

Dominica Association of Teachers 13th Biennial Convention

Presentation of Mrs. Farrah Rocque-Carriere – Featured Speaker

We change our planet, our environment, our humanity every day, every year, every decade, and every millennia. If we each take responsibility in shifting our own behavior, we can trigger the type of change that is necessary to achieve sustainability for our race or this planet.

Yehuda Berg American Rabbi and Author.

In other words “The power is in **our hands**”.

Impacting Behavioral Change To Combat Global warming

The phrase global warming is nothing new and it is not a term that belongs to the second millennia. It is believed to have been coined as far back as 1975 by New Jersey Scientist, Wally Broecker in his science magazine article-“Climate Change: Are we on the brink of Pronounced Global Warming?”

Prior to that it was referred to as “inadvertent climate modification”

I don't know about you all but that is quite a mouth full, I prefer the term “Global warming”)

But what really is Global warming? According to NASA (National Aeronautics and Space Administration) it is “The increase in the earth’s average surface temperatures **due to rising levels of greenhouse gases.**”

Though the two (2) terms, Global warming and Climate Change are used interchangeably, it must be highlighted that the two are quite different .Climate change’s main **but not only** contributor **is** global warming. Or Global warming is a phenomenon of climate change. In essence, we cannot discuss one really without discussing the other.

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “The change of a climate that is attributed **directly or indirectly** to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods.” The IPCC, (Intergovernmental Panel on Climate Change) offers a similar definition but emphasizes the fact that “the change in climate over time maybe due to natural variability **OR as** a result of human activity.

Despite the definition chosen, one cannot deny the issue of Global warming and Climate Change is an extremely complex one. It has multidimensional impacts and consists of multiple elements-science, ethical, economic and political. The impacts are countless and diverse, they include, glacier retreat and more applicable to us, rising sea levels, coral bleaching, increased temperatures, disruption in seasonal patterns, increase in frequency and severity of extreme weather events and changes in agricultural production among others. It affects us on so many

levels. It affects us individually in our homes, in our communities, in our SCHOOLS, and most importantly as a human race - earth's dominant species. But before we can alter our behavior or actions, we must first take a step back.

We have to become more aware, we have to have the intention or readiness to make modifications with just simple behaviors or actions, be cognizant of environmental /cultural that may act as barriers to change. True impact will only be seen or achieved if we make and commit to changes on the individual level, then the effects of these actions will be rippled to the school and national level.

But how can one commit to change with the existence of doubt and skepticism?

As recently as December 2015, Senator Ted Cruz, 2016 Republican Presidential candidate stated during a National Public Radio interview with Steve Inskeep and I quote "Climate change is the perfect pseudoscientific theory for a big Government politician who wants more power. Why? Because it is a theory that can never be disproven."

Nobel Laureate Norwegian-American physicist Ivar Giaever questions the way in which the average global temperature is calculated. He also stresses on the neglect and inadequacy of data and analysis of the South Pole. Some say it is hysteria or a new-age fabricated religion that it is driven more by politics than by science. 'Scientists who manipulate long-term scientific data.'

But the World Meteorological Organization (WMO) (specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences) asserts that there has been advancement and enrichment of climate models and predictions through broader geographical coverage, better understanding of uncertainties and a wider variety of measurements and increased datasets and analysis in climate change models.

What is also worth noting at this juncture though is that there exists a new and exciting science birthed in late 2014, called attribution science which seeks to provide decision-makers, the public and the media with early, science-based answers to the questions of whether and to what extent global warming has played a role in an event's occurrence. It combines observational data, analysis of a range of models, peer-reviewed research, and on-the-ground reports.

Surface Temperatures

According to the IPCC (*Intergovernmental Panel on Climate Change*) fifth and latest report indicates "Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850" and with medium confidence "In the Northern Hemisphere, 1983–2012 was *likely* the warmest 30-year period of the last 1400 years"

“Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90% of the energy accumulated between 1971 and 2010 (*high confidence*). It is *virtually certain* that the upper ocean (0–700 m) warmed from 1971 to 2010”

Sea Level

“Over the period 1901 to 2010, global mean sea level rose by 0.19 [0.17 to 0.21] m”

If you can't relate to **that** data, let's narrow down the scope, and take a look at our own nature island. Without the use of models

Evidence for Dominica

Rainfall

At the Canefield station -2014 and 2015 were two consecutive years of below average rainfall
At the Douglas-Charles-2015 was driest year on record 1974-2015, followed by 2014

Temperature

2015 Canefield Avg. temp was 28.3 which is 0.4 above 30 yr mean
Douglas Charles 27.8 which is 0.3 above 30 yr mean

Last year's maximum

Canefield Daily maximum 35.5 on October 4th and 5th

Douglas Charles-33.9 on October 01st 2015

Global warming isn't a prediction anymore. It is happening. It is controversial, of course, but the controversy is mainly over whether human activity is driving it.

Being the exceptionally vulnerable island-the present situation demands from us a two-prong approach. We must both mitigate and adapt if we are to combat global warming and its effects, but as I said earlier we must first inform ourselves.

What changes can I one person (individually) in the 7.4Billion world population do to impact global warming? Reduce your carbon foot print? To adapt? I have heard many people say that their change alone can't make a difference, that the world is already doomed. Robert swan – Author, explorer and advocate for renewable energy said “The Greatest threat to our planet believes that someone else will save it.” Again the power is in your hands.

1. Inform yourself. Familiarize yourself with pertinent informative. The more information you have the better decisions you make. With more knowledge, the wiser you become and the fruits of that investment maybe in the form of better plans of action, modification of habits/behaviors. Unfortunately, we are essentially a nation of reactive individuals.

But the present situations demands than we should no longer be concerned about the weather **only** during the hurricane season. We have seen the effects of troughs both here and on our sister island St Lucia. How many of you are acquainted with the Dominica Meteorological Service website and the products that are available there such as :

Monthly Agrometeorological bulletin February

- Below to normal RR is expected until April
- Above normal temperatures

Are you aware that we are presently under a short term drought warning? How does that translate for your home plans, school plans? Would you act differently with that piece of information?

2. Reduce Reuse Recycle. What about replant?

How many of us have considered planting trees at our residence? Perhaps we have taken for granted that Dominica is already heavily forested? Bhutan, the most carbon negative country in the world besides being 2/3rds covered in forest undertook a project in 2014 and broke the world record for most trees planted in one day – which was 50,000

Some of us may be reluctant do this or certain restaurants may be unwilling to but we can choose carry our food containers at restaurants instead of using the Styrofoam containers.

I have to note that I have also see that pearl's cuisine has been using biodegradable food containers and bags for a few years now.

At the Meteorological Office we strip and reuse paper, we transform into memory notes or convert them into envelopes for use only in the office. This reduces waste

3. Drive less/Drive smart.

I think all of us here can relate to that one.

Have you ever tried parking In Roseau on a Cruise ship day? To avoid the unnecessary circling and burning of fuel, the better decision might just be to park your vehicle once and then run all your errands or simply catch bus if there is little inconvenience. According to Dominica's Intended Nationally Determined Contribution report of 2015, *"11,167 vehicles were imported between 2005-2014..., in that same period only 6,624 were retired, the greenhouse gas emissions rose from 46.8Gg to 71Gg."*

At the Meteorological Office we do carpooling, when we have meetings, staff living in the same areas, organize among themselves; sometimes public transportation is included in that equation. Also when field visits has to be done at Douglas- Charles or other stations en route, we sometimes co-operate/collaborate.

4. Buy a Tap or Jug filter this will help to reduce the quantity of bottles water consumption.

5. Consider, Reconsider consider again where we are building our homes and the design of homes. Are they resilient-not just to hurricanes, .Are we situated in vulnerable areas, if so, do we have the appropriate adaptation complimentary tools. For example if we live near coastal areas or waterways. Do we have sound walls? The biggest hazard /threat to Dominica is Hydro-meteorological hazards.

We can convert our homes to being more energy-efficient. Options include transitioning to LED bulbs and other energy efficient appliances. Burton and Company very recently was advocating the switch to LED lights very recently in their ad campaigns.

6. Support paperless billing by signing up for it.

I know most of our matured population is very skeptical about doing business online but there are actually other benefits. For example on the DOWASCO site you can even monitor your consumption over time.

E.G.

- National Bank of Dominica
- DOWASCO
- Flow

So you have the double benefit of consumption monitoring and reduction in paper waste

8.Those of us who can invest in Renewable energy such as solar ,do so by all means, the initial cost are heavy but the long term benefits are more than rewarding.

9. Encourage others to adopt these good practices and this should include the young-Your students. Much power is in your hands

Having mastered or at least attempted these actions/practices yourself then as teachers/educators, some of you policy makers within the education system can affect change among the future.

*In the book ‘MANAGEMENT OF SCHOOL EDUCATION’ By DR. MANJULA, A. reference is made to this statement Teachers/teacher leaders can also be catalysts for change, visionaries who are “never content with the status quo but rather always looking for a better way” (Larner, 2004, p.

As a resource provider, you are responsible for the information *disseminated/shared, as a mentor you can lead the change as being a participant directly engaging in school-based environment projects. If there are none, form one. if there already exists one strengthen it, expand them beyond just the individual schools, work in collaboration with other governmental divisions. Again I use the Meteorological Office as an example. To join the fight against global warming and climate change we realized that we need to keep the children interested in weather, we have targeted primary schools, over the years doing presentations and encouraging visits to the stations. On one occasion we vested the responsibility of a rain gauge to the Newtown Primary School. We collaborate with important divisions beyond the office of Disaster, such as the Ministry of Agriculture and DOWASCO. It is of no benefit to us (Dominicans) to have various divisions work in isolation.

A wonderful project that could be taken up is bamboo planting along bare slopes. Maybe the assistance of the agriculture division or another sector could be sought in that endeavor. The progress of such projects can be shared at PTAs and may very well inspire/motivate parents which may foster a change in attitude on the community/national level.

What can we do as a Nation?

On my December 2015 mission to COP (Conference of Parties)-21 and interacting with other personalities from various nations, was when I realized how advanced Dominica was in relation to its Climate action plans and its position and commitment to climate change, adaptation and mitigation. On the policy level, much has been done. We were one of first countries in the Caribbean region to adopt a National Climate Change Adaptation Policy (2002), have several parks and reserved protected by legislature.

Most recently and notably a Low-Carbon Climate-Resilient Development Strategy-was adopted by Cabinet in 2012.

According to our 2015 *Intended Nationally Determined Contribution* report the island intends to have its Emissions (generated by energy)reduced by 44.7% from 2014 levels.

There needs to be a greater interest and participation in community based projects. Most of the successful climate-adaptation projects have been the community based ones. Perfect example is the award winning Jeffrey Town Farmers' Association initiative in Jamaica. It provided education and provided resource support for better farming practices, Disaster risk reduction, reforestation, rain water harvesting to support water tanks among others.

We need to give more support to NGOs and their associated community-based groups because they have the power or may be the link to take local level ventures to national policy levels. Also, they are at times the channels by which climate adaptation and resilience funding is provided. According to the COP-21 agreement 100bn per year by 2020 will be allocated for climate finance. So there must be among our people a readiness and willingness, perseverance to engage in climate-related community-based or nation building assignments and ventures.

Nothing can be more fitting than the words of Mahatma Gandhi i.e. “You MUST BE the change you wish to see in this world”. Though there may exist doubt on the causes of climate change and global warming, we know that for a fact however that our climate is warming and changing. The fight against global warming requires from us a change in our thinking, daily operations, planning, most importantly on an individual level which will eventually transcend to other areas in society. Ladies and gentlemen the power is in our Hands.