Blockchain Technology, Vanilla Production, and Fighting Global Warming

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INTRODUCTION

"Climate change is the defining issue of our time." The United Nations has predicted that "From shifting weather patterns that threaten food production, to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale." Nor is the U.N. alone in calling for urgent action. World leaders have spoken out about it including Presidents Xi Jin-Ping (China), Vladimir Putin (Russian Federation) and Joseph Biden (USA).

Although everyone agrees we must keep global warming from rising more than one-and-a-half degrees Celsius, this unanimity does not extend to how it will be accomplished. Developing nations have been arguing that they should be excused from giving this priority while they focus on growing their economies. As Shyam Saran points out, "There is a difference between the emissions of developing nations which are 'survival' emissions and those of developed countries which are in the nature of 'lifestyle' emissions. They do not belong to the same category and should not be treated equivalently" (Saran, 2015).

Saran warned that if we "blur this distinction [between the two kinds of emissions]," we have "to accept the argument that because 'we got here first, so we get to keep what we have, while those who come later must stay where they are for the sake of saving the planet from the threat of climate change'…."

Are developing nations saying they do not intend to help in the fight against global warming? No, they are not. They understand that would make it all but impossible to achieve the goal of preventing a rise in average temperature of one-and-a-half degrees Celsius within the next decade. Even as he was upbraiding the developed nations for "their historic emissions" Saran appealed to them to contribute the funds and transfer the technologies to developing countries needed to help them avoid dangerous climate change" (Saran 2015).

Is there a way to help developing nations grow their economies over the next ten years while taking serious steps to control air and water pollution? The author is convinced there is. It was proposed in 2015 by Saran. He rhetorically asked, "Why not create a global technology platform which can then be disseminated as global public goods?" In this author's opinion, if we are to achieve the goal of preventing catastrophic global warming, we must rally behind Saran's suggestion for a global technology platform to share the best ideas for fighting global warming.

Implicit in Saran's call for assistance to developing nations in growing their economies is the idea that a **benefit-cost analysis** done correctly would lead to donor nations offering to assist by selecting those technologies that would most advance the goal of growing the recipient nation's economy.

From this standpoint, an especially valuable form of assistance for implementing the global technology platform is offering to share **blockchain** technology with the developing nations of the world. The decision to do this must be made soon, however, as China is ready to offer this technology based on technology standards it is endorsing. Allowing China's authoritarian regime to impose its technical

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standard and to exercise control over who has access to the technology opens the door to their "weaponizing" it, an undesirable outcome as far as freedom loving peoples of the world are concerned.

MAIN FOCUS

This paper inquires whether it is cost effective to apply **blockchain** technology to vanilla production in the island nation of Malagasy (more familiarly known as Madagascar), one of the most impoverished countries of the world. (In 2012, according to the C.I.A. World Factbook, Madagascar ranked 178 out of 188 entities [nation states for the most part] on the G.D.P. per capita, a standard measure used in macroeconomics.

Although more will be said about **blockchain** below, here it is useful to note a **blockchain** is essentially a digital ledger of transactions that is duplicated and distributed across the network of computer systems of stakeholders. Before diving into the case study of **blockchain** technology applied to vanilla production in Madagascar, however, it is useful to address the question of what is the strategy we need to use to partner with developing nations in the fight against global warming?

A Strategy for Economic Development of Developing Nations

The author maintains that partnering with developing nations to fight global warming begins with accepting that their primary objective is economic growth and development. People of these countries want to live in housing that is warm in the cold weather and cool in the hot weather. They want modern ovens and microwaves to cook because these are time and work saving devices. They want vacuum cleaners and other labor-saving equipment to clean and keep their homes looking nice. And they want fast transportation to get to their jobs but also to go out and enjoy themselves.

An acceptable plan for controlling air and water pollution leading to global warming must provide a feasible means for the country to acquire the money its inhabitants need to achieve their lifestyle goals. Clearly this plan for each country must have certain common features.

First, although tailored to meet their distinct circumstances, each country's plan will be composed insofar as possible of standardized elements. Next, we must tackle the question of what the appropriate elements are. An element such as planet friendly ways of manufacturing concrete and asphalt would be part of every country's plan (Watts, 2019). The same might be said of **computer assisted diagnosis (CAD)** in health care. However, perhaps in the Republic of the Congo in Africa, the computerized system might be heavily oriented to treatment of parasitic diseases endemic to tropic countries whereas in Argentina it might be heavily weighted to heart disease and cancer (J. L. Fisher, 2018).

Second, every country's development plan must have an appraisal of what areas of the economy might be suitable for investment that would help the nation earn foreign exchange it needs to buy what it cannot produce. For instance, suppose the country sees tourism as an area where it can invest to earn foreign exchange. In the case of Madagascar, it might decide that there is a demand from foreigners to visit the country to see its scenic wonders including its unique fauna and flora. However, before the tourists from developed nations will come in large numbers, Madagascar will need to invest in hotels and other amenities and infrastructure that meet European standards of comfort and technological advancement.

Transfer of technology to developing nations that allows them to achieve economic growth in planet friendly ways can be encouraged in various spheres. Transportation is a good example. In populous countries such as Nigeria, Indonesia, and India, a**erotropolises** could be built to speed the flow of goods

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