




CLIMATE CHANGE, CATTLE-REARING AND CREATION OF RANCHES TO PROTECT THE ENVIRONMENT IN SOUTHWEST, NIGERIA

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ABSTRACT

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This paper investigates the environmental destructions caused by cattle-grazing in Southwest, Nigeria, challenges associated with herding activities and measures to protect the environment from further destruction. For a qualitative analysis, 10 focus group discussions consisting of 6–10 participants and 4 in-depth interviews were conducted with selected farmers, Fulani herdsmen, and traditional rulers. Data collected were analyzed using content analysis. Respondents reported environmental destruction caused by the cattle-grazing activities of the Fulani herdsmen in the Southwest Nigeria, these range from destruction of crops due to the invasion of farmlands by cattle, destruction of green vegetation, destruction of young seedlings and water pollution. They also identified the challenges associated with the cattle-grazing activities of the herdsmen as lack of trust among the ethnic groups/ethnic stereotyping; suspicion; overgrazing on fallow lands; kidnapping/killing. Finally, the participants made the following suggestions on measures to protect the environment: the creation of cattle ranches; provision of hays/foray for cows' consumption; enlightenment on the danger of open grazing and the advantage of cattle ranches. The paper concludes by highlighting some policy options, the Federal Government of Nigeria (FGN) should sensitize Nigerians on the need for creation of cattle ranches in some parts of the country; the Fulani herders should be educated on how to rear cows without infringing on the right of others; FGN should encourage the provision of hays/foray for cows' consumption and the herdsmen should be compelled to buy this for their cows; and government at all level should enact anti open-grazing law.

Contribution/Originality: This study is one of the very few studies which have investigated the environmental challenges associated with activities of herdsmen in Southwest Nigeria. The paper contributes the first logical analysis that herding activities pose a great danger to agricultural activities, hence, the creation of ranches is necessary.

1. INTRODUCTION

Climate change and its effects are the most debated global environmental issue today [1, 2]. Its causes could be traced to the destruction of greenhouse [1, 3]. Climate change could affect every part of a man's life. The effects of climate change surface in the alteration in our environments, ethnic relations, migration, economy, and social order [4, 5]. The manifestation of climate change in Nigeria is as follows: prolong drought, decreasing rainfalls, increasing temperatures, desertification, poor yield and, depletion of soil layer [6].

People all over the world have been devising means of reducing the effect of climate change on them and their professions, these they do by adopting some indigenous techniques to cushion the devastating and irreversible effect which climate change has brought [7, 8]. One of the strategies which are peculiar to both farmers and herdsmen in Nigeria is the movement out of their cultural settings which they considered vulnerable to climate change to areas where the effect is less felt [9, 10]. Over the years, this movement has never been without challenges [7] the challenges are to both the immigrants who are most times left with an option of acculturation and the inhabitants whose environments may be pressurised due to an increase in population [11, 12]. Cattle-rearing is the predominant occupation of the Fulani-herdsmen in the northern part of Nigeria [13, 14] and for a long period, the Fulani were confined to the edge of the desert.

During the 20th Century due to desertification in the northern parts of Nigeria as a result of the effects of climate change and the pressure of desert encroachment on northern communities compounded by cattle-rearing, which has led to the unavailability of forage, Fulani-herders were compelled to migrate for survival through and settle in whole zones that were previously inaccessible to pastoralists. Hence, they were brought into contact with previously unknown peoples, cultures and production systems. It is, therefore, necessary for the Fulani-herdsmen to make life out of their new environment. The south-western zone of Nigeria which is now a haven for Fulani-herdsmen is known for agriculture and the region is endowed with arable-land which is good for farming [10, 12, 15]. Over the years, the region has been responsible for the provision of both food and cash crops. □

Presently, the region has a large number of Fulani herdsmen who had migrated with their herds from the northern parts of the country. The incursion of these herdsmen into the south-western part of Nigeria initially was not noticed as their activities were not detrimental to the people and their occupation. But recently, the effects of cattle-rearing on the environments have now become evident and pressing and this has necessitated conflict between the Fulani-herdsmen and their host communities [9, 16, 17]. Agriculture which is the traditional occupation of the people in south-western Nigeria is being threatened by the presence of the herdsmen grazing and their herds. The green vegetation which was one of the distinctive features of south-western Nigeria is fast disappearing, farms and/or crops are being destroyed by the grazing activities of herdsmen on a daily basis. This has directly led to significant alterations to the environment and food scarcity.

1.1. Objectives of the Study

The study seeks to examine the following: environmental destructions occasioned by cattle-grazing in Southwest, Nigeria; challenges associated with the activities of the herdsmen in southwest Nigeria; to identify the measures that can be put in place to protect the environment from further destruction in Southwest Nigeria

1.2. Functionalism and Creation of Ranches

Parsons' structural functionalist theory is employed to explain a complex of activities directed towards maintaining order between the Fulani nomadic herdsmen and the local farmers in south-western Nigeria and at the same time, meeting the society's need. Parsons believes that there are four functional pre-requisites that are necessary for all systems to be orderly - adaptation, goal attainment, integration, and latency or pattern maintenance. In order to survive, a system must perform these four functions. The Fulani-herdsmen who are faced with a major challenge of drought as a result of climate change in northern Nigeria and who, as a result of this migrated to south-western Nigeria, need to adapt to their new cultural environment. Consequently, they must do everything in order to deal with the external situational exigencies which can prevent them from achieving their defined primary goal. The system needs to regulate the inter-relationships among its component parts so as to achieve a reasonable degree of order; and, it must also manage the pattern of adaptation and the set goals. There must be continuous pattern maintenance such that the system will not be deprived of order. This arguments from

the functionalist point of view necessitate the creation of ranches so as to prevent disorderliness and at the same time protect the environment from total alteration.

1.3. Method and Materials

The study adopts a qualitative research design and it was conducted in two selected States (Ondo and Oyo) in Southwest Nigeria. The choice of these states was due to the fact that they both have agrarian societies with a sizeable number of Fulani herdsmen who have resided in the area for over ten years. The researcher employs Focus group discussions (FGD) and In-depth interviews (IDI) as instruments for data collection. The instruments were divided into sections which sought to establish the environmental destructions occasioned by cattle-grazing; challenges associated with the activities of the herdsmen and measures to protect the environment from destruction in Southwest Nigeria. Two local government areas (Akoko Northeast and Saki/Okeo) were purposively selected from Ondo and Oyo States respectively, from where a sample of 88 participants was drawn. Thirty-four participants were randomly selected among the herdsmen: 17 from each State; while fifty respondents among the farmers: 25 from each State. In addition to this, 2 traditional rulers each from the two local government areas were selected. The FGD and IDIs were drafted in the English Language. This was later translated to "Yoruba" and "Hausa". A back translation to English was done for both "Yoruba" and "Hausa" so as to ensure accuracy and validation of data collected. This was done by the researcher and Dr. Emmanuel Fayankinnu, an Associate Professor in the Department of Sociology at the Adekunle Ajasin University who speaks and understands both "Yoruba" and "Hausa" languages. The focus group discussions lasted between 52 and 65 minutes each while the in-depth interviews lasted between 21–26 minutes each. The qualitative data collected from IDI and FGD were audio-taped, sorted and transcribed. It was later analysed using content analysis and reported. The Consent of respondents was sought prior to interviews conducted and identity of respondents was kept anonymous. In spite of the fact that the study adopted descriptive design and utilised qualitative research design, bio-social variables of the respondents were quantified in the reports.

2. FINDINGS AND DISCUSSION

2.1. Demographic Characteristics of the Respondents

The study had a sample size of 88 participants which include 73 male and 15 female, the female participants were among the farmers. The ages of the participants ranged between 15 and 65 years. Fifty-five (55) of the respondents are aged younger than 35 years, while twenty-six (26) are aged between 35 and 55 years and seven (7) were aged 55 years and above. The gender profile of the participants suggests that herding activities still remain a male-preserved occupation among the Fulani which women are by no means engage in, while 30% female-farmers indicates that women now engage in the farming occupation which was originally male-dominated in the traditional Yoruba society in southwest Nigeria. The age distribution of the participants also indicates that farming and herding are strength consuming occupations this is evidence as a high proportion of the participants are in their most productive years. Sixty-four (64) of the respondents are married, sixteen (16) reported they are single, while eight (8) are a widow. The religious affiliation of the participants shows that thirty-five (35) are Christian, forty-six (46) Muslim and seven (7) Traditional Religion.

2.2. Environmental Destruction Associated with Cattle-Grazing

The Participants in the focus group discussions and in-depth interviews conducted were asked to comment on the environmental destruction associated with cattle-grazing. Accordingly, there is a consensus among the participants that cattle-grazing activities have one way or the other contributed to environmental destruction in southwest Nigeria even though the destruction varies. A good number of the participants identified destruction of crops due to the invasion of farmlands by cattle which allow cattle eat-up mature/premature plants, destroy the

green vegetation, and destroy the young seedlings, as the major environmental destruction occasioned by rearing of cattle in southwest Nigeria. According to them, whenever herdsmen are on the field grazing, they move their cows to anywhere they could find green grasses. Any wherever they invade, the green vegetation would be destroyed, the Fulani a times move their cows to farmland whenever they notice that farmers are not on their farmland and cows eat-up whatever green leaf they come across. A summary of participants' submission is shown below:□

The herdsmen are wicked and they pretend a lot. Whenever they are with their cows' grazing, they would direct the cows to the field, whenever they see farmers around they will keep off their farmland, but immediately they realize that farmers are no more on their farmland they order the cows into the farmland. Cows are very destructive, anytime they invade our farm they eat up anything green they come across. They destroy both matured and premature crops. By the time they finish eating, the ones that are not eaten by them are crushed. Look at the cassava plantation over there, it was destroyed by cattle, and since then, every efforts to resuscitate it had proved not to yield any good result [male farmer-participant, aged 47].

Another participant was of the opinion that:

We take our cattle for grazing on daily basis, but yet we are always conscious of controlling them from destroying farmland. Even if any wander into the farmland we quickly guide it out so as not to destroy the crops in the farm. Even though it may not be possible to do this without some of the crops being crushed by cows, yet we destruction is not as serious as farmers do claim when reporting [male herder-participant, aged 34].

One of the participants made this submission:

I had a terrible experience one day, a Fulani herder did not know that I was in my farm, he deliberately ordered his cow into the farm, not only this, he was also coming behind them right inside the farm. As he was grazing right inside the farm he accidentally ran into me and was shocked to know that I farmland. When I challenged him he said he was only trying to chase them out of the farmland and that if I touch any of his cows he will kill me [male farmer-participant, aged 47].

An overwhelming number of participants also indicate water pollution as one of the environmental destruction occasioned by cattle grazing. This occurs according to them when cattle are led to the stream to drink water. And this has led to the scarcity of freshwater in the community. An excerpt from one of the FGDs gives an insight into how cattle pollute water:

Whenever cows are brought to the stream to drink water, they pollute the water. This is because, as cow drink from the stream so they excrete right inside the water. Most times, before the herdsmen, could guide them out of the stream after drinking they would have excreted. Our source of water in this community is fresh water from the stream, but as I am talking to you now there is no water that is free of cows' excreted. Once they excrete into the stream, the water will have an odor and become contaminated. [male resident-participant, aged 39].

In the views above some inferences can be deduced. The herding activities of the herdsmen have brought environmental destruction in southwest Nigeria. The green vegetation which the region is known for has been destroyed by the activities of the herdsmen. This is as cattle eat-up both matured and premature crops, the implication of which can lead to famine and scarcity of food if not adequately checked. Also, some of the streams which serve as the source of water supply to the villages in the rural area have been contaminated, hereby causing the shortage of drinkable water the outcome of which can result into epidemics.

2.3. Challenges Associated with the Activities of the Herdsmen

The consensus noticed in the responses of the participants on how grazing activities destroy the environment necessitate the probe on challenges associated with grazing activities. The probe revealed that the challenges identified by the participants range from: lack of trust among the ethnic groups/ethnic stereotyping; suspicion; assault on Yoruba women by herders; overgrazing on fallow lands/reduction in farm yield; kidnapping/killing. The following lines from the FGDs illuminates further:

I don't trust the Fulani herder at all. As you see them, they engage in terrible things which one can not envisage. They are connected to kidnapping, armed robbery, rape, stealing and many other criminal acts. Some months ago, somewhere in Saki, a car conveying a couple who have just wedded from the venue of reception to where they reside was attacked and robbed. The funniest thing was that, after some weeks of the robbery incidence, the wrapper which was used to wrap some of the gift items collected by the couples which were stolen were found right in the camp of the Fulani headers [Female participant, aged 37years].

In another view extracted from the FGDs, a participant in one of the villages said:

Before now, we do allow our children alone to graze in the field, but with the level of suspicion that exists between the villagers and headers, we can no longer do that. Presently, the Yoruba who are farmers don't have any trust in the Fulani, anywhere they see us grazing they believe we are out to kill. This belief has changed the pattern of interaction between us. To me, allowing our children to graze without adequate security may be dangerous, because many times, our children have been attacked while on the field grazing [Male Fulani-participant, aged 37years].

Challenges associated with cattle grazing was further explained by a participant when she emotionally said:

We can no longer send our daughters on errands in this village. This is because young girls are no more safe in the eyes of the Fulani herdsmen. They attempt at rapping any young girl that comes along their way whenever they are in the field grazing. In about two different occasions, women have been raped by them. Some were unfortunate to live to tell the story while the once that survived said it was the Fulani herders that raped them [Female farmer-participant, aged 59 years].

Another participant explained further on the challenges associated with grazing activities when he said that:

The grazing activities of the herdsmen have almost sent us out of job. This is because for the farming profession to be encouraging, farmers' level of productivity must improve and this is determined by the fertility of the land on which farmers operate. As at present, the activities of the Fulani have led to overgrazing on fallow lands and this is causing a drastic reduction in farm yield. And this is making farming profession uninteresting to farmers [Male farmer-participant, aged 26 years].

The position above was buttressed when a female farmer said:

Our community which is a homogenous one - where we see ourselves as brothers and sisters now experience things alien to our culture. No one can really explain what is happening, this is because, robbery incident has become a daily thing, kidnapping of people is also on regular basis, just as the killing of innocent farmers has become incessant. Before now hardly could one hear one of such criminal acts in our community. These criminal acts have been linked to the activities of Fulani herders [female farmer-participant, aged 26 years].

2.4. Measures to Protect the Environment from Further Destruction

The environmental destructions caused by the activities of the herdsmen have become a thing of worry to the members of the communities. Agriculture which remains the predominant profession of the people in south west Nigeria is threatened by the activities of the herders, hence, there is a need for urgent measures. The participants, therefore, suggested that for further destructions to be reduced/stopped cattle ranches have to be created; provision

of hays/foray for cows' consumption by the government and individuals; enlightenment on the danger of open grazing and the advantage of cattle ranches. The summation of the participants was shown below:

We are fed up with what is happening in our community. The conflict that goes on between farmers and herder centers on the destruction occasion by the activities of the herder. To me, I believe we need one another, therefore, I am suggesting that government should rub minds with the villagers on how to go about the creation of ranches for the herder. If ranches are created, the destruction of crops which usually occur as a result of the open grazing system shall be highly reduced [Male farmer-participant, aged 26 years].

This was also established by the response of one of the participants:

Our community is known for poultry farming, we know how we take care of our birds, we buy feeds, we give them the vaccine and all these we do without encroaching on anyone's right. The same thing should go for herding activities of the Fulani. I am therefore suggesting that hays/foray should be made available by the government or individuals and the herders should be made to buy for cows' consumption [Female farmer-participant, aged 39 years].

Another participant said that:

The idea of cattle ranches may be strange to the Fulani herders, but this is what is obtainable in some of the countries in the developed world from the information we gathered from those who have traveled out. Presently in Nigeria, one of the factors that were linked to herders/farmers clashes which have claimed hundreds of life in Benue State is the restriction on open grazing. The Fulani were of the view that their profession was being threatened by the anti-grazing law, but this is not true. The state that promulgated this law only did so as to protect their citizen and the environment. Therefore, herders should be enlightened on the danger of open grazing which ranges from destruction of green vegetation/crops, destruction of farmland, water pollution and many more. Also, they should be made to see the advantage(s) of cattle ranches both to them and their host communities [Male farmer-participant, aged 41 years].

3. CONCLUSION

This study has identified the destruction caused by the cattle-grazing activities of the Fulani herdsmen in the Southwest Nigeria, some of these are: destruction of crops due to the invasion of farmlands by cattle, destruction of green vegetation, destruction of young seedlings and water contamination. The probe into the challenges associated with the cattle-grazing activities of the herdsmen among the herders and the farmers revealed the following: lack of trust among the ethnic groups/ethnic stereotyping; suspicion; assault on Yoruba women by herders; overgrazing on fallow lands/reduction in farm yield; kidnapping/killing. On the need to protect the environment from further destruction, the following were therefore suggested by the participants: the creation of cattle ranches; provision of hays/foray for cows' consumption by the government and individuals; enlightenment on the danger of open grazing and the advantage of cattle ranches. Given the above findings, this study suggests there is a need to create cattle ranches in some parts of the country (Nigeria); Nigerians (most especially those who are not into cattle rearing) should be sensitized on why they should allow the creation of ranches in their domains; the Fulani should be educated on how to rear cows without infringing on the right of others; government should encourage the provision of hays/foray for cows' consumption and the herdsmen should be compelled to buy for their cows; and government at all level should enact anti-grazing law.

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REFERENCES

- [1] IPCC, "Climate change 2007: synthesis report. In: Pachauri RK, Reisinger (Eds) Contribution of working groups I, II and III," Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Intergovernmental Panel on Climate Change, Geneva 2007a.
- [2] B. A. McCarl, "Analysis of climate change implications for agriculture and forestry: An interdisciplinary effort," *Climatic Change*, vol. 100, pp. 119-124, 2010. Available at: <https://doi.org/10.1007/s10584-010-9833-6>.
- [3] S. A. Ogalleh, C. R. Vogl, J. Eitzinger, and M. Hauser, "Local perceptions and responses to climate change and variability: The case of Laikipia District, Kenya," *Sustainability*, vol. 4, pp. 3302-3325, 2012. Available at: <https://doi.org/10.3390/su4123302>
- [4] G. Ziervogel, A. Nyong, B. Osman, C. Conde, S. Cortés, and T. Downing, *Climate variability and change: Implications for household food security*. Washington, DC, USA: Assessment of Impacts and Adaptations to Climate Change (AIACC), 2006.
- [5] Y. Lambrou and S. Nelson, *Farmers in a changing climate: Does gender matter?* Rome, Italy: FAO, 2010.
- [6] E. Salau, E. Onuk, and A. Ibrahim, "Knowledge, perception and adaptation strategies to climate change among farmers in Southern agricultural zone of Nasarawa State, Nigeria," *Journal of Agricultural Extension*, vol. 16, pp. 199-211, 2012. Available at: <https://doi.org/10.4314/jae.v16i2.15>.
- [7] S. Odoh and C. Chigozie, "Climate change and conflict in Nigeria: A theoretical and empirical examination of the worsening incidence of conflict between Fulani herdsmen and farmers in Northern Nigeria," *Arabian Journal of Business and Management Review*, vol. 2, pp. 110-124, 2012. Available at: <https://doi.org/10.12816/0002246>.
- [8] J. S. Okonya, K. Syndikus, and J. Kroschel, "Farmers' perception of and coping strategies to climate change: Evidence from six agro-ecological zones of Uganda," *Journal of Agricultural Science*, vol. 5, pp. 252-263, 2013.
- [9] O. Folami, "Climate change and inter-ethnic conflict between Fulani herdsmen and host communities in Nigeria," in *Conference on Climate Change and Security Organized by the Norwegian Academic of Sciences and Letters on the Occasion of 250 years Anniversary in Trondheim, Norway 2010*, 2009.
- [10] I. Abass, "No retreat no surrender conflict for survival between the Fulani pastoralist and farmers in Northern Nigeria," *European Scientific Journal*, vol. 8, pp. 331-346, 2012.
- [11] R. Blench, *Conflict between pastoralists and cultivators in Nigeria: A review paper prepared for DFID, Nigeria*. Cambridge, UK: Kay Williamson Educational Foundation, 2010.
- [12] O. A. Adekunle and S. R. Adisa, "An empirical phenomenological psychological study of farmer-herdsmen conflicts in North-Central Nigeria," *Journal of Alternative Perspectives in the Social Sciences*, vol. 2, pp. 1-27, 2010.
- [13] I. Iro, *The Fulani herding system*. Washington: African Development Foundation, 1994.
- [14] A.-C. Okoli and G. Atelhe, "Nomads against natives: A political ecology of herder/farmer conflicts in Nasarawa State, Nigeria," *American International Journal of Contemporary Research*, vol. 4, pp. 76-88, 2014.
- [15] P. A. Olayoku, "Trends and patterns of cattle grazing and rural violence in Nigeria (2006-2014)." IFRA-Nigeria Working Papers Series, No 34, pp. 1-25, 2014.
- [16] S. Ajuwon, *Case study conflict in fadama communities in managing conflict in community development session 5. community driven development*. Abuja: National Fadama Office, 2004.
- [17] M. Fasona and A. Omojola, "Climate change, human security and communal clashes in Nigeria," in *International Workshop on Human Security and Climate Change, Holmen Fjord Hotel, Oslo Oct. 21-23, 2005*.

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