

'STE(A)M' & I for CARIBBEAN DEVELOPMENT

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**'THERE ARE SOME THINGS
WHICH **WE** IN THE
CARIBBEAN WILL **DO**
BEST ...AND THERE ARE
SOME THINGS WHICH
ONLY WE IN THE
CARIBBEAN WILL **WANT**
TO DO'**

...SIR ARTHUR LEWIS..1960s

TRAINING

SCIENCE.....*DISCOVERY/CULTURAL*

TECHNOLOGY.....*APPLICATIONS*

ENGINEERING.....*ALL MODES*

ARTS.....*EXPRESSION*

MATHEMATICS.....*MEASUREMENT*

**SINCE 1980,
GRADUATE
EDUCATION**

more

emphasised IN

THE REGION

GRADUATE STUDIES

- * MORE INNOVATION
- * CRITICAL ANALYSIS
- * ADOPT & ADAPT BEST PRACTICES
- * FORESIGHTING

- FINANCING 3yr Education

* GOVERNMENT SUBSIDIES

* PRIVATE SECTOR

* STUDENTS LOAN SCHEMES

* SELF

GRADUATES

% RATE OF RETURN ON MONEY

James, 2006

**PURE & APPLIED
SCIENCES**

39

**AGRICULTURAL
SCIENCES**

38

LAW

35

BUSINESS

34

SOCIAL SCIENCES

19

**Engineering &
Computing**

18

Humanities / Education

13

NEEDS

Nursing

Land surveyors

Pharmacists

Teachers

Engineers

*(Ja. 2010)*⁷

EXTREME SHORTAGE

ARCHITECTURE

**SCIENCES - APPLIED ...eg
engineering, agriculture, environment**

LAW...intellectual property, sports, sea

BUSINESS & MANAGEMENT

3yr
centres
of
excellence

WORLD BANK (2004)

GOLD STANDARDS FOR RESEARCH-BASED INSTITUTIONS:

- **ARTISTS, SCIENTISTS, ENGINEERS, TECHNOLOGISTS, INNOVATORS > 30% OF ACADEMIC STAFF.**

WB stds

REGISTRATION OF

~ 500

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/TRADEMARKS per

1m popn /yr.

WB stds

- **EARN ROYALTIES/
LICENCE FEES**
**> US\$100/1000
popn/yr**

CARIBBEAN UNIVERSITIES

- **LINK WITH
INSTITUTIONS,
NATIONALLY,
REGIONALLY AND
INTERNATIONALLY**

CARIBBEAN UNIVERSITIES

■ NB: CONSULTANCIES

2% VS 98%

IN THE OECD

R & D \sim 50% GDP

GOVT & PRIVATE
SECTOR COMBINED
 \sim 31% BUDGET ON
R & D (ST & I)

CARICOM

**SPENDS <0.1% OF
BUDGET ON R & D**

**R & D CONTRIBUTE
< 1% GDP**

Investment in ST & I.

	% GDP*
Japan	3.2
Rep. of Korea	3.0
North America	2.7
Singapore	2.4
Caribbean	0.13

* *Source: UNESCO institute for Statistics, 2004*

Higher Education in Development

- Caribbean Council for S & T recommends that Caribbean Govts should spend $\sim 3\%$ of GDP on active R&D

CARIBBEAN NICHE MARKETS

MUSIC (*reggae-dancehall, calypso, steelpan*)

TOURISM (*all incl, eco-, health-, cuisine...jerk*)

SPORT (*athletics, cricket, netball*)

ACTIVITY	VALUE ADDED/ US\$	LABOUR PRODUCT- IVITY
Music/Sport	6.18	1.33
Radio & TV	4.25	1.46
Horse Racing	3.81	5.65
Movies & Video Production	3.63	1.59
Publishing	2.8	1.7
Advertising	2.37	1.89
Telecoms	1.49	4.25

THE NICHE MARKET NEEDS :

- **RESEARCH**

- **INNOVATION**

- **ADAPTATION**

- **TECHNOLOGY SUPPORT**

CARICOM Development

**Govt & private sector
partnerships in ST & I**

**... & attract *Foreign
Direct Investment ...
(Diaspora)***

CARICOM

Development

- **FOCUS** on domestic industries
eg: tourism, foods, energy, agriculture and nutraceuticals

JAMAICA

- **National
Nutraceutical
Industry...**
*plants, animal products &
minerals (land & water)*

JAMAICA

- **Ginger, Coffee, Cocoa**
- **Honey**
- **Limestone** (*pharmaceutical*)
- **Spas.....** (*S, P, Ca & low radioactivity*)

3yr Education for Sustainable Development

- **relevant to niche**
- **practical/applied**
- **eg: nutraceutical farming**

Sustainable

Development... *crisis*

The avg worker's formal schooling:

yrs

9.5

10

10.5

country

jm

t & t

b'dos

Sustainable Development... *crisis*

Graduate pursuits
are NOT geared to
country needs *but*
rather to maximal ROI
in 3ry education

Sustainable Development...*crisis*

NB:

**THE LAND OF
OPPORTUNITY
UP NORTH.....**

Train our Human Resources

**...and keep them
within our shores,**

**...plus promote a
'brain gain' from the
diaspora**

The Mantra

- **C** ...creating capacity
- **O** ...offering opportunity
- **R** ...research & relevance
- **E** ...emphasising excellence

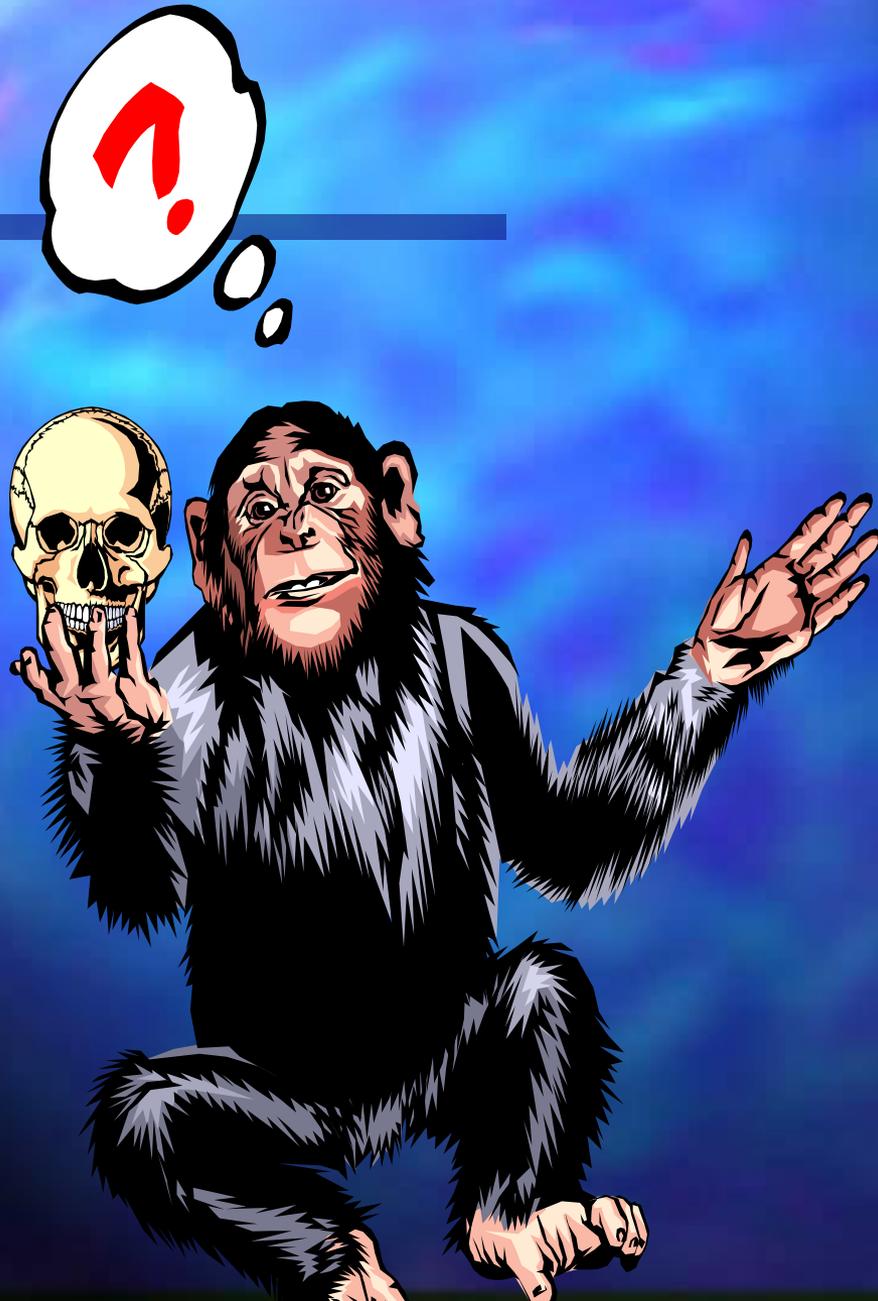
POPULARISING 'STEAM & I'

THE PEOPLE

- QUIZZES
- AWARDS
- EXPOS

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*May we like
him ponder
upon these
thoughts!!!...*

*and the work
goes on.....*

...thanx much!