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"Transforming the Caribbean S&T Landscape to Assist with Economic Development"

By

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#### 1. INTRODUCTION

 The Caribbean region as defined by the CARICOM countries, with a population of over 15 million of which over 50% are from Haiti, today faces many socio-economic challenges. With a region blessed with fertile lands, in general, and indigenous sources of renewable energy, food security and energy security remain major issues. With a region blessed with creativity, and producing three Nobel Laureates, we have not gone beyond the traditional engines of economic growth which have had limited success - tourism, mining, agriculture and natural resources.

We are yet to be impacted upon by the third major transformative wave in the history of western civilization that is producing the information / knowledge society.

With weakening economies and the attendant rising unemployment, there are justifiable concerns about the immediate future of the region. The fundamental question therefore, is what can we do to put the region on a more sustainable economic growth path?

### 2. SCIENCE TECHNOLOGY AND ECONOMIC DEVELOPMENT

There is a well-established strong correlation between Science and Technology (S&T) economic development. Twenty five years ago China was regarded as a "bicycle" society which remained closed to the outside world, India was considered to be a poor rural nation, Singapore was viewed as a backwater "island" port and South Korea's GDP was slightly higher than that of Nigeria. Each of these countries had the courage to take the decision to put S&T on the front burner and utilize it as a tool to better the lives of their people. Their success was not lost on other developing countries.

Malaysia has built the so-called Multimedia Super Corridor which is about one and a half times the size of Barbados and which is strategically located between Kuala Lumpur and its ultra modern international airport. The corridor contains universities, research institutes, technology parks, industrial zones and excellent transport and communications infrastructure.

It is intended as a vehicle for the country to spring board into the information age and to transport it into digital economy. It is today an industrialized nation with 82% of its export made of manufactured goods and ranking as the world's 17<sup>th</sup> biggest trading nation.

### Malaysia





# Link between Science and Technology and Development

| Country          | Population (2009) | GDP per Capita (2008) | R&D as % of<br>GDP |
|------------------|-------------------|-----------------------|--------------------|
| Brazil           | 198,739,269       | \$10,000              | 1.05 (2007)        |
| China            | 1,338,612,968     | \$6,000               | 1.2 (2007)         |
| Jamaica          | 2,825,928         | \$7,400               | .1 (2007)          |
| Suriname         | 481,267           | \$8,900               | 0 (2008)           |
| Malaysia         | 25,715,819        | \$15,300              | .65 (2006)         |
| Trinidad &Tobago | 1,229,953         | \$18,600              | .13 (1997)         |
| USA              | 307,212,123       | \$47,000              | 2.8 (2007)         |

# Growth of Science and Technology in South Korea – A Success Story

|                     | 1963 | 1970  | 1980   | 1990   | 2002    |
|---------------------|------|-------|--------|--------|---------|
| GERD(US\$, Million) | 4    | 33    | 428    | 4,676  | 14,433  |
| Gov't vs. Private   | 97:3 | 71:29 | 64:36  | 19:81  | 26.74   |
| R&D /GDP            | 0.25 | 0.38  | 0.77   | 1.87   | 2.53    |
| Researchers         |      | 5,628 | 18,434 | 70,503 | 189,888 |
| (Persons)           |      |       |        |        |         |

### 3. STATUS OF SCIENCE AND TECHNOLOGY IN THE CARIBBEAN

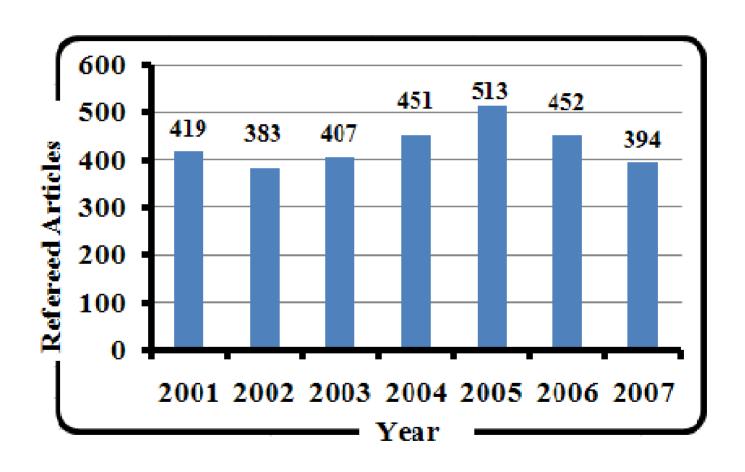
#### Patents

An average of 4 from Jamaicans over the period 2000 -2007.

An average of 2 in the case of Trinidad and Tobago.

#### Science Publications

## Scientific publications in the CARICOM countries, 2001-2007



### Conclusion in the Mokhele Report

The Higher education system of the Caribbean is a main Achilles' Heel.

The state of health of research and scholarships in the Caribbean is currently bleak.

#### 4. THE WAY FORWARD

#### a. What needs to be done

- Strengthen STI capacity
- Create a vibrant research culture
- Provide more funding for R&D
- Create a triple helix partnership involving academia, private sector and governments
- Engage the Diaspora
- Create the necessary mechanisms/institutions / organizations and /or strengthen existing ones.

#### b. Recent Events

- ✓ Mokhele Report
- ✓ High Level Meeting

#### Main Recommendation

"Be it resolved that an overarching broad based agency called the Caribbean Science Foundation (CSF), be established as soon as possible to develop S&T and build the requisite capacity to harness STI for the region's development."

#### Caribbean Diaspora for Science, Technology and Innovation (CADSTI)

Its mission is to facilitate the economic and social development of the Caribbean Region by harnessing the diverse, dispersed and largely untapped talent of the "Caribbean Diaspora" in the areas of science and engineering. In particular, the CADSTI will promote and support science and engineering research in the Caribbean region as a means of advancing and catalyzing economic and social development, understanding, and prosperity.

Its first task is to create a Caribbean Science Foundation.

#### **Executive Members of CADSTI**

- Prof. Cardinal Warde President (Professor Electrical Engineering at the Massachusetts Institute of Technology)
- Dr. Basil Anthony Burke Vice President, USA (Principal and Executive Consultant, ELGAE Associates)
- Prof. John-Paul Barrington Clarke Secretary/Treasurer (Associate Professor, Georgia Institute of Technology).

#### **Executive Members con't**

- Professor Emeritus Baldwin Stephen Mootoo Vice President, Caribbean (The University of the West Indies, Trinidad)
- Professor Emeritus Harold Ramkissoon Vice President and Ambassador at Large (The University of the West Indies, Trinidad)
- Mr. Ravi Nickolesh Ramkissoon- Information and Communication Officer (Senior Software Engineer, Oracle Corporation)
- Dr. Brian Dermot Ming Tom Vice President, U.K. (Medical Statistian, Institute of Public Health, Cambridge)

### CADSTI Executive Members Launched by the Hon. F. Jeffrey in 2008



#### The Caribbean Science Foundation (CSF)

Caribbean Science Council (includes Governing Board) **CSF** Director Science Directorate Administration (includes funding of social science) Innovation & Small Business Directorate (includes entrepreneurship, education, Technology Directorate technology, commercialization and incubation of STI businesses)

Education Directorate (includes funding of scholarship, fellowships, teacher education, inter-institutional collaboration, etc.)

# The main functional roles and responsibilities of The CSF should be:

 Overall development of STI for the Region.

Promoting sustainable economic development.

#### SPECIAL FEATURES OF CSF

The special features of CSF that will distinguish it from existing bodies are:

- It will be an independent autonomous agency which will employ a lean, agile and accountable structure that is responsive to regional needs
- It will be driven by the Diaspora, the Private Sector,
   Governments of the region and the STI community and this will be reflected in the composition of the Board of Directors
- It will, inter alia, bring together STI projects and expertise
- It is developmental and action oriented
- Initial funds for its launch in 2010 are modest and it is expected to be self-financing in 5 years.

#### 5. CONCLUSION

 With the creation of these two regional entities, CADSTI and CSF, we have taken bold steps to transform the Caribbean S&T landscape so that it can be more focused on critical areas such as stimulating the private sector and be more responsive to the goals and ambitions of CSME.

#### As stakeholders we need to:

- Act with a sense of urgency
- Build bridges
- Build self-confidence
- Understand our differences
- Appreciate our common interest.

We count on the full support of the Private Sector as we proceed to launch the CSF.

### Thank You.