

Cultural Beliefs and Customs Versus Scientific Perspective About Rain Among the Tiv People of North Central Nigeria: A Short Communication.

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ABSTRACT

This paper analyzes the cultural beliefs and customs about rain among the Tiv people of North Central Nigeria. The main objective is to sample these beliefs and customs and then assess the validity of these beliefs climatologically. An investigation into the interplay between local observations of the rain forming and occurring mechanisms, cultural interpretations and beliefs which guide the behavior of the indigenous Tiv people is done vis-à-vis scientific analysis. The study adopts a mixed research method of qualitative and quantitative approach in eliciting information. In-depth interviews were conducted with twenty local Tiv indigenes in the selected towns of Gboko and Makurdi of Benue State where the Tiv speaking people are dominant. The collated beliefs and customs from the interviews were then presented in structured questionnaire to fifty Tiv-speaking students of the department of Geography, Benue State University, Makurdi to assess the level of acceptability. The result shows Tiv people hold some beliefs on weather and climate concepts. These beliefs are on dry and rainy seasons, rainbow, lightning/thunder, squall lines, clouds and heat stress during the rainy season. Most of the beliefs (83%) are scientifically proven and demonstrate how indigenous people observe and interpret weather and climate phenomena to cope with nature. The knowledge gained is useful in the forecast and interpretation of rain related events and to adapt to changing climatic conditions.

Keywords: Approach, cultural beliefs, indigenous methods, rain.

1. INTRODUCTION

Indigenous and rural societies have developed first-hand, unique, and complex systems of empirical knowledge about climate variability and strategies for responding to it (Orlove *et al.*, 2000; Behringer, 2010). Such knowledge is of great importance in the planning of livelihood activities such as hunting, planting or harvesting (Orlove *et al.*, 2000). Indigenous societies also hold a great deal of ethno-climatological knowledge that could be key in climate science and local adaptation.

However, there is a dearth of studies examining how such knowledge might be shaped by media communication and effectively utilized by the local people (ENR, 2003). The relationships between climate and culture appear everywhere in daily life; for example, in dress codes, in modes of prediction, in social memories of past climatic extremes, in adaptation technologies, in fiction and in historical narratives (Orlove *et al.*, 2000; Behringer, 2010; Hulme, 2015).

Many of these relationships have been written about, but in disparate texts and journals, fragmented across different academic disciplines. Coherent literature which treats the rich interactions between climate and culture systematically is still lacking. The number and scope of monographs and reference texts offering a synoptic view of climate and culture are rather limited, and some of them obscure. According to Hulme (2015), monographs by Boia (2005), Behringer (2010), Leduc (2010) and, in Japanese, Tetsuro (1988) are noteworthy exceptions, as are the edited collections of Strauss and Orlove (2003), Crate and Nuttall (2009), Dove (2014) and, in German, Welzer *et al.* (2010). Of course, it is worthwhile to document people's ability to observe nature's regularities and modify their subsistence activities accordingly. This capacity, a key component of many cultures, has contributed significantly to making humans one of the most widely distributed species on the planet (Orlove *et al.* 2000).

1.1 Conceptual Clarification

Climate might be understood in a more general scientific sense as a description of the state and dynamics of the physical planetary system which consists of the atmosphere, hydrosphere, cryosphere, lithosphere and biosphere, and the interactions between them (IPCC, 2013). The climate system evolves in time under the influence of its own internal dynamics and external forces such as volcanic eruptions, solar variations and anthropogenic forces (IPCC, 2013).

The scientific description of climate conventionally relies upon 30 years of weather data – although Arguez and Vose (2011) challenge this convention insisting that the most straightforward approach for creating alternative climate normal is to change the generalized definition of the standard WMO climate normal. The concept of culture is defined in different ways by

various scholars. Geertz (1973) describes culture as a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate and develop their knowledge about and attitudes towards life (Geertz, 1973). Culture, like climate, is hard to see and harder to measure. There exists a relationship between climate and culture such that a people's way of life such as housing type, clothing, occupation, physiological responses and health are directly or indirectly linked to climate.

2. MATERIALS AND METHODS

The Tiv speaking people are found in the geographical Middle Belt of Nigeria predominantly in Benue and other States of Nasarawa, Taraba, Plateau and Cross River. They are majorly farmers and rely much on indigenous climatic knowledge for their rain fed agriculture. The study adopted a mixed research method of qualitative and quantitative approaches in eliciting information. In-depth interviews were conducted with local Tiv indigenes in the selected towns of Gboko and Makurdi constituting the two major towns in the two senatorial districts of Benue State where the Tiv speaking people are dominant. The targeted groups were traditional leaders and elderly men and women considered as repositories of indigenous knowledge in the communities. Twenty people were interviewed (ten from each of the towns; six men and four women each) on the cultural beliefs and customs about rain of the Tiv speaking people. The interviews were conducted in Tiv language and later translated into English. The collated beliefs and customs from the interviews were then presented in structured questionnaires to fifty Tiv-speaking students of the department of Geography, Benue State University, Makurdi for corroboration.

3. RESULTS AND DISCUSSION

3.1 Cultural Beliefs about Rain

The results of respondents' views are presented in Table 1.

out of season rain to prepare farm lands for cultivation when rain starts.

Kyume (Rainbow): The Tiv people believe that the appearance of a rainbow is a sign that hinders rain from occurring. Whenever the

Table 1: Cultural Beliefs about Rain

S/N	Beliefs	English Translation	Responses in Agreement	Percentage (%)
1	Nyom man Fam	Dry and Wet Season	50	100
2	Kyume	Rainbow	35	70
3	Nyiar/Aondo Kume	Lightning/ Thunder Bolt	48	96
4	Ankwase Hungwa Idyereh	Squall line	40	80
5	Amaan/Abeen Nyian	Red clouds	40	80
6	ICeen Iyolugh fam ka i tese wura u a va anor	Heat stress during the rainy season indicates impending rain	38	76

Source: Field Survey

Nyom man Fam (Dry and Wet Season): The Tiv believe that rainfall is a natural existence caused by Aondo (God) which occur within a specified period known as Fam, while the other season of the year is dry (nyom). This marked distinction of seasons is characteristic of the Tropical wet and dry climate experienced in the North central region of Nigeria where the natives dwell. Rainfall in Nigeria is determined by the movement of the South west trade wind that blows into the country during summer. The North East trade winds are responsible for the dry season. During this time of the year, the sun is over head the Tropics of Capricorn in the southern hemisphere causing a reversal in mechanisms and the wind to blow southwards. The wind originates from the Sahara which is dry and responsible for the rainless conditions. Any occurrence of rain in the dry season is considered an abnormality and referred to as wuranyom (out of season rain). As abnormal as the rain is considered, it is of great importance to the local people who are predominately farmers and use the

rainbow appears in the sky, it signifies that the rain will not occur, meaning the rainbow has absorbed the moisture contained in the clouds. Rainbows are caused by the refraction and internal reflection of sunlight shining on falling raindrops or the spray above a water fall (Buckle, 1999). They occur mostly when rain showers are interspersed by a bright sun (Buckle, 1999). Each drop also acts as a prism splitting white light into its constituent colours, sending them out along slightly different paths as refraction sorts them by their different wavelengths (Buckle, 1999). It is not always the case that the appearance of a rainbow would lead to rain not occurring as the final outcome is dependent on the advancement of rain forming mechanisms. It should be understood that most of the clouds that reflect the solar rays usually contain little moisture, thus limiting the chances of rainfall occurring (Buckle, 1999). The belief that the appearance of a rainbow must hinder rain occurrence is therefore, not true.

Nyiar/Aondo Kume (Lightning/ Thunder Bolt): The Tiv people believe that lightning and thunder are an indication of God's anger over a wrong done in the land. Lightning and thunder signify that a person or groups of people have incurred the wrath of God, and He is reacting to the dastard act. Lightning and Thunder are also believed to be caused by ones' enemies to inflict harm. The Tiv people believe that some people (usually witches and wizards) have the supernatural powers to induce Lightning and Thunder on their enemies.

Scientifically, Lightning is a sudden flash that accompanies a discharge of atmospheric static electricity as it overcomes the normal resistance of air (Buckle, 1999). On the other hand, thunder is a sudden sharp crack or persistent rumbling noise that accompanies lightning. The often deafening thunderclap is caused by air's tremendous heating by the lightning stroke, followed immediately by rapid cooling (Buckle, 1999). Lightning remains one of the most dangerous weather phenomena killing an average 20 people each day worldwide, especially in the Tropics where storms are frequent (Buckle, 1999).

Ankwase Hungwa Idyereh (Squall line): The Tiv people believe that rain forming clouds from the Northeast will surely result in rain. This belief is not unconnected to one of the major rain producing mechanism in North Central Nigeria and West Africa at large (Buckle, 1999). Squall lines are common features of West African atmospheric circulation. The main sources of squall line are along the confluence zone of advancing south west monsoon and north east monsoon in the upper air around the Lake Chad's vicinity (Buckle, 1999).

Amaan/Abeen Nyian (Red clouds): Any time or day the clouds appear reddish in colour, the Tiv people believe there is the possibility of rainfall occurrence. This is

locally used to predict rainfall. The colour of the sky and clouds is a product of various atmospheric constituents reflecting and scattering solar radiation which comes in different wavelengths known as the solar electromagnetic spectrum. The breakdown of the spectral composition of solar radiation according to Sellers (1965) is; 9% is the ultra violet (uv) ($\lambda \leq 0.3$ micrometer), 45% in the visible ($0.4 \leq \lambda \leq 0.74$ micrometer) and 46% is in the infra red (IR) ($\lambda \geq 0.74$ micrometer). The rays may be either in short or long wavelengths. Insolation is scattered mainly by air molecules, water vapour and particulate matter within the atmosphere. The shorter wavelengths are affected by Rayleigh scattering which occurs when the diameters of the particles are smaller than the wavelengths of the solar radiation. The effect of Rayleigh scattering is best seen when the atmosphere is free of suspended particles and the sky light is brilliant blue. On the other hand, Mie scattering occurs when the diameters of the particles are larger than the wavelength of the incident radiation (Sellers, 1965). This happens when there are dust, haze and water molecules in the atmosphere. Mie scattering affects the shorter wavelengths of the sun's radiation, so the longer, reddish rays prevail when scattering is strong, hence clouds containing moisture gives a red colour (Sellers, 1965).. Since the red colour clouds contain moisture, there are higher chances of rain occurring given the rise to the belief by the people. Similar predictions based on local observation of the atmospheric environment have been made by different tribes and cultural societies (Orlove *et al.* 2002).

ICeen Iyolugh fam ka i tese wura u a va anor (Heat stress during the rainy season indicates impending rain): The Tiv people also believe that whenever there is heat stress during the rainy season, it is an indication that rainfall will occur. This is another cultural means to forecast the occurrence of rain by

the Tiv people. The main supply of energy on earth is the sun and comes mostly in the short wavelength. The atmosphere is nearly transparent to short wave radiation from the sun but is highly absorbent to infrared radiation in long waves from the earth via terrestrial radiation (Buckle, 1999; Dove, 2014). Clouds and water vapour absorb the radiations they intercept and, in this way, become important temporary heat reservoirs for the atmosphere, which is felt, resulting in the heat stress experienced. By this experienced heat stress, the Tiv people believe that rain could occur.

3.2 Customs of the Tiv People Regarding Rains

The cultural beliefs of the Tiv people have resulted in a myriad of customs that are largely superstitious. The common pattern of prayer in Tiv calls on the supreme God (Aondo u Abaverjuwa, Iyookoo, and Ishankyura). According to an interviewed elder in Gboko town, the eldest person in the community who is of good reputation would use the following prayer to call on God to

OOO Aondo ! OOO Aondo !!

Aondo u Abaverjuwa !

Aondo u Iyookoo !

Aondo u Ishankyura !

Aondo tile jigh jigh jigh!

request for rain in times of drought or to prevent a disaster especially during a threatening torrential shower with impending flood disaster;

The Tiv people believe in the efficacy of the prayer in averting impending natural catastrophes. Whenever there is a prolonged rainfall lasting several hours, it is customary that the last child in a family is asked to throw burning charcoal into the rain. The Tiv people believe that as the fire on the charcoal

is put out by the rain, the rain will also cease to fall.

4. CONCLUSION

These beliefs and customs influence the way the Tiv people think and react to rain situations and events. According to Orlove *et al.*, (2000) the study of indigenous forecasts forms part of the growing network that connects climate researchers, policymakers, administrators and citizens. The forecasts demonstrate that local populations are not resigned to accept climate variability as a harsh reality. Rather, they seek information they can use to adapt. The strategies they employ indicate the time required for the forecasts and offer some notions of the climatic conditions local people wish to know in advance. This information can help meteorologists prepare useful projections and improve communication between the producers and consumers of modern scientific forecasts. It may contribute as well to the alternative responses to climate change that are currently being discussed.

OOO God ! OOO God !!

God of Abaverjuwa !

God of Iyookoo !

God of Ishankyura !

God stand calm calm calm !

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