaccine research, including efforts focused on vaccines for infectious diseases. Notably, its researchers contributed to the development of a COVID-19 vaccine in collaboration with other institutions and companies.

Additionally, the university actively interacts with the local community through a variety of public science initiatives, aimed at enhancing scientific literacy and nurturing an inclusive environment, whereby cutting-edge research tangibly benefits society.

5. Penn State University and Pennsylvania, USA

Penn State University has effectively established a robust relationship between the institution and the surrounding community through its 17 Innovation Hubs, which are integral to the "Invent Penn State" initiative. These hubs promote entrepreneurship, innovation, and economic development by offering resources, mentorship, and workspaces to startups, local enterprises, and students throughout Pennsylvania. The success of this initiative is driven by four primary factors: the extensive geographical distribution of the hubs, their incorporation into the academic curriculum to engage students, collaborative resources that connect academia with the community, and a comprehensive support network that provides funding and expert guidance.

The hubs facilitate the integration of academic research with practical applications, allowing students to gain hands-on experience in entrepreneurship while collaborating with community members. This collaboration enhances the town-gown relationship, yielding mutual benefits for the university and local communities through shared resources and expertise. A notable achievement is the Happy Valley Launch Box, which has assisted over 100 startups, attracted significant investment, and created new employment opportunities. Additionally, the Penn State Extension program offers resources and education to farmers, aiding them in implementing best practices in pest management, soil health, and crop rotation, thereby directly enhancing food security in the region. The Sustainable Energy Fund backs projects aimed at improving energy efficiency and promoting alternative energy sources, facilitating the transition of communities from fossil fuels to renewable energy. Their efforts have significantly advanced sustainable energy practices in Pennsylvania. The university contributes over \$11.6 billion annually to Pennsylvania's economy through research and business collaborations, generating jobs and encouraging business development.

These models serve as a valuable reference for similar initiatives in Africa, demonstrating that such successful partnerships are attainable within our own contexts. Let me share a few examples:



1. Stellenbosch University (South Africa) - Wine Industry Innovations:

The Department of Viticulture and Oenology at Stellenbosch University has played a crucial role in fostering advancements within South Africa's wine sector. Through extensive research focused on grape growing and winemaking methodologies, the department has significantly enhanced the quality and quantity of wine production, thereby elevating South Africa's reputation as a prominent global wine exporter. Their collaboration with the wine industry has facilitated the implementation of cost-effective techniques that preserve quality, ensuring that South African wines remain competitive internationally. According to the South African Wine Industry Information & Systems (SAWIS), the wine sector contributed approximately R55 billion (around \$3.8 billion USD) to the nation's GDP in 2019. Furthermore, the industry and its associated value chain support over 290,000 jobs, many of which are directly influenced by the innovations stemming from the university.

2. Makerere University (Uganda) – Makapads

Researchers at Makerere University have created Makapads, an affordable and biodegradable sanitary pad composed of papyrus and recycled paper. This innovation addresses environmental issues while also tackling menstrual hygiene challenges, particularly in low-income communities. The university has successfully commercialized Makapads, ensuring their availability throughout Uganda and East Africa at a significantly lower price compared to conventional sanitary products. Economically, the production of Makapads has generated employment for over 200 women, thereby invigorating local economies. By offering affordable sanitary solutions, Makapads contribute to keeping girls in school, which yields long-term economic advantages. Furthermore, the initiative has garnered financial support from organizations such as UNICEF, highlighting its potential for further product development.

3. University of Nairobi (Kenya) – Improved Maize Varieties:

The University of Nairobi has collaborated with the International Maize and Wheat Improvement Center to develop maize varieties that are resistant to drought, which have been widely embraced by farmers throughout Kenya and its neighbouring regions. These improved maize varieties have significantly enhanced agricultural resilience in the face of climate challenges. The commercial success of these crops has significantly impacted the agricultural sector in East Africa.

4. Obafemi Awolowo University (Nigeria) – Garri Processing Technology:

Obafemi Awolowo University has made significant advancements in cassava processing, particularly in enhancing the efficiency of garri production. This research initiative has resulted in the commercialization of garri processing machinery, which has been embraced by small and medium enterprises (SMEs) throughout Nigeria. These machines not only lower production costs but also enhance the quality of garri.



5. Kwame Nkrumah University of Science and Technology (Ghana) – Solar-Tricycles:

Kwame Nkrumah University of Science and Technology (Ghana) has introduced solar-powered tricycles that are now being produced commercially. These vehicles provide a more sustainable and cost-effective alternative to conventional fuel-powered transportation, especially in rural and off-grid regions. The university's partnership with local manufacturing firms has facilitated the large-scale production of these tricycles, thereby making transportation more affordable and accessible for local communities.

These examples illustrate that African universities are not only capable of conducting pioneering research but also of commercializing their innovations to develop cost-effective solutions that address societal needs. By forming partnerships with industry and government, they have successfully scaled these innovations, resulting in tangible impacts. Universities ought to place greater emphasis on commercializing their intellectual property for their funding, rather than depending on government funding for their operations.

These global and African examples of collaboration between academia and industry underscore the significant potential of universities as drivers of innovation, economic development, and societal progress. These partnerships exemplify how academic institutions and industry can work together to tackle real-world issues. In Nigeria, where the transition to a knowledge-based economy is becoming increasingly vital, such collaborations provide a framework for utilizing intellectual resources to promote national development.

RSU Example

Let us now examine the Rivers State University (RSU). This institution is uniquely positioned to fulfil its vision due to several distinguishing factors. Firstly, RSU is the first of its kind university in the Niger Delta region. Its roots trace back to the Rivers State College of Science and Technology, recognized as Nigeria's first technological college. Furthermore, its location in Rivers State, a pivotal oil-producing area within the Niger Delta, underscores its significance, particularly given the region's substantial oil and gas reserves. The university's mission emphasizes the integration of science, technology, and innovation to tackle industrial and societal challenges, thereby establishing a unique identity within Nigeria's educational framework and presenting a significant opportunity for RSU to enhance the relationship between academia and industry.

RSU is strategically situated in Nigeria's energy hub, facilitating a direct link between academic pursuits and the oil and gas sector. It has a longstanding reputation for contributing to technological progress, particularly in engineering, maritime studies, and environmental sciences—critical areas that impact the local economy. The university's geographic advantage enables it to forge partnerships with multinational corporations and state-owned enterprises, especially within the energy domain.



Rivers State University (RSU) has undertaken impactful research initiatives and collaborations that demonstrate its dedication to addressing real-world challenges. Below are some examples of how RSU has made significant contributions through research and industry partnerships:

1. **Maritime Coastal Studies:** RSU has played a crucial role in enhancing Nigeria's maritime sector through its collaboration with the Nigerian Maritime Administration and Safety Agency (NIMASA). By concentrating on maritime safety, pollution management, and shipping logistics, RSU has offered valuable insights aimed at improving operations in Nigeria's coastal areas.
2. **Agricultural:** The Faculty of Agriculture at RSU has engaged with local farmers and agricultural enterprises to advance research in sustainable farming practices and agricultural technology. Notable areas of focus include mushroom cultivation, fisheries, feed milling, poultry, and pig farming. I believe that with the appropriate partnership structure and framework, these initiatives have the potential for full-scale commercialization. This represents an excellent opportunity to demonstrate and provide solutions that connect academic research with the agricultural sector.

To fully leverage these capabilities, RSU could establish a value-chain framework that spans from societal needs to complete commercialization, thereby leading initiatives that tackle societal challenges through enduring collaborations with industry and government. By aligning research outcomes with real-world problems, the university can foster a Town-Gown relationship that facilitates knowledge exchange and results in practical solutions. This strategy may encompass collaborative research projects, technology startup incubators, and encouraging student participation in community-based initiatives aimed at addressing these urgent issues.

With its existing strengths in technology and science, RSU is strategically positioned to leverage its influence to promote socio-economic development, becoming a key contributor to shaping policies and solutions that cater to the specific needs of the Niger Delta and beyond. The university possesses the capacity to implement various Town-Gown strategies to ensure its research output is relevant to real-world challenges. These strategies would not only benefit the local community and industry but also offer innovative solutions to some of Nigeria's most critical issues.

Let me share some ideas on aligning research output to real-world issues.

1. Agriculture

In addition to the previously discussed research initiatives in Agriculture, RSU has the opportunity to enhance agricultural innovation by collaborating with local farmers and agribusinesses to advocate for sustainable farming practices utilizing readily available raw materials. Investigating crop varieties that are well-suited to the Niger Delta region, along with



the creation of value-added products (such as converting cassava into starch or flour), will significantly contribute to food security. The university's extensive land resources can be leveraged for agricultural research and commercial activities, offering practical experience for students while bolstering the local economy.

To illustrate this point, a notable example occurred in 2020 when a group of students from Kabarak University in Kenya gained attention for developing a type of flour from grass to produce ugali, which is five times less expensive than that made from traditional maize. This innovative approach aimed to address food insecurity and involved students from diverse academic backgrounds, including clinical medicine, computer science, economics, and finance. They utilized drought-resistant grasses such as Bermuda and Ryegrass, converting cellulose into amylose, a starch comparable to that found in maize.

The framework that enabled the Kabarak students to create flour from grass was characterized by a blend of institutional support, collaboration, and research. Essential components included:

- § Targeted Interdisciplinary research focus: Their innovation was grounded in prior research related to sustainable agriculture, food security, and biotechnology. The team examined studies on cellulose-to-starch conversion and applied their interdisciplinary knowledge. Research often thrives at the intersection of various fields rather than being confined to a single discipline.
- § Infrastructure: Kabarak University provided laboratory facilities for conducting experiments. The institution's commitment to innovation and research was instrumental in granting students access to vital equipment necessary for testing and enhancing the grass-to-flour process. Furthermore, students made use of Kabarak's entrepreneurial hub, which is dedicated to transforming research concepts into viable business ventures.
- § Funding: The students engaged in competitions such as the National Innovation Awards and various research-oriented contests, where they received recognition and obtained funding. Moreover, the university extended support through internal innovation grants designed to promote pioneering research in food security.

This project holds the promise of making food more affordable and accessible, particularly during periods of maize shortages. While awaiting approval from the Kenya Bureau of Standards (KEBS) for large-scale production, the university has initiated the patenting process to safeguard intellectual property rights. The team aspires to play a role in alleviating global hunger.

2. Clean and Affordable Energy:

RSU may consider investigating renewable energy options, such as solar and wind power, to tackle electricity issues in the Niger Delta. Research into decentralized energy systems, like mini-grids, could offer affordable and clean energy solutions to local communities, thereby decreasing dependence on costly and environmentally harmful fossil fuels. A pertinent example



is the University of Nairobi, which has worked alongside local farmers and communities to advance biogas technology as a sustainable energy alternative. Through its research efforts, the university has created low-cost biogas digesters that transform organic waste into biogas for cooking and lighting purposes. This initiative not only delivers economical energy but also addresses waste management challenges within communities. The identified enablers include:

- § Targeted research: The University of Nairobi has undertaken comprehensive research on biogas technology, concentrating on the development of affordable biogas digesters suitable for smallholder farmers and households. This technology facilitates the conversion of animal manure, agricultural by-products, and kitchen waste into biogas for cooking and lighting.
- § Community Engagement: The university collaborates with local farmers, non-governmental organizations, and community groups to encourage the adoption of biogas systems. Training programs are organized to educate communities on the construction and maintenance of biogas digesters, thereby ensuring the technology's sustainability.
- § Partnership: The university has formed partnerships with various stakeholders, including the Kenyan government and international organizations, to expand the biogas initiative. These collaborations aim to implement biogas projects in several regions across Kenya, particularly in rural areas where access to clean energy remains limited.

3. Security: Combating Kidnapping and Banditry:

RSU has the potential to collaborate with security agencies and the technology sector to create predictive policing tools and community-oriented security programs. Investigating local crime trends and utilizing artificial intelligence for surveillance can significantly mitigate the increasing risks of kidnapping and banditry in the Niger Delta region. A prominent example is the University of Cape Town (UCT), which has been a leader in employing technology to bolster security measures in South Africa, particularly in combating issues such as crime, including kidnapping and banditry. Below are some essential aspects of UCT's initiatives in this area.

- § Targeted research – UCT has established research groups and initiatives dedicated to security technologies, particularly in artificial intelligence (AI), machine learning, and data analytics. Researchers engage in collaboration with technology firms to devise innovative solutions that can assist in predicting and analysing crime patterns.
- § Partnerships - UCT partners with technology companies and startups to prototype and deploy surveillance technologies. This collaboration encompasses the creation of tools that leverage AI algorithms to analyse data from diverse sources (such as social media and CCTV footage) to detect patterns and forecast criminal activities.
- § Smart City - UCT participates in smart city initiatives aimed at enhancing urban safety through technological integration. These projects involve the installation of advanced surveillance systems featuring facial recognition technology and real-time monitoring capabilities, with the objective of strengthening law enforcement agencies'



effectiveness.

- § Predictive Policing - UCT's research includes the formulation of predictive policing models that scrutinize historical crime data to pinpoint hotspots and anticipate future criminal incidents. By employing data analytics, local law enforcement can optimize resource allocation, thereby improving response times to events such as kidnappings.
- § Community Engagement - The university emphasizes community engagement by involving local communities in discussions about security. Workshops and seminars are held to educate community members about safety measures and the use of technology in crime prevention. This collaborative approach helps to build trust between law enforcement and the community.

4. Public Health

RSU has the potential to concentrate on public health research, particularly in addressing diseases that are widespread in the Niger Delta, such as malaria and waterborne diseases. By partnering with health ministries and international organizations, the university could create health initiatives aimed at enhancing access to healthcare services, improving sanitation, and promoting preventive measures. For instance, The University of Ghana, Legon, has made significant contributions to tackling public health challenges in Ghana, especially regarding infectious diseases like malaria and waterborne illnesses.

- § Targeted research - The University of Ghana engages in comprehensive research on malaria, which continues to be a significant health concern in Ghana. Researchers at the institution examine various facets of the disease, including its epidemiology, transmission patterns, and treatment resistance. Additionally, they explore waterborne diseases and their effects on public health, particularly in areas lacking sufficient access to clean water and sanitation.
- § Community Engagement- The university has established numerous programs dedicated to malaria prevention and control. These initiatives encompass community outreach efforts, workshops, and seminars designed to educate the public about malaria transmission, prevention strategies, and the critical nature of early diagnosis and treatment. The university collaborates with the Ghana Health Service and the National Malaria Control Program to execute integrated vector control measures, such as the distribution of insecticide-treated nets (ITNs) and indoor residual spraying (IRS). Faculty and students frequently engage in community health projects, thereby connecting academic research with practical health interventions.
- § Collaboration - The University of Ghana engages in collaborative efforts with international entities, such as the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and various non-governmental organizations (NGOs), to execute health programs and research initiatives. These collaborations have provided essential funding and resources, allowing the university to enhance its research capabilities and outreach.



§ Initiatives - The university actively participates in initiatives designed to enhance sanitation and hygiene standards within communities to mitigate the impact of waterborne illnesses. This encompasses research focused on water quality, sanitation infrastructure, and the incidence of diseases associated with inadequate water and sanitation. Collaborating with local authorities, they develop strategies that encourage safe water practices, including effective water treatment and storage methods. Their efforts have significantly influenced national policies regarding malaria prevention and control, contributing to the formulation of strategies aimed at tackling the disease on a national scale.

5. Waste Management:

RSU has the potential to partner with waste management companies and local governments to research and implement effective waste disposal and recycling initiatives. By developing community-oriented recycling programs and pioneering waste-to-energy technologies, the university can play a significant role in fostering cleaner and more sustainable urban environments. A pertinent example is Ashesi University in Ghana, which has established a Circular Economy Program. This initiative involves collaboration with local industries, non-governmental organizations, and government bodies to devise waste management strategies centred on a circular economy framework. The program encompasses the recycling and upcycling of various materials, including plastic, organic, and electronic waste. The university works alongside local waste management firms to collect plastic waste, which is then transformed into building materials and furniture. Additionally, organic waste produced by the university and nearby communities is composted to produce organic fertilizers, which are sold to local farmers, thereby enhancing agricultural practices. The plastic recycling initiative generates annual revenues exceeding \$50,000, creating employment opportunities for local artisans engaged in manufacturing building materials from recycled plastics. Similarly, the organic waste-to-fertilizer program yields over \$30,000 worth of organic fertilizers each year, thereby improving local agricultural productivity and providing supplementary income for farmers.

The common characteristics of these initiatives include (1) Targeted Research, (2) Interdisciplinary Collaboration, (3) Addressing Societal Challenges, (4) Partnerships and Collaborations, and (5) Tangible Outcomes and Sustainable Impact. These elements are crucial for RSU to consider as it advances its leadership in community engagement.

Looking forward

The Rivers State University (RSU) is positioned at a pivotal moment to redefine and enhance the relationship between the university and the surrounding community in the Niger Delta and Nigeria. By addressing both regional and national issues through meaningful research, innovation, and partnerships, RSU can make a significant impact. To achieve this vision, it is



essential for RSU to capitalize on its distinctive academic strengths while drawing insights from global exemplars of university-community engagement, including institutions such as Oxford, Harvard, Cambridge, Penn, MIT, and Leiden.

As a result, I would like to propose four strategies that RSU can implement to advance the "town-gown" initiative.

1. Establish a Town-Gown Council for Strategic Planning and Coordination

A Town-Gown Council, consisting of prominent university officials, industry leaders, government representatives, and community stakeholders, can play a crucial role in fostering a collaborative strategy to tackle local and national issues. An established developmental agency, whether international or a reputable local entity, may be invited to serve as the secretariat, contributing specialized expertise in this domain. The council would undertake the following actions:

- a). Annually identify a significant societal challenge with potential to affect Nigeria's long-term vision, and challenge the academic community to explore innovative solutions through research.
- b). Ensure the pursuit of concrete, quantifiable results, holding the research teams and the university accountable for their commitments.
- c). Seek funding from local and international partners, particularly those interested in the identified strategic area. The council can approach international foundations, multinational corporations, international development agencies, NGOs, and organizations such as the Nigeria Content Development Management Board (NCDMB). Additionally, it should explore potential collaborations with philanthropic entities like the Bill & Melinda Gates Foundation or the African Development Bank, which have shown a commitment to supporting research initiatives.
- d). Utilize the network of RSU alumni – Many RSU alumni hold leadership roles in various organizations, presenting an opportunity to leverage these connections to identify partnership and research support prospects within their respective organizations.
- e). Establish an Entrepreneurship Centre of Excellence hub dedicated to commercializing research outputs from RSU. This initiative can focus on research pertinent to the annual strategic area or extend beyond it. By offering startup funding, mentorship, and business development services, the university can empower students and community members to initiate ventures that contribute positively to society while generating revenue for the institution.

2. Leverage Existing Professorial Chairs

The university ought to leverage its existing partnerships, particularly with oil companies that support professorial chairs, to direct research initiatives towards addressing practical



challenges.

- Broadening the focus of professorial chairs to encompass interdisciplinary research.
- Ensuring that research endeavours yield practical results, such as formulating solutions to specific industry challenges like oil bunkering and pipeline theft.
- Organizing annual forums where faculty and students can present research findings to industry leaders, and industry representatives can share industry challenges, thereby enhancing the alignment between academic research and industry requirements.

3. **Attracting companies in targeted industries to set up satellite office on the campus** or for the university to construct office complexes and lease floors to these companies. This shared facility model will facilitate regular interactions between academia and industry, allowing for the swift identification of industry challenges and potential solutions. For instance, companies could position their research, innovation, learning and development, recruitment, or business improvement departments on campus. The example of Stanford University, where companies like Facebook maintain offices, serves as a good example.

4. **Reward systems** for faculty that lead in the gown-town relationship. An annual award and recognition program for faculty members who have made significant strides in enhancing the gown-town relationship should be established. This initiative will encourage faculty to maximize the value of their research and actively pursue partnership opportunities with industry.

Conclusion:

Rivers State University (RSU) finds itself at a pivotal moment in its development, capable of assuming a leadership position in addressing societal challenges through strong partnerships among academia, industry, government, and the community. This vision of a collaborative "town-gown" relationship is not only attainable but essential for RSU to unlock its full potential and make significant contributions to national progress.

Nigerian academic institutions, including RSU, have a unique opportunity to connect research with practical applications. The country faces numerous well-documented challenges across various sectors—agriculture, energy, health, and infrastructure. Issues such as oil pollution in the Niger Delta, widespread food insecurity, inadequate electricity supply, and severe environmental degradation are pressing. Unfortunately, the academic sector, tasked with researching solutions, often remains disconnected from practical implementation, resulting in a backlog of unutilized ideas.

In an address at the World Economic Forum, Nigerian economist Ngozi Okonjo-Iweala emphasized, “Development is about transformation. Research and policies are futile if they don’t translate into tangible changes in the lives of the people.” The transformation she advocates is precisely what RSU must pursue—transitioning from theoretical research to



impactful, execution-oriented research in partnership with external stakeholders.

Globally, leading universities have established a model for such collaboration. For instance, the Massachusetts Institute of Technology (MIT) generates an impressive \$2 trillion annually in economic value through its industry partnerships, a figure that is nearly eight times Nigeria's GDP. Likewise, Stellenbosch University in South Africa has emerged as a frontrunner in renewable energy innovation, thanks to its close cooperation with both government and private sectors. RSU has the potential to emulate these successful models.

A formal framework is crucial for fostering collaboration and ensuring that RSU's research is in harmony with societal demands. The creation of a Town-Gown Council will establish the governance structure necessary to explore the vast opportunities and strategic pathways needed to close this divide. As Nigerian entrepreneur Tony Elumelu aptly stated, "Success is about bringing together the right people and the right resources." It is imperative for RSU to assemble a diverse coalition of academic talent, industry knowledge, governmental support, and community involvement to realize its aspirations.

The journey toward success may be challenging, yet it is attainable. By forming a Town-Gown Council, securing sustainable funding, and utilizing its alumni network alongside industry collaborations, RSU can position itself as a frontrunner in academic and practical spheres. With robust leadership, a dedication to innovation, and a focused commitment to societal impact, RSU has the potential to emerge as a symbol of hope and a catalyst for progress in Nigeria and beyond.

The endeavour to cultivate meaningful town-gown relationships will demand courageous choices and steadfast dedication. University leaders must motivate faculty and students to transcend the confines of academic isolation and recognize that research serves as a vehicle for societal advancement. The capacity to pivot, experiment, and adapt will be essential as RSU embarks on this transformative journey.

RSU cannot afford to postpone action waiting for the perfect conditions. As South African icon Nelson Mandela wisely remarked, "It always seems impossible until it's done." RSU must embrace this perspective, acknowledging that the challenges it faces—especially funding—though significant but it is not insurmountable.

RSU's commitment to spearheading societal change through meaningful town-gown partnerships is not merely an ambitious objective; it is a vital necessity for the future of the university and the community it serves. The imperative for collaboration between academia and industry is clear. Nigeria is currently grappling with significant challenges that hinder its progress. RSU possesses the potential to contribute to resolving these issues, but it must take decisive action without delay.



This brings to mind the words of the esteemed African American educator Booker T. Washington: “Success is to be measured, not so much by the position one has reached in life, as by the obstacles which one has overcome.” RSU has the talent and capability to surmount the challenges it faces—and in doing so, foster a more promising future for all. RSU needs to embrace this challenge and establish a legacy of positive change that will ultimately transform our nation.

I encourage RSU to affirm its commitment by setting a target date, such as 2030 or 2035, by which it aims to generate sufficient revenue from its intellectual property commercialization to sustain all its operations. Such a resolute approach will significantly enhance the town-gown relationship.

Finally, I also challenge industry to step up significantly to support research, as the universities cannot do it all alone. The National Bureau of Statistics’ report highlights that a ten-to-twenty-fold increase in funding is required for research to thrive in Nigeria. This level of funding must come from industry and government and we cannot afford to fail if we must transform our nation.

Thank you once again for the honour of being a guest speaker today, and I wish RSU continued growth, resilience, and leadership in the pursuit of this noble vision

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