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## The role of language and culture in conceptualisation of climate change

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### Abstract

Climate change communication often occurs in multicultural settings using certain common lingua francas to reach the wide diversity of the linguistic groups that inhabit the globe. The effectiveness of these languages is subject to the diverse cultural contexts of those involved. Different cultural contexts could give rise to various conceptualisations of climate change-related phenomena, and hence, different responses to this pressing global issue. This could have implications for the success of the efforts to grapple with the problems arising from climate change. The paper ponders the question: How do culturally situated meanings of climate factors affect the supposed common understanding of climate change concerns? It reviews literature on culture and communication and samples adages from six languages spoken in Africa and the West. The paper applies insights from the Neo-Whorfian hypothesis to examine the communication barriers in cross-cultural communication through content analysis. The analysis of the sayings reveals multiple opposing culture-based values on climate issues. This leads to the conclusion that the great diversity of the cultural groups involved, as well as their unique viewpoints on climate causes, pose a substantial obstacle to communication about climate change. The situation militates against the development of a common understanding of the climate change problem and the quest for solutions. It recommends that culture-specific values and intercultural training be taken into account if a truly common understanding of the climate change phenomenon and its solutions is to be developed.

**Key words:** Climate change, communication, conceptualisation, common understanding, culture.



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## INTRODUCTION

The world is faced with diverse challenges, among them terrorism, food crisis, climate change and economic inequality. Other pressing issues are water scarcity and energy security, societal tensions and rapidly evolving and disruptive technology (Thunderbird, 2023). Climate change has become a top issue today, and it is estimated that nearly 800 million people do not have access to clean water (Karaduman, 2014). It has led to rising temperatures and sea levels, extreme weather events, deforestation and loss of biodiversity (Thunderbird, 2023). The world has recently experienced mega-drought and heat waves, record high temperatures and zombie fires, massive wildfires, relentless, intense Gulf Coast and European rains and more powerful hurricanes, which are harbingers of increasing climate disruption. Human activities have been blamed for a significant role in climate change since the 1800s, and there has been a steady rise in greenhouse gases, especially as a product of burning fossil fuels (SAST, 2021). The World Bank estimates that by 2050, more than 140 million people could end up as “climate migrants” in the regions of Latin America (17m), Sub-Saharan Africa (86m) and South Asia (40m) alone (Porrás, 2023). It poses a major risk to good development outcomes' (World Bank Group, 2021, p.1).

Climate Change is a wide and pervasive problem involving a ‘complex global set of both causal practices and felt impacts, requires coherent global action (Jamieson, 2012). It has been described as a complex system in which ‘a small, insignificant change in a forcing variable can trigger an unexpectedly large and rapid or irreversible change in a major feature of the climate system. There is a contest as to its anthropogenic cause, whether it is a problem and the solutions (Jamieson, 2012). It is gradual, and the attribution of causes is often a matter of debate even among top scientists, even though a majority are in agreement (Herring, 2020). The need for urgent action has yet to receive consensus as ‘not everybody sees the urgency, and the ones who might see it talk instead of taking any real action’ (Valk, 2012, p.1). Yet climate change mitigation efforts call for sacrifices both individually and collectively, which are hard to make without thorough conviction of the expected benefits. The

need to tackle the issues effectively calls for concerted efforts from every global citizen, as no one country or region can effectively tackle them. Language is an important tool for communication and conveys messages, thoughts, feelings, and goals and for creating cooperation between humans. It is the most important component of human life (Apriyanto, 2020). It has the power to bring global communities together and foster unity in addressing major challenges, including climate change. The world today boasts over 7,000 different languages (Ethnologue, 2024). Communication across the globe has advanced rapidly in the last three decades, riding on enhanced technology that has given rise to the global village. Such advances can be expected to foster efforts to tackle the many global challenges that grip the world today. The immense technological power has enhanced communication with a faster and wider reach than has been witnessed in any earlier period. This has gone hand in hand with a very high level of access to media through traditional platforms, mobile phones and the internet (Radosavljevic, 2021). This is a crucial foundation for a broader understanding and cooperation in tackling this challenge among others. However, it remains unclear how effective communication on global concerns has been in addressing climate change.

The lofty strides in communication technology have created huge audiences that are crucial for greater coordination. However, communication goes beyond the audience's access. Effective communication means developing a shared understanding of the issues and the means of addressing them (Sharma, 2017). Additionally, persuasive communication is seen as effective when the intended recipients change their opinions as a result of the communication. It has, however, been found that lay people do not have the necessary knowledge to evaluate information about complex environmental issues on their merits (Mors et al., 2010).

Language as a tool for communication has both facilitative and inhibitive elements. Shared language among a group of people means ease of communication, while the diversity of languages can inhibit communication. In the global context, with diverse linguistic groups, it becomes imperative to

employ common languages, known as lingua francas, to pass messages across linguistic and cultural groups. Global lingua francas, languages adopted for speakers who do not share a language, are often applied to bridge the gaps among the thousands of ethnic and cultural groups that inhabit the planet. They come in handy as tools that facilitate trade and the pursuit of mutual interests across ethnic and national boundaries with remarkable results (Olster, 2022). Lingua francas, however, necessarily have their own cultural biases and their effectiveness can be limited when serving multicultural groups. There is, therefore, a need to understand the effect of situated meanings that come with a diversity of cultures and languages and how these can impact climate change discourse.

## LITERATURE REVIEW

Communication on climate change has been approached from diverse angles. Nerlich et al. (2010) say that climate change communication has become a broad field, and the issues need to be made more meaningful, covering understanding, emotion and behaviour. They attribute the failure of approaches to climate change to a lack of efforts to address the implicit values, emotions and attitudes of individuals. They identify a disconnect between scientists and lay people whereby scientific framing leads to the use of words that do not communicate to the lay persons, such as radiation, which people associate with X-rays, yet it refers to a form of energy, hence the communication failure.

This paper is guided by Neo-Whorfianism, as proposed by Kay and Kempton, to examine the cultural barriers that constrain the effectiveness of lingua francas in multicultural communication, particularly in the context of climate change. The hypothesis suggests that language influences conceptualisation (Kay & Kempton, 1984). The hypothesis is a revision of the Sapir-Whorf Hypothesis that took the position that language determines one's worldview. Conceptualisation is the act of forming an idea or principle in one's mind (Cambridge University Press, 2013).

Different language groups necessarily come from different cultures, and this has implications for the possibility of achieving shared meanings across

different cultures. Words learned in different cultures necessarily have certain differences in meanings. Wood (2016) takes the view that when we learn a language, we not only learn the words but also the meanings and values attributed to them in our society. A culture will also have imprinted in its members certain ways of perceiving the world and conceptualising various phenomena around them. The elements of their physical ecology are among these phenomena.

The study will also apply insights from the deliberative democracy model under climate change communication. This approach sees the public as having a vital role in debating, deliberating, and shaping issues' (Nerlich, 2010, p. 98). The approach requires an 'understanding of public perceptions to reveal deeper reasons why people disagree about climate change' and the use of dialogue and reflexive engagement as opposed to one-way communication and, in the process, take cognisance of implicit values, emotions, and attitudes of individuals.

## METHODOLOGY

The paper will be based on a review of existing literature on language, culture and communication. The paper will identify and analyse adages and figures of speech that refer to climate factors such as rain and heat, as well as those related to agricultural practices and lifestyle and the cultural values attached to them. These will be studied in six languages: English, French, Burmese, Kikuyu, Samburu and Turkana. The data will be obtained from the internet and speakers of the languages. The content analysis will focus on the differences in the perceptions and values attached to these phenomena in the different languages, as evident from the data.

## RESULTS AND DISCUSSION

Communication is the act of conveying intended meaning to another person through the use of mutually understood signs and language (Juliana, 2016 in Krypa, 2017). Communication is crucial for any cooperation. Koessler (2021) identifies four cooperation-enhancing elements of communication viz: problem awareness, identification of strategies, agreement, and ratification. Cooperation has been found to emanate from the emergence of cooperative social norms, facilitation of the emergence of a group

identity, and coordination of actors' beliefs.

The words 'Have you eaten yet?' for many of us would be a question about feeding, but for Burmese, this is a greeting. Similarly, 'How are you?' for Americans is understood as a greeting but is seen as a question among the Burmese (Fasold & Liton, 2006). It might come as a surprise that in the exchange of greetings, one of the most common and brief forms of human communication, there are culture-specific aspects that can hinder understanding, as these examples have illustrated. Different communities have different greetings formulas, and navigating through them requires culture-specific knowledge. In making out the different meanings of the words above, the speakers are influenced by situated experiences.

We interpret words based on how they have been used in our past experience, which has been called prior text. This interpretation can either facilitate or hinder communication. Culture is what influences perception (Chi, 2016). The idea that culture is at the centre of communication is expressed in the Sapir-Whorf hypothesis, named after Benjamin Lee Whorf and his teacher Edward Sapir, which posits that language shapes thinking. This suggests that people who speak different languages see the world differently, as determined by their language. The hypothesis seemed to make very radical claims and, upon criticism, was revised by Kay and Kempton (1984), who gave a less radical view of the relationship between language and thought. Their version, known as linguistic relativism or neo-Whorfianism, suggests that language influences conceptualisation. This difference is also seen to manifest itself in the difficulty of translating some words from one language to another.

Language as purely human-specific means of communication (Apriyanto, 2020) is both universal as a general phenomenon and culturally situated. As a universal phenomenon, it can be distinguished from animal communication by its use of thousands of arbitrary vocal symbols that are culturally and not genetically shared and the ability to refer to past, present, future and even the imaginary, a characteristic called displacement. This characteristic is unavailable in all animal communication, with the

exception of bees, which can communicate about events that have been removed in terms of distance (Kohl & Rutschmann, 2021).

Language is a symbolic system through which people communicate and through which culture is transmitted. (Pandey, 2020). Any language, therefore, transmits culture. Culture has been defined as 'the set of (usually implicit) norms and habits of behaviour shared by the actors in the relevant system (Muers, 2018). Kroeber and Kluckhohn, (1952) view it as "ideas and their attached values" (p. 47); and Deetz (1984) thinks of culture as "system of meaning". Geertz (1973) defines culture as a historically transmitted pattern of meanings represented in symbols. Goodenough (1964 p.36) quoted by Duranti (1997 p.27) says, "...culture is not a material phenomenon; it does not consist of things, people, behaviour, or emotions. It is rather an organisation of these things. It is the forms of things that people have in mind, their models for perceiving, relating, and otherwise interpreting them." A linguistic anthropologist Agar (1994) similarly says that language and culture are inseparable and refers to them with a collective term 'languaculture'. Language is seen to influence how people order their objects, people and experiences (Fasold & Liton, 2006). Aftab et al., (2022p. 8) posits that 'different societies have different worldviews peculiar to their culture in which language is embedded'. To know a culture is like knowing a language and both are mental realities and to describe a culture is like describing a language" (Duranti 1997, p. 27). By means of culture, people can "communicate, perpetuate, and develop their own knowledge and attitudes towards life" (p.89)

Language expresses culture (Zeng & Yang, 2024). As a cultural phenomenon, language is a product of culture, and hence, it communicates the unique reality that the specific cultural group experiences. According to Aftab et al. (2022), being part of a culture means sharing propositional knowledge and the rules of inference necessary to understand whether certain propositions are true. To this propositional knowledge, one might add the procedural knowledge to carry out tasks" (Duranti 1997, p. 28-29). Wood (2016) also argues that communication reflects cultural history, values, and

perspectives and reproduces culture by naming and normalising practices that are valued by the culture.

The cultural differences can be seen to arise from experience (Kim, 2013). People who have shared experiences develop the same concepts for the various phenomena around them. We, therefore, find different cultural groups with different conceptualisations of the same things. This creates a difference between the conceptualisation of the same things by different cultural groups.

Conceptualisation of a phenomenon is also shaped by the natural environment of a people. Bukhash, (2012) explains that for example, an environment without proper nourishment makes the value of conservation to grow high among the people. He also finds that if people live in a harsh environment, they develop a group culture, and individuals in society show more concern for one another than in individualist cultures.

There are two kinds of meanings of words: denotative and connotative meanings. Denotative meanings are the literal dictionary meanings, and these are generally shared. Connotative meanings, on the other hand, incorporate 'values, judgements and attitudes which are specific to a cultural group. Words have a denotative and connotative meaning, and according to Riscar (2006) in Ross (2006), they develop differently for different language users depending on social and personal circumstances. Satriani (2022) observes that connotative meanings carry cultural associations and paths of expectations shared by the cultural group.

The use of a certain language also conveys different values for the things around them, as attributed to society (Wood, 2016). For example, the mention of a dog among most children in the United States would bring to mind images of a four-footed friendly animal that is useful in guarding and herding. For the same animal, children from some cultures will not only learn that they are four-footed but also, like some other animals, are food for humans. This shows a difference in values that are language-specific. People's oral culture is an important site to express their nuanced conceptualisation of things and values. Wood posits that cultural values are infused in

language and expressed in adages. He gives the example of a Mexican proverb thus: 'He who lives a hurried life will soon die' vouching for a careful and calculated approach to life (Wood, 2016 p.108). This resonates with the Kiswahili proverb Haraka, haraka haina Baraka 'Hurry hurry has no blessing'. The dominant view of time in the United States emphasises just the opposite: the need for speed. The use of metaphors in different languages has real consequences on the perception of the implied reality. Despot (2021) observes that numerous studies have shown that metaphors have a bearing on how we conceptualise the world and how we reason and make decisions and among the cited areas are crime and climate change. Similarly, Machlup and Mansfield (1983) argue that information depends on the contextualisation of cultural, historical, and collective meanings. Our familiarity with various forms of greetings is also attributed to the fact that we have encountered them before.

It is important to consider two areas in which culturally specific elements of language have a bearing on the effectiveness of climate change communication across cultures. The first is the difference in the conceptualisation of climate-related phenomena such as rain and sunshine, and the second are values that stand at variance with climate change management, such as those touching on climate-friendly food choices.

Coming to climate-related phenomena, there are differences in the conceptualisation of such phenomena as rain and sunshine, which have a bearing on climate change communication. Such conviction needs to be alive to the mediating role of different cultures in communication. A few examples are considered from the adages of a few selected Kenyan communities and the Western culture.

The Kikuyu people are Bantu-speaking people of Kenya who mainly dwell near Mount Kenya and are also spread across the country (Tranquil Kilimanjaro, 2024). For many years, these people have practised mixed farming (Droz, 2017). Among the Kikuyu people of Kenya, rain is seen as a blessing owing to its association with the production of crops and the thriving of animal herds from the distant past. Rain was so central to the lives of these people that their



calendar was based on the two rainy seasons they experienced in the year *mbura ya njahĩ* (season of black bean) which started in March and *mbura ya mwere* season of finger millet that started in October (Mathaga, 2022).

Commenting on the availability of rain and its prospects is almost at the level of basic rituals of rapport among these people as visitors to different parts of their country are asked to report on the state of weather and specifically whether rainfall is available where they have come from. If rain is reported in a region, then the interlocutors will gratefully agree that God is kind to them and if drought is raging, the people will see it as a sign of lack of blessing and will hopefully say rains will come. This can be explained as arising from the community's sole reliance on rain for the fruition of their agricultural activities in mixed farming.

The Kikuyu have a proverb.

*Gutiri mbura itari gitonga kiayo.*

English: There is no rain that does not bring wealth to someone (Ileri, 2014)

A related proverb says this about cold and warm conditions.

*Urugari nduri indo, ni heho iri indo.*

English: Warmth has no wealth, it is the cold that has. (Ileri, 2014)

In this community, rains bring about wealth and, therefore every rainy season churns out at least one rich person out of the benevolence of rain. This literal meaning is based on the observation that rains are a major factor in economic production in farming. Regarding warmth, which is associated with drought, the proverb explicitly says that there is nothing to reap from it and that cold weather offers rewards.

The good fortunes associated with rains extend to life afterwards. When a member of the community dies going well beyond their reach, the community wish them good fortunes in the afterlife, which is again couched in terms of rain, as we find in the following words;

*'Aromama kwega kuraga'*

Translation: May they rest in a goodly rainy patch.

This establishes rain as inherently associated with blessings, and the departed will be served well in a rainy perch. By relocating to this wet location, the community hopes to ensure that the deceased have access to the necessities they require while resting. Samburu are Maa speakers living in the north-central part of Kenya, and they use a dialect that is mutually intelligible with Maasai. Their economy is based on the rearing of cattle, sheep, goats, and sometimes camels, and they have not practised crop cultivation for many years (Holtzman, 2007). Samburu ethnic self-definition is entwined with being 'people of cattle', and their daily work routines centred around the care of animals. Their wealth and prestige are tied up in their animals, and their ritual life involves their animals (Holtzman, 2007).

Because of their lack of stored food reserves, they are easily some of the most rain-dependent people. This is reflected in their conceptualisation of rain. For these people, rain is called *Nchan* or *Nkai*. The same word, *Nkai*, is the name for 'God'; this shows how closely rain is associated with God. The coming of rain is, therefore, an act of God. They also have sayings that express the greatness of rain. An example is the following:

*Meata nchan nkuporoi*

Translation: Rain doesn't cause scars.

The adage emphasises the value of rain and its greatness. It suggests that nothing harmful comes from rain, even if one exposes themselves to it. The community seems quite tolerant of the possibility of floods arising from excessive rainfall. Rain, therefore, begets only positive attributes. Another adage about rain says;

*Tnesha Nkai neshau kule o naisho*

Translation: When God gives us rain, it is like milk and honey.

The adage associates rain with divine providence. It further equates rain with highly nutritious foods, milk and honey, suggesting that with rain, plenty of food becomes available.

The venerated place of rain between the two communities referred to above contrasts with the values we find in the adages of some western communities. English, which is native to Europe and

America and is now widely spoken in its non-native areas, has fixed expressions with a different view of rain. An example is an idiom; 'Saving for a rainy day'

The idiom means to save something for a future time of need. A rainy day is treated as a day of need or trouble, and rain is disruptive and interferes with normal economic activities. One who has not saved will be in trouble when the rains come. A rainy day is not a time to look forward to. It is a time when things do not work well, and one has to depend on their savings to fall back on.

The French have the idiom;

*il pleut comme vache qui pisse*

Translation: It is raining like a pissing cow (Lane, 2016).

The adage portrays rain as a waste product and, hence, not necessarily essential or desirable. The adages reveal important cultural information on the conceptualisation of the phenomena.

Similarly, the symbolism of a cloudy sky is one that will bring about bad weather, bad and negative emotions and feelings and can be associated with doom and gloom. This might be seen as an indicator that this community was not desperate for rains and, therefore, had alternative sources of food other than rain-fed agriculture. Whether that portends rain, a 'cloudy sky' is also dreaded as opposed to a day of sunshine. Clouds are seen to symbolise doom and gloom in this culture. On the contrary, summer in this culture is synonymous with positivity, hope for the future, and joy.

Kikuyu and Samburu are two communities that rely largely on rain; the former are mixed farmers, while the latter are nomadic pastoralists. The importance of rain in their existence is, thus, strongly tied to their survival requirements. These communities, therefore, conceptualise rain as a live-giving provision from God to humanity and treat it with utmost respect. These cultural groups hold certain conceptual positions on the phenomena involved, which could even be at odds with the prescribed solutions to the issues.

This paper considers the possible disconnect between

the expected conceptual positions advanced by global lingua francas on climate change and its interventions and its possible effect on efforts to pull together in combating climate change challenges. This is by examining the conceptualisation of rain and sunshine among the various cultural groups and demonstrating significant differences that could have implications for climate change communication and action.

Climate change concerns advocate for reduced reliance on animal protein since keeping large herds of livestock increases the levels of methane gas, which is the third most significant greenhouse gas and is emitted during the production and transport of coal, natural gas, and oil. Livestock also produce the gas, among others. Although it exists in small quantities in the atmosphere, its ability to trap heat is twenty-five times greater (Thakur & Solanki, 2021)

Looking at linguistic evidence of some cultures points to values that emphasise love for large herds of animals. The Kikuyu people of Kenya have the proverb;

*Kuriithia imwe ti kwenda kwa mwene.*

Translation: To graze only one goat is not the owner's will.

The context for this proverb is that evils may come even when one does not want them. Such an evil is the loss of one's livestock, usually large herds, to cattle rustlers and diseases forcing the farmer to graze only one goat. Livestock are a measure of wealth and are therefore jealously guarded. People would only part with their livestock for something that was really precious. A Kikuyu proverb captures this idea as follows:

*Mburi ti marigũ.*

Literal translation: Goats are not bananas (which are given for nothing)

The English equivalent is given as 'There are no pains without pains.'

Members of this community are, therefore, to cherish their goats and only exchange them for a wife in the form of a bride price or another very important item. The Turkana similarly have a proverb;

*Akisirmokin aamong kitatae elope erai akingo naapolon.*

English: Never interrupt a man who is giving praise

to his favourite bulls because it is the focus of the herd.

The Borana people of Kenya similarly have great regard for huge numbers of cattle, which are symbols of wealth (Dabasso et al., 2022). They have the proverb;

“*Fayaan abba kaar*”

Translation: Health is wealth.

Health in this context refers to cattle only. The above proverbs reveal deep seated feelings for the two Kenyan communities about their livestock. They attach high value to their numbers and boast about them. The idea of reducing livestock herds in the interest of better climate management will need to counter this thinking.

‘*Mebaki nkiri tungana*’

Meat can never be enough for the people.’

The statement on the shortage of meat among a people who own big herds of animals is a testament to the fact that despite heavily feeding on meat, they are usually left yearning for more. This underscores the point that there is an insatiable appetite for meat in this community and it never cloys.

The above sample of adages reveal the conceptualisation of livestock and consumption of

meat from such animals among the selected communities. The communities attach a lot of importance to their livestock and their meat. These evidently run in the face of climate change campaigns that seek reduction in livestock and their consumption.

## CONCLUSION AND RECOMMENDATIONS

**Conclusion:** There are considerable differences in the conceptualisation of climate-related phenomena across the cultures reviewed. Communication on climate change and climate change action touching on such phenomena as rain and sunshine as well as livestock and food choices is bound to be understood differently by the various cultural groups involved. This poses a challenge to effective intercultural communication and militates against development of common responses to the climate change.

**Recommendations:** To come up with successful communication on climate change in the multicultural settings of the global scene, it is necessary to address the potential cultural barriers that exist among the various cultural groups engaged. It would be prudent to engage in intercultural training and dialogue and close collaborations to address the challenge and explore ways to develop new culture-specific vocabulary for some of the objects and practices that resonate with current thinking on climate change.

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