

**CARIBBEAN CONFERENCE ON TRADE POLICY, INNOVATION GOVERNANCE AND
SMALL STATE COMPETITIVENESS**

**External Trade Agreements as Potential Innovation Systems Development Policy
Instruments**

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Introduction

The Caribbean Region's international competitiveness and ability to create wealth are in part contingent on the Region's creation and application of new technology, products, processes, and services, its absorptive capacity, the prevalence of entrepreneurship, and the development of a knowledge-based economy. Realising this, economic transformation will continue in large measure to be influenced by the extent to which strengthening of regional innovation systems is advanced.

In circumstances where the Region's innovation systems are characterized by, inter alia, low expenditure on Research and Development; low output; insufficient and underutilized qualified human resources; weak systemic linkages and knowledge flows. In addition, the innovation systems of the Region are open and heterogeneous. There is an inherent challenge in creating appropriate policy responses to address sustainable innovation-led competitiveness across all productive spheres.

In a post Washington Consensus era, there has been some recognition of the expanded role that trade agreements, particularly bilateral trade agreements, can play in addressing not only tariff and non-tariff barriers to international trade and commerce but also some of the trade-related capacity constraints that impede the ability of developing countries to participate gainfully within the international market space.

If one accepts the premise that innovation is a trade-related issue, the argument can be made that the role of trade agreements can be expanded to bridge policy interventions designed to foster innovation development and strengthen innovation systems on the one hand, and on the other, policy interventions intended to create the appropriate trade, investment, legislative and regulatory environment that would be conducive to innovation-led economic growth.

As reflected by the architecture of the provisions in the CARIFORUM-EU EPA as well as the CARICOM-Canada Negotiating Mandate, the external trade policy of the Region has already begun to evolve a unique expression of the nexus between trade, innovation and development.

This paper will argue that external trade agreements can and should be used to leverage partnerships with international trade partners in a mutually beneficial manner to address the advancement of the Region's trade-related innovation-led competitiveness through the negotiation of commitments that would help to ameliorate innovation development challenges, including structural and infrastructural deficiencies, as well as innovation systems failures which contribute to fragmentation and poor interaction between the various components within the innovation systems.

Innovation is critical to CARICOM Economies

CARICOM countries' economic development needs to be understood within the prevailing paradigm of the global knowledge economy. In order to increase economic growth and improve their standards of living, Caribbean countries need to work on their competitiveness and productivity.¹ Although there are many determinants of competitiveness and productivity, the ability of CARICOM countries to continuously differentiate themselves from their competitors by innovating – creating more value to their products and services than their rivals – is especially critical to their long term competitiveness.²

CARICOM's innovation-driven competitiveness is not determined by either the abundance or paucity of traditional factor endowments of land, capital and cheap labour, in the same manner as under industrial economic paradigms of the past. In the context of the global knowledge economy, success is primarily

¹ See Williams, D.A and Clegg, P. (2008) 'Editorial: Competitiveness and Caribbean Economies: Emerging Issues and Future Directions'. The Round Table, 97(396): 335-340

² World Economic Forum (2011) The Global Competitiveness Report 2011-2012, Geneva: World Economic Forum

dependent on “the use of ideas rather than physical abilities and on the application of technology rather than the transformation of raw materials or the exploitation of cheap labour.”³

The Caribbean has a demonstrated history of invention and has shown to be a hotbed of ideas and ingenuity. However, innovation is a process that extends beyond creativity. Innovation is a market process that involves the conversion of creativity and new or existing knowledge into new products and processes that deliver consumer value within the marketplace.⁴ Innovation is, therefore, the commercialization of creativity. By concentrating economic activity at the higher end of the value chain spectrum, innovation enables countries to constantly upgrade and achieve inclusive economic growth by creating jobs for both high skilled and lower skilled labour, producing world class exports, and fuelling the growth of industries across all productive sectors.⁵

However, notwithstanding its immense creative diversity, it is in the area of innovation specifically that the CARICOM region has been demonstrably less successful to the detriment of their economic performance. In the Global Competitiveness Report 2011-2012, of the assessed one hundred and forty-two (142) countries, seven (7) CARICOM countries were evaluated.⁶ These were Barbados, Trinidad and Tobago, Jamaica, Guyana, Belize, Suriname and Haiti. Of the seven, Barbados scored the highest in the Global Competitiveness Index, ranking at 42 with a competitiveness score of 4.44, compared to other

³ See World Bank (2003) Lifelong Learning in the Global Knowledge Economy: Challenges for Developing Countries. Washington, D.C: World Bank.

⁴ See Kraemer-Mbula, E. and Wamae, W. (2010) ‘The Relevance of Innovation Systems to Developing Countries’. In: Kraemer-Mbula, E. and Wamae, W.ed(s). Innovation and the Development Agenda. Canada: Organisation for Economic co-operation and Development (OECD) and International Development Research Centre (IDRC).

⁵ See Dutz, M.A., Kessides, I., O’Connell, S. and Willig, R.D. (2011) ‘Competition and Innovation-Driven Inclusive Growth’. The World Bank Policy Research Working Paper, 5852. The empirical research conducted by Dutz et al suggests evidence against the hypothesis that innovation based growth “does little for poorer segments of society, while generally aggrandizing the already established and prosperous”.

⁶ World Economic Forum, op.cit.

CARICOM more developed countries (MDCs) namely Trinidad and Tobago and Jamaica which ranked 81 and 107, with scores of 4.00 and 3.76 respectively.⁷

In assessing the competitiveness of the countries, twelve (12) factors, affecting competitiveness were evaluated based on certain indicators.⁸ As the Report indicated, there is an interrelation between the factors, where strengths or weaknesses in any one area may have an impact either positive or negative on another. For example, the quality of human capital with respect to the levels of education and training is essential to innovation performance. The Report also suggests that each of the factors will affect each of the countries in different ways and will be of differentiated relative importance to each country depending on their stages of development. It is therefore appreciated that as a less developed country (LDC) with a range of critical issues stemming in part from recent devastation from natural disaster, Haiti's performance relative to the twelve factors of competitiveness should not be surprising. For all of the CARICOM countries, as a consequence of their size and openness, scoring higher on factors related to market size and macroeconomic stability would be challenging. At the same time, improvement in the quality of their educational systems, and improvement in the efficiency of their goods and financial markets would generally improve their competitiveness, but only to a certain extent. Whilst efficiencies in these types of competitiveness factors achieve diminishing returns overtime, only **innovation** can result in sustainable growth in the long term.⁹

Therefore, regardless of their current stages of development, innovation is critical and a priority to CARICOM economies in order to improve their competitiveness and economic growth and to close the widening gap between themselves and other more competitive nations of the world. Unfortunately, in

⁷ *ibid.*, Compare these rankings and scores to Switzerland which ranked first with a score of 5.74.

⁸ *ibid.*, p. 4-8. These factors or 'pillars' of competitiveness are as follows: the quality of the institutional environment; the expanse and efficiency of infrastructure; macroeconomic stability; the quality of health and primary education; higher education and training; goods market efficiency; labour market efficiency; financial market development; technological readiness; market size; business sophistication; and innovation.

⁹ *ibid*

terms of their overall scores, even though each of the seven CARICOM countries scored relatively higher scores with respect to basic competitiveness factors such as infrastructure, institutional environment, health and primary education, the worst scores were recorded in the area of innovation, which is in part accountable for their overall weak scores and ranking within the Competiveness Index.

Conditions do matter

There is, albeit, nothing intrinsic in CARICOM countries that would make them *incapable* of innovation.¹⁰ However, it would be disingenuous to suggest that the conditions that obtain in CARICOM economies that derive from their development profile do not impact on their innovation output and performance.¹¹

Many commentators have already expounded the development characteristics that constrain the performance of the CARICOM group of countries.¹² As small middle income developing countries, the CARICOM group share several characteristics that challenge their sustainable economic development. Such characteristics include small size, high debt to GDP ratios, brain drain, vulnerability to external shocks stemming from economic openness, environmental fragility, proneness to natural disasters, and dependence on foreign sources of finance.

With regards to the constraints of small size for example, CARICOM economies lack a diversified range of domestic resources which creates import dependency. Furthermore, small size further engenders small domestic markets and firms, poor economies of scale, and lack of domestic competition, which in

¹⁰ See Singh, L. (2004) 'Globalization, national innovation systems and response of public policy'. International Journal of Technology management and Sustainable Development, 3(3):215-231

¹¹ See Aubert, J. (2004) Promoting Innovation in Developing Countries: A conceptual Framework. World Bank Institute.

¹² See for example: Bernal, R. (2010) US Foreign Policy towards the Caribbean Community (CARICOM): Economic Aspects. Testimony to the Subcommittee on the Western Hemisphere of the U.S. House of Representatives. Hearings on U. S. Policy Towards the Americas in 2010 and Beyond, and Griffith, R. (2010) 'Development Challenges Facing Small Island Developing States (SIDS)'. The Journal of Public Sector Policy Analysis, 4 (December 31, 2010): 165-172

turn impact CARICOM's ability to competitively produce goods and services for domestic and international markets. Though increased competition would not likely have much effect on laggard firms, closely competing firms would likely respond to increased competition by innovating.¹³ In any regard, the lack of competition does not incentivize CARICOM firms to innovate. Furthermore, lack of economies of scale also reduces the ability of CARICOM firms to spread the costs of innovation and reduces their ability to receive higher returns on investment in innovation.

At the same time, as small countries, CARICOM countries also have small-scale innovation systems. Innovation systems are regarded as networks of interacting private and public institutions, such as firms, universities, government agencies, and individuals aiming at the creation, production, diffusion and use of new knowledge and technologies. Two vital elements are essential for optimal functioning innovations systems and innovation performance. In the first instance, how well each component of the system performs in isolation is important. At the same time, and perhaps more importantly, performance also depends on how well each component of the system interacts with the other. Therefore, the attributes of the components of the system as well as the attributes of relationships and linkages between the components matter.¹⁴ For example, the various actors and institutions that make up the innovation system would not only have to be present within the system but they will be required to have absorptive capacity, that is, the ability to recognize, appreciate and utilize the value of technology, knowledge and creativity and then work together and utilize the systemic institutions to commercially manipulate that value. Further, amongst the actors and the institutions, there will be a need for trust and shared perspectives and values to sufficiently align their competencies and motives for the purpose of collaboration. In small scale innovation systems of small developing countries like

¹³ Aghion, P., Bloom, N., Blundell, R., Griffith, R. and Howitt, P. (2005) 'Competition and Innovation: An Inverted-U Relationship'. *The Quarterly Journal of Economics*, May 2005: 701-728

¹⁴ Wieczorek, A. and Hekkert, M. (2012) 'Systemic Instruments for systemic innovation problems: A framework for policy makers and innovation scholars'. *Science and Public Policy*, 39: 74-87

CARICOM, the systems components as well as the relationships between the components tend to be weak, poorly constructed and fragmented.¹⁵ Therefore, within CARICOM, the innovations systems tend to be underdeveloped, ineffective and inefficient.¹⁶

Having noted all these challenges that confront their economic growth and innovation systems efficiency, but recognising that achieving innovation output and performance is important to CARICOM economic growth, what policy options to develop innovation led growth should apply for CARICOM states?

It is recognized in the literature that a cookie cutter approach to innovation development would be ineffective as it would be critical to account for the variances and conditions that apply within each economy and correlating innovation system.¹⁷ It follows that the methods adopted by developed countries would not be appropriate because the conditions and challenges that affect CARICOM countries are very different to the conditions that feature in developed countries. Innovation development strategies and policies for the CARICOM region need to be tailored to accommodate their needs.

In this regard, it is important to recognize that economic development is not a linear progression. Consequently, neither should development policy planning be linear. Instead, policy planning should be disposed toward the creation of dynamic frameworks and environments that would create the best opportunities for the Region to become a more innovation driven economy and at the same time afford an enabling environment that would nurture the improvement of efficiencies in other areas that affect their competitiveness and development.

¹⁵ Aubert, op.cit., p. 9

¹⁶ Further evidence of this is suggested by the findings outlined in Jansze, W., Lahiri, D. and Tuninga, R.S.J (2008) 'Gaining Competitive Advantage by Technological Innovation in Emerging Countries: Nature or Nurture for Suriname?'. *Journal of Transnational Management*, 13 (3): 226-243

¹⁷ Aubert, op. cit., p. 6

In any regard, although innovation is taking place within the Region, an innovation-driven economy will not emerge in the Region stochastically. The good news for CARICOM policy makers is that there is opportunity to experiment and to create approaches that would result in policy approaches most appropriate to their needs. In that regard, policy makers are in a position to draw upon a number of development policy disciplines to help nurture innovation-driven competitiveness and development within CARICOM.

One such area is the discipline of external trade, specifically with regard to the use of external trade agreements as innovation development policy instruments. If one accepts the premise that innovation by its very nature is a trade-related issue, then one should be able to accept the notion that trade agreements can be used to foster innovation development and strengthen innovation systems in order to realize innovation-led competitiveness and economic growth.

The Nexus between Trade, Innovation and Development: A CARICOM Perspective

According to economic theory, free trade confers large efficiency benefits by fostering the international division of labour and by disseminating the gains from technological progress. This produces economic growth, which in turn should lead to development and contribute to the eradication of poverty. This premise was a pillar of the neo-liberal underpinnings of the Washington Consensus which placed the fundamentalism of the market at the heart of the stabilization and growth of the economies of the developing world. While other tenets of the Washington Consensus have faded into oblivion after its reign of popularity that ran for over a decade, the tenets of trade liberalization have prevailed because even though trade liberalization does create dislocation and costs, the benefits to be derived are considered to outweigh those costs.

However, CARICOM countries have successfully advanced the argument that liberalization and free market forces on their own are insufficient for their economies to realize economic gains and that there are constraints that impede their ability as small vulnerable developing countries to absorb and adjust to the costs and dislocation that do arise from liberalization. They have argued that in order for economic growth to be realized through increased trade liberalization, such constraints would need to be taken into account in the approaches to liberalization.

In this regard, as part of the strategic response to the adjustment challenges stemming from trade liberalization, CARICOM countries in their negotiations with developed and developing trade partners alike, have pressed for the recognition of their case for Special and Differential Treatment. The CARICOM/Cuba Agreement for example takes into consideration the differences in the levels of development between Cuba and the LDCs of CARICOM in the implementation of a programme of trade liberalisation between the Parties.¹⁸ Furthermore, Special and Differential Treatment was not only pursued in the negotiations of the Free Trade Agreement of the Americas (FTAA) but also was a hallmark of the CARICOM (CARIFORUM) negotiating strategy in the CARIFORUM-EU Economic Partnership Agreement (EPA) negotiations.

CARICOM external trade policy has also emphasized that external trade agreements, in particular those with more developed trade partners, should go a step further and play a role in addressing some of the trade-related capacity constraints that impede the ability of developing countries to participate gainfully within the international market space. CARICOM's external trade policy and strategy has therefore largely reflected a rejection of the notion that the relationship between free trade and development is axiomatic. CARICOM's external trade policy has also sought to promote the concept that for small

¹⁸ See Gonzales, A.P. (2002) 'CARICOM, the European Union and International Linkages in External Trade Negotiations'. Miami European Union Centre Working Paper Series, 2(4)

developing countries additional intervention within external trade agreements is necessary to secure the potential development benefits of free trade.

CARICOM has also demonstrated the adoption of a similar stance in treating with the related nexus between trade and innovation. We've already noted that increased innovation can lead to the expanded development of tradable assets. Furthermore, trade facilitates access to resources and inputs, including knowledge and technology that can be used to develop innovation.

At the same time, the liberalization of domestic markets compels competition which, as we have also noted, is thought to stimulate innovation. Furthermore, incentivized by secured access to wider, larger markets through external trade agreements, it is thought that firms would be inclined to continue to innovate. Beyond liberalization, external trade agreements would themselves include elements and disciplines in a number of economic areas, such as competition policy, investment and government procurement that would influence the creation of an enabling environment for innovation activity. Lastly, as trade engenders greater global convergence, the development of innovations that improve the processes of trade, such as in the areas of communications and transport, would likely expand.

While the relationship between trade and innovation has been widely discussed and verified, recent findings suggest that although trade stimulates innovation, the benefits will arise only if the right conditions hold.¹⁹ This suggests then that the nexus between trade and innovation specifically is also not axiomatic. Therefore, in establishing frameworks for external trade, CARICOM has also promoted the need to adopt additional interventions that would create the right conditions for the dynamic benefits of trade to materialize within their economies and their innovation systems.

¹⁹ Fernandes, A. and Paunov, C. (2010) Does Trade Stimulate Innovation? Evidence from Firm-Product Data. France: OECD Development Centre

To achieve this end, CARICOM has sought to strategically use international partnerships. Developing countries have become increasingly reliant on the use of international partnerships to overcome challenges that are too difficult for any single country to address by itself, increase the impact of policy interventions, and to leverage, combine and capitalize on complementary strengths and capabilities of others to achieve their own development objectives.²⁰ Therefore, in the negotiation of the architecture of its external trade agreements, CARICOM has sought to use the notion of partnership under the paradigm of 'development cooperation' to help evolve the 'right conditions' for the relationship between trade, innovation and development to evolve optimally within their unique economies.

Partnership under the EPA: An Expression of CARICOM's perspective on the nexus between trade, innovation and development

For the first time in international trade agreements, the EPA introduced the explicit expression of Innovation as a trade related issue in its own right and articulated the importance of cooperation with respect to competitiveness, innovation and development.²¹ In the EPA, the main thrust was to establish provisions that would facilitate and promote innovation.²² In that regard, the provisions prioritized areas for cooperation, and emphasized access to European support programmes and activities. In this context, in order to improve competitiveness and to increase innovation output, the provisions called upon the Parties to cooperate to promote CARICOM creativity and design, and bolster science and technology within the Region. Additionally, the provisions underscored collaboration to facilitate expanded CARICOM participation in research and development, as well as innovation projects in the areas of eco-

²⁰ Springer, C. and Roberts, R. (2011) Partnerships for Sustainable Development in Small States. London: Commonwealth Secretariat

²¹ Musungu, S.F. (2008) Innovation and Intellectual property in the EC-CARIFORUM EPA: Lessons for other ACP Regions, Germany: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)

²² See Economic Partnership Agreement (The CARIFORUM States – The European Community and its Member States) (signed October 15 2008) Title IV, Chapter 2, Section 1.

innovation and renewable energy, the transfer of technology to the Region, exchanges and linkages between economic operators, and participation in European knowledge networks and communities.

In that regard, the partnership was leveraged to allow CARICOM countries to tap into Europe's advanced innovation system to afford them opportunities to improve their innovation capacities. In that regard, the provisions as expressed were aimed primarily at improving CARICOM's access to and use of innovation systems components that are more advanced than those available within its own domestic innovation systems, including knowledge and expertise, as well as innovation developing institutions.

However, as one critic opined, the provisions did not include a structure, including with respect to specific obligations and mechanisms that would give effect to the intent and broad ambition expressed through the provisions.²³ Furthermore, while the provisions did seek to connect CARICOM to innovation networks within Europe, the provisions did not go as far as to integrate measures or mechanisms that would better ensure that the quality of those linkages would be commensurate with CARICOM's needs.

Importantly however, the EPA has set the precedent for the use of external trade agreements to deepen CARICOM's integration into global networks and supply chains of knowledge, creativity and innovation. Having done so, the EPA has created new opportunities for policy makers to use strengths and complementarities of other trade partners to intensify CARICOM's global network integration process.

Advancing CARICOM's integration in global innovation networks and supply chains of creativity and knowledge

As CARICOM undertakes the negotiation of the CARICOM-Canada trade agreement, negotiators and policy makers have been exploring ways of building upon rather than replicating the approaches

²³ Musungu, op. cit., p. 17

previously undertaken under the EPA. In the context with Canada, the principle would be same – a partnership would be created for CARICOM to tap into and benefit from a more developed trade partner’s advanced innovation systems. However, in this context, the modalities and objectives that would define the partnership would be nuanced.

While the EPA obligations related to the promotion of innovation are reciprocal, CARICOM is understood as the primary beneficiary of the cooperation. In the context with Canada, reciprocal obligations are being contemplated but with the intent of promoting mutual and simultaneous commercial benefit for both CARICOM and Canada. To do so, the establishment of a framework for collaboration that would be focused on directly improving and expanding practical opportunities for CARICOM’s shared participation in the commercialization of CARICOM’s and Canada’s ideas, ingenuity and creative diversity is being considered. As indicated previously, for CARICOM, engagement in creativity commercialization processes has been particularly challenging. While the EPA’s overarching ambition is to expand and improve innovation output and performance, the agreement did not include a specific structure through which cooperation would give effect to that outcome. In contrast, a more structured arrangement is being proposed under which CARICOM innovation actors would be afforded opportunities to engage in a range of collaborative commercially oriented activities with Canadian innovation systems actors that would improve CARICOM’s prospects for developing new products and services, especially weightless goods and services, and improve its prospects for exploiting the value of those new products and services.

The framework would offer an appropriate structure through which CARICOM’s innovation capacity and access to Canada’s innovation systems components and resources, including Canada’s knowledge and technological resources, would be effected. In addition, the framework would also be structured to include modalities that would seek not only to encourage improved frequency of interaction between

Canada's and CARICOM's innovation systems actors but would also seek to better ensure that such interaction once established would be progressive and mutually beneficial to both Sides. In that regard, the modalities would also be concerned with improving trust and reducing cognitive distances amongst the actors of CARICOM's innovation systems and between such actors and those of Canada's innovation systems.

The conceptual framing of a partnership away from notions of 'aid' towards the notion of mutual commercial gains is an important evolution. The collaborative orientation of a partnership of this nature which would also offer opportunities for Canada to expand its innovation output, would likely be deemed more attractive to Canada than would a partnership in which the gains of cooperation would primarily be one sided at least in the short to medium term. Moreover, a partnership based on commercial principles also offers an important signal about the Region's assessment and assertion of its own creative value and ownership of that value. The proposed approach as well as the one adopted in the EPA would create a dynamic and evolving framework through which the Region would be seeking to integrate itself more effectively and beneficially into the global innovation network and thereby increase its chances of becoming a competitive innovation-driven economic region.

Recommendations and concluding remarks

Developing the appropriate policy responses to promote innovation driven competitiveness is not an exact science. The approach posited in this paper offers a demonstration by policy makers and negotiators of the willingness to experiment and proactively try to create and to innovate policy approaches in an area critical to the development of the CARICOM economies.

It is not yet apparent whether utilizing trade agreements in the manner suggested here will successfully help bring about the desired outcome. Certainly, further research will be required to empirically validate the hypothesis of this paper. In that regard, it is difficult at this stage to begin to test the hypothesis because the EPA has not yet been fully implemented. Furthermore, the approach in the context of the CARICOM-Canada negotiations that has been proposed here is yet to be negotiated.

When the time of reckoning of this approach to CARICOM trade agreements eventually arises, a measure of whether innovation-led competitiveness and innovation performance improved or declined as a corollary of the structures established under CARICOM's external trade agreements would need to be benchmarked against the current CARICOM innovation performance. Therefore, a progressive and systematic evaluation of the state of play of CARICOM's innovation output is necessary.

In undertaking the benchmarking of CARICOM innovation performance, there would be a critical role to be played by a range of agencies from the private and public sectors. The Universities would have a major part in coordinating the collection of data and in the determination of the metrics and indicators for assessing innovation activity. Regarding the latter, as Joseph Stiglitz expressed "In an increasingly performance-oriented society, metrics matter. What we measure affects what we do. If we have the wrong metrics, we will strive for the wrong things".²⁴ Therefore, it would also be necessary to ensure that the metrics developed are appropriate for CARICOM innovations systems and their economies. An innovation benchmark index could however reflect an assessment of the number of companies that have introduced new or significantly improved products/processes; the extent to which companies have developed new products and processes, as well as developed new designs and intellectual property; and the extent to which innovation has impacted corporate revenues.

²⁴ Stiglitz, J. (2009) 'Towards a better measure of well-being'. Financial Times, September 13. Available from <http://www.orcacomputer.com/isqols/content/NEWS/france.pdf>

To support data collection, firms would also need to integrate innovation benchmarking into their accounting practices, which may require a shift in business cultural responses to innovation. It is therefore appreciated that governments may also need to consider institutionalizing incentives to encourage this kind of participation at the firm level.

Given that innovation is about commercializing creativity, in addition to benchmarking innovation, there is a need to benchmark CARICOM levels of creative expression that are independent of innovation activity. History supports the evidence of CARICOM creativity but in going forward it would be insufficient to assume that levels of creativity are not decreasing over time. Tracking levels of creativity would be important to innovation development policy planners because declines in such levels would impact innovation development and would therefore warrant redress through strategic policy responses.

It will also be important for policy makers to monitor and analyze innovation and innovation policy benchmarks of the countries with which CARICOM may have an interest in establishing economic partnerships in the future. Such information would help CARICOM governments to identify the strengths and complementarities of those countries' innovation systems which can then be used to map CARICOM interests in establishing innovation development partnerships with such countries. It would also be useful to track innovation benchmarks of countries with which CARICOM has already established innovation development partnership frameworks, as the information could help CARICOM to further work with the country partner to refine their cooperation and specific areas of collaboration.

At the same time, it should be further recognized that external trade agreements are but a single instrument in what must evolve as an arsenal of tools to realize the Region's development vision. In order to give full effect to our innovative potential, appropriate stimulation and incentives will need to arise from within other disciplines and policy spheres. For example, governments could examine fiscal

incentives to stimulate investment from domestic and foreign sources in R&D. Furthermore, governments could establish measures to ensure that their financial markets are structured appropriately to provide financial support to innovation activity particularly for the smallest firms. Business support organizations will also need to take up the mantle in transforming business culture as it relates to innovation by encouraging expanded innovation activity amongst domestic firms through promotion campaigns and technical assistance.

What is apparent now is that the Region must be steadfast in its efforts to address this burgeoning policy issue. In that regard, the work already being undertaken by agencies such as the Caribbean Export Development Agency and by the Shridath Ramphal Centre, will continue to be important. In the end, only a concerted coordinated thrust will be sufficient to drive CARICOM's innovation-led competitiveness.

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