



# The impact of Sundry Cultural Practices on Climate Change

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## Abstract

Extant literature on the relations between climate change and culture assumes a linear approach to the discourse when one hears about impact of climate change on culture but seldom comes across impact of culture on climate change. What underlies this view is the belief that climate change is a generic culprit in the relationship between the climate and culture. Although analysts of this view are generally making the point invariably in favour of climate change, only now, from the point of view that when we have climate change properties like, flooding, wildfire, de-icing etc., our cultural heritages are affected. This is not the dimension or precept of this work, here, there is an attempt at clarity of the damages our culture cause to the climate to change. This study investigates the consequences of cultural practices on the climate and explains why these seemingly occasional carbon emissions cannot be ignored in the debate of human acts that lead to climate change.

**Keywords :** Culture, Practices, Climate Change, Impact

## Introduction

The phenomenon of what cultural demand exert on climate change is largely understudy, partly because existing studies on causes of climate change have been isolated from cultural practices, for instance, studies are abound on various sources of energy producing carbon emissions which ultimately contribute to the depletion of the ozone layer but this is not often tied to influence of culture. Some societies cook their meals with more energy than others, while some simply marinate their meals and consume without using carbon emission energies.

The mention of culture and imagining any of its impact on climate change naturally requires some elaboration especially when culture itself is seen as a pristine terminology that thrives when it is undiluted and preserved. Culture is the way of life of a people. It explains choices relating to food, language, life style and everything that has atavistic connections. However, there are more anthropological interventions to the meaning of culture: the Centre for Advanced Research on Language Acquisition describes culture as shared patterns of behaviours and interactions, cognitive constructs and understanding that are learned by socialization. Here, culture is seen as any regularity of a people which can be used as identification of that people and that pattern is unique to them. Cristina

De Rossi, an anthropologist at Barnet and Southgate College in London says culture "encompasses religion, food, what we wear, how we wear it, our language, marriage, music, what we believe is right or wrong, how we sit at the table, how we greet visitors, how we behave with loved ones and a million other things," (LIVE SCIENCE Oct.17, 2022).

Change in climatic condition has been linked majorly to human activities that impact on nature whose response is to adjust within limited options. What is generally regarded as climate change is the change induced or imposed by mankind whenever they attempt to influence natural course of life. For instance, nature has created birds to fly but mankind decides to fly using the aid of science and technology when they are not birds. Straights and canals have been channelled to create a navigational convenience even though nature does not recognise them as part of water bodies. More, wars are no longer fought with bows and arrows—a development which nitpicks from man's relation with the dark side of iron age, nuclear missiles are now employed and even when there is no fight, its accident is as potent as when it is deployed in utter deliberate design etc. The net implication of all of this is that the involvement of science and technology in regulating human activities has led to emissions of carbon into the atmosphere and the consequence of this is the change in climatic condition. Mankind has invested in projects that make life more comfortable for them without recourse to effect of the environment, the ecosystem has been destroyed as man continues to break safety valves in the circle of life, residents have been extended to areas that were natural buffer zones between man and nature with its attendant consequences of human carbon emissions. The quest for development indeed took man faster to his destination but quickly these gains were reversed as soon that the dark sides of man's innovations become manifested in nature's responses to the man's leap at advancement. Air pollution, water acidification, flood, the Chernobyl accident of 1986 are few examples of retinue of damages that have been cause to the climate by man.

### **Carbon Foot Print, Migration, Culture and Climate Change**

The concern of migration study regarding climate change is the understanding of the carbon foot prints as a nexus between migration study and the environment. Carbon footprints simply mean the total amount of carbon that an individual takes along with him to everywhere he goes. An individual's carbon footprint is a combination of so many activities that he engages with while seeking the aid of science and technology. Many of these activities are however determined by life choices and styles and most times by primordial and atavistic connections. A migrant who is itinerant by nature tends to be on the move more and if he commutes by motor cars or any other auto-machines, he invariably emits more carbon dioxide. Culture also has a profound influence on the environment, some people cook their food more than others maybe more to satisfy delicacy details than nutritional value of the meal. Some religions also require total elimination of traces of blood in their meal as a matter of apostasy.

All the factors above have been found to play key role in the depletion of the ozone layers leading to current environmental challenges in most human communities of the world. To mitigate against the ructions occasioned by man's (in) actions on the environment, it is important to find out what options are available when humanity has already found itself in a *cul de sac* in a world already used to an unfriendly environmental life style. The dualism of science as the harbinger of major climate challenge and being again the detector of the danger in climate change, makes it difficult to accept innocent neutrality of the discipline in this discourse. Science role as

both the cause and elixir of man's environmental challenge is not far to see, for instance scientists Enrico Fermi, Bohr ( Niels and Philip), Aiestine etc made the deployment of the atomic weapon a human possibility, it was Carl Sagan who in 1983 spoke of prolonged dust and smoke, a precipitous drop in Earth's temperatures and widespread failure of crops, leading to deadly famine. "In a nuclear 'exchange,' more than a billion people would instantly be killed," read the cover. "But the long-term consequences could be much worse..." ( Mathew F: 2023)

### What is Carbon Footprint?

Carbon footprint is the total amount of greenhouse gases produced as a result of human activities both directly and indirectly, as expressed in equivalent tons of carbon dioxide (CO<sub>2</sub>) (International Energy Agency, 2012), CO<sub>2</sub> is the chemical symbol for carbon dioxide The carbon footprint is the entire interaction a human being engages which produces carbon dioxide, in other words; in the process of driving a car, the engine burns fuel which creates a certain amount of CO<sub>2</sub>, depending on its fuel consumption and the driving distance. For instance, when you heat your house with oil, gas or coal, then, you also generate CO<sub>2</sub>. Even if you heat your house with electricity, the generation of the electrical power may also have emitted a certain amount of CO<sub>2</sub>. When you buy food and goods, the production of the food and goods also emitted some quantities of CO<sub>2</sub>. A carbon footprint therefore is the sum of all emissions of CO<sub>2</sub> (carbon dioxide), which is induced by human activities in a given time frame. Usually a carbon footprint is calculated for the time period of a year, It should be noted that the same quantity of fuel does not generate the same amount of carbon dioxide in all countries, largely this is determined by the quality and the refining process of the fuel consumed in that state. It should also be noted that the emission of carbon dioxide from diesel products is not the same as fuel and also oil produces far different carbon dioxide from both fuel and diesel.

### Examples:

- For each (UK-) gallon of petrol fuel consumed, 10.4 kg carbon dioxide (CO<sub>2</sub>) is emitted.
- For each (US-) gallon of gasoline fuel consumed, 8.7 kg carbon dioxide (CO<sub>2</sub>) is emitted.

If a car consumes 7.5 liter diesel per 100 km, then a drive of 300 km distance consumes  $3 \times 7.5 = 22.5$  liter diesel, which adds  $22.5 \times 2.7 \text{ kg} = 60.75 \text{ kg}$  CO<sub>2</sub> to your personal carbon footprint. In the next step you can add the CO<sub>2</sub> emission to your carbon footprint. <sup>5</sup> Below is a table for the most common used fuels:

fuel type	unit	CO2 emitted per unit
<b>Petrol</b>	1 gallon (UK)	10.4 kg
<b>Petrol</b>	1 liter	2.3 kg
<b>Gasoline</b>	1 gallon (USA)	8.7 kg
<b>Gasoline</b>	1 liter	2.3 kg
<b>Diesel</b>	1 gallon (UK)	12.2 kg
<b>Diesel</b>	1 gallon (USA)	9.95 kg

<b>Diesel</b>	1 liter	2.7 kg
<b>Oil (heating)</b>	1 gallon (UK)	13.6 kg
<b>Oil (heating)</b>	1 gallon (USA)	11.26 kg
<b>Oil (heating)</b>	1 liter	3 kg

**Source: World Resources Institute (WRI)**

Each of the following activities adds 1 kg of CO<sub>2</sub> to your personal carbon footprint:

- Travel by public transportation (train or bus) a distance of 10 to 12 km (6.5 to 7 miles)
- Drive with your car a distance of 6 km or 3.75 miles (assuming 7.3 litres petrol per 100 km or 39 mpg)
- Fly with a plane a distance of 2.2 km or 1.375 miles.
- Operate your computer for 32 hours (60 Watt consumption assumed)
- Production of 5 plastic bags
- Production of 2 plastic bottles (Paul Fischbeck, 2017),

The most effective way to calculate the carbon footprint of an individual is to link such a person first to all the activities he engages in with the employment of machines or anything that requires power generation. This covers the chains of his electricity at home, power generation for his appliances, mode and distance of his transportation, the method employed in preparation of his meal and the nature of his food, etc. (Hartley, L, 16 February 2012).

### **The Refugee and His Culture and Carbon Footprint**

The incidence of carbon footprint, climate change and the environmental impact of various activities are undeniable anymore. Science and scientists have provided ample evidence that there are indeed strong connections in the chain of human actions and emission of carbon dioxide which have basic fundamental effect on the ozone layer. For instance, the science magazine, *Scientific American*, has explained that the carbon dioxide levels in Earth's atmosphere by 2016 have failed to drop below the 400-parts per million thresholds (Gerlach, T, 2017), Some scientists believe that it may never drop below this symbolic line in our life time.

It is curious to note that our life style as individual might have more effect on the climate than we imagine. Lifestyle is largely derivative of our culture and ethos. The food we eat is defining of our culture, the crave for them and the methods of preparations are all symbolic of a people's tradition. Some culture cooks its meal far longer than some other cultures. This divergence is the basis of the concern of researchers from Carnegie Mellon University (CMU), Pennsylvania. The research calculated the carbon footprint of thanksgiving dinners had every year on November 24, and published their findings for different states in the US. The meal-footprint is lowest in Vermont (0.09 kg of carbon dioxide released) and highest in West Virginia (36. 3 kg) (Paul Fischbeck, 2017),



The research is able to show the environmental impact of a meal by establishing the nexus between the way one cooks (gas versus electric range), what the state's power source is and how one produces the food in each area. According to Paul Fischbeck, a professor of social and decisions sciences at CMU's Dietrich College and his colleagues, there is high variability among stove types in different states and every parts of the word. The findings reveal that stove types emit different forms of carbon dioxide. For example, cooking a 16-pound turkey in an electric oven in coal-dependent Wyoming emits 14.5 kg of carbon dioxide. In Maine, cooking the same turkey in the same oven but with electricity generated primarily from renewable energy releases less than 1.5 kg. In general, using gas ranges to cook leaves a smaller footprint than electric ranges (Paul Fischbeck, 2017), The importance of this study is in relation to what people of other cultures contribute to the emission of carbon dioxide through the process of preparation of their meals. In Vermont for instance, majority of the people there subscribe to the American Indians North of Mexico culture which refelect in the intensity of cooking of their meals and that is why carbon emission is highest there in the whole of West Virginia.

The Arabs and African people have similar taste and cooking rate of their meals. Most often, the difference only lies in climate and nature of vegetation. For different reasons, there appears to be the same crave in the diets of the two peoples. For instance, the Arabs detest traces of blood in their meal because of the obligations under the Islamic tenets. Africans too eliminate all traces of blood from their meals before it is considered fit for human consumption. In fact the allowance of blood in African meal is strictly a sacerdotal affair reserved for pristine religious initiations. It is in fact for this reason that both Arab and African people are not susceptible to diseases arising from consumption of meal that is infested with bacteria in animal blood. Such diseases as bird flu and mad cow are not likely to be a health concern of these people, given the cook rate of their meals and inherent in this is the capability of the heat to kill all bacteria and germs.

A well cooked meal is not without its hazard and implication on the climate. From the standpoint of this work, when a refugee comes into a state, he comes with his carbon footprint. The rate of his carbon footprint increases as he finds comfort in his host state. In other words, if for instance he spends his first few weeks in confinement and managing all that he is being offered, as he stays longer and his status determination is gradually being settled, he exhibits more inclination toward a preference for his personal needs. (Brown, L. et al, 1976). He may like to move about, especially if he enjoys local integration and then later, he goes for his preferred meal and further contribute to the greenhouse gas emission which results from production and transporting food which requires petroleum based transportation. Then depending on his origin, and ability to accurately audit the refugee's meal, his carbon dioxide emission is soon calculable. According to Professor Paul Fischbeck:

Food production – how the food is grown or raised – and meal preparation – how the food is cooked – both contribute to the carbon footprint. We broke our dinner down into its separate dishes, and then broke those down into the individual ingredients. For each ingredient, we tracked its carbon emissions from 'farm-to-fork.' Production and preparation both contribute about 50 pounds of carbon dioxide, but it varies from state to state and house to house.

And it varies from continent to continent, to expand Fischbeck's submission.

## Festivals, Carbon Emissions and Climate Change

This work is being put together during the Christmas Festival when Christians all over the world celebrate the birth of Jesus Christ. Just like any other festivals, Christmas comes with feast where people generally make sumptuous meals for guests during the occasion. With regard to climate change discourse, this ordinarily should be accommodated in the paragraphs above under discussion of carbon footprint. But Christmas celebrations are accompanied with fireworks which produce near same emissions as explosives. According to Journal Nature (2020) fireworks can contaminate waterways and are harmful to marine life, this is in addition to contributing to the depletion of the ozone layer. Generally, fireworks are recorded as pollutants that impact negatively on air quality. Apologists of fireworks have doubted that any significant impact of a single day fireworks on the ozone layer. Scientists however had argued that since fireworks contain chlorinated and brominated compounds, they will inevitably affect the ozone layer.

The Muslims too will have a share in this especially during the Eid Kabir festival, when Muslims are enjoined to slaughter rams during the festival. Emissions of carbon occasioned by the celebration of Eid festival is largely dependent on culture and regulations in the societies in questions. In Western societies with strict regulation about open slaughtering and preparation of animals for consumption, carbon emissions, due to the celebration of the eid, is likely to be infinitesimal. But in an unregulated societies in Africa, especially Nigeria, the level of carbon emissions due to the celebration of the eid is quite high. Every Muslim household in Nigeria make open and large fires for the preparation of their rams whether for cooking or burning off of the fur of these animals. It should be noted too that the act of making a delicacy from the hides of cows has been found to be a major factor in carbon emissions. This act is a daily occurrence and unlike the eid celebration which is an annual event. The hides are burnt with used tyres and other highly inflammable objects to produce skin meat locally referred to as *ponmo*.

In India the Dussehra festival is a major culprit in this realm. Dussehra is a festival where millions of Indians gather to burn an effigy of Ravana. Dussehra is celebrated in several parts of the country to commemorate the victory of Lord Ram over Ravana, symbolising the triumph of good over evil. The festival, which marks the end of nine-day festivities of Navratri, is being celebrated in full swing across the country, by burning the effigies of Ravana – the demon king – along with that of Meghnad and Kumbhakarna (Hindustan Times Oct. 5 2022).

The Dussehra festival was a major campaign point during the presidential debate between the former President of the US, Donald Trump and the incumbent, Joe Biden. Trump who did not believe in climate change, said the Indians are responsible for what he called ‘filthy air’ during celebration of the Dussehra. Biden, agreed that the Dussehra has potential to cause serious damage to the climate condition, he however, disagreed with the condescending tone with which Trump articulated his point.

The DAWN newspaper of October 26, 2020 did a comprehensive report on the environmental impact of the Dussehra festival where it reported the findings of India’s Central Pollution Board which concluded that air quality index (AQI) was as high as 439 after the celebration of 2020 Dussehra festival. It was also reported that farm land were affected as farmers had to scrape the smog on their farms to enhance fertility of the soil after the festival. ECO-INTELLEAGENT had in its October 7, 2019 edition accused Indians of burning off evils during the Dussehra festival and creating greater evil by making the environment unsafe both for fauna and flora.

In general, celebration of festivals have contributed significant quota to climate change as scientific evidence has shown that certain environmental propertires witness some changes during the celebrations of these festivals. The argument is no longer about whether this is a fact but rather it is about whether we know. Science is also playing a major role in creating this awreness but this is also a matter of capability for the society that can afford it.

### **Cultural and Religious Beliefs about Climate Change**

The idea of climate change is largely encumbered by sets of belief system about its reality or otherwise, thus creating a number of conflicts between culture, philosophy, religion and science. One's belief about climate change does not end with acceptance or not of its reality but such viewpoint also have effect on climate change because subsequently this impact on our action which will either affect or improve the environment that we live. It stands to reason that if more people believe in climate change, the tendency is that this will have positive extrapolating effect on the containment of actions that produce inclement weather conditions.

The very first tussle for climate change is its scientific framework with the invariable implication that its adherents must first believe in science. Because its effect is often futuristic, climate change predictions are based on scientific research which does not sit well with episcopal standard when it comes to the idea of God and His creations. On one hand religion has seen science as unnecessary intervention in God's works and standards and even when certain accidents are identified, religious explanation is that science is the harbinger, it is like a mess it started, and cleaning it, should be its business. More, is the fact that all religions have scriptures and everything therein is commanded by God. For instance, the diluvialists claim that God had promised that he would not destroy the world by flood after the ructions which followed the Noah's ark. So the idea that a phenomenon called climate change will one day lead to flooding of the earth, is from their point of view, a smashup theoretical nonsense.

Ackerman Thonas et al (2006) wrote about the denialists of climate change based on religious or biblical indoctrinations. they explained the strain of distrust about climate change from the point that some Christians believe that the purveyors of the idea are godless people who want to destroy the faith of Christians through unfounded environmental hoax

The religion of Islam seems to fare better in the discourse because Islam has enjoined its followers to be guardians of nature through the scriptures in both the Quran and the Hadith. In fact, from August 17-18 2015, the Islamic world drafted the Islamic Declaration on Global Climate Change in Istanbul as part of a two-day International Islamic Climate Change Symposium. Prominent Islamic orgaisations like Organisation of Islamic Cooperation, ISESCO and International Islamic Fiqh Academy, Islamic relief worldwide, Islamic Foundation for Ecology and Environmental Science (IFEES), and the civil society network on Climate Action Network (CAN), hosted the event. The declaration was endorsed by the grand muftis of Lebanon and Uganda, along with prominent Islamic scholars and teachers hailing from 20 countries all over the Muslim world.

How religious or cultural belief impact on climate change should not be too difficult to discern especially when one understands that the greatest contour to the appreciation of climate change issues is the denial of its existence as a result of belief in some certain cultural or religious nuisances. But this harmful to climate change itself as

such approach forestalls developmental research to save the climate from degradation, Denial of climate change means nothing is done to mitigate in the event of environmental crisis.

## Conclusion

As earlier noted, it would appear that the only concern about the relationship between climate and culture is the damage to our culture as a result of environmental degradation - world heritage properties have been reported by the UNESCO to face threats from climate change. Oral traditions, performing arts, social practices, festive events and traditional knowledge, including crucial knowledge about the environment, are all vulnerable and are being lost to wild fires, flood and acidification of territorial waters.

However, culture should be a natural phenomenon that should not contribute negatively to climate change and let alone be responsible for the depletion of the ozone layer because if left in its pristine, culture should actually preserve nature and act as its guard. Tree planting and building of traditional houses can mitigate against natural disasters. According to the UN Action for Climate Summit (February 2020), “Natural heritage sites serve as vital “sinks” for greenhouse gas emissions, and are key for the protection of biodiversity”. Studies about culture and the climate reveal nature has always been in vanguard of prevention of environmental crisis thus the relationship between culture and climate change should be that of the former servicing the latter.

This work has only opened the tip of an iceberg for further research into the contribution of culture to some environmental challenges facing mankind. The examples above are limited to the observation of the author but there will be thousands of cultural practices in different corners of human habitations that are causing some damages to the climate. What it remains now is that researchers should ferret out to find such culture and bring awareness to them relating to how to stem the tide of environmental degradation by our cultural practices and events.

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