

## SOCIAL ANTHROPOLOGICAL INQUIRY INTO ‘CAMP AGRICULTURE MASS PRODUCTION STRATEGY’ AT AGADAMA COMMUNITY OF DELTA STATE, NIGERIA

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### Abstract

Agadama community attracted the attention of our research team for two major reasons. First, she experiences ‘urban-rural return migration’ which might be termed repopulation unlike the over-utilized cliché ‘rural-urban migration’. Secondly, she practices camp agriculture strategy for mass production of potatoes, a relatively under reported traditional agricultural system that have remained resilient among the people. The aims of this social anthropological inquiry are thus to verify the features of camp agriculture, examine factors stimulating the adoption of the strategy among the people of Agadama, and to account for challenges they encounter in the process of camp agriculture in their area and to make appropriate recommendations.. The study was anchored on the location theory and employed three core data collection tools of participant observation, key informant and in-depth interviews with content analysis involving ‘thick description approach’. The study revealed that camp agriculture among the people of Agadama has at least ten fascinating features which include living and sleeping in makeshift tents hung above waterlogged farms from months of January to May each year. The risks include colds, snake bites, and attacks by Fulani cattle herdsman among others. The major factor giving rise to this farm option was found to be the drive by community members to consciously concentrate on large scale production of potatoes for commercial purposes of which the magnitude of this activity catches the attention of new entrants (strangers/visitors) into their community. The study advocated for government construction of houses at farm camps against extreme weather conditions and to protect farmers in camps from Fulani cattle herdsman who should be disarmed and given permanent grazing land. Also, government should ensure locate relevant industries that could process surplus potatoes and other agricultural products, as well as provide technology for product storage. There is also need for provision of health facilities to serve health needs of the largely agrarian community. All these will stimulate further mass production of potatoes and positive socio-economic advantages to Agadama community and her neighbours.

**Key words:** Camp agriculture, Repopulation, Mass production, Potatoes, Agricultural production, Local economy.

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## Introduction

Agadama community is unique for two reasons hence the choice of her study by our research team. First, she experiences 'urban-rural return migration' which might be termed repopulation unlike the over-utilized cliché 'rural-urban migration'. Repopulation in this study implies the conscious mass return of able bodied population back to the rural areas for the purpose of engaging in agrarian activities. Several reasons give credence to rural repopulation in Nigeria, like graduate unemployment in urban towns, inability to secure admission to the very few Nigerian universities, frustrations of city life which make residents to adopt the culture of poverty in cities, recent economic crunch/recession which resulted to the sack of workers in banks and local industries, retirement, among others. .However, despite the effects of these factors, repopulation of rural areas is not a regular occurrence, nor experienced in a great extent in most parts or rural communities of Nigeria.

To justify that rural repopulation is not a common phenomenon in Nigeria, Pinilla et al. (2008, p. 3), observed that "until recent times, interesting signs of repopulation may not be found, which are associated with a range of causes". Howbeit, repopulation (urban to rural migration) has lots of socio-economic outcomes in places where this phenomenon has been observed like in Agadama. In particular, the local economy is often stimulated, strengthened and harnessed for greater production. Local economy therefore refers to an indigenous population's system of production; distribution and consumption of resources (Kottak 2004).

Furthermore, rural repopulation usually has tremendous implications for available social services and health needs and outcomes of rural areas. This explains why many ethnographic reports consistently reveal that the interplay between economy and environment is one of the bases for health concerns among communities (Dao and Brieger 1995; Oyadoke et al. 2004; McElroy, and Townsend, 1989).

Against the above background, Pinilla et al (2008, p. 19), reports that in recent decades however, the new phenomenon of urban-to-rural migration has emerged in many countries, affecting the rural environment together with other developments such as changes in the economic functionality of the community. Agadama community is one of the few Nigerian rural communities that encounter repopulation on a regular basis.

The second issue that makes Agadama unique and marked her out for this social anthropological inquiry is her camp agriculture strategy for mass production of potatoes. The fact that this agricultural practice has not been adequately reported underscores the need to verify its features. It is also important to examine factors stimulating the adoption of the strategy among the people, and challenges they encounter in the process of camp agriculture all of which are the thrust of this study.

### **Objectives of the Study**

Following from the above background, the study was guided by under listed five specific objectives:

- (i) To account for the origin of Agadama community in relation to their primary occupation of potato cultivation and sale
- (ii) To determine the major features of ‘camp agriculture mass production strategy’ as practiced at Agadama community.
- (iii) To determine the key factors responsible for adoption of ‘camp agriculture mass production strategy’ at Agadama community
- (iv) To account for the problems of camp agriculture strategy encountered by farmers at Agadama community
- (v) To recommend measures for improvement of agricultural production at Agadama community

### **Materials and Methods**

The study is a qualitative ethnographic type. It employed participant observation, key informant interview (KII) and in-depth interview (IDI) as data collection methods with content analysis involving ‘thick description’ approach. The study was based in Agadama community in Ughelli North Local Government Area (LGA) of Delta state, Nigeria. Ughelli North is one of the twenty-five (25) local government areas (LGAs) in Delta state. The state has about 2.93% (4,098,391) of Nigeria’s over 140 million 2006 population census figures out of which Ughelli North boast of about 320,687 inhabitants (Federal Republic of Nigeria, Official Gazette 2009, p. B26).

Specifically, respondents were randomly selected and sample size was flexible until a saturation point was reached where new respondents had no new information to provide. All respondents were inter-subjectively interviewed; IDI consisted of open-ended questions

covering the study objectives. KII involved mainly people who are considered to be knowledgeable or aware of happenings (18 years and above) in the community and how its affairs are managed like community heads/leaders, among others. The researchers employed participant observation by living with the natives and immersing oneself daily in the activities in Agadama community for about one year, August 2008 to September 2009. Furthermore the research team has been embarking on series of verification visits after the field work, the last of which took place in December 2012.

Huge qualitative data was generated; content analysis involved routine interaction with the data, which entails transcription and translation of data collected with electronic devices, from Urhobo language to English language. This was subsequently followed with sorting of data according to study objectives to enable report writing and some ethnographic extrapolations to be made.

### **Theoretical Framework**

The location theory was employed as an explanatory framework for this study. The theory emphasizes how economic factors influence man's actions and affect the availability, accessibility, affordability and utilization of public facilities. The central point of the theory is the location of welfare services in areas where aggregate transportation costs is minimized (Asakitikpi2001, p. 42). The theory focuses on the spatial distribution of economic activities with focus on transfer costs, and this refers to both transport and inconveniences of transporting one's self to and from the place where such services are rendered/accessed.

### **Research Findings**

The findings of this qualitative social anthropological research are thematically organized and presented below in relation to the core objectives that guided the study.

#### **Study Objective 1: Origin and Primary Occupation of Agadama Community**

Agadama is one of the numerous coastal communities in Ughelli-North LGA of Delta state, Nigeria. Historically, Agadama is associated to a hunter known as Idama, who migrated from

Uwheru clan ('main town' as it is often called by the Agadama natives) through a bush path/track. Oral tradition (prehistory) has it that, the main town Uwheru gave birth to five children, with the last being a female known as Ohoro, namely:

- (i) Erovie:- Uhwovioro, Uruvwrigbo, Odja
- (ii) Ehere:- main town, Agadama, Okugbe-Owarovwo, Ogode, Uvwriche, Ophororo
- (iii) Urede:-main town, Oreba, Avwon
- (iv) Egbo:-Oro-ohoror
- (v) Ohoro

Kingship formerly resides with the first child 'Erovie' but with enlightenment and civilization, other sub-clans began to agitate and as a result, leadership of Uwheru clan is now rotated among five sub-clans that makes up the main town/clan.

The migrating hunter (Idama) located a space (Agadama) within a forest which was favorable to hunting, fishing and farming occupation than where he came from (Uwheru) and decided to reside there. Idama then invited his brothers and friends to his new found space and they lived peacefully concentrating on fishing, hunting and farming. It was other people who used the track ('oga') found by Idama that named the space after the founding father as 'Oga Idama' meaning 'track of Idama'. From constant usage, the community derived its name as Agadama.

The name Agadama is often mistaken for an ijaw (Izon) town in Bayelsa state known as 'Agudama', this mistaken identity was advantageous to Agadama people for a while, as they secured employment in the Bayelsa state civil service as teachers, police, military among others; but when it was discovered, the opportunity was blocked (Personal communication December, 2012). This reflects that, tribalism and ethnicity plays a great role in job placement or employment opportunities even for the minutest job in Nigeria.

The Agadama community is divided into two quarters (a) Uruvworo and (b) Ururhere. Each of the quarters is subdivided into three (3) streets (as they are locally called among the natives, but may not be same in English meaning of streets). The first quarter (Uruvworo) is made up of Oteka, Ogbijo and Ogbewwe, and the second quarter includes Enyerukoni, Etovie and Ogbese. The two quarters in the community often competed during festivals and ceremonies through wrestling matches, etc (Pers. com. 30/12/2012).

The indigenes of Agadama majorly engage in farming, complimented with fishing and hunting. Agadama community has a population of about 5000 persons, 70 percent of which are farmers, 20 percent are learned graduates from Nigerian universities, mostly civil servants, who combine their jobs with farming activities, while 10 percent are trained artisans, shop owners, cyclist/bike riders, among others.

The community market day takes place once in every eight (8) days, where farm produce like fresh fish, okra, groundnuts, pepper and potatoes are sold. There is also a special market known as 'Ode market' which opens only during the harvest of potatoes in commercial quantities, where people from various parts of Nigeria come to buy potatoes with trucks, pick-up vans, and buses. The people are so engrossed in the production of potatoes such that schools and churches record low attendance especially during planting and harvesting seasons as well as on market days.

### **Study Objective 2: Findings on Major Features of Camp Agriculture Practiced at Agadama Community.**

The researchers observed that in Agadama community, potatoes production revolves around a rare cultural practice that can best be described as 'camp agriculture/farming'. There are ten unique features associated with this agricultural practice in Agadama community. They include the following:

- (a) Camps adopt features similar to hunting bands in West Africa. To this end, there is a season for farm camps to be set up. During such periods, the population of the hinterland drastically reduces in favour of farm camps. At such periods also, farmers whose farms are in the same area move in groups similar to hunting bands to go and settle on their farms.
- (b) Specifically, indigenous potatoes farmers live in their farms from January to May each year
- (c) They take with them beddings, cooking utensils and clothes to make their periods of stay fairly comfortable.
- (d) On the first day of their arrival to their farm camp site, they assist each other to set up living tents or make shift houses. They usually construct such make shift houses/shelters with bamboo, raffia palms, wood, mud and sometimes zinc which is about 3 or 4 feet above the

ground. This is because the environment is always water-logged in the coastal-flooded terrain almost all year round (water-level is high during the rains but low during the dry seasons), while some others live in the open under trees.

(e) Couples share same farm tent (makeshift houses) or have their separate tent very close to each other. This is to ensure safety and continued protection of the wife by her husband. It also ensures that they are close enough to keep each other warm and meet sexual obligations particularly as the nights are terribly cold.

(f) Farm camps are populated mainly by adults. Children, pregnant women, nursing mothers the elderly and adults not in sound health are usually not taken to camps. Respondents explained these exclusions on the grounds of extremely harsh weather conditions at farm camps especially exposure to cold.

(g) Norms that guide relationships at home front (hinterland) are also applicable in camps. Additional regulations may bother on trespassing on another person's farm or not working hard enough in the case of hired labourers. Disputants and deviants to such norms are summoned by elders in the camps for settlement directed talking. Only very serious offences are taken home for resolution.

(h) Strong sense of solidarity and ties of social relations experienced in the hinterland are sustained even in farm camps. For instance, farmers in camps come to each other's assistance in cases of emergencies like wounds or snake bite. At close of work every evening, the farmers exchange visits to neighbouring farm camps. This is to felicitate with them, assess progress of their work, and discuss challenges and new techniques. They also share news and gossips from the hinterland. They could also gather around camp fire during nights of extreme cold, roasting corn, animals or potatoes etc.

(i) Because initial provisions for camp periods may not be enough, coupled with the need to maintain contact with the home front and ascertain about welfare of children and the elderly who were left behind, there are regular short term visits or communication to the home front. This journey is regularly made by women. Anybody embarking on such short term home visit has a responsibility to reach the families of other farmers in nearby farm camps and get information on their upkeep, health and wellbeing as well as extend messages of goodwill from those in the farm camps to them.

(j) The key players in the camps are migrant labourers who are able bodied youths from neighbouring communities (like Tiv tribesmen from Benue, Jukun tribemen from Taraba state: people from Ogoja area in Cross-river state: others are from the Nupe, and a few Igbo tribesmen, who are attracted to the community mostly to tap latex/rubber.). These labourers are paid for their services. Others are male indigenes who could not afford the prices charged by the labourers or who simply want to work their farms by themselves. The women also play very crucial roles. They plant nursery, weed grasses, and tend the crops to maturity. Migrant labourers were formerly used for weeding but indigenes complain that, it is often roughly done and as such weeding is now left for the women. The situation is in line with the assertion by Onwuejeogwu, (1992, p. 24) that “in small-scale societies, women are the controllers of agriculture. Their husbands do the hard farm work and wives do the planting and weeding. The farm produce is controlled by her, and the husband does the trading, especially externally. The woman has to obtain all she wants and sell everything through her husband. Women are farmers because of the religious beliefs about fertility: since women are fertile they should do the farm work. Women are therefore looked upon with high esteem in Africa”. In recent times however, potatoes cultivators in Agadama community are gradually adopting the use of chemicals for weed eradication, thereby relieving women of this task.

### **Study Objective 3: Findings on Key Factors Responsible for Adoption of Camp Agriculture Strategy at Agadama Community**

The stimulants for camp agriculture include several factors inhibiting full benefits of the commercialization of potatoes production in Agadama community. Respondents affirmed that the bid to counter such factors with a strategy that will scale up production and cut costs of production gave rise to camp agriculture.

Camp agriculture in Agadama community is principally about people living in their farms for months on account of considerations like time and cash management. Agadama people believe that ‘camp living/farming’; help to save time, and to save transport cost/fares to and fro their farms the next day to farms.



Furthermore, according to Oke, (2006, p. 139), factors like environment; culture and technology determine the efficiency of the type of subsistence pattern or economic systems employed by any society. This study observed that, these factors also serve as limitations to local economies. There are myriads of inhibiting factors to the commercialization of potatoes production in Agadama.

Environmentally, the community is located within a coastal, swampy water-logged terrain of the Niger-delta south-south, Nigeria and as such the environment is always flooded, farmers need canoes to move to their farms as there are no roads to the farms, only a few tracks/paths created by constant usage. When the rains are at its peak, the water levels become so high and scare farmers from going to harvest their crops early. When crops are not harvested on time they get rotten due to the 'acidic nature of the soil of West African soil' (Ogundele, 2001, p. 14), thereby leading to economic loss to the farmer. Thus, environmental determinism plays out in regulating and shaping the activities, occupation, type of technology utilized, and the general culture of the people in Agadama community even in the entire Niger-delta as a whole.

Socio-culturally, one limiting factor to the general agricultural practice in this area is the poor literacy level of the community population as about 60% of the people are non-literate; they lack effective planning skills in terms of managing money as they squander money made during harvest on frivolities/ceremonies after harvest and sales; only to start searching for lenders during farming seasons. The farmers often get capital for cultivation by borrowing from cooperatives and other lending outfits or wealthy individuals whose percentage interest is overwhelmingly high. Crop agriculture is a further strategy to ensure full concentration on agricultural activities when such loans are obtained. To do otherwise or travel to and fro farm sites on daily basis might generate distractions including need to fulfill some social obligations that might negatively affect funds raised for agricultural purpose.

Technologically, crude implements such as machetes/cutlasses, hoes, sticks, human-power take the centre stage during cultivation, as there are no agricultural machineries such as tractors, plough, harvesters, and chemicals like fertilizers which could have accelerated the results/outputs of their farming activities and encourage stress-free farming in the area. The absences of these machineries create the need to have extensive periods of work even without sufficient rest. A respondent even observed that some Agadama farmers wish there are no

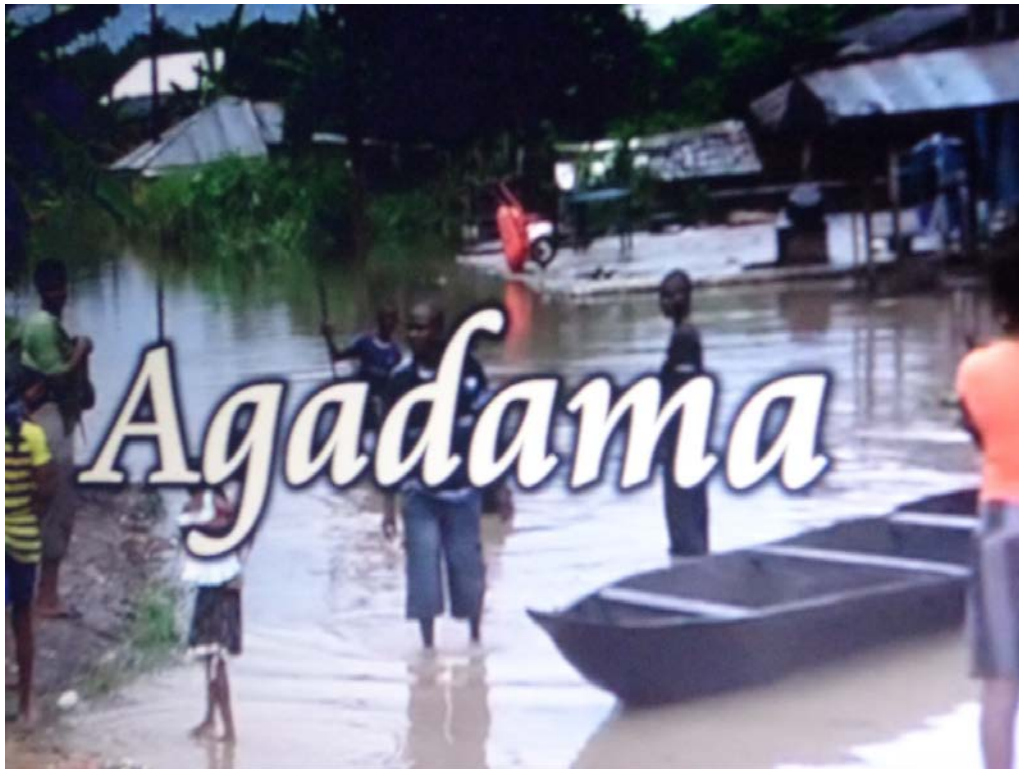
nights so that they can continue working all day long (Pers. Com. 28/12/12. This explains why camp option is not only a cost saving approach but also a deliberate instrument for maximizing both time investment and general output from their agricultural endeavour.

The farmers also lack adequate skills on bush fallowing, shifting cultivation, mixed farming and storage skills. In fact, lack of storage is also a huge problem to the Agadama farmers, as they cannot harvest and keep the potatoes for long as buyers prefer 'fresh from the farm potatoes'. Those harvested days earlier before the seasonal 'ode market day' which takes place every four days loose patronage or are sold at lower/'give-away' prices. These handicaps in terms of awareness or knowledge of new farming and storage techniques generate fears which in turn propel the idea or belief that camp option is a mechanism that will ensure constant supply of potatoes all days round.

The year 2012 would remain indelible in Nigeria as the year it rained heavily and led to uncontrollable flooding of communities, of which Agadama was completely inundated, with exception of the tarred road. Several parts of the country were similarly affected. Lives were lost, properties destroyed, farm lands were washed away, residential areas were inundated, houses and homes were filled with water to the roof thereby chasing its occupants out to relocate to friends and relatives living at higher planes, others preferred the temporary refugee camps provided by the governments of various state, mostly in schools. Pupils and students could not go to schools while the devastating flood lasted.

Olalekan, (2012), reported that the magnitude of the flood attracted the Federal government, where the then President Goodluck Jonathan observed that '25% of Nigerians were displaced and made immediate provision of a total of N17.6 billion in direct financial assistance to the affected States'.

However, it is pertinent to point out that, flooding is a normal phenomenon in Agadama community and the community has devised culturally acceptable/adaptable ways of managing it. One of such approach is through camp agriculture. This is in the sense that farmers are expected to live (camp) in their farms during periods of flood and do not risk coming home when the routes are heavily flooded. Their beddings and living materials are suitably hung above their waterlogged farms and they remain in such camps until the floods reduce. However, the flood in 2012 was different, heavier and abnormal.



**Figure 1: Entrance to Agadama community inundated with water during the 2012 flood incidence in Nigeria.**



**Figure 2: A young man trying to save his mother during the flood in Agadama community.**

#### **Study Objective 4: Findings on Problems Associated with Camp Agricultural Strategy at Agadama Community**

Camp agricultural strategy is not without disadvantages such as exposure to lots of health hazards like prevalence of malaria disease among the farmers, cold/pneumonia, insects and snakes bites, attacks by dangerous animals/humans (Fulani cattle herders continuously attack these farmers, (Idowu, 2012), among others. Thus, Nora and Richard, (2006, p. 1) asserts that, today, environmental problems threaten not only natural ecological qualities but also humanity's very existence and practices.

The incidences and prevalence of malaria due to mosquitoes is high because the swampy environment of the oil-rich Niger-Delta encourages water stagnation, water-logging, flooding and almost all year round wet lands. The farmers do not go to camps with mosquito nets, hence their continuous encounter with mosquito bite and spread of malaria disease.

There is immense problem of safe drinking water supply in farm camps. Agadama community generally relies on the use of wells, streams and rain drops from roof tops. Although few respondents recalled the constituency project embarked upon by one Hon. Oshovire who provided solar propelled pipe-borne water which functioned between two weeks to a month and spoilt.

Apart from the fact that these sources of water are contaminated with sooth/wastes produced by oil companies drilling activities and as such not healthy for drinking, they may not also be within reach of farm camps. Although few respondents recalled the constituency project embarked upon by one Hon. Oshovire who provided solar propelled pipe-borne water which functioned for less than a month and spoilt, the only source of what could be considered as 'probably safe' drinking water is sachet-water (popularly called 'pure-water'). This is supplied to the community from nearby urban centers. However, only a few of the villagers can afford it even as it is difficult to take enough quantity of sachet water to last an entire period of camping. This situation also accounts for the rate of morbidity and mortality in Agadama community.

In terms of accessing basic health-care, farmers in remote farm camps are in severe disadvantage. The community has little no public or government owned primary health centers or /hospitals. Major source of health services in Agadama are seven (7) patent medicine stores owned by private individuals, hence 60% of the respondents asserted that

government presence was only felt during National Immunization exercises (Pers. Com. December, 2012). The closest health/maternity centers are located at neighbouring communities like Owarovwo, Uwheru, Unenurhe, and Evwreni. There is also the Ughelli General Hospital which is about 45 minutes to one hour drive away from the community. The implication of all these is that any farmer in critical health condition cannot easily access modern health services. This might explain their reliance on traditional medical care options like herbs, roots and mineral.

Another problem is in terms of road network and conveyance or transportation of agricultural products from farm camp to the hinterland or popular 'Ode market' for sale, Agadama has only one major tarred road that runs across the community dividing it into two parts. The road did not go into most farm areas or camps. Such areas are also waterlogged and very difficult to access even on foot or boat. During harvest, household members carry bags of potatoes on their heads to riverbanks where canoe paddlers (both male/female) are paid to transport them across to track-roads leading to the residential parts of the community. After which they are taken with vehicles to 'ode market' for sale to buyers who come from Port-harcourt, Warri, Asaba, Bayelsa, Owerri, Ughelli and other cities.

The most threatening problem on camp agricultural production strategy of people in Agadama community which requires urgent government intervention as well as responsive action from the Urhobo nation at home and in diaspora is the series of attacks by Fulani pastoralist on members of Uwheru clan/community. The gruesome killing of Agadama natives by the Fulani herdsmen can be traced to 2005 (Pers. Com. December, 2012), 'when the cattle herdsmen paid the community for three years to pasture their animals within the environment in the area. The negotiations turned sour when the farmers discovered that, the cattle was destroying their crops and requested that the pastoralist leave the area on the expiration of their payment. The herdsmen never left, but became very antagonistic and resorted to violence, using dangerous weapons such as daggers, knives, opening fire with guns on citing any farmer in the bush. They raped women, turned chemicals in drinking wells thereby poisoning the people, and stealing properties/crops left in the farms/camp huts'.

Although, Timura (2011, p. 103) observed that, "Anthropologists have developed and refined models linking natural resource scarcity to violence, leading to a more critical actor- and perception-centered account that takes the social and cultural context of resource relations as their starting point". But we do not think the issue here is a case of 'resource

scarcity related violence/conflicts’, but that of ethnic rivalry and ethnocentrism, since groups in a plural society can still co-exist with little compromise and mutual understanding. The excerpt below is one of the many news reports by journalists on the conflicts between Agadama-Uhweru and herdsmen.

“Indigenes of Uwheru clan in Ughelli North Local Government Area of Delta State, recently stormed the State House of Assembly in Asaba to protest incessant killings, maiming and raping of their people by Hausa/Fulani herdsmen. The protesters besieged the House of Assembly complex with leaves and placards to register their grievances before the assembly leadership. The arrival of the protesting villagers, who conducted themselves in a peaceful and orderly manner, was greeted with public sympathy, as they displayed the photographs of some indigenes of the community who were killed, maimed and others missing as a result of the invasion by the Hausa/ Fulani cattle herdsmen in Uwheru land. Some leaders in the community, Mr Daniel Isama, Chief Emmanuel Ufoma and Mrs Christiana Etagbadore, alleged that the Hausa/Fulani herdsmen had for the past years been unleashing mayhem on their people. They said the activities of the herdsmen had led to wanton destruction of their property, including crops and farmlands. The leaders alleged that some indigenes of the community had been killed, while innocent women and girls were raped by the cattle herdsmen who also indulged in armed robberies and stealing in the community. The protesters further alleged that the cattle herdsmen were most times supported by the military detachments that followed them while grazing their cattle. They recalled that in 2004, the criminal excesses of the herdsmen led to violent clashes between the herdsmen and the people which eventually led to the razing down of part of Uwheru clan by the Joint Task Force (JTF). The protesters, therefore, appealed to the state government and the state House of Assembly to intervene so as to forestall further and imminent breakdown of law and order, recalling that the planting season would soon be over and wouldn’t want another attack by the herdsmen.....” ( Sylvester Idowu, Warri Friday, 09 March 2012.)

The conflicts between the pastoralists and the farmers has worsened since January, 2013 but took an alarming dimension in February as killings were recorded weekly at Agadama and Ohoro throughout February 2013 (Ahon, 2013, Urhobo Times, 2013). Furthermore, security wise, as a community experiencing repopulation and thus a melting pot of cultures, there is also no police station either at the camp areas or in their hinterland to quell interpersonal/communal uprisings. The community has recorded quite a number of them.

In spite of the above threats, the economic benefits from commercial potatoes production encourage Agadama people to remain unrelenting and focused with their local economy-farming occupation. The community has collectively and individually remained resilient in their determination to maintain a sound local economy through camp approach and self-help. This is despite daunting problems associated with such traditional and un-mechanized

agriculture. They also provide most farm inputs such as nursery, seedlings, stems, fertilizers, and implements by themselves without substantial government subsidy or cost reduction.

### **Discussion of Findings**

Following from the findings presented above, some social anthropological extrapolations could be made. The study holistically examined the emic (insider's) and etic (outsider's) perspectives on camp agriculture mass production strategy at Agadama and its strong relationship with the sustenance of their local economy. We found that despite extreme risks inherent in camp agriculture strategy for mass production, Agadama people incline tenaciously to it in order to consistently accumulate sufficient energy through such settling of farmers in camps which drive their farm production to higher limits. Their logic for the practice tends to agree with neo-evolutionist theories championed by Leslie White. The theorists argue that “cultures advance as the amount of energy harnessed per capita per year increases, or as the efficiency or the economy of the means of controlling energy is increased, or both” (Onwuejeogwu, 1992, p. 15).

Furthermore, the technological component of culture is fundamental for any transformation to take place in a society. This is because it would be a movement towards an increasing utilization of the earth's resources as more energy (perhaps sourced from technology) is accessed. And as more energy is utilized in a system, surpluses are inevitable. Unfortunately, findings of this study reveal that Agadama community lack access to any major technological device to drive or support their farm production. They depended entirely on human energy and crude implements; Camp agriculture is thus a means of ensuring steady supply of human energy through farmers who live on their farms.

Notwithstanding their handicaps, Agadama community can be described as a society practicing 'surplus horticulture' which is generally viewed as farming carried out with relatively simple tools and methods and yet producing more than they can consume (Oke, 2006, p. 143). The research team saw the prospects that provision of modern agricultural technology and health facilities in the area would further increase this surplus agricultural enterprise.

In particular, the findings of this study with regards to provision of health services for farmers living away from home at farm camps and the entire Agadama community shows

that as Massoud, (2008, p. 17) observed ‘primary health care delivery has failed in Nigeria with its main objective of Health for All by the year’. This failure has been attributed to several factors like the ‘monster- corruption’, inadequate funds, unskilled personnel, lack of purpose-driven leadership and accountability among others. This explains why traditional medicine is highly patronized in rural areas and among farmers as is the case in Agadama.

The researchers strongly maintain that location of welfare facilities has implication for socio-economic growth and development. In fact, the proximity of productive facilities has the capacity to holistically transform a society. Agadama community has potentials for optimal socio-economic growth and development if only such welfare facilities, currently lacking in the community are provided to complement raw human energy expended thereat.

### **Conclusion and Recommendations**

In summary, we have demonstrated that the vibrancy of any local economy is dependent on the amount of energy harnessed and effectively utilized, and this has implication for rural repopulation. We also observed that an increased productive capacity of rural communities is dependent not only on their raw energy, expended through practices like camp agriculture but also on the provision and location of essential facilities (like health facilities, agricultural machineries, and local industries in rural areas) in close proximity to those who need them.

Camp agriculture should be supported by the three tiers of government in Nigeria. Since this practice is a local or traditional strategy which the people have practiced for generations, government should help to reduce the hardships encountered by farmers living in their farms. Such support should be terms of provision of farm houses for camping purposes. Such houses will reduce exposure to harsh weather conditions and threats to life of farmers in farm camps.

Camps should also be supported with health services. This research observed that Agadama, farmers in remote farm camps experience worst hardship than other community members at home in accessing health services. This has negative implications for overall output. The Agadama environment if complemented with quality health care facilities is conducive for their preferred local economy (agricultural production). According to Embers (2007, p. 230) health is a mirror to culture. Sound health is vital to agrarian population for optimum production Furthermore, Hans et al. (2003, p. 4 citing WHO, 1978, WHO, 2004) noted that “health is a state of complete physical, psychological, biological, social and cultural balance



and not a mere absence of diseases”. The attainment of such level of health in rural communities like Agadama is yet to meet the conditions of ‘availability, accessibility, and affordability’ (Massoud, 2008, pp. 15-24). There is thus immense need for health service needs of Agadama community to be addressed by government, corporate and nongovernmental organizations as well as wealthy individuals within and outside Nigeria.

The Federal Government should also address security threats posed by Fulani herdsmen in Agadama and her neighbouring communities which are negatively affecting potato and other agricultural production. Government should establish permanent grazing reserve for the herdsmen to avoid their clashes with farmers. The herdsmen should also be disarmed. It is noteworthy that the production of potatoes in commercial quantity is not only done in Agadama but has become the major occupation of farming communities within Uwheru clan in Ughelli-North local government area of Delta state. Other crops planted in commercial quantities in the area which will receive a boost if herdsmen are controlled are groundnuts, cassava, okra, pepper, rubber/latex plantations, among others.

The hope of farmer in Agadama community to optimize production just by adoption of crop agriculture strategy is not only labour intensive, but also prone to handicaps. Federal government of Nigeria through the Ministry of Agriculture should enlighten and familiarize rural farmers with its programs on ‘E-wallet initiative’ designed to provide funds, and farm inputs such as fertilizers, fish fingerlings, seedlings, and chemicals for farmers (Radio Nigeria Jingles March, 2013). Government should also make provision for agricultural loans without stringent bureaucratic protocols and also provide tractors for hire as well as fertilizers at subsidized rates. The government through the ministry of agriculture should re-activate its policy on rural extension workers to educate rural farming communities on best agricultural techniques/practices.

Agadama community is also in dire need of storage facility as well as the need to construct/build local industries for processing farm products. In this regard, government and corporate outfits should take advantage of surplus agricultural products of the community for preservation, processing and repackaging. There is also need to construct access roads, canoes and boats for coastal agrarian rural communities to access distant fertile lands and to transport their crops to markets.

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