

# **NIGERIA'S CHANGING ENVIRONMENT AND PASTORAL NOMADISM: REDISTRIBUTION OF PAINS AND GAINS**

**BY**

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## **ABSTRACT**

Nigeria's peasant cattle production is based in its semi-arid north. The area's aridity becomes a major problem to cattle in the dry season. Herds are protected by bringing them down to the southern parts that are usually wetter at such times. Presence of tsetse fly in the south, particularly in the rainy season precludes sustained all year round grazing in the south. This sets the stage for migration back to the north at the onset of rains in the south. A number of social events has been observed that suggest possible change in the way this transhumance is conducted. The Fulani herders from northern Nigeria appear to be staying longer in the south. They are also turning sedentary and pressurizing local resources and farmlands more intensely leading to violent and deadly conflicts with their local farming hosts in the south. On the other hand, some southern farmers now have successful cattle production enterprises based on the tsetse fly prone Fulani cattle breeds. This study seeks to find out if these trends indicate a negatively changed northern environment that is turning more hostile to peasant cattle production and promoting greater pressures on the south. It also seeks to find out if the trends show a positive change in the environment of southern Nigeria in terms of a changed tsetse fly habitat and decline in its populations. The study is approached through surveys involving the Fulani herdsman operating in southern Nigeria and their host communities. Results indicate a paradigm shift in understanding of ethnic clashes in Nigeria in the light of environmental change; some positive effects of environmental change; that positive environmental change may lead to negative social impacts. They also show that internal migration in Nigeria is largely environment dependent.

## **INTRODUCTION**

A major factor in Nigeria's environmental resilience is its variegated structure – different ecological zones from the wet southern tip on the Atlantic coast to its desert- like northern borders with Niger republic (see figure 1). Given the sharp contrast in the two dominant climatic influences prevailing over Nigeria, namely wet tropical maritime airmass originating from the Atlantic ocean and dry tropical continental airmass originating from the sahara desert, Nigeria has a north-south gradation of weather/climate parameters.



Figure 1: Location of Nigeria (source: Encyclopaedia Britannica, 2009)

Aridity, as well as temperature, increases northwards. Units of Nigeria's physical space are also highly variegated. Northern Nigeria, for instance observes a gradation of aridity with the most arid sahel savanna zone as the northernmost part on Nigeria's northern borders with Niger and Chad. Annual rainfall in northeastern Nigeria generally decreases in a south-north direction from 800mm in Biu ( $10^{\circ}35'N$ ) to about 350mm in Nguru ( $13^{\circ}20'N$ ) (Ayuba, Maryah and Gwary, 2007). Nigeria's graded climatic variables of temperature and rainfall have also occasioned a vegetation gradient with its southern part dominated by a forest zone. The northern part is dominated by the savannah which starts from about  $6^{\circ}N$  to the northern borders (NEST, 1991:147). The savanna is also graded from its southernmost extent to its northernmost reach into derived, guinea, sudan and sahel savanna reflecting increasingly lowered vegetation density. How does this complex climate/vegetation spectrum enhance environmental resilience? Human activities have over several centuries adjusted to this state of the physical environment with particular reference to agriculture. There is, for instance, a latitudinal differentiation of agricultural specialization in Nigeria in which case the southern parts are generally known for timber

tree crops and some root crops; the middle belt is known for root crops and some cereals while the northernmost parts are known for cereals and livestock, particularly cattle. Peasant cattle production is made possible by the ingrained resilience of the Nigerian environment arising from the spatial mosaic of varying moisture and temperature. Its variegation is a bulwark against total failure since challenges such as drought are survived through a rotational land use orientation.

For centuries, cattle production has been a preoccupation of the Fulani of northern Nigeria. Cattle are a northern specialty as evident in the steepness of gradient in cow pricing regime that has endured across Nigeria. A cow that goes for N35,000 about (233 USD) in Yobe (northern Nigeria) goes for about N100,000 (about 667 USD) in southern cities like Port Harcourt (Mohammed, 2010). Northern Nigeria is, therefore well placed in livestock production, which Humanitarian Policy Group (2009a) estimates to contribute 20 to 25 percent of gross domestic product across Africa. As much as 97 percent of Nigeria's cattle is produced in the North (National Open University of Nigeria, 2004a). The south, while providing a huge market for cattle in Nigeria, has not been able to produce commercial cattle. It has been inhibited in this area of agricultural production by physical attributes that enable the thriving of the tsetse fly for most of the year. The Fulani cattle's vulnerability to tsetse fly has however not discouraged northern cattle herders from regular forays into southern parts of the country with their large herds in a very recognizable form of transhumance. This takes place in the dry season when the arid north loses its pasture and watering holes to dryness and when usually the south retains a good supply of moisture and pasture. At such times, the slight southward migration of arid conditions dislodges the tsetse fly and enables pest free grazing around parts of the south. The herders return to the north at the return of the rainy season to avoid a tsetse fly resurgence in the south and also to take advantage of fresh burst of pasture under early northern rains. This has been the practice for many centuries. Under environmental change that occasions sustained northern aridity, beyond the normal annual cycles and a modified tsetse fly habitat in the south, it is to be envisaged that the nature of pastoral nomadism will also change, redistributing pains and gains across Nigeria's physical and social space.

## **THE PROBLEM**

This study set out to find out the nature of gains and pains that attend a changing pastoral landscape in Nigeria.

In the recent past, a number of developments have occurred to suggest environmental change and social consequences affecting Nigeria's peasant oriented cattle production both in the northern and southern parts of Nigeria. In the first place, the northern Fulani cattle herdsman, rather than maintain the transit orientation they have always been known for in most southern areas, appear to be turning sedentary in the south. The newly found tendency to establish permanent and semi-permanent camps comes at the cost of conflict with their farming hosts. Conflicts between Fulani cattle herders and southern farmers seem to be increasing in frequency and scale from areas as northwards as Jos (9<sup>o</sup>40'N) to southern areas like Owerri (5<sup>o</sup>30'N). Conflicts are promoted by destruction of farm crops by grazing cattle- a development encouraged by increasingly long stay of herders in the south at times, through the southern pre-harvest rainy season that is supposedly pest infested. The earlier practice of grazing in post harvest, fallowing fields never attracted conflict with farmers. Southern resentment for Fulani herders who now bear arms to protect themselves has grown. The Fulani markets in the south are no longer simply places where cattle exchange hands but have now turned into major grazing bases. They have also become havens protecting pastoralists against irate crops farmers. Increasingly, mere calves are brought to the south to be nurtured to commercial size. This has also necessitated major Fulani settlements around the so-called markets. Southern governments have had to pass laws restraining herders to newly carved out grazing zones in reaction to incessant conflicts with local people. Fear of Fulani cultural domination is common in many places leading to deadly ethnic clashes and cases of social isolation. Communities like Uturu (Abia State, southern Nigeria) have in place, standing orders restraining property owners from renting out rooming apartments to Fulani herdsman. It is also quite instructive that the Fulani herdsman who has not demanded rooming apartments for rent is now making this demand in southern communities.

A number of issues are contemplated as having a bearing on these developments and reflecting environmental change. These include:

1. possible shift in the distributional limits of tsetse fly in the south, to accommodate the Fulani cattle for much longer than was the case;
2. likelihood of a more hostile northern environment for cattle and cattle rearers and therefore a greater reliance on southern resources than was the case;
3. possible change in the status of pastoralists- their acquisition of attributes of environmental refugees; and

4. possibly improved physical potential for cattle husbandry in the south.

Thus, events in Nigeria's social space are used to show a changing physical environment of pastoralism in Nigeria and the gainers and losers this change has produced across Nigeria with a view to understanding the environmental dimension of social instability in the country.

At a theoretical level, this study explores the dialectical relationship between environmental change and social change in the area of peasant pastoral production in Nigeria. The dynamics of this relationship leads to a number of environmental/social life adjustments. Environmental change breeds social change while social change also stimulates environmental change. Hence this study seeks to understand the duo of environment and social life as a single unit of experience captured as coupled human and natural systems (CHANS) which looks at ecological variables, human variables and linking variables (McCoy, n.d)

## **METHODS**

Historical aspects of the social character of transhumance in southern zones of Nigeria in the past 30 years have been focused on. Interviews and field observation form the bases of investigations while the experience of southern states of Imo and Abia are central to the analysis. Data is generated from northern Fulani herdsman, the southern host communities and local governance institutions. A total of 100 herders identified through snowball method and 100 persons from 4 host communities where there has been conflict with pastoralists identified through random sampling have been interviewed. Historical trend analysis was applied.

## **OBSERVATIONS AND DISCUSSION**

### **1. Evidences of environmental change**

- a). **A Negatively Changing Poverty Demographics.** Poverty can result from environmental degradation while it can also facilitate negative environmental change. It is therefore a major index of environmental health (WCED, 1988; NEST, 1991). In this light, statistics on poverty in Nigeria point towards environmental degradation. Nigeria's National Planning Commission (2004: 31) showed a progressively increasing poor population for Nigeria, from the 1980s as published by Nigeria's Federal Office of

Statistics (see table 1). Incidentally, the years 1981-83 mark the environmental watershed – west African sahelian drought.

Table 1. Incidence of poverty in Nigeria (selected years)

Factor	Percentage of poor people in total population			
	1980	1985	1992	1996
National	28.1	46.3	42.7	65.6
Northeast	35.6	54.9	54.0	70.1
North West	37.7	52.1	36.5	77.2
North Central	32.2	50.8	46.0	64.3
North East	12.9	30.4	41.0	53.5
South West	13.4	38.6	43.1	60.9
South South	13.2	45.7	40.8	58.2

Source: Nigeria National Planning Commission, Abuja (2004: 48) Adopted from Nigeria Federal Office of Statistics

Nigeria is dominantly rural (Madu, 2010) and this status goes with acute material deprivation and heavy reliance by rural people on natural resources for livelihood. National Planning Commission (2004:33) places the rural people in this category at 75 percent. Going by table 1, which only covers years for which data are available, the poverty situation has been worsening since the 1980s. It is most likely to have the corollary of environmental degradation which, by extending logic of table 1, will also be worse for the poorer and more rural (Madu, 2010) northern region. In the light of prevailing migration trends in Nigeria, a more vulnerable northern region translates to a more pressurized southern region.

(b) Changes in Fulani cattle's range of spatial tolerance

Nigeria's regions outside the Sahel and Sudan savannas are known for the prevalence of tsetse-fly which impair the survival of the regular Fulani Zebu cattle. It is however observed that such areas like the guinea savanna, derived savanna and parts of the rainforests now sustain these Fulani breeds for much of the year. The animal's increased spatio-temporal range in the south therefore point to a possible shift in the spatial regimen of this pest. The World Health Organization (WHO, 1996) and NEST (2004) have made assessments of likelihood of climate change induced change in distribution of parasitic diseases such as African trypanosomiasis. Also, Laveissiere and Hervouet (1991) have

actually identified a southerly migration of the distributional limits of tsetse-fly and African trypanosomiasis reaching up to 50 to 100 kilometers. These shifts naturally follow loss of food sources and or vegetative habitat resulting from anthropogenic interventions which MacLennan (1999) has noted in the Olokomeji forest reserves and forests of eastern Nigeria. Thus, as human population induces ecological change that is adverse to tsetse-fly survival, there is tsetse fly retreat and an extended spatial range for Fulani cattle grazing.

(c) Changes in Pastoral ecology of Nigeria

Cycles of drought have become the defining character of a substantial part of Northern Nigeria. Northeastern Nigeria has experienced it in the comprehensive form of agricultural, hydrological, meteorological and ecological drought (Mortimore, 1989). Beyond the cyclical nature of drought in Northern Nigeria, there is progressive decline in rainfall—from 20 percent to more than 30 percent in the lake Chad region between the 1960s and 1990s (WEP, 2009).

An expanded pastoral activity in the south is indicative of a changed pastoral ecology, to some extent replicating the northern semi-arid environment that is now turning more arid. The conclusion of NEST (2004:4) that ‘climate change will only have a deleterious effect on food security’ has not considered the enlarged space economy of food production it can enable.

The length of stay of Fulani herders in the south has increased. Those on permanent stay in the south have grown in numbers since 1990 as shown in table 2.

Table 2; Fulani herders permanently staying in the southern states of Abia and Imo since 1985

<u>Years of Arrival</u>	<u>Number</u>
1985 – 1989	0
1990 – 1994	3
1995 – 1999	5
2000 – 2004	8
2005 – 2009	11
<u>Total</u>	<u>27</u>

Source: Author’s fieldwork, 2010

In a sample of 100 herdsman, 27 or 27 percent are now permanently staying in the southeast. The number of these pastoralists has been steadily increasing since the 1990s, and experimentations on southern-run cattle production with Fulani breeds are proving successful. Evidently, pastoralism is deepening in the south.

## 2) Impact of changes on pastoral nomadism

A major impact of environmental change is the trend towards sedentarization. In most cases, sedentarization reflects government's poor understanding of pastoral dynamics. In such cases, it involves forced settlement programmes that usually fail. In the case of the study area, the phenomenon is naturally evolving from the realization by pastoralists of (a) greater and increasing challenge of practicing their trade in much of the north; (b) greater and increasing physical amenability of the south to cattle rearing; and (c) higher social cost of grazing movements in the south. It can be seen that objectives which may not be achieved through policy instruments, may sometimes be realized through natural processes. The trend also runs through North Africa (Johnson, 1974). Sedentarization becomes attractive to nomads as access to rangeland declines under situations of conflict/insecurity and pastoral land alienation (HPG, 2009b). The trio of environmental degradation, famine and conflict impose an economic refugee status on nomads (see Hitchcock and Osbon, 2002).

Other impacts include cultural space contestation among the different indigenous and settler (nomadic Fulani) populations across Nigeria. Whereas these indigenous populations: the Berom, the Igalas, the Tivs, the Igbos etc have tolerated the transitory nature of encounters with Fulani herders, they are increasingly worried about the cultural domination that attends long sojourn as currently obtains. Resistance to Fulani 'cultural audacity' is presently at the heart of most bloody ethnic conflicts in Nigeria. Fulani cattle markets in the Southeast have gone beyond commerce to become major Fulani cultural heaths. Rather than graze only mature cows brought in market ready, as was the practice, herders increasingly graze calves brought down south from the north. A count of calves and non market sized cows in fourteen herds with a total of 448 cows going out for grazing from the Umunneochi cattle market, Abia state, southern Nigeria, on a certain day in July 2010 gives their number as 209 or 46.6 percent. This indicates an enlarged role for the market and increasing dependence on the south for sustained all year round grazing. Grazing pressure is therefore high, pushing herders into spaces that should be off limits such as farmlands and public water sources. Herd transgression of farmlands and destruction of farm crops frequently result in conflicts.

## 3) Trends in social conflicts involving Fulani pastoralists



The Fulani pastoralists have been involved in many ethnic conflicts with local people. A study of the geographical spread of these conflicts in table 3 is instructive.

Table 3: Latitudinal configuration of major conflicts involving Fulani pastoralists

S/N	Place N – North S – South	Opponents	Latitude of occurrence (circa)	Year	Nature of conflict
1.	Kano, Kano (N)	Varied	12 <sup>0</sup> 30' N	1980	Urban riots
2.	Konshika, Benue (N)	Tiv	7 <sup>0</sup> 30' N	1981	Widespread violence
3.	Maiduguri, Borno (N)	Varied	12 <sup>0</sup> 30' N	1982	Environmental refugees of the drought in a massive urban revolt
4.	Kaduna, Kaduna (N)	Varied	10 <sup>0</sup> 30' N	1982	“
5.	Jimeta Yola, Adamawa (N)	Varied	9 <sup>0</sup> 15' N	1984	“
6.	Gombe, Gombe (N)	Varied	10 <sup>0</sup> 15' N	1985	“
7.	Ijumu, Kogi (N)	Ayere	8 <sup>0</sup> N	1986	overgrazing land
8.	Sabon Birnin, Kebbi (N)	Hausa	12 <sup>0</sup> 30' N	1989	9 dead
9.	Jalingo, Taraba (N)	Mumuye	8 <sup>0</sup> 45' N	1989	Bloody class over grazing activities
10.	Benue /Plateau (N)	Tiv	8 <sup>0</sup> N	1989	“
11.	Awe/Guma, Plateau (N)	Tiv	8 <sup>0</sup> N	1989	“
12.	Ijumu, Kogi (N)	Ayere	8 <sup>0</sup> N	1990	Over grazing land widespread violence
13.	Kano, Gombe (N)	Varied peasant cultivators	10 <sup>0</sup> 6' N	1997	Widespread violence
14.	Jakuska, Yobe (N)	Varied peasant cultivators	11 <sup>0</sup> 45' N	1997	Widespread violence
15.	Damboia, Borno (N)	Varied peasant cultivators	11 <sup>0</sup> 12' N	1998	Widespread violence
16.	Okigwe, Imo (S)	Igbo	5 <sup>0</sup> 42' N	1998	Violence over improper grazing
17.	Sagamu, Ogun (S)	Varied	6 <sup>0</sup> 54' N	1999	Ethnic violence
18.	Kaduna, Kaduna (N)	Varied	11 <sup>0</sup> N	2000	Ethnic violence
19.	Aba, Abia (S)	Igbo	5 <sup>0</sup> 12' N	2000	Reprisal for Kaduna killings.
20.	Jos, Plateau (N)	Berom	9 <sup>0</sup> 52' N	2001	Grazing Land
21.	Yelwa Shendam Plateau (N)	Yelwa Shendam	8 <sup>0</sup> 54' N	2000-2004	Widespread violence
22.	Kano, Kano (N)	Southern varied	12 <sup>0</sup> N	2004	Reprisal for Yelwa Shendam
23.	Owerri, Imo (S)	Igbo	5 <sup>0</sup> 30' N	2005	Over grazing rights
24.	Egbema, Imo (S)	Igbo	5 <sup>0</sup> 30' N	2006	Over grazing rights
25.	Umunneochi, Abia (S)	Igbo	5 <sup>0</sup> 42' N	2007	Over grazing rights
26.	Owerri, Imo (S)	Igbo	5 <sup>0</sup> 30' N	2008	Over grazing rights
27.	Jos, Plateau (N)	Beron, et al	8 <sup>0</sup> N	2008-2010	Ethnic violence

Source: Varied newspaper reports, NEST (1991) CPRCR (2003)

Plotting the latitudes where these conflicts occur against the years of occurrence, we observe with the passage of time, a downward transgression of the conflict theatre in latitudinal terms towards the south(see figures 1 and 2).

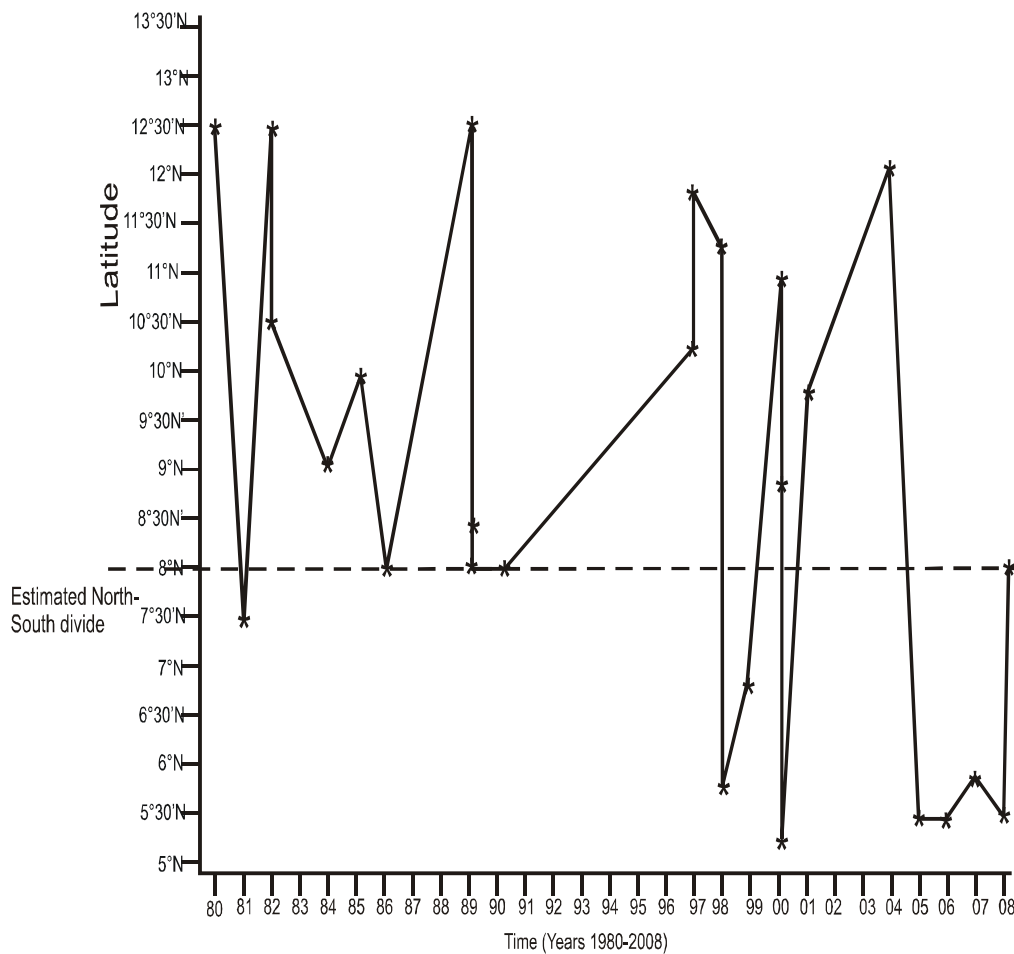


Figure 2: Pastoral Fulani conflicts with settled groups in latitudinal and time perspectives

Interestingly these recorded conflicts all postdate the sahelian droughts of West Africa. Prior to 1998, there was no major clash between pastoralists and indigenous crop farmers of southern Nigeria. All such conflicts were confined to areas northward of latitude 8°N. Since that date, there has been 7 major ethnic crises involving the Fulani nomads in the south with heavy losses and casualty rates. Many other pockets of ethnic conflicts outside the very theatres of herders/farmers showdowns are usually reprisal attacks extending an essentially environmental resources and land use conflict.

Conflicts between farmers and herders pervade traditional nomadic societies in, North Africa (Johnson, 1974), Ferlo region of Senegal (Juul, 1993), eastern Sudan (Blaikie, 1993) and Niger (Rasmussen, 2002). In all the cases, welfare issues are involved vis a vis allocation of costs and benefits. Local people resist exploitative individuals that externalize environmental costs (McNeely, 1991).

#### 4) Institutional Responses to the Pastoral Crisis

This is indicated since pastoral nomadism thrives on the idea of open- property, grazing resources, governance of which is increasingly requiring institutional interventions. Imo State government, southeastern Nigeria, passed in the year 2000, law no. 13 to establish the Imo State regional cattle and other ancillary business market at Okigwe and law no. 9 2006 to prohibit the grazing of cattle in restricted areas in Imo State (ISN, 2000, 2006). Other states in Nigeria have developed similar instruments. By-laws feature in community management programme of Zanzibar (Williams, Masoud and Othman, 1998). They however tend to confine pastoralists removing the element of mobility that give access to pasture (HPG, 2009c) and also lead to overuse and degradation of mapped out grazing zones. HPG (2009c) sees policies that restrict mobility as increasing the vulnerability of pastoralists and this happens even if incidence and severity of drought do not increase (HPG, 2009b).

As a way out, Nigerian meteorological agency (NIMET 2009) advises for the year 2009, 'increased production and storage of fodder to reduce conflicts between farmers and cattle rearers'.

#### 5) Herder Vulnerability

Natural shocks force pastoralists into spaces that fall outside open or common property regimes. In this environment, they are exposed to man-made shocks and resistance. In much of Nigeria, a reaction to this situation is increased militancy. Weaponry has become a major aspect of the Fulani herdsman's paraphernalia and levels of armament has gone on with increasing sophistication as the herdman's perceived need for self defence grows. The entire scenario is one of environmental change induced space contestation that mirrors the case of the Horn and East Africa in which demographic change is pushing pastoralists to inhabit more marginal rangeland (HPG, 2009b). Bande (2003) concluded, 'The increase in the size of population and size of herds generates anxiety and competition. Where there are inadequate policies for the delineation of routes or grazing areas, problems arise'. Incidentally, the link between the environment and conflict is poorly understood. Nigeria's National Planning commission (2004) failed to factor environmental stability among formal responses to the risk of conflicts (ethnic conflicts) in Nigeria's development strategy documents.

## 6. Cattle Production in a Changing Southern environment.

In Nigeria, the southern component of the cattle production space has grown in significance. This can be identified as a salutary outcome of a changing Nigerian environment. It is however a burden to southern farmers, security agencies and other government agencies that have to cope with this change. This is because such benefits accruing to the Fulani migrants come at the expense of southern livelihood pursuits.

Incidentally, the south has not adjusted its occupational interests to accommodate pastoralism save demonstration free range cattle production enterprises like the one existing at Federal University of Technology, Owerri (Asiabaka, 2010). These successful production units are evident of physical change. With the case of Anchau corridor scheme, Amodu (1999) showed that eradication of trypanosomiasis is not likely to be adequate incentive to change traditional farmers to animal husbandmen. Cattle remains a Fulani specialty in which they enjoy not only physical comparative advantage being of an arid/semi arid location but also cultural comparative advantage since cattle defines the cultural existence of the group (NOUN, 2004b)

## **Conclusion**

This study set out to identify in what ways a changing environment has affected pastoral nomadism and how pains and gains from this human activity are being redistributed across spaces in Nigeria. Using historical data analysis and interviews, it has found out that there are currently modifications on the traditional primordial dichotomization of Nigeria into physical and socio-economic regions in the wake of environmental change. Thus, the distributional limits of peasant cattle production in spatio-temporal terms have shifted to involve more of the southern region suggesting a physical change and possible retreat of the constraining tsetse fly in the south.

This physical transformation has therefore occasioned a socio-cultural transformation that is in many places bringing about bitter conflicts between settled indigenous crop farmers and nomadic pastoralists. There are conflicts over incompatible land uses as well as those over cultural domination. A geographical shift in occurrence of these conflicts has taken place in recent times in a form of southern oscillation confirming pastoral intensification in southern Nigeria and a comprehensive environmental change across Nigeria.

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