



THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE CAMPUS, TRINIDAD & TOBAGO, WEST INDIES

OFFICE OF THE CAMPUS PRINCIPAL

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**Keynote Address by the PVC and Campus Principal
Professor Brian Copeland**

**The Launch Symposium of the Associate and Master's Degrees in Petroleum
Engineering at The University of Guyana
Friday 25th January 2019**

Salutations

Ladies and Gentlemen:

On behalf of The University of the West Indies, I am pleased to bring greetings and congratulations to the University of Guyana on the occasion of this Launch Symposium for its Associate and Master's Degrees in Petroleum Engineering.

The establishment of an Associate Degree in Petroleum, in partnership with the University of Trinidad and Tobago, and the Master's Degree in Petroleum Engineering, to be delivered by The University of the West Indies in Guyana and in Trinidad and Tobago, is an important example of how focus, commitment and co-operation can have positive outcomes.

Robin M. Mills, CEO of Qamar Energy, and author of *The Myth of the Oil Crisis*, wrote a piece last October for *The National Business*, a publication in the United Arab Emirates. His headline was unequivocal: 'Guyana', he said, 'may be the next big beast in global oil'.

He made the point that, by the 2020s, Guyana could well be sharing output of 700,000 barrels per day among just 770,000 people, producing a medium-light crude which is closer to major Middle East grades - unlike the mostly very light shale oil found in the United States.

In his article, Mills claimed:

If the discoveries are significant for the world, they will be transformational for Guyana. Gross oil revenues of some United States Dollars 13 billion annually by the mid-2020s, or about \$17,000 per inhabitant, (in) contrast to its 2016 GDP of just \$3.4bn. Only some 14 per cent of this will come to the government for the first two to three years while costs are paid off, but this is still an enormous bonanza.

The article goes on to identify the pitfalls that await, the fears and the challenges that already exist, not the least of which is the challenge of coping with the speed of the upcoming wealth surge. As Matt Blomerth, head of Latin American Upstream Research for the consultancy firm Wood McKenzie, said in a January 2017 New York Times article, 'it's not often that a country goes from 0 to 60 as fast like this'. As most of us know, this can be exhilarating and frightening at the same time.

Allow me to posit this to you - as South America's newest oil producer, petroleum can bring untold wealth. But what happens beyond that? What happens beyond the petroleum boom? How will the people of Guyana benefit from this yet untapped wealth? What will Guyana look like in the next few years?

Answers to these and other related questions can perhaps be obtained by drawing from the examples of others. Mills ended his article with these guiding words: 'Guyanese are fortunate to have contrasting examples next door in Venezuela of how a mismanaged oil sector can ruin a country; and Trinidad [and Tobago], where petroleum has generally been positive for the country'.

But in Trinidad and Tobago, we are only too aware that, as much as we have done many things right, there have also been too many missteps. Education and know-how are one thing, the lessons that come only with lived experience is another. Certainly Trinidad and Tobago has a lot to share in that regard!

There is no question that everyone believes Guyana's large oil and gas discoveries have to be used responsibly for the betterment of the country and its people. Indeed, these degree programmes are perhaps the first, critical steps which would equip and encourage graduates to take responsibility, to use their knowledge and expertise to ensure there is accountability in the extraction process and that Guyana would, in the first instance, get its fair share from the monetization of this natural resource. Even better, it sets the stage for Guyana to take greater command of its oil and gas sectors in the not too distant future.

We need to go even further to ensure that this country gets the most for its people for generations to come from its oil and gas windfall. As a general strategy, the country would probably not be too far off base if it were to strategize its development over a reasonable period of time – say 20 or 30 years – and set its priorities along the lines of Maslow's hierarchy of needs for human survival and growth. This translates into the creation and improvement of mechanisms and systems that provide, in decreasing priority, food, shelter, health and education for all. The country should be careful to not create a society that is overly dependent on the state for all of its needs, one of the characteristic fallouts of the Dutch disease.

I would like at this juncture to speak about the role of education in facilitating Guyanese development. I will do so by linking what I have already discussed by painting a picture of target model society. In this society,

Man-made disasters would be almost non-existent because of the country's more advanced culture and system of governance. So, for example, we would have forged a society virtually free of the current ills, such as crime and all discrimination.

In the advent of a catastrophic disaster, natural or even man-made, citizens who survive will be equipped physically, mentally and spiritually to continue to survive and thrive as individuals or small groups. Ultimately, they would be able to build and maintain resilient communities that can grow to re-establish societies.

In this dream society, we would understand, embrace and respect the ecology and be effectively resourceful in protecting it.

In this dream society, the economy would be sustainable and robust. As such, it would not be characterized by a few large economic giants but would be buoyed by a foreign export earning structure democratized through a "Mittlestand" - a German word for their network of innovation-driven export-oriented SMEs. In Germany, the Mittlestand companies contribute as much to foreign exports as large and very companies. It is an economic structure that is worthy of emulation.

So, in essence, in this dream society sustainable existence would have been achieved.

Preparing our citizens for this dream society requires that our education system endows them with the skills to survive in the entire spectrum of future possibilities. They must be able to weather the storms in the bad times and, at the same time, they have to be effectively educated for the workforce. Significantly, the national education system must ensure that it prepares citizens to successfully function in the world of the future. In this regard, creating the sustainable economy of that dream society requires that our education system seeds and nurtures the development of a strong culture of innovation and entrepreneurship.

I need to divert a bit here just to clarify the meaning of innovation which is now overused in my view. At the University of the West Indies, we have been actively engaged in strategizing and planning to build this new culture and have adopted the following definition of innovation: An Innovation is a product or process that firstly has been created anew and, secondly, has begun to produce returns on investment thus bringing value to society. Although we speak largely of innovation in technology and for financial benefit, the definition can be applied to social and ecological dimensions as well.

The vision of The University of the West Indies, then as posited in its new strategic plan for 2017-2022, is to create an effectively innovative culture that would drive social, ecological, and economic entrepreneurship. This 'culture of innovation' is a major response on our part to the changing mandate for education, declining economies, and the need for strategic but practical approaches to revitalizing the Caribbean. At the St Augustine Campus, in particular, we see it as our responsibility to play a lead role in creating a Caribbean Mittlestand. This is a challenge we have made to our students and our staff as well.

The challenge is not without basis. Currently, many of our graduates take up jobs beneath their qualifications and experience. We strongly believe that they should be motivated and supported to apply their expertise and inventive talents to the formation and development of their own enterprises; enterprises that target foreign exchange earnings.

SO how do we equip our young people with requisite capabilities? For more than 70 years, The University of the West Indies has demonstrated its mission to advance learning, create knowledge, and foster innovation for the positive and sustainable transformation of the Caribbean. Indeed, for countless generations, it has been more than a mission, it has been a vocation. Over seven decades, our graduates have gone out into a world and excelled in science, technology, law, the arts, in academia, even in politics.

Still, we must consider that what worked in the 20th century might, just might, need a bit of tweaking – no, a paradigm shift - in a 21st century scenario. As an example, let's look at science, technology, innovation – all of which are the solid underpinnings of successful and competitive economies. However, it is our belief and recommendation that the Student Learning Outcomes for the 21st Century Learner should also include creativity and collaboration. Indeed, studies have shown that creativity cuts across disciplines, entrepreneurship, and design thinking, while collaboration engenders consideration of diverse inputs to enhance decision making.

To really benefit from our education in science and technology and to achieve national and regional goals, our system of education must move away from the purely functional approach to learning in areas of science, technology, engineering and mathematics (STEM) to one that facilitates, incorporates, and integrates function and form with design. This requires a strong infusion of the arts that changes the objective from STEM to STEAM.

Evidence of practice and research strongly supports the view that STEAM is the educational paradigm to bridge innovative thinking required of 21st Century Learners since it integrates, stimulates and nurtures the left and right brain thinking skills.

Steven Pomeroy in his Scientific America article notes that “Nobel laureates in the sciences are seventeen times likelier than the average scientist to be a painter, twelve times as likely to be a poet, and four times as likely to be a musician.” The evidence of the powerful nexus between technology and the arts exists through known history, as shown by the works of the likes of Pythagoras and Da Vinci and more recently, by the clever inspiration of Steve Jobs at Apple. Even closer to home in Trinidad and Tobago, there is Peter Minshall, whose design sketches for his early carnival portrayals often displayed a potent combination of art and technology.

For Guyana, a country for whom oil will soon become a major income earner, innovation-driven entrepreneurship, societal transformation, and ecological

preservation will be both a challenge and a mission. But it has to set its sight on this firmly on this mission as these are depleting resources. The returns from the exploitation of these resources should be primarily directed at growing a much more lasting resource - the people of Guyana.

It is said that to whom much is given, much is expected. The first graduates of these programmes will find that they will be expected to offer solutions to the unique problems of Guyana and, in so doing, address the many anticipated and special challenges as their country transforms.

The participants of these new programmes will make their own transformational journey of self-discovery; one that will allow them to redefine their role in leadership from the perspective of the creation of a 21st Century Guyana. A Guyana that will, with clarity of focus and intent, have many of the benefits and fewer of the shortcomings that development inevitably brings.

We are on the cusp. We are part of living history. The knowledge and expertise we impart will provide the inspiration, understanding, and confidence to define and respond to social, economic and environmental priorities.

I applaud the University of Guyana for taking up the responsibility to prepare for the pending changes, changes of great magnitude.

Thank you Professor Griffith, for inviting us to be a part of Guyana's journey.

On behalf of the St Augustine Campus of The University of the West Indies, I pledge our continued support to the University of Guyana as we collaboratively strike out to achieve true sustainable development in the Caribbean.

Thank you.