

68

Understanding Global Warming in Local Contexts: Mizoram's Jhum Cultivation and Hybridised "Chapchar Kut"

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Abstract

The biggest obstacle to countering the effects of global warming today is the lack of conviction among the inhabitants of this very world, some of whom are powerful elites with the authority to shape the fates of the majority. The paper proposes an obvious (yet meticulous) solution, that rather than try and continue raising awareness at a wide-scale global level, the problem should be handled at local levels using tropes that the indigenous can relate to. In the case of Mizoram, said tropes would be that of jhum cultivation and the local festival of "ChapcharKut" which is being hybridised as a result of global warming. The paper will also review the current academic discord on not only the effects of jhum cultivation, but also the reports on whether jhum cultivation is being culled by policies.

Keywords: Global Warming, Jhum, ChapcharKut, Hybridity, Mizoram.

Introduction

In contemporary times of political-correctness, there are occasions when the logic of science gets challenged in a far-fetched manner. For example, Judith Butler's (1990) influence on queer studies has been so monumental because she can intellectually break down erstwhile scientific

basis of the "sex vs gender" debate. However, these fruitful challenges tend to take on an unhealthy turn when neo-gendered communities insist on having been divided even more across a number of other classifications –absorgender, adeptogender, ambonec, anogender, cocoogender, circgender, daimogender, nonbinary, trigender, etc.; and expect to be recognised not only in government policies but popular culture as well. It is quite safe to say that these demands and categorisations will not be getting popular in the near future.

This is the exact problem with the issue of global warming today, albeit with the slight difference that it already is a scientifically-proven phenomenon. The cynicism it faces is similar to the ones faced by the (whimsical) demands of the neo-genders i.e. it is not the first (of threats of global catastrophes) and it won't be the last; and that given enough time, this issue will be remedied by "others".

Therefore, it is imperative that the issue of global warming be highlighted to people – masses and elites alike, in a manner where theories can be supported by relatable empirical data that are already part of one's existential experience.

What then, constitutes as "relatable" for the Mizos of Mizoram when it comes to understanding global warming? I propose that the familiar phenomena of jhum cultivation and the indigenous festival called ChapcharKut (held at the end of harvest) be used to show the connection between global warming and the changes that these relatable phenomena have undergone as a result.

Methods and Materials

The paper is resultant of a mix of orthodox and unorthodox methodologies. For secondary information and theoretical background, newspapers, journals, books and government official policies and directives have been referred to. For primary information, a number of aged community members of Aizawl were interviewed who are living or have had lived the rural/agricultural way of life outside of the capital.

In an unorthodox manner, documentaries and social media outlets have been studied and recorded for those kinds of information that are yet to make it to academic or orthodox channels. They have been referred to with the belief that they reflect individual facets of popular culture. Times are changing and I believe academics should appropriately accommodate such changes. Virtual world and digital modes of communication in the form of social media do more than just provide entertainment; they actually

present subverted voices which erstwhile needed one or more charismatic spokespersons in the academic field to be able to break the barriers of dominant discourses.

Furthermore, social media, and in particular, YouTube can be considered a reliable source of information if academic achievers are willing to present their thought in an A/V format. This method of dissemination caters to a more varied demography, and young researchers can get motivated to go deeper into literary works once they have been provided snippets of a topic of their interest. This paper has particularly utilised the YouTube channel of Vox Media (a news and opinion website) which, along with University of California, produced a six-part series called Climate Lab and tackles the issues of global warming including climate change and energy conservation.

Results and Discussion

The Inconvenience of Understanding Global Warming

Al Gore can be accredited with bringing the world's attention to global warming through his book (2006a), Oscar winning documentary (2006b), and Grammy winning spoken work album (Released 2008, Won 2009), where he says that the global situation is "inconvenient" because we have to change the way we live our lives. This inconvenience still plagues today and is one of the reasons why global warming is still doubted by many. As Stoknes (2015) says, people feel there is a need to "defend their identity and lifestyle against the message ... they feel an inner need to explain it away" (2015, p 71). He elaborates that there are 5 psychological barriers to climate action or 5 D's:

- Identity – where people feel their lifestyle is being challenged.
- Denial – where people find it easier to live if their conscience were guilt-free.
- Dissonance – where people don't see a direct connection between climate change and their lives.
- Doom – where people are put off by the notion of doom in the future.
- Distance – where people believe that distancing themselves from the issue will result in someone else taking care of the problem.

He says that these barriers are "not conducive to engagement, it makes people passive... (makes them) withdraw from the issue and try to

think about something else" (Vox Media 2017).

M Sanjayan, says that in order to overcome this difficulty, "We need to change the way we talk about climate change" (Vox Media 2017).

So How Do We Change The Way We Talk about (and Deal with) Climate Change?

Let us take the example of the hole in the ozone layer issue that happened much before the issue of global warming was brought to the forefront. The issue was comparatively easily grasped because of the manner it was explainable and visually presentable – "the protective layer over the earth has a hole and it can cause skin cancer". For example, CFC content of aerosol hairsprays was found and disseminated by scientists, and the actual sale of these products went down because consumers were given the concrete choice of "hairspray vs the environment". Now scientists estimate that the ozone layer will be healed by 2050 (Knapton 2016).

However, the issue of global warming is not complimentary with these tools. As Stoknes(2015) says, "So climate change enlightenment was fun while it lasted...but it is now limp and dead...so dead, in fact, that it is moving backwards" (2015, p4); "particularly since they have been presented in abstract, doom-laden, fear-mongering, guilt-inducing and polarizing ways" (2015, p 81). He describes people's attitude of challenging policies on global warming as "The search for a good reason to reject good science" (2015, p 75). Leiserowitz echoes this by saying, "Climate change is the policy problem from hell"... "if CO2 was black we would have dealt with this issue a long time ago" (Vox Media 2017).

What, therefore, is the solution? How do we make the issue of global warming "visible"?

The University of California has started the UCLA Engage programme with the purpose of making energy-use visible and understanding what the motivations are for people to change behaviour – money, health, or the environment? According to Delmas, one of the project's devices was "how to frame information about electricity usage so that people ... conserve electricity" (Vox Media 2017), and with repeated information, changes in consumer behaviour was found. In a nutshell, the programme found that money had no effect on behaviour because electricity is relatively cheap; and that a public status or social pressure approach gave the best results.

This approach of following behavioural science was applied by

in Atlantic airlines which saved over 6800 tonnes of fuel in a year by rotating select pilots to make minute changes like altitude, routes and This equates to reduction of CO2 emission by 21000 tonnes.

Similarly there are various studies that have shown the positives engaging behavioural science.

- Liston-Heyes and Brust (2016) studied the values and attitudes of managers towards the environment, environmental intentions, and the context in which these intentions are formed and translated into actual performance.
- Delmas and Toffel (2008) found that environmental activist organisations who interact with influential corporate departments are more likely to affect facility managers' decisions regarding adoption of environmental management practices.
- Delmas and Montes-Sancho (2010) studied the Climate Challenge Program (1995–2000) established by the U.S. Department of Energy and representatives of the national electric utilities to reduce greenhouse gas emissions. They found that early joiners were subjected to higher levels of political pressure at the state level and were more dependent on local and federal regulatory agencies than late joiners were.
- Tulloch, Diaz-Rainey, and Premachandra (2017) show that the EU policies that focus on liberalisation and energy efficiency have a significant negative impact on the energy sector's financial returns.

To surmise, there is increase in both the awareness as well as favourable change regarding global warming when there are constructive adjustments made in business models and products. In all the instances given above, there is the application of motivations of progress instead of the application of guilt and foreshadowing of doom. Moreover, all these instances find success when individual-level competitiveness gets stimulated.

Applications for the Mizoram Scenario

Are these methods applicable in Mizoram? I defend my subjective interpretation that the Mizos as a whole cannot be expected to have the level of competitiveness found in communities of Ivy League universities or multi-national corporations. For instance, in Mizoram, for many, the idea of human rights still exists at the very level of survival. This is because there exists a "Modernism-Intellectualism Disparity" (Chuaungo 2015a).

among the Mizos as a result of a disconnection provided by the super-rapid rate of globalisation against the backdrop of conservative traditionalism.

This is why in order to contextualise global warming at a local level, I propose highlighting the hybridity occurring today in the traditional festival of Chapchar Kut.

Jhum and Chapchar Kut

Mizo animism, as deduced from the accounts of Chatterjee (1993), was bound up with the culture of collective life. This animism accounted for spirits who needed to be appeased for a healthy crop and this was done by holding a festivity that occurred at the end of a jhum cycle. In post-animism and Christian era, this cultural norm is still represented, although in a hybridised form. In the olden pre-Christianity days, due to the time-off that the people got during the burning of the leftovers of a harvest, it was a conducive time for merry-making. This annual harvest festival also marked the advent of spring. The festival had other latent functions which served the traditional culture well – the festival would last for days during the time which all disputes in the community were settled, and even altercation between married couples was a taboo. It was a sign of prosperity with abundant supply of meat and locally brewed liquor (Pachua 2010). Even today, the festival is an important calendar event in Mizoram and designated as a state holiday.

This is where I would like to point out the hybridity that has occurred. Firstly, Christianity is a supreme force in Mizoram – both in the public (including state legislation) and private spheres (Chuaungo 2015b) and therefore the “non-Christian” elements of liquor and pre-Christianity deities has been done away with. Secondly (and this pertains to the central theme of the paper), the exact calendar date for holding the festival is negotiated every year. This is because the actual burning of leftover harvest is possible only if the weather permits i.e. there should be no rainfall to interrupt the burning process.

In the past years, the date of the festival has fluctuated within the first week of March, and the state government passes out directives of a last date before which all the harvest burning procedures must be finished. This last date is usually the 15th of March. Older generation interviewees approached for this paper were unanimous in their experience that in their youth, such was never the problem i.e. the climate was consistent, and rain was the least of their problems in burning the leftover harvest. The idea

the state would have to direct them a deadline was not something they might ever happen.

So what has happened since then? Climate change is what has happened – which has resulted out of global warming, and now the cultural festival is slowly but steadily verging towards being dependent on an inconsistent climate.

Before we move further, let us review literature on whether the statement “global warming is the cause of inconsistent rainfall” is true or

1. Radford, (2013) – Although the effects of global warming vary by region, precipitation is expected to increase in higher latitudes and decrease in areas closer to the Equator.

2. Tollefson (2016) and Stone (2016) – Climate change is already driving an increase in extremes of rainfall and snowfall across most of the globe, even in arid regions; and there has been an overall increase in rainfall extremes as well as boosting of the number of record-breaking rainfall event. The trend is expected to continue as the world keeps getting warmer.

3. (Chennai rain 2015) – There have been instances of sudden downpour caused by climate change affecting daily and commercial life;

4. (Climate Change 2011) – Climate change seems to have taken its toll on the agriculture sector of the North East over the years, which has prompted scientists to conduct vulnerability assessment and issuing warnings to farming communities and agriculture managers.

5. Stone (2016) and Thompson (2017) – More extreme rains could have implications for water management and flooding because the ground can't absorb as much rainwater when it falls all at once.

To explain the reason for the global anomaly, Union of Concerned Scientists (2016) state that a warmer climate spurs the evaporation of water from land and sea, and allows the atmosphere to hold more moisture; thus setting the stage for more extreme precipitation. The atmosphere's water-holding capacity increases by about 4 percent for every 1° Fahrenheit (0.6° Celsius) rise in temperature; and places now wetter than the historical average include Northern Europe, Eastern North and South America, and northern and central Asia.

How then, does one connect with the indigenous about the problem of global warming, since the alternate methods like those being conducted in the University of California are not context-appropriate?

Engaging the Jhum Debate

The central problem in engaging the jhum debate is that, on one hand, it has been scientifically proven that the practice has a direct effect on global warming; but on the other, curbing it has its complications as well. Some literature for the former situation are:

1. Rahman, Rahman, and Sunderland, (2012) – Traditional land practices, exacerbated by poverty and associated with a lack of technical knowledge is the main cause for the continuation of unsustainable shifting cultivation.
2. Kamboi (2014) – Burning of forests causes loss of habitat for rare plants and animals, and an increase in CO₂ emission leading to global warming which farmers have little knowledge of.
3. Maisnam, Nongtdu, and Rangad (2016) – Hill agriculture will be most adversely affected due to climate change in Meghalaya, primarily due to the practice of jhumcultivation.

However, there are other literature that complicate the matter:

1. Ramakrishnan and Patnaik (1992) – If the interim period between 2 successive cropping is long enough, jhum cultivation does not harm the land.
2. Raman (2014) – Jhum cultivation in Mizoram, which supports biodiversity as well as yields a wide range of organic produce, is under threat from government policy that aims to “settle” agriculture, by promoting monocultures like oil palm, rubber and horticultural that reversibly cause permanent deforestation. In contrast, jhum cultivation causes only temporary loss of small forest patches followed by forest recovery.
3. Dewani, U. (2014) – Jhum farming must also be viewed in its entirety – where it means much more than just an agricultural method for the communities; and government approaches to replace it with settled agriculture just complicates other facets of the community life.
4. The simplified statements of the negativity of jhum cultivation are brought forward by Ribeiro et al (2013) – the nature of the

impact depends on the shifting cultivation system (SCS) phase (conversion, cultivation, or fallow) and on the soil properties (physical, chemical, and biological). They also suggest improvements in the choices of soil quality indicators for collection of more concrete data.

To surmise, global warming is a direct outcome of the ecological imbalances cause by deforestation. However, what is debatable is pinning blame solely on the existence of jhum farming, without providing viable alternatives to this age old method.

To make the debate even more complicated, there exists conflicting views on whether the governmental processes of curbing jhum cultivation are successful or not.

On one hand the following reports state that in Mizoram, due to NLUP (New Land Use Policy) jhum farming practices are steadily being replaced with significant horticulture and bamboo products industry:

1. Agriculture Statistical Abstract 2012-2013 Directorate of Agriculture, Government of Mizoram (2013);
2. IBEF Report, *Mizoram Economy*, New Delhi (2010);
3. Mizoram India State of Forest Report 2011, Government of India (2012).

Moreover, Northeast Today (14 Sep 2016) reported that NLUP has reduced jhumming by 29.75%; and The Shillong Times (NLUP, 4 Jun 2015) reported that “The CCN, comprising experts from the Mizoram University, found that families engaging in jhum cultivation has decreased from 66.44 per cent of the total families in Mizoram to 46.14 per cent, after the launching of the NLUP in 2011”

However, on the other hand, the following studies have shown the opposite results:

1. Garbyal (1999)– Most of the beneficiaries of NLUP continue jhumming, as the programme has failed to bring out any perceptible improvement in the economic conditions or quality of life.
2. Grogan et al (2012) –Jhum cultivation, though discouraged, remains in practice in Mizoram and affects its topography.

Moreover, the ineffectiveness of replacing jhum cultivation is highlighted by Goswami et al (2012) – Despite dedicating largest amount

of labour, jhum and non-jhum cultivation fail to raise the rice yield. Mizoram produces about 26% of rice it consumes every year, and buys the deficit from other states.

Conclusion

To surmise, due to the inconsistencies of the jhum debate, it is not prudent to use it to educate the indigenous of its effects on global warming. As has been mentioned before, the problem is the lack of the possibility of a visual representation. The indigenous cannot be shown the effects of jhum by pointing to the sky, and having them imagine its repercussions. The idea of replenishment and purification of the environment, and the tropes of “this is the way it has always been done” or that “mother nature provides” has trickled down from generations, and without formal education or extensive training programmes, one cannot possibly expect a change of such mentality. Some interviewees even felt that the increase in rainfall is actually cooling the climate further!

The only solution to this dilemma is by using those ideas that are easily visible or experienced in the indigenous life experience. Such an idea is highlighting the fact that ChapcharKut today is no longer a calendrical-consistent festival. Every resident of Mizoram, be it in rural agricultural sectors or urban ones, annually get reminded of this fact, and just need subtle added information that such is a result of global warming to which Mizoram contributes to by engaging injhum cultivation.

But what of another fact that even if one were to convince them, there are currently no government plans that can successfully and fruitfully replace the jhum way of life? This is where I believe that demands for alternatives must come from the commoners, and not politicians, specialists and scientists. If this could be achieved, then governmental aid as well as policies on curbing jhum can be much more rewarding than it currently is.

Other solutions as well as possible future research areas to cease Mizoram's contribution to global warming include social networking and other freely available media channels where one reframes climate messages, and use the power of stories to “re-story” climate. The intention for this is that awareness of the future of the earth gets more awareness in local contexts – in a manner freely and interestingly available; as it is not without co-operation from every orifice across the globe that one could make the world better for future generations to come.

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Media interviewees

is vice-president and senior scientist at Conservation International (which has worked towards the preservation of nature for over 30 years, with partners in 77 countries and being active in 77 countries).

Leiserowitz is a Research Scientist and Director of the Yale Project on Climate Change at the School of Forestry and Environmental Studies at Yale University. He is also a principal investigator at the Center for Research on Environmental Decisions at Columbia University and a research scientist at Decision Research (founded 1976, active in 4 countries).

Thomas is a Professor of Management at the UCLA Institute of the Environment and the Anderson School of Management.