

CLIMATE VARIABILITY AND THE 'YORA' RURAL COMMUNITY IN THE COMMUNE OF DJOUGOU, DONGA DEPARTMENT, IN THE NORTH-WEST OF BENIN

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ABSTRACT

The commune of Djougou is located in the department of Donga in the northwest of Benin, subjected to a dry season and a rainy season; it is inhabited by several sociolinguistic groups including the "yowa". These people live from agriculture and produce "nuṣa" yams, millet "zɔpela", beans "tura", sorghum "zɔ" ... Nevertheless the staple food is sorghum "zɔ". The customs of "yowa" are based on prohibitions, the violation of which is considered sacrilege "kpimma-səmasə" which can cause drought "kparam". From the analysis of the results of our interviews during the surveys, it emerges that the "yowa" perceive the effects of climate variability interpret them according to their ancestral deities. All the harvests are closed with the grandiose sorghum festival "zɔlali", as a thank you to the ancestors. For example, the consumption of the new yam is conditioned by the authorization of the "bəha" deities who eat it first. This is the "Gnagrə". In case of drought, the causes and remedies are identified according to beliefs. The "yora" can recognize by signs the transition from one season to another. Despite these beliefs, farmers have adopted measures to adapt to the effects of climate variability.

KEYWORDS: Djougou, Donga, North-West Benin, Climate Variability, Rural Society

Article History

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INTRODUCTION

According to the fifth report by the Inter-governmental Experts' Group about Climate Evolution (GIEC, 2014: 19), the earth mean temperature has increased by 0.85°C between 1880 and 2012. This rise in temperature compared to the end of the 19th century could even exceed 5°C by the 2100s, following the most pessimistic projections. As has said George, (1988) quoted by Bokonon-Ganta, (1991: 249), the study of the climate has become a reconstruction of a very complex dynamic whose variables seem not to be all well apprehended. Yet, not long ago, 'geographers of the early twenty-first century limited their definition of climates to the rustic experience and to empirical linguistics whose richness and significant depth were appreciated by analysing the vocabulary of peoples who lived in close contact with the components of the atmosphere'. But the direct signs (measures) such as the consequences on vegetation, agricultural production or water resources, show that a major change is taking place in the climate balance and that the coming changes could be more striking (Boko et al. 2013 :1). African communities have their own interpretation of the phenomena of climate variation and climate change. In Benin, people's perception on climate change varies from a socio-linguistic group to another. The 'Yowa' from the township of Djougou, in the Donga Department, explain the climate phenomena and

catastrophes basing on their traditional beliefs. The present study gives a clear view on the ‘Yowa’ communities’ perception and phenomena as for climate variability.

FIELD OF STUDY

The township of Djougou stretches over an area of 3.966 km² and is one of the four townships in the Donga Department, in the North-West of Benin. Djougou is limited to the North by the townships of Kouandé and Péhunco, to the South by the township of Bassila, to the East by the townships of Sinendé, N’dali and Tchaourou (those three townships being in the Borgou Department), and to the West by the townships of Ouaké and Copargo. The head-city of the Donga Department, Djougou is about 450km away from Cotonou.

During the 2013 population census (RGPH-4), Djougou counted 70.938 inhabitants. The township is mostly composed of the following socio-cultural groups : the Yowa, the Tanéwa (from Tanéka), who also speak the language ‘yom’ also called ‘*Taḡərəm*’ (two neighbouring oti-volta (81.5%).languages).The language Yom, in the past designated as the ‘*Pila-Pila*’, a colonial pronunciation of the local expression ‘*kpila-kpila*’ meaning ‘hello-hello!’. Then, there are other groups: the Ditamari (6.6%), the Dendi (4.5%), the Bariba (3.4%), and the Fulani (3.4%), all belonging to the ‘GUR’ linguistic group. At last, there are the Fon and the Adja (0.6%) from the linguistic group ‘GBE’.

The Djougou township is subdivided into twelve (12) districts: three (3) urban districts and nine (9) rural districts that are: Baréi, Bariénou, Béléfungou, Bougou, Kolokondé, Onklou, Patargo, Pélébina and Sérou. Those districts are composed of 76 villages and city divisions, of which 46 administrative villages. The local administration then is hierarchized in three (3) levels: The Township, the district, and the village or city division.

The Djougou Township has a relief made of hills with low drops. The climate is a Sudan-Guinean one, with one rainy season (April to October) and one dry season (October to April). The average annual precipitation is set between 1.200 and 1.300mm; it varies from 1000 to 1500 mm water height for 75 to 140 effective days of rain. At the beginning of the rain season, there are sequences of hurricane flowing from East to West. Vegetation in the township is dominated by wooded and shrub savannah with 37.182ha of classified forest under management. Nonetheless, there are sequences of clear and dense forests here and there. The township is crossed and watered by four (04) rivers with a total length of 21km.

Soils are of clay-sand or lateritic texture (with gravels or stones) globally favourable agriculture. The farmed fields represent 35.70% of all the township land. Lands in the township are tropical ferruginous lands, less heavy with weak water retention capacity, and good for many types of cultures. But the cultural system is based on big buttes due to the dominance of yams farms. With the advent of cotton production, yams production has fallen and the cultural system has then changed. This so much shifting agriculture in a quite hilly area, has contributed to the decline of land fertility over the years.

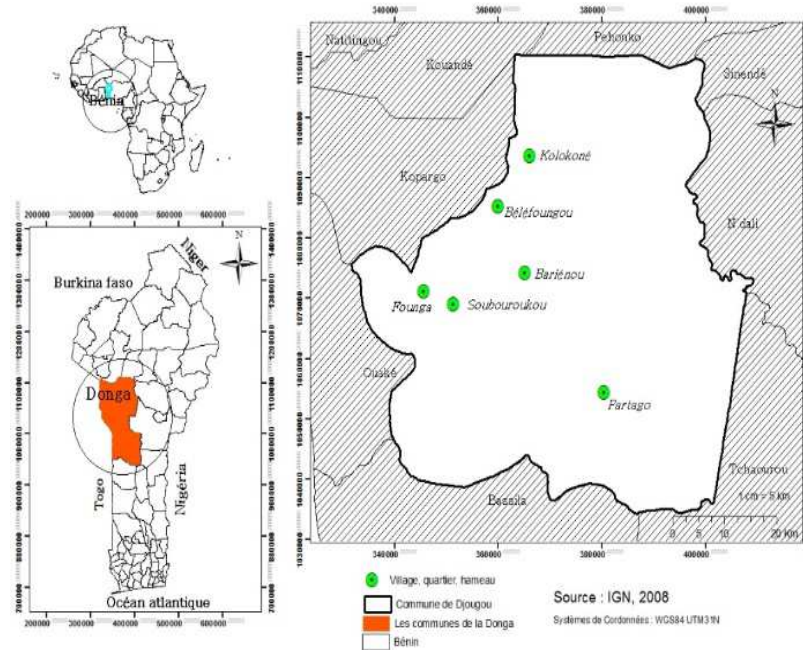


Figure 1: Map of the Geographic Position of the Township of Djougou and the Investigated Districts.

METHODOLOGY

The methodological approach is based on personal observations about the beliefs, attitudes, knowledge and common practices. The collected data through interview have accounted for and completed the data from personal observation. Enquiries have concerned a sample population made up with sixty (60) peoples, ten per district represented through the map (figure 1). The investigated people are resource people, interviewed through the snowball technique. This technique is based on the hypothesis that those populations know the climate phenomena very well, and as such are accurate traditional means of information transmission. This strategy has been completed with focus group achieved with the contribution of farmers, traditional healers, and land chiefs. The interview guide is made up with open and semi-open questions, allowing getting and classifying the perceptions and opinions of the populations.

RESULTS

Data Processing and Interpretation

Processing the survey sheets and cross checking the different responses to the questions, shows globally that the 'Yora' community has a good perception about each phenomenon in relation with climate.

- **Perception of the 'yowa' about Drought**

Called '*Kparam*' the '*yom*' language, drought normally occurs in the dry season only. But it happens that it occurs in plain rain season without any real reason. Yet, when this phenomenon happens, it hardly goes beyond five (5) days. When in plain rain season the rain stops for more than seven days, the '*yora*' people will start wondering as follows: in what way have we offended the ancestors' beliefs? Are there ceremonies that we failed to do? Maybe one or some of us have committed a crime! There is also the reading of warning signs. For instance, the rain-bow '*cawaaw*' that informs that despite the appearance of clouds, no rain will pour down.

- **Failure to give Appropriate Punishment**

The offense may be individual, collective or even from the guard of the tradition 'Bə̀sə̀rə̀-ɛ̀' during a ceremony 'ηakrə̀', or even from the chief of the land 'saawa' by omitting a ritual 'cumə̀' or by mistaking 'cɔ̀sə̀mə̀' during accomplishment of the ritual. Such offenses, which vary from the simplest to most complex ones, could consist in:

- Eating meat from an animal which is forbidden to the community or the clan;
- Setting foot in a sacred place with sandals;
- Eating yams while ancestors have not been offered it yet;
- Practicing the rituals wrongly;
- Committing and extending adultery repeatedly and;
- Omitting the organization of the sorghum festival called 'zɔ̀lari' ;
- Neglecting ceremonies about eye awakening 'tepə̀lajə̀rəsə̀'.
- The penalty from ancestors is dependent on the quality of the offender, and the importance of the offense. This can result in sterility of people or lands, frequent death occurrence in the village or in the area, famine caused by invading locusts in farms, and drought. The punishment occurs when the offense has not been revealed and repaired through sacrifices and fines, by providing offerings to ancestral deities.

- **Perception of the Yowa Community about the Rain and Floods**

For the 'Yora' man, the rain season 'yepə̀su' is a divine gift, a grace from ancestors. A good rain season could bring good harvest, but flooding is viewed as a punishment due to offense to ancestors.

In the 'yowa' tradition, there is the visionary man 'taara' capable of foretelling, through precursor signs or thanks to information obtained straight from ancestors, if the season will be promising or not. This man is also capable of detecting the offense and proposing the appropriate rituals or individual or group punishments. Those punishments are mostly dictated from the deities and consist in relieving the guilty from his duties, when the latter was at a position in the royal court, and turning him into a slave 'tchuruku' to be working in the court for a sometime, or selling him 'Beeremu', that is, fining him with money, cereals, yam tubercles, and animals.

Warning Signs

In the 'Yowa' customs, there are warning signs that can help see the passage from one season to the other. Those signs are shown through the behaviour of animals, plants and luminaries. ...

- **Passage from the Dry Season to the Rain Season**

The 'yora' community acknowledges the end of the dry season and the beginning of the rain season when:

- The néré tree blossoms 'dobisə̀ nɔ̀sə̀r gboma';
- The shea tree produces 'taməs lə̀ra taama';
- The singing lark appears 'kpasə̀v nɔ̀ɔ̀sə̀';

- Snails come out of the leaves 'wə̀ɾu wuri';
- The two stars called 'baðə̀semə̀', meaning 'the dog and hare' have appeared;
- The group of stars called 'koonɜ̀ɟu ən bə̀sə̀', which means 'the hen and its littleones' have appeared.
- **Passage from the Rain Season to the Dry Season**

The passage from the rain season to the dry season is observed with the 'yora' community by signs such as:

- Hanging the Baobab fruits 'tɔ̀vii bɛɛ zarii';
- Immigration of ox- pickers 'naə̀ nɔ̀ɔ̀sə̀';
- Observing stars called 'cə̀vukuma ji saava ', which means 'slaves inherit the house'.

Adaptation to Climate Variability

To face drought caused by climate variability, the 'yowa' farmers have referred to the following adaptation measures:

- Respecting annual ceremonies: The main annual ceremonies are the 'teplə̀jə̀rəsə̀' and the 'zɔ̀lari'. The 'teplə̀jə̀rəsə̀' literary means 'pieces of pestles 'to designate mourning awakening ceremonies. This ceremony allows the village newly dead people to integrate the group of ancestors, and to the ancestors to welcome them and to give them a good place in their midst. The 'zɔ̀lari' is an annual sorghum whose objective is to thank ancestors for their grace.
- Abandoning old farm land and moving to new ones (fallow):for the 'yowa' the first crop for a new land is yam. Only after yam, can sorghum, mil, beans, groundnuts and many others come. Then, every year, new wastelands and fallows were needed. But with the development of cotton and shortage of farm lands, this method is hardly practiced.
- Coupling crops: farmers sow many crops of the same land in order to increase the yield. The rule of associating tubercle-grasses, grasses-legume is respected.
- Young people's exodus: In addition to the flow of ancestors' anger or the popular sentence, the frequent abandoning practice of old lands has led young people to leave their village for other places where lands are said to be more fertile.
- Conserving fruit and medicinal trees: during the land clearing for the yam farms to take place, tradition requires that fruits trees and medicinal trees like the néré tree 'dobisa', the shea tree 'tamba', the Baobab tree 'tɔ̀lə̀vu' ..., be conserved.
- Adopting short cycle species and new crops species: Apart from tradition, farmers adapt themselves to seasons by cultivating short cycle species and by farming new crops species. The farming of sorghum is progressively abandoned in favour of maize. The 'yora' community that formally grows no maize has now indulged in maize production to the detriment of sorghum which from now is used for the production of the local bier drink 'dam'.
- Using shallows: enhancement of shallows is now effective in the area. Shallows are used for off-season crops.

DISCUSSION

The 'yowa' popular perception about climate variability just a myth and it depends on their traditional beliefs. Sarè et al., (2013: 461) have had the same results in Kandi, by concluding that there a dependence between the observed causes and the ethnic groups. This shows that, although they observe the same climate manifestations, the causes of those climate variability's do not have the same origin depending on the ethnic groups.

The negative effects of their tradition catch up with them and have them face the real facts, which are change in farm planning and drought caused by humans' activities. This is also what Adjagodo et al, (2016 : 23) are insinuating in their research work based on the Ouémé valley, when they say that farmers' ignorance over good farm practices have led them into the practice of a hazardous agriculture.

There exist with the 'yora' precise and well-known signs to the population, which indicate the passage from one rainy season to another. Those signs are natural. Despite this, drought is seen as a punishment from ancestors, and is compared to famine. Bokonon-ganta (1991: 255) has had the same results through his study based on the fon, the nago and the Adja; he concluded as follows: 'to the farmer, drought is a fatality or a punishment from the gods'.

The 'yowa' transmit their tradition to their descents. Bokonon-Ganta (1991:256) has found out the same result through his study, by stating that: 'these pieces of information are transmitted from generations to generations, sometimes with a few alterations even if the essential is conserved'.

Adaptation strategies such as adoption of short cycle species and the use of shallows, were not dictated from ancestors, but are choices by farmers, as well as preservation of resources production species. The observed fact is that this tradition progressively leaves place to the scientific reality. These cultural riches of the 'yora' people is not aiming at fighting against its vulnerability, and will not allow them to acquire their resilience faced with climate variability. In effect, direct signs (measures) such as the consequences over vegetation, agricultural production or over the water resources, show that a major change is taking place in the climate balance, and that the coming modifications could be more striking (Boko et al. 2013 : 1). Yet, public services, the media, Non-Governmental Organizations (NGO) and the imported religions such as Islam and Christianity have reduced the influence of traditional beliefs. Henceforth, the youth have known the difference between different religions, and the truth about climate variability. This explains their leave for other regions.

CONCLUSIONS

The 'yora' traditional community possesses some mythical secrets in relation to the climate in their area. Their perception about climate variability is based on their mythical traditional beliefs. In effect, the 'yowa' have good knowledge of facts and climate phenomena in adequation with their territory highly disturbed by climate vicissitudes. But this knowledge in connection their beliefs, and transmitted from generations to generations, seems not to be profitable to them, in face of climate realities imposed on the humanity. Alternatives to climate effects are both mythical and realistic. While the youth are fighting for an objective adaptation according to their will, the elders are striving for conservation habits and customs, and this favours rural exodus. Despite this generational conflict adaptation measures are being taken under traditional forms, and are not dependent on traditional beliefs. With radio and television broadcasting, the 'yowa' populations are more and more sensitized about the bad effects of climate variability and good practices that could assure resilience to climate. These media are helping the reality to take over the myth. The question that arouses now is how to combine the mythical factor, which is the true identity of the yowa, with the reality without their habits and customs to be lost, but for

their resilience to overcome the climate variability pressure to come true? Coming research works could certainly bring some approach of solution to that.

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