Primacy of Science Advice in The Small islands of the Caribbean

Science advice is a very scarce but indispensable commodity in many parts of the Global South, especially in regions like the small fragile islands of the Caribbean. This reality has become more pronounced in the wake of accelerated rates of change in several crucial areas of life including disease and public health, weather and climate, social dislocations and disorder, business and production, as well as poverty and hunger.

Ideologies of greed have elevated interminable economic growth to the singular indicator of human success, outstripping the regenerative capacities and non-renewable assets of the planet, fuelling unmanageable waste and pollution, while threatening the web of life with wild climate extremes. Prominent in many of these malfunctions are the indiscriminate misuse of scientific discoveries and the improper application of emerging scientific technologies in pursuit of ever accelerating economic growth in a world of finite resources. This persistent assault on nature is stripping humankind of the abilities to effectively adapt, preventing the environment from recovering and destroying flora and fauna at unimaginable rates. In so doing, we have created economies that are making the poor more miserable, while allowing many of the rich to shirk their responsibilities in contributing to the wellbeing of society. At no time, therefore, is the need for wise science advice more compelling globally, than now.

Before meaningful science advice can be delivered however, there must be extant sensitive and aware scientists willing to bridge the gap between science and the crying distresses of society as well as formulate cogent strategies to address these modern day difficulties. Sadly, in most of the Caribbean islands, science is still taught as a legacy of colonialism to provide background information for professionals in a variety of fields, but not as the ultimate guide to decision making and worthwhile actions. Science education is focused on the classical science subjects, such as biology, chemistry, physics and mathematics. Often neglected is how these proficiencies influence society and impact quality of life. Consequently, science advice is routinely not given and often not sought. Very graphic in this is the almost total absence of scientific reasoning in political, social and civil discourse. Because of scientific inattention and an inability to respond effectively to adverse occurrences, there is widespread loss of confidence in leadership, especially among the jobless youth and the suffering poor. Fortuitously, scientists still hold a distant respect among denizens of the Caribbean on which remediation can be nurtured.

It is clear then that science education in the Caribbean must include instructions that impart a better understanding of how scientific insights and technological advancements wield influence on economic development and the astuteness of the general public. Without this appreciation, community interest and vigour will remain fixed on the classical entrepreneurial and business aspects of economic activities, often leaving crucial technological considerations aside as external inputs to be purchased with scarce foreign currency.

It is no wonder then that there are very few science advisers, while economic and commercial experts abound, many of whom have little exposure to even a modicum of scientific education or purpose. Not only are political and business leaders ill equipped to effectively apply scientific information, but the average person, although fortuitously dependent on scientific implements and substances, cannot properly navigate them in their daily lives. Furthermore, options for small businesses and entrepreneurial activities are narrowed by unawareness of the economic latitude and innovations that the flexibility of science and its technologies can bring to improving and upgrading these endeavours.
The unfolding Fourth Industrial Revolution (FIR) is widening the gulf between the scientifically aware and blithely unaware, with dire consequences for competition, jobs and national sustenance. The Caribbean islands are therefore facing serious challenges from not sufficiently embracing science, which underpins the development and use of emerging technologies that are driving the FIR. Scientific incompetency is diminishing regional competitiveness in production, industry and trade, as well as the provision of food, health and environmental stewardship. This failing has derailed the halting attempts at poverty eradication, aggravated the prospects for social harmony and the harnessing of languishing young talent. The old ways of depending on polluting mining exports and the old mainstays of tourism and other low level services, no longer offer economic sufficiency. This has fostered growing disillusionment, crime and violence, which urgently demand scientific inputs to provide creative and sustainable solutions.

It is clear then that Caribbean economies must be willing to embrace new options by relying on higher technologically led services, advanced agriculture, more efficient light manufacturing and more thoughtful use of the surrounding seas and trans-shipment possibilities. The tendency to try to fill gaps with the occasional project, funded by multilateral and bilateral agencies as part of their externally derived mandates, is inadequate, as they occur in fragmentary and individualistic fashions, without proper shared evaluation or their results embedded in retrievable domestic institutional memory. The national scientific advisory capacity to ensure that these obligations are met, either do not exist, or are weak, and consequently ignored. Additionally, versions of similar projects are implemented in different jurisdictions without the knowledge of others in the region, or worse, later in the same country, without any recollection of previous attempts. It is therefore compelling that local science advice along with the willingness to accept and act on such information, is badly needed in the Caribbean.

It is obvious that some territories are too small to mount the kind of crucial science infrastructure that would adequately fulfil their scientific requirements. The logic is compelling for a shared system that would serve the needs of all participating members. As it stands, many of the larger islands do not have functional advisor offices and resort to using external advice themselves. Many islands do not have structured ways to seek science advice nor ways to routinely include scientific evidence in deliberations. Unfortunately, many political and private sector functionaries in the region give only token acclaim to science and technological advice. The folly of this is palpable in the current Covid-19 pandemic which highlights the indispensable role of scientific and technological information in resolving major national and international problems and calamities.

Reasonably then, small islands must devise cooperative and collective ways to institute and share scientific information for the benefit of themselves and the entire region. However, it should not be forgotten that the practicality of scientific information is manifested in its applications. Therefore just as generating and sharing information have to be collectivised, so too must aspects of implementation be incorporated into an integrated scientific knowledge framework.

Since science and technology is largely the responsibility of politicians in the Caribbean, science advisors must develop the skills to effectively communicate with them by translating scientific results and demonstrating ways that technological innovations may contribute to reversing the decline in the region’s socio-economic fortunes. Similarly, they have to gain the confidence of the private sector and spur them to invest more in research and development and science and technology, while they have to devise strategies to influence civil society to advocate for the use of science for improved quality of life.

With this as a background, any competent domestic science advisor must be confidently endowed with a firm understanding and use of the scientific research method in both the physical and social
sciences, as well as have full command of current local developments, history and culture. They must also follow, learn, interpret and introduce the broad aspects of the emerging sciences and their technological products, as they relate to Caribbean aspirations. Advisors must therefore have familiarity with codified information, as well as tacit knowledge, such as how to negotiate for technologies, and who can best assist with their transfer, use and adaptation. Close relationships between domestic and global advisory bodies and experts must therefore become the norm.

The science not done today will be the regrets of tomorrow. Consistent and respected science advice will therefore lessen the need to frantically and wastefully grapple for solutions in a rapidly changing scientific world.

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