**2nd High-Level CARICOM S&T Meeting**

**“Strengthening and Utilizing S&T in the Caribbean”**

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**Funding the STI Enterprise**

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**"Funding Caribbean STI: Taking charge of your future"**

Excellences, colleagues, ladies and gentlemen, good morning. I am happy to see you again.

Many nations in the developing world today accept the premise that science, engineering and technology are essential for human and economic advancement. Putting this idea into practice, however, is a considerable challenge. Some nations have achieved great success – Brazil, China, India and a few others. But we know it is very difficult because so many have struggled, and more than a few simply have not tried.

Certainly, the scientists and policymakers who work to implement an STI plan must negotiate a complex landscape. Developing nations and their institutions typically suffer from a range of structural problems: past colonial exploitation, poverty, government debt, sometimes corruption. The constant, overarching challenge is a lack of resources – not just a lack of money, but also a shortage of academic strength, a shortage of policy expertise, a shortage of *knowledge.* Policymakers in every region know that this condition can be paralyzing.

But there is a saying: "A journey of a thousand miles begins with one step." For better or worse, it is the challenge of leaders in the developing world to take this one step...and then to take another.

Ladies and gentlemen,

There is no magic formula for financing the STI enterprise. Rather, I suggest that the answer has many elements. And it begins with one's mind-set. Do you have a holistic orientation? By holistic, I mean, do you see the big picture? Do you see how all of the pieces fit together? Sometimes this is called "the sector-wide approach". If you want to build your research capacity, you have to consider food security. Why? Because a six-year-old girl who doesn't get enough to eat may be less likely to grow into a smart young scientist 15 years from now. You have to consider tax policy, because this will shape how much the private sector is willing to invest in R&D. You have to look at your university labs and the faculty of your graduate-level science programmes. All of these things are connected.

The sector-wide approach shapes your strategic plan. Once areas of need and strength are understood, there follows an assessment of resources and potential resources.

Ladies and gentlemen,

In funding STI, a country must first look at its own resources. Many countries in the developing world today prioritize education as the foundation of sustainable development. Africa, for example, is building new universities at a remarkable pace.

Sometimes the cost is minimal. TWAS, working with partners in nearly 20 nations, offers more than 500 PhD scholarships and post-graduate fellowships every year to young scientists in the developing world – and to limit brain-drain, they require recipients to return home after their overseas study. Further, the Academy offers 1.7 million dollars in research grants each year to support laboratories in the developing world.

Investment in education – including R&D investment in university-level scientific research – is essential for developing a nation's human potential. And developing human resources is a key way to dissolve the paralysis that afflicts some developing nations.

But a nation must take that first step: It must find a way to make the investment, or at least a down-payment. If R&D as a percentage of GDP is just three-hundredths of one percent...or six-hundredths...or even six-TENTHS of one percent – that is not enough. It not enough to change your country, and it is not enough to keep pace in a competitive global environment.

These are numbers, they're abstract, but the consequences are very real. A nation that doesn't invest is likely to have poor university labs and a weak programme for developing its PhD-level faculty. It cannot prepare students for technical jobs or high-level research positions. Good science students will go to the UK or the US or Brazil for education – and many will not come back.

Over time, this cycle may cost billions of dollars in unrealized scientific productivity and innovation.

Therefore, can you afford NOT to make this investment? One percent of GDP is a minimum. With one-point-five percent, you can begin to make a real impact. This commitment is important for a nation that intends to set its own course for future progress.

Developing countries have another way to leverage their own resources – by engaging with the diaspora community. A little over a year ago, the World Bank published a study of the huge Caribbean diaspora, based on interviews with 850 people. The results were striking.

90 percent of the diaspora respondents want deeper engagement with the region, and 85% were interested in investing in a business back home. However, only 13 percent have done so.

The problem is *visibility*. The World Bank said the diaspora represents – quote – "a significant untapped potential for economic development" – unquote – but people aren't aware of opportunities.

Ladies and gentlemen,

Even when a developing nation is making a strong commitment to innovation, partnerships are essential. In fact, when a nation works to develop its own resources, it may be seen as a better investment by potential funders.

For example, in my home country of Rwanda, after 15 years of effort to build science capacity, Carnegie Mellon University from the US opened a campus to serve graduate students from Africa. Now the Abdus Salam International Centre for Theoretical Physics, which hosts TWAS in Italy, is planning a new institute at the University of Rwanda.

Bi-lateral funding sources such as SIDA in Sweden, DFID in the UK, and USAID in the United States have a strong interest in development through science and engineering. The same is increasingly true of regional development banks. And increasingly, these funders focus on high-quality projects aimed at specific objectives in fields such as climate change, health, energy and food security.

This is a crucial point: You can seek funding for biology or biotechnology. But if you seek funds for research into dengue or diabetes, that is still biology, but it is clearly relevant and it serves a clear need. By developing such projects and partnerships, you can potentially fund a large portion of your science enterprise. This builds momentum, and in time, it can have a measurable economic impact.

Ladies and gentlemen,

In the old days of foreign aid, a developed country might offer resources – but with strings attached. Perhaps there was little regard for the nation's self-determined needs and goals. While this is changing dramatically, a challenge remains: Developed nations have more resources than developing nations. Their science is more advanced. Inherently, they have more power. How do you create a partnership that is not exploitive? How do you build a partnership that is mutually beneficial and as near to equal as possible?

For an answer, we may look to a concept called "aid effectiveness". This is a very valuable orientation for partnership-building and the productive distribution of science aid.

The values of "aid effectiveness" place responsibilities on both donor and recipient.

* Donors must harmonize their efforts in a country and coordinate their funding with goals set by the country;
* Projects must be well-evaluated before they receive aid;
* Strong local structures must be in place to support the project and maximize the value of the aid;
* Ambitious collection of data in the developing nation helps to demonstrate the need for a project or the project's impact. This in turn promotes transparency and good governance.

Ladies and gentlemen,

So much has changed in the past 20 years, even in the past 10 years. "Aid effectiveness" now helps to shape development relationships – and we will see this clearly as the post-2015 Sustainable Development Goals take effect. This is a very important moment for developing nations, and very promising for those with the vision and energy to take advantage.

The moment is a particularly important for CARICOM, and the Caribbean Basin. There are currently 17 draft goals, broadly focused on ending poverty and improving conditions for poor people. But these goals will have a strong orientation toward the environment – they focus directly on climate, oceans, forests, biodiversity, food security, water, energy and agriculture. Science, clearly, is central to achieving these goals. Similarly, social sciences will be important for goals such as ending poverty and empowering girls and women.

If the Millennium Development Goals are a guide, the SDGs will exert a powerful gravity to shape the funding environment. In fact, a major conference on financing for the SDGs will be held this July in Ethiopia.

This should not be seen as a gold rush for developing nations. But it is an incredibly promising opportunity for nations to re-assess needs, develop creative proposals, and assemble strong partnerships – and then to join the competition for funding.

Just as important, it is an opportunity for CARICOM to offer its leadership. Other small island nations, other sensitive coastal regions, are eager for Caribbean scientists and policymakers to share their experience and their insights on managing the profound challenges of our time.

Thank you very much.