



**PERSPECTIVES ON CHANGING
RURAL SOCIAL ORGANIZATIONS, STRUCTURES
AND INSTITUTIONS AND IMPLICATION
FOR AGRICULTURAL DEVELOPMENT
SUB-SAHARAN AFRICA**

PROCEEDINGS

of the

22nd ANNUAL NATIONAL
Congress

of the

NIGERIAN RURAL SOCIOLOGICAL ASSOCIATION (NRSA)

held at

UNIVERSITY OF UYO (TOWN CAMPUS)

1st-4th October, 2013



Perspectives on Changing Rural Social Organizations,
Structures and Institutions and Implication for
Agricultural Development
Sub-Saharan Africa

PROCEEDINGS

of the

22nd ANNUAL NATIONAL Congress *of the*

NIGERIAN RURAL SOCIOLOGICAL ASSOCIATION (NRSA)

held at

UNIVERSITY OF UYO (TOWN CAMPUS)

1st-4th October, 2013

Editor-in-Chief

ADEMOLA KUPONIYI

Ladoke Akintola University of Technology (LAUTECH),
Ogbomoso, Nigeria

Associate Editors

O.A. Adeokun

Olabisi Onabanjo University,
(Yewa Campus), Ayetoro,
Ogun State, Nigeria

A.J. Farinde

Obafemi Awolowo University,
Ile-Ife,
Nigeria

R.G. Adeola

Ladoke Akintola University of
Technology (LAUTECH),
Ogbomoso, Nigeria

L.A. Akinbile

University of Ibadan,
Ibadan,
Nigeria

Managing Editor

O. T. Yekinni

University of Ibadan, Ibadan, Nigeria

GENERAL INFORMATION

The Nigerian Rural Sociological Association (NRSA) was formed on January 7, 1981. Its inaugural congress was held from November 7 to 11, 1983 with the theme “Agriculture and Social Development in Nigeria”.

NRSA is a broad-based professional association with membership cutting across universities, agricultural research institutes and other agricultural/rural development agencies both from the public and private sectors. Membership is therefore open to all professionals who are interested in advancing the rural folks.

This volume is the proceeding of the 22nd Annual National Congress held at University of Uyo (Town Campus) between October 1 and 4 2013. The papers contained herein were peer reviewed before publication.

The association gratefully acknowledges the moral and financial contributions of many organizations and individuals to the success of the congress.

Contents

General Information	ii
Welcome Address delivered by Prof. Comfort M. Ekpo, The Vice-Chancellor, University of Uyo, Uyo, on the Occasion of the 22nd Annual Congress of the Nigerian Rural Sociological Association.	v
Blending Traditional Values and Modern Innovations: The Case of City Dispersal Model (Presidential Address) Prof. Ademola Adekunle Ladele	1-6
LEAD PAPER 1	
Perspectives on Changing Farm Credit Sources—Have Modern Credit Institutions Performed Better? Omotesho, O. A.	7-14
LEAD PAPER II	
Perspective on Changing Rural Social Organizations, Structures and Institutions and Implications for Agricultural Development Strategies in Sub-Saharan Africa. Akpan, N.	15-24
CONTRIBUTED ARTICLES	
Utilisation of Information and Communication Technologies in Agricultural Production among Farmers in Akwa Ibom State, Nigeria. Okoro, G. I. and Esu, B.B.	25-32
Social Engagement and Water Management Practices among Vegetable Farmers in Ojo Local Government Area of Lagos State, Nigeria. Thomas, K.A.	33-40
Uses of Mobile Telephone in Selected Activities in Akpor Rural Communities of Rivers State. Nlerum, F.E. and Jacob, J.B.	41-45



22nd ANNUAL NATIONAL Congress

**held at University of Uyo (Town campus)
between October 1 and 4 2013.**

The Sub-Themes:

1. Modern Scientific Knowledge System versus Indigenous Knowledge System – Are we in a fix?
2. Changes in the fabrics of Social Institutions (Family, Economic, Governance/ Political, Educational and Religious).
3. Social engineering of agricultural, political and economic policies and implications for rural development.
4. Sociological perspectives of insecurity, law enforcement and conflict management.
5. Perspectives on social linkages in rural and urban communities.
6. Sociological perspectives on erosion of social values, moral standards and integrity.
7. Gender perspectives on social change and development.
8. Role of media and Information and Communication Technology in the Social Well-being of Rural Communities.
9. Social perspectives on Climate Change in Rural Communities.

**Welcome Speech Delivered by Prof. Comfort M. Ekpo,
The Vice-Chancellor, University of Uyo, Uyo, on the Occasion of the
22nd Annual Congress of the Nigerian Rural Sociological Association, Today,
2nd October, 2013 at the Civil Service Auditorium,
Idongesit Nkanga Secretariat, Uyo, Akwa Ibom State.**

PROTOCOL

It is my pleasure to welcome you officially to the University of Uyo and to Uyo the Akwa Ibom State capital on the occasion of the 22nd annual congress of the Nigerian Rural Sociological Association (NRSA). When I received the request from your national President, Prof. A. A. Ladele, for the University of Uyo to host this year's congress, I did not hesitate to give the approval and all needed facilities were also approved for the hosting. But as we all know, man proposes but God disposes, the venue had to be changed because of the current trade dispute between the Federal Government and the Academic Staff Union of Universities which has crippled all academic activities on campus.

It is great to see so many enthusiastic academics here and people from our communities and looking at the conference programme and the line-up of activities, I believe this professional gathering will not only provide a platform for the presentation of research findings, but also provide an avenue for productive dialogue between 'town and gown' at the community interactive session, and proffer solutions to rural social problems in sub-Saharan Africa in general and Nigeria in particular. I therefore, challenge you in this congress to come out with workable solutions to wealth creations, economic empowerment of our rural farmers, employment of our jobless youths and national food security.

Uyo is a beautiful city and while you are here, take advantage of the buses made available by the University to tour the city and see for yourselves some of the ways in which his Excellency, Gov. Godswill O. Akpabio has transformed the state.

I also use this opportunity thank the leadership of the NRSA for identifying with the University during our period of crises in June by writing to express their sympathy. I wish you a successful congress and a safe journey back to your different destinations. On this note, I wish to declare Uyo 2013 NRSA congress open in the name of God the Father, God the Son and God the Holy Spirit. Amen.



Blending Traditional Values and Modern Innovations: The Case of City Dispersal Model

(PRESIDENTIAL ADDRESS)

by

Prof. Ademola Adekunle Ladele

President, NRSA

Head, Department of Agricultural Extension and Rural Development

University of Ibadan, Ibadan, Nigeria

Protocols

Introduction

On behalf of the Nigerian Rural Sociological Association, I wish to welcome you all to the 22nd Annual National Congress of our Association, 2-4 October, 2013. Amidst several challenges, I am glad that we are able to gather to forge ahead in our collective effort to address issues we consider to be of relevance in analysing and proffering solutions to the vagaries of social problems our rural folks and the entire nation by extension. The theme of this congress is – Perspectives on Changing Rural Social Organizations, Structures and Institutions and Implications for Agricultural Development Strategies in sub-Saharan Africa.

The theme of this year's congress emanated of out the many issues addressed during the well attended 21st Annual National Congress held at the University of Ibadan. It rests squarely on the social engineering essential when social values are changing as a result of modern technologies and innovations.

Worldwide, it is observed that a rapid accumulation of knowledge, increasing modern technologies targeted at problem solving and fast information dissemination [most of the time unguided], such that what ordinarily should constitute a 'function' and add value to our social being; has become a 'dysfunction' as a result of feral application growing out no proper planning and inappropriate environmental and socio-impact assessments. This in diverse ways is posing serious threat to the social fabrics and livelihoods of our people and the sustainable development in developing economies.

For instance, we should be able to ask ourselves these questions:

- * Why are we deploying hi-techs where supporting infrastructures are absent?
- * Would a blend of indigenous and modern technologies [in form of socio-hybrids] be more desirable than total abandonment of old ways of doing things?
- * Is adoption of modern knowledge and information system justifiable and desirable at all times?
- * How do erosion of cultural and traditional values present in the overall

- societal goals achievement?
- * Why has development not spread evenly between the 'north' and 'south' on the one hand and rural and urban sectors on the other hand?
 - * How successful are modern social institutions in performing their statutory functions/tasks?
 - * Are the traditional social institutions better in some cases?

It is germane that we as rural sociologists and social researchers come up with evidence-based researches that could generate policy recommendations for channelling our transformation agenda towards sustainable development as opposed to the trial and error approach most in the governance sector tend to adopt. It is only when they are left unguided by scientific reasoning that they move in cycle without desirable impact. On the basis of our research, we should develop theories and models to guide our development agenda and processes.

It is in this spirit that the subject my address focuses on – Blending Traditional Values and Modern Innovations: the case of City Dispersal Model.

Derivation of City Dispersal Model

The conception of this model came at the close of an international conference, in which I participated, on Innovations in Extension and Advisory Services held in Nairobi in November, 2011, that hosted more than 400 participants across the globe. With some other delegates, I was in the Hilton hotel shuttle bus to the airport and as early as 5am; there was traffic congestion on the highway. This is typical of many urban locations worldwide. Suddenly, one of the participants from Tanzania lamented, 'we have traffic jams like this in Dar es Salaam as early as 5am. It is so bad that some children do not see their parents most of the week, except on weekends. When a child wakes up on a weekend and suddenly sees a father-figure in the house, that child

cannot but wonder, saying 'I learnt you are my dad, is it true?' This may be quite hyperbolic but it has serious connotations and it is a food for thought on how much modern formation and trends have eroded the social roles and by implications the associated social institutions.

Growth of Urbanisation and its Challenges

According to Wikipedia [2013], urbanisation is the physical growth of urban areas which results in rural migration and even suburban concentration into cities, particularly the very large ones. The United Nations projected that half of the world's population would live in urban areas at the end of 2008. By 2050 it is predicted that 64.1% and 85.9% of the developing and developed world respectively will be urbanized.

Urbanisation is closely linked to modernisation, industrialisation, and the sociological process of rationalization. Urbanisation can describe a specific condition at a set time, i.e. the proportion of total population or area in cities or towns, or the term can describe the increase of this proportion over time.

The influx of young rural immigrants to urban locations as a result of lopsided infrastructural development skewed to favour city dwellers has tremendously heightened dramatic growth in urban population. Rapid urbanisation is a notable happening of the 21st century, a phenomenon which tagged the century 'the century of the city', as half of the world population already lives in the urban areas and by the middle of the century, most regions of developing countries of the world will be predominantly urban (UNHABITAT, 2008).

Nigeria is not left out in the urbanising syndrome. It is very erroneous to think that the Nigeria population is largely rural. Though many authors still quote the rural population in Nigeria to be 70%, this is far from reality going by recent statistics which puts Nigeria's population at 49.8% Urban / 50.2% Rural [www.goehive.com/earth/pop_urban.aspx, 2010]. It is worthy of note that many cities are growing very rapidly and in fact, Lagos has

attained a status of a megacity – implying a city that has attained a ten million population mark. From industrialisation and modernisation viewpoints, urbanisation is normally considered as a positive development. It is usually something to rejoice about (Niu, 2011). However, the reality in many developing nations Nigeria inclusive, where standard urban planning is variously compromised, is that more problems come from the phenomenon than good.

According to Ladele (2010), 'the growth of cities the world over has become worrisome. The source of these worries is the continued rapid urbanization of the various regions of the world, especially in the developing countries and the resultant consequences of such urbanisation.' Niu (2011) observed that rapid urbanisation in developing nations is leading to the creation of slums, dropping living standards in urban areas and causing serious environmental damage. These industrialising countries cannot adapt to the influx of rural immigrants, and if left untreated, uncontrolled urbanisation will not only slow the city's development but also the nation's ability to modernise. Figure 1 shows a breath taking traffic jam in China which was 60miles long and took 11 days to dissolve.



Figure 1: 60 miles of traffic congestion that lasted 11 days in China

Comprehensively, the problems of urbanisation can be listed as including unemployment, poor sanitation, over-stretched housing, poor health and education facilities; high cost of transportation, traffic congestion, high crime rate and poor environmental quality. Apart from these, urbanisation also has several direct and indirect consequences on the rural sector from where migrants are being pulled. Many rural households have become female headed with its attendant challenges. Since youth are the major rural-urban migrants, the rural population is depleted so much that the average age of farmers is above 55 years leaving an ageing, less productive and less innovative population in the farming and other non-farming ventures.

Uncontrolled urban growth puts much pressure on government development resources such that development interventions are concentrated in urban locations, less of such in towns while villages and remote settlements are completely neglected. Urban lifestyle which is inseparable from modernisation has dealt a serious blow on positive traditional values and culture and has a strong tendency to erode integrity, chastity and dignity of labour; thus promoting crime, corruption and sharp practices.

Much emphasis placed on work and business in the urban areas has given less attention to children up-bringing such that parents spend less quality time with their children; thus reducing quality of time to impact important social and cultural values. While some of these attributes could not be said to have direct causal relationship with urbanisation, the standard of complex planning and socio-policy engineering required to make modernisation less injurious to salient cultural values are usually neglected. Figure 2 shows typical traffic congestion in Lagos while Figure 3 reflects how with proper planning traffic could be better controlled.

Track congestion is one of the features and negative consequences of urbanisation and it

on this issue City Dispersal Model is based. It will dwell briefly on various models that have been adapted to guide and explain instrumentation of urban development, before presenting City Dispersal Model.



Figure 2: Traffic congestion in Lagos



Figure 3: Traffic Congestion 1-80 Eastshore in USA

Urban Development Models

Many urban development and land use models had been designed to meet different needs at different times.

- * **Johann Heinrich von Thünen's Model of Spatial Location [1826]:** this model was concerned mainly with the role of transportation cost in allocating land resources found in various distances from

market between different agricultural uses. He included transportation cost not only the transfer of produce to market but the time, effort and conveniences associated with moving workers and supplies to and from various production sites.

- * **The Burgess Model of Urban Development:**

It was advanced in the 1920s. It worked well for towns and cities at the time. The town/city centre, known as the Central Business District (CBD) would be at the junction of the main roads and have the shops and offices there.

The factories were built near the centre and the workers housing was close by – people needed to be able to walk to work from their small crowded terrace houses.

The foremen and managers could afford to live in semi-detached houses with gardens, that were a bit further away – not so many nasty smells and much clearer air!

The really wealthy lived in their detached residences on the outer part of the cities. [Wikipedia, 2013]

- * **Ebenzer Howard Garden Cities of Tomorrow [1898]:**

Garden cities were intended to be planned, self-contained communities surrounded by "greenbelts", containing proportionate areas of residences, industry and agriculture. Howard's idealised garden city would house 32,000 people on a site of 6,000 acres (2,400 ha), planned on a pattern with open spaces, public parks and six radial boulevards, extending from the centre. The garden city would be self-sufficient and when it reached full population, another garden city would be developed nearby. Howard envisaged a cluster of several garden cities as satellites of a central city of 50,000 people, linked by road and rail.

These models though worked well for the cities and towns at those periods, we can learn from them to advance ways of crafting

suitable models for our own time and circumstances. The city dispersal model was informed by the challenges of urbanisation and traffic congestion in particular and their cumulative effects on social values and culture that needs to be treasured and preserved; while adopting modern technologies in the possible best synchronized manner.

The City Dispersal Model

Dispersal of seed is known in botanical and agricultural sciences as one of the awesome ways through which nature has achieved plants' reproductive agenda. It is desirable that urban and town planners should diffuse the pull factors in congested urban centres through dispersal of public and private establishments. Taking Ibadan for example, where currently there are 19 ministries located at the state secretariat; namely - Ministry Of Economic Planning And Budgeting, Agriculture, Culture and Tourism, Education, Environment and Habitat, Ministry of Establishment and Training, Finance and Health. Others include, Ministry of Information and Orientation, Justice, Land and housing, Ministry of Local Government and Chieftaincy Matters, Physical Planning and Urban development, Special Duties, Trade, Investment and Cooperatives, Water resources, Women affairs, Work and transport; and Youth and Sport.

Why should all the ministries and government establishments be located in Ibadan? Ministry of Agricultural and Rural Development could be located in Shaki/Iseyin. Ministry of Education may be sited in Ogbomoso and Youth and Sports in Oyo, etc.

The 19 ministries could dispersed across the major towns such that these other towns will develop and the process of dispersal progressively continue until all communities have fair share of resource allocation and development and the craze of over-populated urban centres will be neutralised.

I should think this is a more realistic approach to the challenges Governor Babatunde Fashola of Lagos is trying to address. He should move out the 'pull' factors out of Lagos, rather than the forceful and unsustainable 'push' of people with a show of injustice, prejudice and discrimination, which is unacceptable in a healthy democracy.

The Role of ICT

The location of interrelated establishments and industries at a place has been justified based on the advantages of easy access, communication and economy of scale. With the use of appropriate Information and Communication Technologies there is a good chance of bridging gaps decentralization of establishments would have created. Tele-conferencing, E-mail software, desktop, laptop, internet in cyber café, cell phone, MP3/4P player, facebook, radio/TV set, digital/still camera, video cassette recorder/player, video camera, LCD projector, and word processor and many more are facilities that could ensure required interaction and communication among separated ministries.

Concluding Remarks

I have gone this length to demonstrate how we can through our research and development activities contribute our modest quota, generating ideas and tools that can contribute to problem solving through altruistic use of our scientific knowledge to ensure that modern technologies are carefully deployed to the best advantage our people. We can through this ensure that we preserve our core social values as our cultural legacies. We should always ensure that we use our position to instil the preservation of our social values even through adaptation of appropriate modern technology, rather than continue to be drifted by the tide of modern craze.

Finally and without prejudice to the vote of thanks session, I would like to express our appreciation to our Chief Host; the Vice-

Chancellor, University of Uyo – Professor Comfort M. Ekpo for generously accepting to host us at this congress. I would like to also thank the keynote speaker – Dr. Nse Abasi-Akpan, HOD Department of Sociology and Anthropology and immediate past Commissioner of Education. We thank you for taking time to prepare and present the keynote address.

When you have an event and your father is seated, you are apt to assume a state of tranquillity, not because you are capable but because your dad is around. We in the NRSA family are therefore filled with the air of bliss because our father – a teacher of teachers; my mentor; a founding father of Rural Sociology in Nigeria and a founding father of NRSA, Professor of Professors – Emeritus Professor E. E. Ekong is here live, to grace this occasion. It was with a feeding bottle in the masterly hand of

Professor Ekong I was nursed into Rural Sociology. We thank you for the invaluable roles you have played in your capacity as the coordinator of this conference. Sir, may you continue to live long and be in good health.

Before close, I will like to profusely thank the Local Organising Committee members under the leadership of Dr. Valerie Solomon for their untiring effort to make this congress a reality. I also gratefully acknowledge the support by other members of the committee such as Drs. Unyine Etude, Glory Edet, Dorothy Thompson, Godwin Okoro and Mr. Lawrence Obinaji. I wish everyone a wonderful, fruitful and memorable experience as we fully participate in this conference and enjoy the scenery atmosphere of Uyo city.

God bless you all.

Presidential Address

by Prof. Ademola Adekunle Ladele

President, NRSA

Head, Department of Agricultural Extension
and Rural Development

University of Ibadan, Ibadan, Nigeria

pp 1- 6





Perspectives on Changing Farm Credit Sources—Have Modern Credit Institutions Performed Better?

Omotesho, O. A.
 University of Ilorin, Nigeria

Introduction

The role of agricultural sector in any economy, especially developing countries, cannot be overemphasized. The sector determines food and nutrition security status and is also important for industrial growth (Diao et al, 2007). Besides, agriculture contributes significantly to foreign exchange earning and helps in reducing the poverty status of farmers. However, agricultural production is dominated by small-scale farmers especially in developing countries (Etwire et al., 2013; Mafimisebi et al, 2007). This system of farming is characterized by low asset base, low fixed capital, labour intensive production, small farm size, low investment and expenditure on farm inputs, crude tools and equipment and low productivity,

among others (Ijere, 1986; Mafimisebi et al, 2007; Ogundari and Ojo, 2007; Olayide and Heady, 1982). This situation threatens the capacity of farmers in their quest for sustainable production. Consequently, this results in inability of the farmers to optimize potentials, food insecurity, and poverty at individual and national levels. Hence, boosting agricultural production through adequate finance becomes imperative.

Agricultural credit is important in a variety of ways. It is required to finance working capital, fixed capital and consumption of goods (Siddiqi et al, 2004). Credit also plays an important role in increasing agricultural productivity. Timely availability of credit enables farmers to purchase the required inputs and machinery for carrying

Table 1: Agricultural Machinery, Tractors per 100 sq. Km of Arable Land in Selected Countries

Country	2003	2004	2005	2006	2007	2008	2009
United States	265.22	270.06	270.78	276.14	271.18		
Brazil	122.64	117.73	116.08	116.86			
Nigeria	6.88	6.97	6.57	6.49	6.61		
Russian Federation	47.82	43.55	39.44	36.16	33.37	29.95	27.10
France	668.86	652.89	635.32				
Mexico	102.97	101.01	99.46	99.48	97.67		
Spain	724.94	742.11	759.55	786.34	807.28	825.14	831.18
Egypt, Arab Rep.	325.13	324.67	382.56	385.09	400.09	390.57	
Algeria	130.34	130.53	133.31	137.03	138.65	139.58	
Botswana	151.64	136.36	121.38	140.10	155.77	120.82	
Ghana	4.59	4.78	4.52				
South Africa	48.14	47.52					
Tunisia	119.53	125.34	136.16	140.73	148.73	142.64	

Source: World Bank, 2013

out farm operations (Saboor et al, 2009). This is much important given that the rate of agricultural mechanization in Nigeria is low compared to many other economies (Table 1).

Also, if well applied, farm credit increases the size of farm operations, introduces innovations in farming, encourages capital formation, improves marketing efficiency and enhances farmers' consumption (Nwagbo, 1989; Nwaru et al., 2011). Thus, easy and cheap farm credit from credit institutions is an important way for boosting agriculture.

Generally, credit institutions can be categorized into two groups – modern and traditional institutions. Modern credit institutions include the formal and quasi-formal institutions. Thus the modern institutions include commercial banks, microfinance banks, Bank of Agriculture (formally the Nigeria Agricultural and Cooperative Rural Development Bank), state government-owned credit institutions, nongovernmental organizations-microfinance institutions (NGO-MFIs) and cooperative societies. The traditional credit institutions are made up of the informal sectors. They include money lenders, traders, family, friends, neighbours, rotating savings and credit associations (RoSCAs) among others (Badiru, 2010; Mann et al., 2010). The traditional sources, in contrast to the modern ones, are characterized by unregulated and non-subsidized finance, easy accessibility, loan availability in very small size and for short periods, low administrative and information costs, little or no collateral, flexible and variable interest rates, highly flexible transactions and repayments tailored to individual needs (Nwaru et al., 2011; Srinivas, 1993). Loans from informal sources are usually made directly to the borrower by the lender while in the other credit institutions, there are specified and written procedures to administer farm credit and these institutions do have a legal backing (Olowa and Aina, 2011).

The primary purpose of borrowing by most farm households is agricultural production (Fig. 1). Therefore, the modern institutions, as they are being called, are expected to perform better by building on the performances of the traditional ones and bring about timely access to credit facilities by farm households, sustain agricultural development, and in turn improve the well-being and livelihoods of the farm population. However, how are modern credit institutions performing their statutory functions? Are traditional credit institutions better in some ways? What is the current situation of things in respect of access to credit from modern institutions by farm households? What is the way forward? These are the questions which this paper intends to answer.

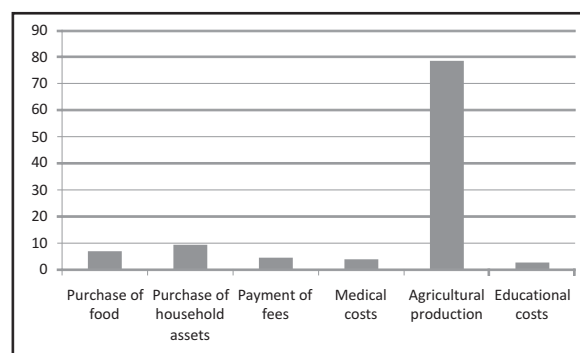


Figure 1: Percentage Distribution of Nigerian Farm Households by Primary Purpose of Borrowing

Source: Field Survey, 2013

Conditions for Extending Credit to Customers

Access conditions varies from one credit institution to another. According to Badiru (2010), informal credit institutions such as RoSCAs and cooperative societies, as well as formal credit institutions, provide credit on the basis of membership deposit. He also added that RoSCAs and cooperatives are deposit-based and make use of peer collateral in ensuring repayment, while CBN's guaranteed loans through commercial banks require customers to have an account with the commercial bank and tangible or intangible collateral security.

Ghosh et al. (1999) observed the following as the distinguishing features of informal credit institutions: (i) loans are often advanced on the basis of oral agreements rather than written contracts, with little or no collateral, making default a seemingly attractive option (ii) the credit market is usually highly segmented, marked by long-term exclusive relationships and repeat lending (iii) interest rates are much higher on average than bank interest rates, and also show significant dispersion, presenting *apparent* arbitrage opportunities (iv) there is frequent interlinkage with other markets, such as land, labor or crop (v) significant credit rationing, whereby borrowers are unable to borrow all they want, or some loan applicants are unable to borrow at all.

Situational Analysis of Performance of Modern Credit Institutions

The access to credit from modern institutions by farm households in many African countries, including Nigeria, is rather disappointing. Very few small farmers have been integrated into formal financial markets and many do not use credit or if they do, they continue to borrow from informal market lenders (Fig. 2). It is also

estimated that only 15 percent of farmers in Asia and Latin America and just five percent in Africa are financed through formal credit sources (Braverman and Huppi, 1991; Gonzalez-Vega 1983; Mohamed, 2003). Also the Central Bank of Nigeria (2008) estimated that only 2.5 percent of total Commercial Bank loans and advances is directed at agriculture in Nigeria (CBN 2008). This can be due to some factors militating the activities of these institutions.

One of these constraints is the spatial distribution of modern credit institutions. Badiru (2010) observed that the ratio of rural branches to total branches of modern credit institutions in Nigeria is low compared to traditional institutions and this constitutes a limitation of small-scale farmers' credit access. In China, the ratio is just 0.36 per 10,000 persons in the rural areas compared to the national average of 1.34 per 10,000 persons (Shuangning, n.d). Othieno (2010) quoting Lasches (2001) observed that financial institutions outreach in Uganda is still dismal with an estimated 115,000 persons per branch as compared to an average of 7,000 persons in

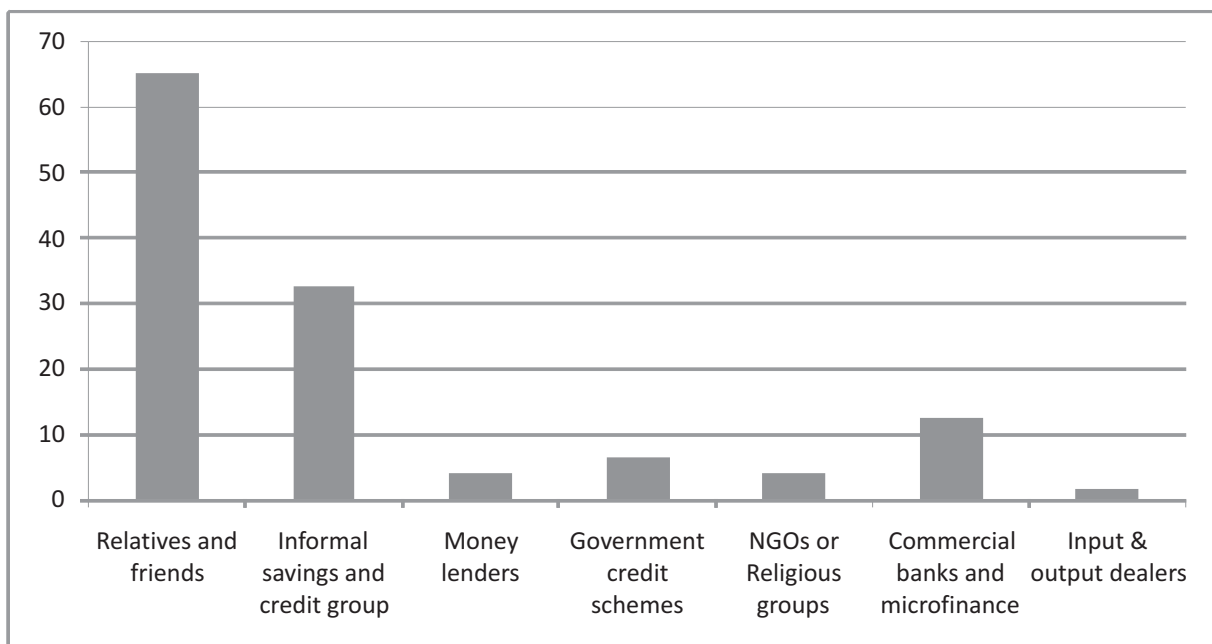


Figure 2: Percentage Distribution of Nigerian Farm Households by Sources of Credit
Source: Field Survey, 2013

the metropolitan region. In a survey carried out in rural Zanzibar, Krain (1998) observed that credit from the formal financial sources accounted for only 9.9 percent of the total credit available to the agricultural sector. This problem is also complicated by few financial service personnel in the rural area, limited product varieties, strict conditions for giving out facilities, short service hours and low efficiency (Ansari et al., 2011; Davis, 2011). In some cases, formal lending institutions are not even found in the rural areas. This scenario creates much physical distance between farmers and the financial institutions. This long distance therefore discourages farm households from borrowing from banks (Hussien, 2007). This is because both temporal and monetary costs of transaction, especially transportation costs, increase with lender-borrower distance which raises the effective cost of borrowing at otherwise relatively lower interest rate in the sector. Similarly, just few financial institutions are willing to grant loan applications from distantly located borrowers because of the high processing and monitoring costs, as they believe long distances increase transaction costs which complicate the loan monitoring process and consequently creating

moral hazard risks (Adegbite, 2009; Othieno, 2010). This limits ability of the people in rural communities, where agriculture is most practised, to have access to adequate fund that would better their lot in agricultural production. The category of persons/farmers that benefit from loan extended by modern credit institutions is also of great concern. Mohamed (2003) reported that commercial banks in Tanzania regard farming and fishing as the most risky investment areas and avoid them in a bid to reduce loan transaction costs and raise their profitability. Etwire (2013) also added in most modern credit institutions in Ghana, agricultural finance is mostly offered to large scale farmers and agribusinesses while the chances of smallholder farmers accessing credit on their own is limited. Thus, credit acquisition from such institutions favours the big-sized farmers while the small-scale farmers are crowded out (Olowa and Aina, 2011). Due to these facts, most of these institutions cater only for the commercial sector, government departments and parastatals and do not lend to farmers. Small-scale farmers are therefore held in the vicious poverty cycle and are unable to increase their production.

Table 2: Lending Rates of Some Selected Banks in Nigeria as at September 20, 2013

S/N	Bank	Prime Lending Rates									
		Agric	Mining and Quarrying	Oil & Gas	Manufacturing	Real Estate & Constr	General Comm	Mortgage	Transport & Comm.	Fin. & Ins.	Gov.
1	Access Bank	16.50	21.59	15.00	13.70	14.00	14.00	16.00	17.00	14.00	14.00
2	Citi Bank Nigeria	16.00	16.00	16.00	16.00	16.00	16.00	-	16.00	16.00	-
3	Ecobank Nigeria	19.00	19.00	17.50	15.00	17.50	15.00	11.00	15.00	17.00	15.00
4	Enterprise Bank Ltd	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
5	FCMB	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
6	First Bank of Nigeria	16.00	21.00	21.00	21.00	19.00	21.00	15.00	21.00	21.00	17.00
7	MainStreet Bank Ltd	16.28	16.28	16.28	16.28	16.28	16.28	16.28	16.28	16.28	16.28
8	Union Bank	20.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
9	Unity Bank	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
10	Wema Bank	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
11	Zenith Bank	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Source: CBN, 2013

Also, most financial institutions (especially those in the rural areas) are either understaffed or do not have many qualified personnel who have expertise in agriculture, hence financing smallholder agriculture is a challenge (Etwire *et al.*, 2013).

Other issues of concern in the performance of modern credit institutions, like banks, are the high interest rates charged and the short-term nature of loans with fixed repayment periods (Oruonye and Musa, 2012; Philip *et al.*, 2009). In some banks, the prevailing lending rates are either equal across all sectors or even higher for agriculture than other less risky sectors (Table 2). These are found to be a disincentive to borrowing from such institutions by farmers. This is partly because farmers cannot foretell the yield and income that are likely to be generated in a single season. Also, fluctuations in output exert significant effect on farm prices and fixed repayment periods do not suit annual cropping (Basley, 1994; Philip *et al.*, 2009). With the high interest rates farmers are not confident of generating the income to repay the loans and therefore prefer to rely on their savings and the informal sources.

Though the quasi-formal credit institutions would have been a better option for extending loan to farmers, their characteristics limit their potential contribution to the agricultural sector. First, the quasi-formal institutions are not comprehensive in their operations in the sense that they all have specific target groups based on sex, age, and socio-economic status and aim to promote specific type of technologies, such as dairy farming, poultry keeping, vegetable production, fishing, hand crafting and petty trading. Second, they mostly serve the urban and peri-urban clients for easy management of loans and reducing risks. Third, they typically offer small, short-term capital loans for periods of up to one year. Also, interest rates vary widely and are highly concessionary. Besides, they concentrate on financing micro-enterprises that have high

turnover and that generate regular income flows. In addition, most deal with the disbursement of loans and not mobilisation of savings. Aside from this, political and government interferences in the operations and allocation of credit is high particularly for the government owned schemes or programmes. Also, they have sustainability problems because they fail to cover their costs and to recover their loans. Moreover, most have poor loan follow-up systems, poor appraisal systems and lack capacity to administer credit; and they largely depend on external sources for loanable funds, which is difficult to sustain (Mohamed, 2003).

It is worthy of note that while the modern credit institutions have their flaws, the farm households are not without their own faults. First, the lack of bank accounts and information regarding the procedure for accessing credits from these institutions, especially banks, limit farm households from accessing credit from the institutions (Aagnet, 2004; Okojie *et al.*, 2010). Besides, loan default is a common occurrence among farmers in developing countries (Adegbite, 2009). This makes lending institutions to shy away from extending loan to farmers because of the perceived high default rate. Moreover, most farmers/farmer groups in developing countries do not have formal financial statements and audited accounts (Sacerdoti, 2005). In addition, the tendency to divert or sell credit (those in kind such as seeds, fertilizer) is high among farmers in low income countries (Etwire *et al.*, 2013). All these make most modern financial institutions feel reluctant to extend credit to farm households.

The Way Forward

In order to ensure a better performance of modern credit institutions and make farmers have easy access to their credit facilities, the institutional sources should review their interest rate downward, simplify the loan application process, disburse loan timely to

beneficiaries and scale down the amount of collateral security demanded by them. Farmers should be encouraged to form and register cooperative societies.

The existing commercial banks need to be encouraged to lend to smallholder farmers. There is need to open up credit facilities for the poor rural farmers. The government has to take deliberate initiatives, which could include the restructuring of modern credit institutions, to reduce their costs of lending, and reduced staff. This restructuring exercise should make bank loans more accessible and affordable to small-borrowers.

The government in collaboration with various development partners should consider the possibility of establishing a specialised credit institution to cater for specific credit and saving needs of the small farmers.

The establishment of a wider network of bank branches to serve the farming sector may not be possible to the banking institutions thus the formation of cooperatives, farmers associations or other forms of group responsibility for the administration and supervision of credit programmes at the local level should be promoted. Group lending approach may not only reduce the high overhead costs associated with small lending but may also encourage the establishment of good credit culture and help in achieving acceptable loan repayment levels. Furthermore, policies to enhance the role of tradition credit institutions to bring about closer linkage between modern and traditional institutions should be formulated. Better linkages would enable banks to benefit from the outreach and local knowledge of informal agents, expanding financial savings mobilisation and credit delivery and improving the overall efficiency of the financial system.

Quasi-formal credit arrangements need be promoted and encouraged to continue providing credit to small farmers. Suitable

mechanism should be explored to provide coordination of various fragmented credit schemes in order to streamline their basic operations with a view to instituting common conditionalities and guidelines for lending to agriculture. In the same vein, proper coordination of various credit schemes should be put in place as this will improve the operational efficiencies of the schemes.

There is need for modern credit institutions to enhance provision of training to credit beneficiaries in aspects of credit management, saving mobilisation, basic accounting, financial management, cash flow management, technical and on marketing aspects of agricultural products. Beneficiaries also need to be well informed on their obligations, particularly in loan repayment needs.

In conclusion, there is need to educate farmers and farmer groups on the essence of record keeping, operating a bank account, and credit management and repayment. This will promote confidence in modern financial institutions to extend their credit to such farmers.

References

- Adegbite, D.A. (2009). "Repayment performance of beneficiaries of Ogun State Agricultural And Multipurpose Credit Agency (OSAMCA) in Ogun State, (2004-2007)." *American-Eurasian Journal of Sustainable Agriculture* 3 (1): 117–125.
- Agnet. (2004). "Making farm credit work for the small-scale farmers." Available online at <http://www.agnet.org/library/nc/145b/>. Accessed on August 20, 2013.
- Ansari, Y, Gerasim, D and Mahdavinia, M (2011). Investigation of factors affecting efficiency and effectiveness of agricultural facilities from viewpoint of farmers and credit experts in 2009, Iran. *African Journal of Agricultural Research*, 6(15): 3619-3622.

- Badiru, I. O. (2010). Review of small farmer access to agricultural credit in Nigeria. International Food Policy Research Institute Policy Note No. 25.
- Besley, T. (1994). "How do market failures justify intervention in rural credit markets?." *The World Bank Research Observer*, 9(1):27-47.
- Braverman, A. and M. Huppi (1991). "Improving Rural Finance in Developing Countries", *Finance and Development*, March: 42–44.
- CBN, 2008. Statistical Bulletin, Golden Jubilee Edition.
- Davis, A. (2011). Rural and urban women entrepreneurs: A comparison of service needs and delivery methods priorities. *Int. Journal of Business Science and Applied Management*, 6(2):1-16.
- Diao, X., Hazell, P., Resnick, D. and Thurlow, J. (2007). The role of agriculture in development: Implications for Sub Saharan Africa. International Food Policy Research Institute Research Report, No. 153. Available at <http://www.ifpri.org/sites/default/files/pubs/pubs/abstract/153/rr153.pdf> Accessed 9th September, 2013.
- Etwire P.M., Dogbe W. and Nutsugah S.K (2013). "Institutional credit available to smallholder farmers in the Northern Region of Ghana". *International Journal of AgriScience*, 3(6): 502-509.
- Gonzalez-Vega, C. (1983). "Arguments for Interest Rate Reform": In Von Pischke, J. D., D. W. Adams and G. Donald, *Rural Financial Markets in Developing Countries. Their Use and Abuse*. EDI, The World Bank, Baltimore and London: The John Hppkins University Press pp. 365 – 372.
- Krain, E. (1998). "The Agrarian Constitution of Zanzibar and Its Impact on Agricultural Development." Verlag M. Wehle. Witterschlick/Bonn.
- Mafimisebi, T. E., Oguntade, A. E. And Mafisebi, O. E. (2007). "A Perspective on Partial Credit Guarantee Schemes in Developing Countries: The Case of the Nigerian Agriculture". Presented at the Department of Agricultural and Rural Development, Nigeria Institute of Social and Economic Research. Pp22.
- Mann C, Tinsey J, Tedjo G. and Nwadei, T.(2010). Ghana's Rural Finance System and Climate Regime. Retrieved on September 10, 2013 from <http://www.bu.edu/gdp/files/2011/01/Capstone-2010-A-Ghanas-rural-finance-system-and-climate-regime.pdf>
- Mohamed, K. (2003). "Access to Formal and Quasi-Formal Credit by Smallholder Farmers and Artisanal Fishermen: A Case of Zanzibar." Ministry of Agriculture, Natural Resources, Environment and Cooperation, Zanzibar, Tanzania. Research on Poverty Alleviation, Research Report No. 03.6. Retrieved on 12th September, 2013 from http://www.repoa.or.tz/documents/03_6_-_Mohamed_.pdf
- Nwagbo, E. C, (1989). Impact of institutional credit on agriculture in Funta Local Government Area of Katsina State, Nigeria. *Samaru Journal of Agricultural Research* 6, 79-86.
- Nwaru, J. C., Essien, U. A. and Onuoha, R. E. (2011). Determinants of Informal Credit Demand and Supply among Food Crop Farmers in Akwa Ibom State, Nigeria. *Journal of Rural and Community Development* 6(1): 129–139
- Ogundari, K., and Ojo, S. O. (2007). Economic efficiency of small scale food crop production in Nigeria: a stochastic frontier approach. *Journal of Social Sciences*, 14(2), 123-130.
- Okojie, C., Monye-Emina, A., Eghafona, K., Osaghae, G. and Ehiakhamen, J. O. (2010). Institutional environment and access to microfinance by self-employed women in the rural areas of Edo State. NSSP Brief No. 14.

- Washington. D.C.: International Food Policy Research Institute.
- Olayide, S. O. and Heady, E. O. (1982). "Introduction to Agricultural Production Economics". Ibadan University Press, University of Ibadan. Pp67-81.
- Olowa, O. W. And Aina, O. S. (2011). Factors Affecting the Use of Commercial Bank Credit facility among Fish Farmers in Ogun and Ondo States, Nigeria. In: P. O. Erhabor, C. I. Ada-Okungbowa, C. O. Emokaro and M. O. Abiola (eds). *Proceedings of 12th Annual National Conference of National Association of Agricultural Economists*, Pp25-31.
- Oruonye, E. D. and Musa, Y. N. (2011). Challenges of small scale farmers access to micro credit (*Bada Kaka*) in Gassol LGA, Taraba State, Nigeria. *Journal of Agricultural Economics and Development*, 1(3):62-68.
- Othieno, E. A. (2010). "Bank lending, information asymmetry, credit accessibility and performance of farmers: The Case of Tororo District." An MBA Dissertation, Makerere University Business School.
- Phillip, D., Nkonya, E., Pender, J. and Oni, O. A. (2009). "Constraints to increasing agricultural productivity in Nigeria: A review." *Nigeria Strategy Support Program (NSSP) Background Paper* No. NSSP006.
- Sacerdoti E (2005). "Access to Bank Credit in Sub-Saharan Africa: Key Issues and Reform Strategies." Retrieved on September 15, 2013 from <http://www.imf.org/external/pubs/ft/wp/2005/wp05166.pdf>.
- Shuangning, T. (Seven Contradictions and Eight Imbalances in Rural Financial Services." Available at China Financial Net: <http://active.zgirw/news/2009113/index336232727400.html>. Accessed 12/09/2013.
- Srinivas, H. (1993). A review of informal credit market studies: final report. Unpublished Special Study Assignment, Bangkok: Asian Institute of Technology.
- Washington. D.C.: International Food Policy Research Institute.

Omotesho, O. A.

Proceedings of the 22nd Annual National Congress of the Nigerian Rural Sociological Association held at University of Uyo (Town Campus) between 1st-4th October, 2013
pp 7-14





Perspective on Changing Rural Social Organizations, Structures and Institutions and Implications for Agricultural Development Strategies in Sub-Saharan Africa

Akpan, N.

Department of Sociology/Anthropology
University of Uyo

Ladies and Gentlemen

It gives me great pleasure to welcome you to this Conference and to note the appreciable milestones of the Nigerian Rural Sociological Association on capacity development for the training of Rural Sociological professional and academics to meet the challenges and embrace opportunities that come with the 21st Century. I want to say that this conference is timely and the theme 'perspectives on changing rural social organizations, structures and institutions and implications for agricultural development strategies in sub-Saharan Africa' is very apt. I really thank the organizers especially on the choice of the conference theme and sub-themes.

You would agree with me that the theme for this conference really captures contemporary realities in our global political and economic system. That rural social organizations, structures and institutions are changing and there is no doubt that these changes have brought great implication for agricultural development strategies in sub-Saharan Africa. But, the critical issue here is about the

direction of change and the response of rural sociologists to the changes within the context of agricultural practice. Let us pause and think: Is the change all positive or does it have some negative connotations? If positive what has been the role of rural sociologists in maintaining the momentum? If negative what have the rural sociologists done to influence the direction of this change? How equipped are rural sociologists in terms of knowledge and approaches in responding to the impact of these changes? For instance, in the case of climate change and given that agriculture is being dictated by the changing circumstances of this global climate, how would rural agriculturists and rural sociologists in sub-Saharan Africa respond to minimize its negative impact? In short how adequately equipped in terms of knowledge and new approaches are rural sociologists in responding to the effect of climate changes on rural agricultural practices?

These have raised some critical/instructive issues which should help stimulate discourse in this conference. The core issue is 'change', which has invaded every known institutional and organizational structure as well as the general livelihoods of the people. These changes are catalyzed mostly by the neoliberal globalization and the waves of 'democratic fire' sweeping across the globe. These changes

Being a Keynote Address presented at the 22nd Annual National Congress of the Nigerian Rural Sociological Association holding at Onyema Ugochukwu Auditorium, University of Uyo (Town Campus), Uyo, Akwa Ibom State.
October 1-4, 2013

pose tremendous challenges to traditional institutional structures and organizations as well as opening up numerous opportunities and new approaches to doing things. The fundamental question therefore is: Where does sub-Saharan Africa belong?

Sub-Saharan Africa: Background Information

It is pertinent that economic performance and livelihood activities in sub-Saharan Africa largely depend on agricultural development. It is on record that over 60% of agricultural activities in sub-Saharan Africa is domiciled in the rural areas and is associated with crude methods of resource utilization (machets and hoes etc). World Bank (2000) report indicate that agriculture accounts for 20% of sub-Saharan Africa's GDP, while Dixon et al (2001) observed that it employs about 67% of the total labour force and is still the most dependable source of international exports. The global export trend is such that agriculture dominates the export sector for East Africa (47% of total exports), and a significant source of exports in other areas of the region (14% of exports in southern Africa and 10% in West Africa) (World Bank 2000 and Dixon et al 2001).

Chauvin et al (2012) in their working paper titled 'food production and consumption trends in sub-Saharan Africa: prospects for the transformation of the Agricultural sector', had lots to say about the state of agricultural productivity in the region. This presentation adopts part of the introduction to help us understand the background and current situation of agricultural productivity and development in the region. As the poorest region in the world, average real per capita income for sub-Saharan Africa in 2010 was \$688 (in constant 2000 US\$) compared to \$1717 in the rest of the developing world. Over the past 30 years, GDP growth per capita in Sub-Saharan Africa has averaged 0.16 percent

per year. This failure of growth over the long term has resulted in high levels of poverty in the region. One finds the same picture of stagnation when one looks at the structures of African economies. In almost all of them production is dominated by the primary sector in either agriculture or minerals. In the primary sector, agriculture is marked by low productivity with little application of science and technology, and in the mining sector almost all the operations using modern technology are foreign-owned enclaves with little linkages with the rest of the economies. Foreign trade mirrors the production structure: exports are dominated by primary commodities incorporating little application of science and technology while the bulk of manufactures and knowledge-based services are imported. For the majority of African countries, the agricultural sector still provides a relatively large share of GDP but productivity in the sector has lagged considerably behind that of other continents and the potential that Africa can reach in the sector. While on average agriculture employs 65 percent of Africa's labor force it accounts for about 32 percent of gross domestic product, reflecting the relatively low productivity in the sector. For Africa therefore, the rural population has been unable to move out of poverty principally because they have not been able to transform their basic economic activity which is agriculture. Because of the importance of the sector to the livelihoods of the poor, the World Bank said in its 2008 World Development Report, devoted to Agriculture and Rural Development, that the sector must be placed at the center of the development agenda if the Millennium Development Goals of halving extreme poverty and hunger by 2015 are to be met.

Chauvin et al (2012) went on to categorize sub-Saharan African countries by the extent to which they are net food importers or exporters. The study compared average trade balance to Gross Domestic Product (GDP) for the different SSA¹ countries over the past 10 years.

¹SSA – Sub-Saharan African

Country	Categories
Benin	Moderate Net Food Importer (between negative 5-10% of GDP)
Burkina Faso	Weak Net Food Importer (between negative 0-5% of GDP)
Burundi	Weak Net Food Exporter (between 0-5% of GDP)
Cameroon	Weak Net Food Importer (between negative 0-5% of GDP)
Côte d'Ivoire	Strong Net Food Exporter (more than 10% of GDP)
Dem. Rep. of the Congo	Moderate Net Food Importer (between negative 5-10% of GDP)
Ethiopia	Weak Net Food Exporter (between 0-5% of GDP)
Gambia	Strong Net Food Importer (more than negative 10% of GDP)
Ghana	Strong Net Food Exporter (more than 10% of GDP)
Guinea-Bissau	Strong Net Food Exporter (more than 10% of GDP)
Kenya	Weak Net Food Exporter (between 0-5% of GDP)
Madagascar	Weak Net Food Exporter (between 0-5% of GDP)
Malawi	Strong Net Food Exporter (more than 10% of GDP)
Mali	Moderate Net Food Importer (between negative 5-10% of GDP)
Nigeria	Weak Net Food Importer (between negative 0-5% of GDP)
Rwanda	Weak Net Food Importer (between negative 0-5% of GDP)
Senegal	Moderate Net Food Importer (between negative 5-10% of GDP)
South Africa	Weak Net Food Exporter (between 0-5% of GDP)
Uganda	Weak Net Food Exporter (between 0-5% of GDP)
United Republic of Tanzania	Weak Net Food Exporter (between 0-5% of GDP)

Source: UNCTAD & WDI as cited in Chauvin et al (2012)

Based on the proportion of trade balance to GDP, the countries were categorized as Strong Net Food Exporter (if trade balance more is than 10% of GDP), Moderate Net Food Exporter (if trade balance more is between 5-10% of GDP), Weak Net Food Exporter (if trade balance more is between 0-5% of GDP), Weak Net Food Importer (if trade balance more is between negative 0-5% of GDP), Moderate Net Food Importer (if trade balance more is between negative 5-10% of GDP), and Strong Net Food Importer (if trades balance more is more than negative 10% of GDP). The Weak Net Food Importing countries are Burkina Faso, Cameroun, Nigeria, and Rwanda.

The Weak Net Food Exporting countries are Burundi, Ethiopia, Kenya, Madagascar, South Africa, Uganda, and Tanzania. The only Strong Net Food importing country is Gambia. The Strong Net Food Exporting countries are Cote d'Ivoire, Ghana, Guinea Bissau, and Malawi. The Moderate Net Food Importing countries are Benin, DRC, Malawi, and Senegal. SSA is dominantly classified as net importer of food because the value of imported food is higher than the value of exported food. Most vulnerable countries are those in the first categories (Burkina Faso, Cameroun, Nigeria, Rwanda).

Yu and Nin-Pratt (2011) observed that Sub-Saharan Africa (SSA) is the most important development challenge of the 21st century. This region has been lagging behind the rest of the developing world in terms of economic growth and poverty alleviation, widening the gap between SSA and emerging developing countries. Gross domestic product (GDP) per capita was only \$612 (constant 2000 U.S. dollar value)¹ in 2009, which is less than one-third of the level in developing East Asia. As a result, 29 of the world's 40 low-income countries are in this subcontinent, and countries with the highest rates of malnutrition can be found here as well.

The agricultural sector is predominant in most SSA² economies, contributing more than one-

third of the regional gross national product (GNP) and employing more than two-thirds of the labor force (World Bank 2010). Agriculture is also one of the major sources of foreign exchange earnings. In spite of its central role in the region's economy, the agricultural sector has not experienced a performance as encouraging as that of other developing countries, as evidenced by the low cereal yield and high reliance on grain imports. On the other hand, low inherent soil fertility, together with increased population pressure, has caused soil degradation and nutrient depletion across much of the continent (see Yu and Nin-Pratt 2011).

The State of Rural Agricultural Practices in sub-Saharan Africa

Agriculture in sub-Saharan Africa no doubt has enormous potential for growth due to the presence of abundant natural resources including land and water. New market opportunities for agricultural exports are emerging from the global demand for biomass feedstocks for bioenergy and biofuel production.

But Agriculture in sub-Saharan Africa faces numerous challenges which according to FAO (2009) fall within the growing technology challenge, slow development of input and output markets and associated market services, slow progress in regional integration, governance and institutional challenges, conflicts, HIV-AIDS and other diseases.

Today, sub-Saharan Africa is noted to harbor the world's poorest people who depend on the natural environment for livelihoods.

Improving the condition of these vulnerable people depends on consistent and massive investment in the agricultural sector. Presently, farming activities in the region is largely a rain fed phenomenon. This makes it difficult for all-season farming and food production. Despite

abundant natural water supplies at the continental level, its distribution remains highly uneven. Individual efforts still dominate agricultural operation without meaningful coordination practices and government supports.

It is clear that agriculture is important in sub-Saharan Africa. However, the challenges of agricultural practices are enormous and fundamentally border on a range of factors including ecological, social, demographic and institutional. Permit me to give little discussion on these:

Challenges to Rural Agricultural Practices in Sub-Saharan Africa

Ecological challenges and Climate Change

The locational characteristics of sub-tropical Africa constitute one of the greatest environmental challenges to agricultural practice and development. The region called sub-Saharan Africa (SSA) is strongly influenced by the rainfall regime of the inter-tropical convergence zone (ITCZ). This locational condition and the influence of the ITCZ produce features such as major deserts, unstable weather conditions of droughts and floods. The geographers know these better. Vyas and Casley (1988) had discussed the implications of these in many dimensions. Agricultural performance depends on these factors. Vyas and Casley (1988) argued that only 53% of Africa's land areas is capable of sustained production of rainfed agriculture within such contexts. The problem however is that the land area capable of sustained production remains further limited by poor soil condition. Infact, when the constraints caused by shallow-retention soils and heavy clays are taken into account, only 30% of the land area is either marginally or eminently available for agriculture (Vyas and Casley 1988). Within this, one has to consider the unevenness in the distribution of these cultivable lands-where some lands are more fertile for cultivation than others.

²SSA – Sub- Sahara African

When we look at the challenge from the perspective of the global climate change, there are lots of issues. Although climate change impacts have been researched at different levels, the interest of this paper focuses more on its impact on agricultural practice. Extremes in temperatures and rainfall have always been important parameters in measuring the impact of climate change. It is predicted that while the more northernly zones may become wetter and warmer, the tropics and sub-tropics could become hotter and drier. Within the contexts of hotter and drier climate, Africa is projected as the region most likely to be vulnerable to negative impacts of climate change especially on food production (Kangalawe et al 2011, Challinor et al 2007). Sub-saharan Africa is often seen as the regions that is most likely to suffer from the impact of climate change (IPCC 2001). Based on Lobell et al (2008) analysis, sub-saharan Africa has repeatedly been mentioned as a high food insecure region given the worsening impact of climate change.

In Nigeria, meteorologists have mentioned that over 90% of the local government areas in Nigeria will be affected by flood in 2014 and 2015. Eight local government areas in Anambra State alone is affected by flooding. Massive flooding and submergence of farmlands have led to numerous problems which should challenge the rural sociologists into thinking for more responsive and adaptive solutions.

Social-demographic challenges

With a rising population growth (a growth rate of over 3% per annum) and a rising level of urbanization, Sub-Sahara Africa is confronted with the challenge of not only feeding its teeming population but shrinking spaces for agricultural practice (consequent upon a rapid urban expansion). The Malthusian concept of population pressure seems to apply mostly in Sub-Sahara Africa for the following reason. Given the present low level of technological

development, Sub-Sahara Africa is already in need of serious capacity to surmount Malthus's prediction of hunger and starvation on its population. Many countries, you would agree with me, are still at a very low agricultural input level (manual labour, without soil conservation, fertilizers, pesticides or improved crop varieties) while some areas of some countries have moved to an intermediate level characterized by the use of improved crop varieties and efforts to reduce soil erosion. Vyas and Casley (1988) classified the levels of agricultural inputs based on the carrying capacities of SSA at various levels of agricultural development. By these classifications, the only major reserves of carrying capacity for human populations lie in the hot, humid rainforests of the central region and in the cereal-growing regions of the southern region. The major highlights in the estimates observed that three quarters of sub-Saharan Africa's reserves of unused cultivable land are located in these two climatic regions. This seems a great potential if appropriate modern methods are engaged in their developments. Countries in the southern region such as Angola and northern parts of Zambia and Tanzania are not overcrowded and can produce high yields of rainfed cereal crops. In the dryland southern African region, the problem of agricultural development is dominantly one of nutrient supply. The vast humid center of Africa is currently very sparsely populated area in which the land remains highly constrained by heavy forests and which when cleared yields poorly due to the acidic, highly leached soils. If development occurs, this area is seen as a high potential area for agrarian productivity.

We should also note that agricultural development in SSA cannot take place in the context of political and civil instabilities. Ethnic, religious and political crisis have turned the Sub-Sahara Africa into refugees generating zones in addition to the accompanying ecological problems induced by such crises. In northern Nigeria, Boko Haram has displaced many who

would otherwise be available for agricultural activities. In the Democratic Republic of Congo, there are serious cases of environmental refugees occasioned by internal militia activities. Stories of internal displacement and refugee phenomenon as well as ethnic and religious conflicts are still a problem in countries within sub-Saharan Africa. Agrarian productivity and food security depends on social-political stability to guarantee investments and trades, among others. Violent regime changes and absence of strong democratic institutions do not encourage stabilities in investments and policies geared toward agrarian productivity.

Institutional Challenges

One fundamental institutional factor to agrarian expansion and development in SSA border on access to land. As agricultural practices are mostly rural-based subsistent occupation, access to available land resources is nested in traditional customs and norms. This presents tenure challenges as security of tenure is a major determinant of farmer response to development and investment incentives for the improvement of such land. In some cultures, rights to land are bundled and or classified into a right to use land, right to plant trees, right to inherit land, right to transfer land property etc. Some lands are communally-owned and may not easily be freed for commercial and market agriculture as well as investment purposes. Within the contexts of traditional norms and customs, some concerns of equity in access to land resources become problems for rural women who suffer various degrees of deprivation despite their high potential for transforming the rural agricultural economy. In Nigeria, attempt at land reforms still revolve around the Land use Act of 1978, which to a large extent only serves the needs of government when major developments or resource exploitation are at the center of interest. Within these frameworks, agricultural development in SSA still suffers due to some institutional challenges.

Changing Rural Institutional Structures and Implication on Rural Agricultural Practices

Let us now go back to the core of this presentation namely 'rural social organizations, structures and institutions in agricultural development strategies. A number of issues have been raised at various levels in previous sections which will certainly have some relevance here. Before we proceed, let us understand what rural social organizations and institutions imply.

In simple term, social organization is a sociological concept defined as a pattern of relationships between and among individuals and groups. Characteristics of social organization can include qualities such as size, sexual composition, spatiotemporal cohesion, leadership structure, division of labour, communication systems, and so on. Although there are different definitions of social institutions, for the purpose of this paper, I look at social institution to represent the social structure and machinery through which human society organizes, directs and executes the multifarious activities, required to satisfy human needs. In the case of social structure, I adopt the simplest definition of it as patterned social arrangements in society that are both emergent from and determinant of the actions of the individuals. Various levels of analysis have shown that on a macro scale, social institution can refer to the system of socio-economic stratification (e.g., the class structure), or other patterned relations between large social groups. On a meso scale, it can refer to the structure of social network ties between individuals or organizations. On the micro scale, it can refer to the way norms shape the behaviours of actors within the social system.

Social organizations could be market or community-oriented. Based on the activities undertaken, market-oriented organization are involved in supporting the income generating activities of their members. In Nigeria we have many across North and South. In broad categories activities commonly supported by

market-oriented social organization include processing and marketing agricultural products, livestock breeding and animal husbandry, horticulture and irrigated crop production etc. You may think of some farmer groups or unions who pool resources or labour together in the interest of their members. In southern Nigeria, market oriented social organization may not go beyond the activities of agricultural products unions which provide opportunity for marketing farm products. I know that some farmers belong to some general credit cooperative to raise capital for activities which may not be limited to agriculture.

In some other countries within Sub-Saharan Africa, there are many well developed market oriented agricultural organizations. Ofcourse, this will depend on the socio-political and ecological contexts. Petroleum oil exploration in southern Nigeria is hindering agricultural development. This may explain relative disparities in the evolution and development of market oriented social organizations for agricultural development.

Community-oriented social organizations are organizations that provide local public goods. Their activities may include cultivation of a collective field, casual labour exchange, local cooperatives (e.g., *osusu*), management of the environment and upkeep of the village, social activities etc (Uphoff 1993, and Collion and Rondot 1998).

The functioning of social organizations proceeds within the mediatory platforms of available social institutions and structures. Social norms, social values, customs and social control mechanisms provide incentive structures for the evolution and development of social organizations. The ongoing democratization of the political system and process in SSA has contributed in opening more spaces and opportunities to enhance the role of social organizations in agricultural production. Through free debates and

aggregation of interests, the voices of local agricultural practitioners could contribute in shaping the course of agricultural reforms in Sub-Saharan Africa.

Ladies and gentlemen, permit me to expand further on what I term the normative and actual role of social organizations in agrarian productivity in Sub-Saharan Africa. Rural social organizations (be it formal or informal), have often performed the mediatory roles between the state and rural agriculturists. These roles are dynamic and change with time depending on changes in the wider social and political systems. We have seen that rural social organizations have always been at the forefront where state policies and agricultural investments are transmitted to rural areas for implementation. The processes of transmitting state policies to rural agriculturists have always moved in a top-down or bottom-up manner depending on the changing socio-political system. In Nigeria, for instance, such organizations (farmer organizations/ associations etc) have often been preferred when government loan schemes are to be implemented. Fostering interest groups as well as pooling resources together have helped rural agricultural practitioners constitute rural development partners with the state in the areas of agricultural productivity.

Sub-Saharan Africa of today is increasingly confronted with neoliberal practices and realities of globalization. State services are increasingly becoming privatized. These pose heavy challenge on rural agriculture. This changing global social and economic system could also be converted into opportunity only if rural social organizations are strengthened. The private sector traditionally sees most rural social organizations as more trustworthy partners capable of coordinating efficient and cost-effective business transactions. These could be channels of opportunities for rural agriculturists in accessing both national and international markets.

The existence of rural social organizations represents amalgamation of diverse interest, knowledge, needs and enterprises. Such structures are important learning, management and coordinative platforms that could serve as basis for ensuring effective service quality and provision to account for diverse levels of needs. I am talking of a situation whereby rural agricultural practitioners learn from experiences of others, participate in the planning and monitoring of agricultural research and development services etc. These can be realized through building and strengthening active partnership with other relevant actors to facilitate knowledge sharing and exchange.

Rural social organization could serve as bridging and bonding channels between rural agriculturists and policy makers by way of influencing policies through the opportunity of the democratic processes. They could fulfill functions such as:

- a. Advocating and lobbying for policies and necessary reforms in the rural agricultural sectors. Some challenges of land rights, access to land resources and land reforms, among other relevant agricultural policies could constitute crucial agenda for the rural social organization.
- b. Representation at policy, legislative and advisory council levels. Such representations could contribute in bringing the experiences of the wider agricultural practitioners to the attention of policy makers, legislators and other relevant agencies.
- c. Providing technical and economic services. Their role could be strengthened and broadened to enable the rural social organizations contribute in providing necessary and relevant social, technical and economic services to local agriculturists. Such services could range from input supplies, product marketing for access

to local and national markets. Although this, to a large extent, holds in the Nigerian context, what seems rather problematic is the low participation of members (especially in some specialized associations) due to educational limitations. Group problems often range from exploitation of members, leadership challenge and poor participation.

Of all these, I would like to say that the greatest challenge to rural social organization in SSA comes from available social structures and social institutions. There is no doubt that these social and institutional structures have immensely contributed in building and strengthening rural social capital. As our society changes, new demands and new ways of doing things emerge. This is the more reason why available social structures and institutions should be sensitive to changing situations. The aspects of constituting major impediment to land reforms and agricultural investments deserve some research attention. The question now is how rural social and institutional structures can be made more socially adaptable to changing global economic and development trajectories? These are areas we are going to explore.

Nigerian Rural Sociological Association and Agenda for Rural Agricultural Development Strategies in SSA

Ladies and Gentlemen, the discussions so far show that rural sociologists have much to think about to be able to contribute with increasing effectiveness to research. The field of rural sociology is very wide with many cross-cutting issues that span across geography, psychology, political science, economics, sociology, agriculture and anthropology. Rural sociologists can make meaningful contribution to the field only by developing a working relation with other disciplines most especially the ones listed earlier. I am disappointed that interdisciplinary communications among these

disciplines has been, at best, sporadic. This is not helpful to the progress of the discipline. The world is changing and our research orientation need to be adaptive to such changes.

In addition to the sub-themes outlined for this conference, I expect at the end, there should be renewed networking and interdisciplinary communications among members. In the nearest future, I expect that researches in the field of rural sociology should be mainstreamed and oriented in the following forms:

- a. Research in rural sociology should be more interdisciplinary. This is because rural social, cultural, economic, agricultural and institutional problems are essentially interdisciplinary. The most effective research with most meaningful and realistic results on rural sociology are produced when methods and data are developed and utilized through two or more disciplinary fields including sociology. In studying social organizations and institutions, there are many cross-cutting issues including individual and group behaviours, social norms, degree of applicability or resistance to laws, internal group relations, group cohesion and social capital. These and many others are very important and have direct relevance to agricultural practices, and can only be understood from interdisciplinary perspective.
- b. Rural sociologists should learn to orient their researches and thinking in terms of systems and systems relationships. Treating specific rural agricultural problem from the systems perspective could lead to a better understanding of the problem than working on individual/specific issues. For example, a thorough knowledge of

the workability of the rural agricultural problem could well depend on understanding the relations among the rural natural, social, human, financial and physical capitals. This kind of framework will lead to a better communication between the empirical and theoretical issues. We all know that rural agricultural performance and productivity depends on sound natural, physical, financial, human and social capitals. Sociologists alone cannot capture these diversities. There is need to work with others to achieve a common target of rural development

- c. Within the context of addressing climate change problem on rural agriculture, rural sociologists should be more proactive. How to respond to flooding and plan adaptation and coping mechanism needs great education, awareness and research. The rural sociologists should be more interested in these issues

I wish to congratulate our distinguished speakers and prospective presenters, Chairpersons of sessions, participants, sponsors and hosts of this conference. I am very positive that we will be able to attain with much success the objectives of this conference. This event provides a very rare opportunity for all of us to meet rural sociologists from East to West, from North to South across the country. Let it be said that our visit to Akwa Ibom state-one of the very historic, memorable and scenic places of Nigeria will spur other visits, connections and professional relationships under the Nigerian Rural Sociology banner.

Congratulations again and long live the Nigeria Rural Sociology Association.

Thank you.

References

- Chauvin, ND., F. Mulangu and G. Porto (2012). Food Production and Consumption Trends in Sub-Saharan Africa: Prospects for the Transformation of the Agricultural Sector. Working Paper. United Nations Development Programme (UNDP): Regional Bureau for Africa. WP 2012-011: February 2012.
- Collion M. H. and Rondot P. (1998). Background, Discussions, and recommendations. In Agricultural producers organizations: their contributions to rural capacity building and poverty reduction. In P. Rondot and M. H. Collion (eds). The World Bank.
- Challinor, A. J., Wheeler, T. R., Craufurd, P. Q., Ferro, C. A. T., and Stephenson, D. B. (2007). Adaptation of crops to climate change through genotypic responses to mean and extreme temperatures. *Agric. Ecosyst. Environ.*, 119 (1/2), 190-204.
- Dixon, J., Gulliver, A. and Gibbon, D. (2001). Farming systems and poverty: improving farmers' livelihoods in a changing world. Food and Agricultural Organization (FAO), Rome.
- IPCC, (2001) "IPCC 3rd Assessment Report-climate change 2001: working Group II: impacts, adaptation and vulnerability," <http://www.ipcc.ch/ipccreports/index.htm>
- Kangalawe, R. S. Mwakalila and P. Masolwa (2011). Climate change impacts, local knowledge and coping strategies in the Great Ruaha River catchment area, Tanzania. *Natural Resources* (2): 212-223.
- Lobell, D. B., Burke, M. B., Tebaldi, C., Matrandrea, M. D., Falcon, W. P., and Naylor, R. L. (2008). Prioritizing climate change adaptation needs for food security in 2030. *Science*, 319, 607-610.
- FAO (2009). The special challenge for sub-Saharan Africa. How to feed the world 2050. FAO, Rome.
- Uphoff N. (1993). Grassroots organizations and NGOs in rural development: opportunities with diminishing states and expanding markets. *World Development* 21 (4): 607-22.
- Vyas V. S. and Casley (1988). Stimulating agricultural growth and rural development in sub-saharan Africa. Working paper: agriculture and rural development. The World Bank. WPS 15.
- World Bank (2000). World Development Indicators, World Bank, Washington DC, USA.
- World Bank (2008). World Development Reports, World Bank, Washington DC, USA.
- Yu, B. and A. Nin-Pratt (2011). Agricultural Productivity and Policies in Sub-Saharan Africa. IFPRI Discussion Paper 01150, December 2011. International Food Policy Research Institute.

Akpan, N.

Proceedings of the 22nd Annual National Congress of the Nigerian Rural Sociological Association held at University of Uyo (Town Campus) between 1st-4th October, 2013
pp 15-24





Utilisation of Information and Communication Technologies in Agricultural Production among Farmers in Akwa Ibom State, Nigeria

Okoro, G. I. and Esu, B.B.

University of Uyo, Nigeria

Corresponding author

E-mail: ekaeteekong@yahoo.com, okorinyang@yahoo.com

Abstract

The study assessed the extent of use of Information and Communication Technologies (ICTs) in agricultural production among farmers in Akwa Ibom State, Nigeria. Multi-stage sampling procedure was used to select 326 respondents for the study. Data were collected using structured interview schedule and analysed using descriptive and inferential statistical tools. Findings show that 62.0% of the respondents were above 45 years of age and females (54.3%) were slightly more than the males (45.7%). Also, 68.7% of the respondents were married and 28.2% had no formal education. Majority of the farmers (82.5%) had an estimated monthly income of not more than N30,000.00. Accessibility to ICTs by farmers in the state was low, with 95.1% having no access to computer. Frequency of use of the ICTs in agricultural production was also low, with only radio (1.8%), Television (0.6%) and GSM (5.3%) being utilised in agricultural production. Major constraints to use of the ICTs for agricultural production were ignorance of usefulness of improved technologies for agricultural production (97.6%), poor access to the ICTs (97.6%) and unavailability of the various technologies (97.7%) in the study area. Hypotheses tested showed non-significant relationships between socio-economic characteristics of the respondents and their use of ICTs in agricultural production. It is recommended that ICTs should be subsidized by the state and federal governments to make them more available and accessible to the farmers. Also, the farmers should learn about the usefulness of the various technologies in agricultural production.

Keywords: ICTs Utilisation, ICTs Accessibility, Agricultural production

Introduction

Nigeria, like other developing nations of the world depends largely on agricultural production for the sustenance of its rural livelihoods. About 70% of its population, especially those in rural communities are directly or indirectly employed in the agricultural sector. Agriculture provides the

food needs of the nation and raw materials for the industrial sector. It is a foreign exchange earner for the country and occupies a vital position as one of the major contributors to the Gross Domestic Product of the country. It holds the key to the much envisaged food security. The achievement of the Millennium Development Goal of eradicating extreme hunger depends on the ability of the sector to

produce enough food for the various sectors of the society. However, agricultural production in Nigeria is still at the subsistence level, with only a few farmers involved in commercial production. It is also faced with many problems that impede its development.

Increasing demand for agricultural products as food for man, feed for animals and raw materials for industries requires production to keep pace with consumption or utilisation of these products. Yet production has always lagged behind relative to demand. Efforts at increasing production require the use of improved varieties of crops and animals, timely planting and harvesting of the products, proper pest and disease control and adequate weather and climate information. Information on weather and climatic conditions is needed to boost the early warning system and forestall impending disaster. In the same vein, information on fertilizer and its application, product processing (value addition), reduction of post harvest loss, storage and marketing of the products are essential requisites in the quest for the attainment of increased agricultural production and food security.

Over decades, series of programmes and activities have been put in place to improve agriculture and bring about the desired increase in production. These include Operation Feed the Nation (OFN) Programme, River Basin Development Authority (RBDA), Green Revolution Programme (GRP) and Directorate of Food, Roads and Rural Infrastructure (DFRRI). However, information for decision making, risk aversion, demand for produce and produce marketing used to reach the farmers largely through trickling down process, which usually takes much time, and the information sometimes distorted. To change the situation, a lot has been done to improve information flow along the production chain. Among the efforts is the introduction of Information and Communication Technologies (ICTs) in agricultural production.

Information, according to Chapman and Slaymaker (2002) is analysed data, often presented in a form that is specially designed for a given decision making task and transmitted to the receiver or decision maker. It is facts that are sent to a group of people to aid their decision making process or increase their understanding of certain phenomena. In the same vein, Torimiro and Alfred (2008) defined communication as a continuous process through which ideas, innovations or messages are transferred from the source to the ultimate users, for the purpose of modifying the behaviour of receivers in a desired direction. Communication is also defined as information sharing (Kancaid, 1979). In agriculture, it is the process of sending/receiving innovations and the sharing of useful ideas and facts on improved methods of agricultural production in order to improve and increase agricultural output.

ICTs are defined variously by different individuals. However, according to Zahedi and Zahedi (2012), ICTs refer to a broad range of hardware, software, network infrastructure and media that enable the processing, storage and sharing of information, and communication among humans and computers, locally and globally. ICT is an umbrella term that includes many communication devices encompassing radio, television, cellular phones, computer and network hardware and software, satellite systems, as well as the various services and applications associated with them, such as video-conferencing.

ICTs have been identified as veritable tools in development circle. Their potentials in this regard traverse the social, economic, educational, agricultural and other sectors of human endeavour. They aid in the production, manipulation, storage, retrieval and transmission of information across the globe. According to Zahedi and Zahedi (2012), ICTs are vital to the management and success of agricultural businesses as they provide better access to information on every phase of

the production process. Moreover, agricultural production involves risks and unending spectrum of uncertainties including drought, erosion, flood, pest and disease attack, changes in weather conditions, climate variability/change and price volatility. ICTs therefore provide information on these aspects. Stiene, Bruinsma and Neuman (2007) noted that ICTs enable rural communities to interact with other stakeholders, thus reducing social isolation and widen the perspective of local communities in terms of national and global developments, open up new business opportunities and allow easier contact with friends and relatives. They provide market information on prices of agricultural inputs/outputs and the best time and place to sell agricultural produce, thereby helping to boost the farmers' decision making capacity, bargaining power and increase in farmers' income and profit.

In view of the importance of ICTs in agricultural production, there is need to increase access to, and reduce the effects of the various constraints to its utilisation for agricultural development. However, information on the degree of the various constraints, extent of access and utilisation of these technologies to boost agricultural production is limited in Akwa Ibom State. As a step forward to make data available for the achievement of the goal, the study assessed the extent of use of ICTs in agricultural production in Akwa Ibom State. Efforts were further made to examine the factors affecting the use of the ICTs in agricultural production in the state.

The specific objectives of the study were to:

- i. Examine access to ICTs by farmers in Akwa Ibom State.
- ii. Assess the extent of use of ICTs by farmers in Akwa Ibom State.
- iii. Identify the constraints to use of ICTs by farmers in Akwa Ibom State

The following hypotheses were tested:

- i. There is no significant relationship between the socio-economic characteristics

of the farmers and their use of ICTs in agricultural production

- ii. There is no significant relationship between access to and use of ICTs in agricultural production in Akwa Ibom State.

Methodology

The study area is Akwa Ibom State. It is located within the South-South geopolitical and South-East agro-ecological zones of the country. The state lies between latitudes 4°32' and 5°53' North and longitudes 7°25' and 8°25' East and has an area of 8,412 km². It shares boundaries with Cross River State, Rivers State and Abia State (Akwa Ibom State Government, 2008). According to 2006 National Population and Housing Census, Akwa Ibom State has a population of about 3,920,208 (National Population Commission, 2006).

The state is located within the tropical rainforest zone and has basically two climatic seasons: rainy season and dry season. However, rain falls all year round in the coastal areas and the usual distinct major seasons are distorted by climate change. It has a mean annual temperature of between 26°C – 29°C and an average annual rainfall of between 2000mm and 3000mm along the coast. The major livelihood activities of the people are crop farming and fishing.

The study population comprised all farmers in the state. Multi-stage sampling technique was used to select respondents for the study. The first stage involved a simple random sampling of Ikot Ekpene, Uyo and Abak zones from the six agricultural zones of the state. In the second stage, two blocks were selected from each of the sampled zones using simple random sampling technique. From each of the six sampled blocks, two cells were selected using simple random sampling technique. Clusters were identified in each of the sampled cells and in each cell, a cluster was selected using simple random sampling technique. All adult farmers in the sampled clusters (i.e. excluding minors

who are below 18 years of age) were interviewed. A total of 326 respondents were interviewed for the study. Utilisation of ICTs for agricultural production was measured in terms of application of ICTs to aid in any of the production phases, while access to ICTs was measured in terms of ownership or favourable conditions for use of the technologies. Data were collected using structured interview schedule and analysed using descriptive statistical tools.

Results and Discussion

Table 1 shows that 38.0% of the respondents were below 45 years of age, with an average age of 48.3 ± 2.5 years. The result indicates that agricultural production in the state is not left in the hands of old men and women alone, but the younger generations also participate. This implies that farmers in the state are still in their active and productive age, capable of sourcing for information to improve and increase their production activities. Males made up 45.7% of the respondents, with the females (54.3%) being slightly more than the males. This indicates that, in some communities of the state which are male dominated, agricultural information may be distorted as it trickles down to the females.

As shown on Table 1, 68.7% of the respondents were married. This shows that access, acquisition or use of ICTs in agricultural production may be adversely affected as much of the farmers' resources and time may be devoted to other family obligations. The table also shows that 28.2% of the respondents had no formal education. Educational status affects the use of some ICIs as education is needed for reading, writing or interpreting some messages. Moreover, it is required for effective use of some of the technologies. This is corroborated by an earlier finding by Oladeji and Oyesola (2000) which observed that education is essential in information communication, especially in coding and decoding of information in some media.

Economic status of the farmers could also affect the use of ICTs in agricultural production in the state. This is envisaged because, as shown on Table 1, only 17.5% of the respondents indicated having an estimated monthly income above N30,000.00, with a modal (51.2%) income class of between N21,000.00 and N30,000.00. The implication is that the financial strength of the farmers may not be high enough to allow for acquisition, access and use of the various ICTs as required.

Table 1: Socio-economic Characteristics of the Respondents

Variables	Frequency	Percentage	Mean
Age			
≤ 25	30	9.2	48.3 ± 2.5
26 – 35	35	10.7	
36 – 45	59	18.1	
46 – 55	71	21.8	
56 – 65	76	23.3	
> 65	55	16.9	
Total	326	100	
Sex			
Male	149	45.7	
Female	177	54.3	
Total	326	100	
Marital status			
Single	60	18.4	
Married	224	68.7	
Divorced	4	1.2	
Widowed	38	11.7	
Total	326	100	
Educational status			
Non-formal	92	28.2	
Primary	111	34.1	
Secondary	91	27.9	
NCE/OND	27	8.3	
B. Sc & above	5	1.5	
Total	326	100	
Monthly income			
≤ N10,000.00	30	9.2	
N11,000.00	– 72	22.1	
N20,000.00	167	51.2	
N21,000.00	– 33	10.1	
N30,000.00	24	7.4	
N31,000.00	– 326	100	
N40,000.00			
≥ N40,000.00			
Total			N26,500.00

Source: Field survey, 2012

Table 2 shows that access to ICTs by farmers in Akwa Ibom state was rather low, with the exception of ICTs like radio and television

which were indicated by 63.2% and 53.9% of the respondents respectively as being accessible. Also, GSM was adjudged by 21.8% of the respondents as being very accessible in the state. This indicates that if other limiting factors are checked, radio, television and GSM could be vital tools in agricultural information communication. Newspapers and computers were only adjudged by 7.7% and 4.9% of the respondents respectively as being accessible. This indicates that agricultural information sent through these media may not get to a large number of farmers in the state. Fawole (2006) observed that access to information or technology is a major factor influencing its utilisation. The table also shows that internet and e-mail were considered inaccessible by 96.6% and 97.9% of the respondents respectively. This portrays that farmers in the state have little access to the vast and useful information on agricultural production that abound on the net. Fax was considered inaccessible or unpopular in the state as none of the respondents indicated having access to it. Though ICTs may be used for various purposes by farmers in the state, the frequency of use of ICTs in agricultural production was generally

low. Table 3 indicates that audio/video cassette player, audio/video CD player and fax which could be used for recording, storage, retrieval or sending agricultural information were never used at any of the production phases for information communication. However, radio and television were used by 1.8% and 0.6% of the respondents respectively for agricultural production. This result is supported by Adeokun, Olowu & Adekoya (2002) who noted that radio and television play important role in communication of information on agriculture, health and related sectors. GSM was adjudged by 5.8% of the respondents as the most frequently used technology for sourcing, storage, retrieval or transmission of agricultural information. The non-use of fax in the exchange of agricultural information to boost production may be attributed to unavailability of the technology in most farming communities of the state. Also the non-use of newspapers by 99.4% of the respondents in agricultural production in the state may be as a result of the remoteness of most of the farming communities in the state as newspapers are usually circulated within urban areas.

Table 2: Access to ICTs by Farmers in Akwa Ibom State

ICTs	Not accessible Freq (%)	Accessible Freq (%)	Very accessible Freq (%)
Radio	118 (36.2)	134 (41.1)	74 (22.7)
Television	147 (45.1)	114 (35.0)	65 (19.9)
GSM	131 (40.2)	124 (38.0)	71 (21.8)
Newspaper	301 (92.3)	25 (7.7)	0 (0.0)
Computer	310 (95.1)	16 (4.9)	0 (0.0)
Audio/video cassette player	193 (59.2)	102 (31.3)	31 (9.5)
Audio/video CD player	213 (65.3)	92 (28.2)	21 (6.4)
Internet	315 (96.6)	7 (2.2)	4 (1.2)
E-mail	319 (97.9)	5 (1.5)	2 (0.6)
Fax	326 (100.00)	0 (0.0)	0 (0.0)

Source: Field survey, 2012

Table 3: Frequency of Use of ICTs in Agricultural Production in Akwa Ibom State

ICTs	Never Freq (%)	Occasionally Freq (%)	Often Freq (%)
Radio	320 (98.2)	6 (1.8)	0 (0.0)
Television	324 (99.4)	2 (0.6)	0 (0.0)
GSM	307 (94.2)	11 (3.4)	8 (2.5)
Newspaper	324 (99.4)	2 (0.6)	0 (0.0)
Computer	323 (99.1)	3 (0.9)	0 (0.0)
Audio/video cassette player	326 (100.0)	0 (0.0)	0 (0.0)
Audio/video CD player	326 (100.0)	0 (0.0)	0 (0.0)
Internet	325 (99.7)	1 (0.3)	0 (0.0)
E-mail	325 (99.7)	1 (0.3)	0 (0.0)
Fax	326 (100.0)	0 (0.0)	0 (0.0)

Source: Field survey, 2012

There are many factors that limit the use of ICTs in agricultural production among farmers in the state. As shown on Table 4, 95.7% of the respondents indicated poor access to the ICTs as severe constraint, while 97.9% attributed the low usage of the ICTs to unavailability of the technologies in the area. It is worthy of note that a technology may be available in an area, yet inaccessible. This could be as a result of the level of sophistication of the technology or the technical knowledge required for its use. However, 90.8% of the respondents indicated low technical know-how as a severe constraint to use of ICTs in agricultural production as it ranked 2nd as one of the major constraints in the use of the technologies in agricultural production.

High acquisition/access charge is another factor that affects the use of ICTs in agricultural production in the state. Table 4 shows that 56.4% of the respondents indicated high acquisition/

access charge as a severe constraint to use of ICTs in agricultural production, with the constraint ranked 5th most serious constraint faced by farmers in the use of ICTs in agricultural production. Insufficient electricity supply was adjudged by 92.9% of the respondents as one of the limiting factors to use of ICTs in agricultural production in the area.

Table 4 also shows that ignorance of the existence of some of the ICTs and their usefulness in agricultural production was a severe constraint to the use of ICTs in agricultural production as indicated by 52.2% of the respondents. This finding is supported by Akinbile and Odebode (2007) who observed that awareness influences the adoption of a practice. However, ICTs could be used for processing, storage, sending and receiving useful information that could help increase agricultural production and economic returns on agricultural enterprise.

Table 4: Constraints to use of ICTs by Farmers in Agricultural Production

Factors	Not a constraint Freq (%)	Constraint Freq (%)	Severe Constraint Freq (%)	Rank
Poor access	5 (1.5)	9 (2.8)	312 (95.7)	1 st
Unavailability of the technologies	7 (2.2)	36 (11.0)	283 (86.8)	3 rd
Low technical know-how	4 (1.2)	28 (8.6)	294 (90.2)	2 nd
Lack of time	212 (65.0)	75 (23.0)	39 (12.0)	7 th
High acquisition/access charge	10 (3.1)	132 (40.5)	184 (56.4)	5 th
Insufficient electricity supply	23 (7.1)	61 (18.7)	242 (74.2)	4 th
Ignorance of usefulness of technology	8 (2.5)	148 (45.4)	170 (52.2)	6 th

Source: Field survey, 2012

Table 5: PPMC and X² Analysis of the Respondents Personal Characteristics and Use of ICTs in Agricultural Production

Variable	r-value	p-value	Decision
Age	0.036	0.625	NS
Monthly income	0.013	0.122	NS

Variable	X ² - value	cc	p-value	Decision
Sex	2.426	0.144	0.296	NS
Educational level	0.762	0.081	0.141	NS
Marital status	1.371	0.215	0.520	NS

Table 6: Relationship between Access to ICTs and Use of ICTs in Agricultural Production in Akwa Ibom State

Variables	r-value	p-value	Decision
Access	0.059	0.157	NS

Table 5 shows that there is no significant relationship ($p > 0.05$) between the personal characteristics of the respondents and utilisation of ICTs in agricultural production in the state. This implies that age, sex, educational status and monthly income of the respondents have no significant influence on the frequency or extent of use of ICTs in any of the phases of agricultural production process.

According to Table 6, access to ICTs has no significant relationship with use of ICTs in agricultural production in the state. This indicates that access to ICTs does not play significant roles in determining whether ICTs are used or not and the frequency or extent of use of the ICTs in agricultural production in the state. The financial status of the individual or the technical competency required for use of the ICTs may be major determinants of use of the ICTs in agricultural production.

Conclusion

Utilisation of ICTs in agricultural production is a necessity for the development of agriculture in the state. However, access to, and use of ICTs in agricultural production in the state is low. Factors affecting use of the ICTs range from poor access to the technologies, unavailability of the ICTs, poor and erratic electricity supply to lack of

technical know-how. It is therefore recommended that ICTs should be subsidized by the state and federal governments to make them more available and accessible to the farmers. Also, farmers should endeavour to be trained on the usefulness and use of the ICTs to help improve their agricultural production potentials.

References

- Adeokun, O. A., Olowu, T. A. and Adekoya, A. E. (2002) Sources of Information Used by Women Involved in Fishing Industry in Lagos State, Nigeria. *African Journal of Livestock Extension*. Vol.1, pp11-14.
- Aderinto, A., Adedoyin. S. F., Awotide, D. O. and Adamu, C. O. (2008) Use of Information and Communication Technologies (ICTs) among Extension Personnel in Ondo State. *Nigerian Journal of Rural Sociology*. Vol 8, No 1. pp66-70.
- Akinbile, L. A. and Odebode, S. O. (2007) Determinants of Farmer's Use of Sustainable Soil Conservation Practices in Osun State, Nigeria. *American-Eurasian Journal of Sustainable Agriculture*. Vol.1, No.1. pp1-7.
- Akwa Ibom State Government. 2008. Akwa Ibom State: geography and location.

- Retrieved May 30, 2011 from http://www.aksgonline.com/about_geography.aspx
- Chapman, R and Slaymaker, T. (2002) ICT and Rural Development: Review of Literature, Current Interventions and Opportunities for Action. Overseas Development Institute (ODI) working paper 192.
- Fawole, O. P. (2006). Poultry Farmers' Utilisation of Information in Lagelu Local Government Area, Oyo State of Nigeria. *International Journal of Poultry Science*. Vol 5, No 5 pp 499-501. Retrieved Jan 16, 2009 from <http://www.pjbs.org/ijps/fin542.pdf>
- Kincaid, D. L. 1979. The Convergence Model of Communication. Honolulu: East-West Communication Institute. Paper 18.
- National Population Commission (2006) National Population and Housing Census Figures
- Oladeji, J. O. and Oyesola, B. O. (2000) Information Needs of Rice Farmers on Harvesting and Processing Activities in Obafemi Owode Local Government Area of Osun State. *Proceeding of the 6th Annual Conference of Agricultural Extension Society of Nigeria (AESON)*, Ilorin. T.A. Olowu Ed. pp144-150.
- Stiene, J., Bruinsma, W. and Neuman, F. (2007) How ICT Can Make a Difference in Agricultural Livelihoods. The Commonwealth Ministers Reference Book. Retrieved from <http://www.iicd.org/files/ICTandagriculturallivelihoods.pdf>
- Torimiro, D. O. and Alfred, Y. (2008) Communication in agricultural extension. *Agricultural extension: a comprehensive treatise*. O. A. Akinyemiju and D. O. Torimiro Eds. Lagos: ABC Agricultural Systems Ltd. pp133-141.
- Zahedi, S. R. and Zahedi, S. M. (2012) Role of Information and Communication Technologies in Modern Agriculture. *International Journal of Agriculture and Crop Sciences*. Retrieved from <http://ijagcs.com/wp-content/uploads/2012/12/1725-17281.pdf>

Okoro, G.I. and Esu, B.B.

Proceedings of the 22nd Annual National Congress of the Nigerian Rural Sociological Association held at University of Uyo (Town Campus) between 1st-4th October, 2013 pp 25-32





Social Engagement and Water Management Practices among Vegetable Farmers in Ojo Local Government Area of Lagos State, Nigeria

Thomas, K.A. and O.B. Abegunde
University of Ibadan, Ibadan, Nigeria
Corresponding Author
E-mail: kehindeadesina@yahoo.com

Abstract

Economic, environmental and social considerations are playing increasing role in agricultural production. Urban vegetable production is a major source of livelihood for farmers in Lagos state. Growing competition between agriculture and urban areas for water supply has increased pressure for this resource. The study therefore investigated the social engagement and water management practices among vegetable farmers in Ojo Local Government Area of Lagos state. Both qualitative and quantitative research methods were used. Multi stage sampling procedure was used to select 120 vegetable farmers interviewed for the study. Focus Group Discuss (FGD) was used to elicit information on social engagement used for water management practices. Majority of the respondents were male (73.3%), married (59.2%), within the group stage of 30-39 (38.3%) and had formal education (45.8%). A significant correlation existed between farmers' knowledge of social engagement and water management practices ($r = 0.553$; $p < 0.05$). Discussants affirmed that communal deep well; group irrigation water arrangement, water reservoirs and flood control were products of the social engagement process used for water management. A number of technologies that guarantee safety and quality of the water which satisfies the expectations of the food industry and consumers are needful. Also, on-farm practices should ensure that water management is done under sustainable economic, social and environmental conditions.

Keywords: Social engagement, Water management, Vegetable farmers, Urban agriculture

Introduction

The Millennium Development Goals for poverty, hunger, and a sustainable environment can only be met if there is better water management in agriculture. Access to water is difficult for millions of poor women and men for reasons that go beyond the physical resource base. In some places water is

abundant, but getting it to people is difficult because of lack of infrastructure as well as restricted access as a result of political and socio-cultural issues. Until recently, poverty was synonymous with rural conditions, but the rapid urbanization of many developing countries has given birth to a large class of urban poor.

Estimates based on health and environmental conditions suggest that about 600 million people in cities live in unhealthy conditions. Hence, as Africa and parts of Asia become increasingly urbanized, urban poverty and food insecurity could worsen if preventive measures are not taken ((Food and Agriculture Organisation of the United Nations, 2005). The challenge of supplying nutritionally adequate and safe food to city dwellers is thus becoming substantial and critical. The present state of food insecurity and poverty in many developing nations of the world which in no way exclude Nigeria has led many into urban/peri-urban agriculture. Urban agriculture can simply be defined as the growing of plants and the raising of animals within and around cities (Ruaf, 2013). It involves all farming operations whether of crop or animal production taking place within or around any urban setting. Literature has affirmed that urban/peri-urban agriculture is growing fast and it is gaining greater attention in many countries of the world such as China, Singapore, Kenya, Uganda, Togo, Sierra Leone as well as Nigeria (Chioma, 2010).

A report by the United Nations Organization (2008) estimated that about 200 million urban dwellers participate in urban farming all over the world. In Nigeria, with increase in population of some major cities like Abuja, Kano, Port-Harcourt, Ibadan and Lagos, with its attendant increase in demand for food and shelter, many city dwellers are beginning to pay attention to urban agriculture. It is in this vein that it becomes no news to hear that farming is rising to the status of a lucrative business in Lagos (one of the major cities in Nigeria). One of the local government areas found to be notable for urban agriculture in Lagos is Ojo Local Government Area (LGA).

Urban farmers in the localities and communities of this LGA are mainly vegetable farmers. In fact a daily vegetable market holds nearby the military cantonment located in the Local Government Area where marketers from

various parts of Lagos state come with lorries and trucks to buy vegetables from these urban vegetable farmers.

However, most of these vegetable farmers are smallholders, who with increasing competition on resources engendered by increased urbanization are faced with several challenges such as scarcity of water, poor access to land, lack of fund and problem of erosion that sweeps away their vegetable farms at the instance of heavy rainfall. FAO (2005) asserted that access to adequate supplies of land and water is critical to the successful integration of urban and peri-urban agriculture into urban environments. The potential for achieving such integration is simultaneously proclaimed and doubted by many. A very common practice among these Ojo vegetable farmers is the use of waste water to irrigate their vegetable farms. It is understood that the most viable source of water for urban and peri-urban agriculture is recycled treated wastewater. Though, the World Health Organization (WHO) has developed guidelines for standard levels of waste water treatment needed for agricultural uses, but these farmers are using untreated waste water.

Water is a vital component of agricultural production. It is essential to maximize both yield and quality. Water scarcity is therefore a significant constraint to economic and social development goals and the sustenance of ecological systems. It has been estimated that there will be a gap of about 17% in water demand and supply by 2030 if no significant policy shifts occur (2030 Water Resources Group, 2009). Water has to be applied in the right amounts at the right time in order to achieve the right crop result. At the same time, the application of water should avoid waste of a valuable resource and be in sympathy with the environment as a whole. Understanding, measuring and assessing how water flows around the farm, and recognizing how farming practices affect flows, will help farmers to manage water efficiently and reduce pollution risks. There are many environmental,

economic, health and social issues that have arisen as a result of increased urbanisation and if left unrestrained these issues will continue to rise. Although, many of these areas are interrelated, this report is mainly concerned with the growing competition between agriculture and urban areas for water supply which has increased pressure for this resource. Social, cultural and ecological dimensions are juxtaposed with the economic value of water related to its use in various production processes.

The major danger in utilizing untreated or improperly treated waste waters is food contamination by pathogenic micro-organisms and outbreak of water-borne diseases. It could as well result in infection from helminths (worms) such as *Ascaris* (nematode) and *Ancylostoma* (hookworm). Medium to low risk is associated with enteric bacteria and viruses. In general, the evidence suggests that negative health is indispensable when raw or poorly treated wastewater is used for irrigation (FAO, 2005). The Ojo urban farmers who are bearing the brunt of poor resource availability and accessibility are coming up with alternative approach for addressing their problem of water scarcity through the process of social engagement. This method affords urban farmers to dig wells for irrigation and constructing drainages in order to alleviate their problems of water scarcity and erosion.

Social engagement can be described as one's degree of participation in a community or society. According to Prohaska *et al.* (2012), the term social engagement is commonly used to imply one's participation in the activities of a social group, it is related to participation in collective activities, which reinforces social capital and social norms. Key elements of social engagement include: activity, which means doing something; interaction which implies that at least two people need to be involved in this activity; social exchange, referring to the fact that the activity involves

giving or receiving something from one another; and lack of compulsion (voluntarism); that is, no outside force is compelling an individual to engage in the activity. Social engagement excludes activities for which one is getting paid, or family obligations. High social engagement has been discovered often to translate to improved happiness, health and well-being; nonetheless, the context of such engagement must be positive if the afore-mentioned outcomes will be realized.

The proportion of total water used for any specific purpose is controlled by socio-economic conditions, tradition or culture and water availability. However, Agriculture is by far the largest water user in the world today. Martins, (2001) posited that vast areas of the world are already irrigated and irrigation development continues to increase in an attempt to meet the world's growing food demands. He further asserted that because irrigated agriculture occupies such a large land area, the quantity of water consumed is dramatic: irrigated agriculture in China, for example, consumes a quantity of water each year equivalent to one and a half times the mean daily flow of the River Niger. But in Nigeria, level of irrigation is still low: irrigated land constitutes only 3% of total land area, as against 9.6% and 12.7% in South Africa and Morocco respectively (World Resources Institute, 1997). This buttresses the reason why Ojo urban vegetable farmers are so much stressed about water resource for their vegetable farms. They thus use social engagement to solve their problems. It is against this background that social engagement and water management practices among vegetable farmers in Ojo Local Government Area of Lagos State were examined.

Methodology

The study was conducted in Ojo Local Government Area of Lagos state, Nigeria. Ojo

L.G.A. was carved out of Badagry L.G.A. in 1996. It is bounded by Alimosho, Amuwo Odofin and Badagry L.G.As in the North, East and South-west respectively, with the lagoon in the South. The Local Government Area (LGA) has a population of 1,223 million people according to Nigeria census report of 2006.

The population of the study consists of all registered urban vegetable farmers in Ojo L.G.A. of Lagos state. Multi-stage sampling procedure was employed to select the respondents for the study. The first stage involved a purposive sampling of three out of eleven wards that make up Ojo L.G.A. because of their prominence in vegetable farming. These wards are Agric area, Iba area and Ojo area, each with 115, 121 and 84 vegetable farmers respectively registered in the local government office. From each of the sampled wards, a total of 40 respondents were selected using simple random sampling technique to give a total of 120 respondents. Data were analysed using descriptive statistics such as frequency counts and percentages, while PPMC was used to test the relationship between farmers' knowledge of social engagement and water management practices. Three Focus Group Discussions (FGDs) were conducted in the sampled wards to elicit information on the social engagement procedures used to combat water shortage and constraints to urban vegetable production in Lagos state.

Social engagement is the dependent variable. A dichotomous response of Yes and No was obtained to a list of social engagement activity items with respect to water management practices. Correct response attracts 1 mark, while incorrect response attracts zero. The maximum score was 20 and the minimum was zero. The mean score generated was 8.0 ± 3.5 . Mean and above was considered to be high social engagement practice and below mean was considered low social engagement

practice. Independent variables include demographic characteristics, knowledge of social engagement, sources and constraints to urban vegetable production in Lagos state.

Results and Discussion

Demographic Characteristics of Respondents

The result of the study revealed that most (73.3%) of the respondents were males, This could be because men could create more time for the demands associated with vegetable farming, particularly in such an environment with poor resource availability, unlike women who are still saddled with the responsibility of home care and house chores. This is similar to the findings of Obidike (2011), who discovered that most of the farmers (69.8%) in Nsukka Local Government Area of Enugu State were males and that of Ajah (2012), who also found 84.6% of farmer respondents in Abuja to be males. The highest number of the respondents (38.3%) was within the age bracket of 30 – 39 years. This shows that many of the urban vegetable farmers are in their active years. This will no doubt assist them to engage in this vocation, however demanding it might be and also be able to put in necessary joint-effort to realize the goal of their social engagement practices. The poor resource availability serves as a strong factor putting off those who are more advanced in age (10%), as they may not have the strength and vigour to struggle for it. The same thing applies to respondents below 20 years of age who might not have acquired enough experience, level of influence and self-confidence to confront these challenges.

Majority (59.2%) of the respondents are married, implying that most of them are men and women who bear responsibility of fending for their families. As a result, they will most likely be willing to participate in social engagement so as to keep themselves in the

Table 1: Respondents' Distribution According to their Demographic Characteristic

Sex	Frequency	Percentage
Male	88	73.3
Female	28	23.3
Missing Response	4	3.4
Age (years)		
Under 20	8	6.7
20 – 29	31	25.8
30 – 39	46	38.3
40 – 49	23	19.2
50 and above	12	10.0
Marital status		
Single	28	23.3
Married	71	59.2
Divorced	5	4.2
Widowed	11	9.2
Separated	5	4.2
Level of education		
No formal education	53	45.8
Primary education	33	27.5
Secondary education	29	24.2
No response	3	2.5
Farm size		
1 – 2 plots	18	15.0
2 – 3 plots	16	13.3
3 – 4 plots	21	17.5
4 – 5 plots	26	21.7
5 plots and above	39	32.5
Tribal Affiliation		
Yoruba	9	7.5
Igbo	27	22.5
Hausa	84	70.0
Income Generated Per Month		
₦1,000-5000	57	10.8
₦ 6,000-10,000	32	26.7
₦ 11,000-15,000	13	47.5
₦ 16,000-20,000	10	8.3
₦ 21,000-25,000	8	6.7

Source: Field survey 2012

business, rather than calling it a quit when there may be nothing to fall back upon. This is in consonance with the findings of Akinbile (2007) in his study conducted among rice farmers in Ogun state, who discovered that 97.5 percent of his respondents were married. Most of the respondents (45.8%) affirmed that they had no formal education. This is because majority of them are Hausa migrants who are mostly given to some forms of Islamic education rather than formal western education. However, this could have an adverse effect on their rate of innovation adoption.

The size of land available to each of these farmers for their vegetable farms reveals that land is a scarce resource for them. It is noteworthy that 32.5% of them cultivate more than 5 plots of land, which implies that a good number of the farmers were interested in expanding their vegetable farms. This is as shown on Table 1 that more of the farmers cultivate higher number of plots of lands, except for farmers cultivating 2-3 plots which could indicate new comers into the urban agriculture system. This is consistent with FAO (2005), which asserted that basic resources such as water and soil needed for agricultural production are in competition with other priority urban needs (drinking, industrial water use and infrastructure construction, etc.). There is real risk involved in food production in and near cities, just as there is also with the possibility of improving the urban environment if food production and forestry are not managed appropriately. The long-term viability of urban agriculture itself depends on how successful farmers and urban officials are at exploiting the potential environmental benefits, minimizing the problems, and finding ways to secure growers access to land.

On tribal affiliation, majority (70.0%) were Hausas from northern Nigeria, followed by the Igbo tribe (22.5%) from eastern part of the country. The implication is that the bulk of the vegetable farmers were migrants who were pulled by the economic benefit derivable in

Lagos other than their towns and villages. Table 1 revealed that majority (47.5%) realized between ₦16,000 and ₦20,000 per month, while the mean income was ₦12,450. This implies that the production of vegetable in Lagos state is economically viable and it is in consonance with the findings of Ogbonna (2012) who asserted that vegetable farming is a lucrative business in Lagos. It implies therefore that there is a ready market which can be used to scale-up production all through the year, using an effective social engagement approach for water management system that is environmentally friendly, economic viable and socially acceptable.

Pearson Product Moment Correlation Showing Relationship between Vegetable Farmers' Knowledge of Social Engagement and Water Management Practices

Inferential statistical result on Table 2 revealed that significant ($R=0.553$; $p<0.05$) relationship existed between vegetable farmers' knowledge of social engagement and water management practices. This implies social cohesion among group member which provides an opportunity to solve the problem of water shortage needed for vegetable production in the study area. This finding corroborated the focus group discussion report as one of the group put proverbially *“our group is one, the very reason for her effectiveness in solving common problems in urban vegetable business”*. This is consistent with Thomas (2011) who found group dynamics to be a veritable instrument of change among women in Southwestern Nigeria in a study to ascertain the effectiveness of social marketing on knowledge, attitude and practice of child nutrition by women in South Western Nigeria.

Descriptive Results of Focus Group Discussions (FGDs)

This section gives the descriptive results of the Focus Group Discussion (FGD) conducted during the study. Parameters assessed were the social engagement procedures used to combat water shortage and constraints to urban vegetable production in Lagos state. FGDs were conducted with vegetable farmers in the selected wards. This includes Agric area, Iba area and Ojo area. Each FGD included 10-12 discussants randomly selected from the list of vegetable farmers obtained from Ojo local government area office.

Social Engagement Activities

In all the FGDs conducted, discussants affirmed that communal deep well; group irrigation water arrangement, water reservoirs and flood control were products of the social engagement process used for water management practices in order to combat the water shortage problem. This implies that rain fed agriculture can no longer meet the water need of vegetable farmers for continuous supply. The outcome of the social engagement activities is consistent with Castillo and Namana (2007), they opined that focusing on livelihood gains by small-scale, individually managed water technologies holds great promise for poverty reduction in the semiarid and arid tropics. These include small pumps and innovative technologies such as low-cost drip irrigation, small affordable pumps, and small-scale water storage. These are affordable even for some of the poorest members of the community and can be implemented almost immediately, without the

Table 2: Pearson Product Moment Correlation Showing Relationship between Vegetables Farmers' Knowledge of Social Engagement and Water Management Practices

Variables	Mean	Std dev	N	p-value	r- value	decision
Knowledge of Farmers on social engagement	16.0659	3.4377	120	0.001	0.553	Significant
Water management practices	25.1978	7.1775				

long delays of large projects. Private investments in pumps have improved the livelihoods and food security of millions of farmers and pastoralists in Africa and Asia. In the long run these can be viewed as a first step, followed by additional investments in infrastructure. It allows for management practices to be responsive to these variations, some of which can be rapid.

In light of this submission, extension agent could through social engagement make vegetable farmers to graduate from communal deep well; group irrigation water arrangement, water reservoirs to small pumps and innovative technologies such as low-cost drip irrigation, small affordable pumps, and small-scale water storage that is cost effective to promote vegetable production and teaching that guarantees safety and quality of the water which satisfy the highest expectations of the food industry and consumers.

Constraints to Urban Vegetable Production

Problem tree analysis was used as a participatory approach to evaluate constraints to urban vegetable production during the Focus Group Discussion (FGDs). It aimed at promoting action and community-level change and ensures that the perspectives and insights of all stakeholders, beneficiaries are taken into consideration. A problem tree provides an overview of all the known causes and effect to an identified problem. This is important in planning a community engagement or behaviour change project as it establishes the context in which a project is to occur. Understanding the context helps reveal the complexity of life and this is essential in planning a successful change project.

The problem tree analysis revealed that acute water shortage is the major problem that limited year round production of vegetable in Ojo local government area of Lagos State. This condition necessitated reason why most farmers care little for water sources to water their vegetable plots. The root causes include

climate change, intense industrial and residential presence around the farm location, lack of public irrigation infrastructure and high cost of irrigation equipment, which have produced an effect of most farmers using any form of water regardless of the quality, environmental degradation resulting from digging wells to augment regular rainfall, low quality vegetable produce, high cost of vegetable and maintaining recommended hygienic safety practices for vegetable production.

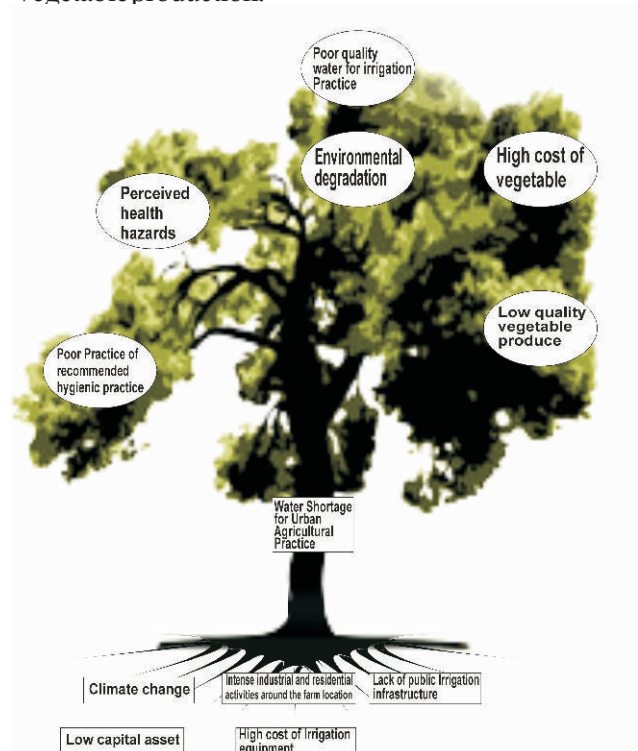


Figure 1: Result of Problem Tree on Social Engagement and Water Management Practices among Vegetable Farmers in Ojo Local Area of Lagos State, Nigeria

Conclusion and Recommendation

Global trends in population growth, along with urbanization and land-use changes, demand a strategic response to water risks. One of the most significant characteristics of water-related risks is that the impacts of our water use vary at each site. These impacts depend on the social, economic, and political factors. An appropriately chosen level of public participation will improve decision-making processes for water management practices. The hallmarks of good social engagement include trust, mutual respect, transparency,

and mutual understanding. Good social engagement makes sense on a practical level – it improves decision making, enables us to identify issues, including emerging impacts and risks, and ultimately, it can enhance vegetable production free of contaminants from water pollutants.

- Training needs assessment should be conducted on how to manage water better and plan future land uses in order to limit negative effects on water resources.
- Negotiated shared arrangements among urban vegetable farmers for water management should be encouraged. This could include integrated catchment (watershed) management.
- Public-private infrastructure development (for example for irrigation) between government and farmers, government and private developers should be encouraged among urban vegetable farmers.

References

2030 Water Resources Group: Charting our water future, 2030 Water Resources Group, London.

Akinbile L.A (2007). Determinants of Productivity Level among Rice Farmers in Ogun state, Nigeria. *African Crop Science Conference Proceedings* Vol. 8. Pp. 1339–1344.

Ajah Julius (2012). Effects of Farmers' Level of Education and Cooperative Membership on Access to Agricultural Extension Services in Abuja, Nigeria. *Trends in Agricultural Economics* 5 (4): 104-114, 2012.

Chioma P. (2010). Urban Farming: A way out of

the job market in Nigeria.

www.cityfarmer.info accessed on 22/08/2013.

FAO (2005). Urban and Peri-urban Agriculture. FAO urban agricultural.htm#P26_252 accessed on 26/08/2013.

Gina E. Castillo and Regassa E. Namana (2007). Reversing the flow: Agriculture water management pathways poverty reduction. In David Molden (Ed). Comprehensive assessment of water management in Agriculture. (pp 10-18) UK and USA: Earthscan publisher.

Obidike N.A (2011). Rural Farmers' Problems Accessing Agricultural Information: A Case.

Study of Nsukka Local Government Area of Enugu State, Nigeria. *Library Philosophy and Practice* 2011. <http://unllib.unl.edu/LPP/> accessed on 14/10/2013.

Ogbonna T.A (2012). Lagos and the challenges of urban farming. Ecojournalism.org/en/march2012/research/ accessed on 22/08/2013.

Prohaska T. R., Anderson L. A., Binstock R. H. (2012). *Public Health for an Aging Society*. JHU Press. pp. 249–252.

Ruaf Foundation (2012). What is urban agriculture? www.ruaf.org accessed on 26/08/2013.

Thomas, K.A (2011) Effectiveness of Social Marketing on Knowledge, Attitude and Practice of Child Nutrition by Women in South Western Nigeria, Unpublished Ph.D thesis

World Resources Institute, (1997). World Resources 1994-1995. Report by the World Resources Institute in Collaboration with UNEP and UNDP. Oxford: Oxford University Press, 1997.





Uses of Mobile Telephone in Selected Activities in Akpor Rural Communities of Rivers State

Nlerum, F.E. and Jacob, J.B.

Department of Agricultural and Applied Economics/Extension,
Rivers State University of Science and Technology, Port Harcourt

Corresponding Author

E-mail: frankezi@yahoo.com

Abstract

The study determined the uses of mobile telephone in selected activities in Akpor rural communities in Obio/Akpor Local Government Area of Rivers State, Nigeria. Questionnaire was used for data collection from 60 respondents that were randomly sampled in the study area. Frequency count and percentage were used for data analyses. Results indicated that the major (70.1%) owners of mobile telephone were traders, while farmers were the least (1.7%). MTN was the main service provider to 83.31% of the respondents, while Nokia with 88.3% was the main type of mobile phone owned by respondents. Further, the findings indicated that the major social use of mobile phone was socialization with friends and relatives (100.0%). This was followed by reduced hazard of movement (91.7%) and reduced rural-urban migration (86.7%). Contact with agricultural extension services had the least (5.0%) use. The study recommends that more farmers should purchase mobile phones, especially for enhanced contact with agricultural extension services.

Keywords: Uses, Mobile telephone, Rural communities, Rivers State.

Introduction

Mobile telephone which is an electronic telecommunication device is also referred to as cellular phone or cell phone. It connects to a wireless communication network through radio wave or satellite transmission. Most mobile phones provide voice communication, short message service, multimedia message service, e-mail and web-browsing. Mobile telephone is a major component of the Information Communication Technology which today has made the world a global village.

In a well-being study as this, consideration is given to the improvement in the general life of a given people in a location. For this study, the well-being of rural communities that could be obtained by the use of mobile telephone as a component of the Information Communication Technology was examined. Lack of the use of mobile phone in rural communities lead to such problems as inadequacy of the following: socialization, communication, information on market prices, employment, income generation, security, extension service contact, etc. In as much as 70% of the African population lives in the rural communities (Nwachukwu, 2008), the introduction and the use of mobile phone

would play immense role in narrowing the divide which exist between inhabitants of the rural communities and those of the cities in Africa.

Aker and Mbiti, (2010) examined the growth in the use of mobile phone over the past decade and considered that it has potential impact upon quality of life in low income countries with a particular focus on Sub-Sahara Africa. They opined that while current researchers suggest that mobile phone has got positive uses in agriculture, labour market efficiency and social welfare in certain countries, empirical evidence to prove this was still somewhat limited. This insufficient empirical evidence created a knowledge gap which needs to be filled. The problem therefore of this study was to provide empirical evidence of the uses of mobile phone in the study area. In order to address the problem, therefore the research question was, what are the uses of mobile phones in some selected activities in Akpor rural communities? In order to provide answers to the research question, the objectives of the study analyzed socio-economic characteristics of the respondents, determined the service providers of mobile phones to respondents, identified the types of mobile phones owned by respondents, and analyzed the socio-economic uses of mobile phones by respondents.

Methodology

The study was carried out in the Akpor rural communities of Obio/Akpor Local Government Area (OBALGA) of Rivers, Nigeria. The rural people of Akpor are predominantly farmers. Fishing is also done in smaller scale. However, trading which is very high among the non-natives who inhabit the area is also practiced by the Akpor natives. The major communities in Akpor clan are Alakahia, Choba, Egbelu, Eliparanwor, Mgbuakara, Ogbogora, Owhipa, Ozuoba, Rumuekini, Rumuokwachi, Rumualogu, Rumuolumeni and Rumuosi.

The population of the study was made up of mobile telephone owners in the study area. The multi-stage sampling involving both the random and purposive sampling methods were used in selecting 60 respondents which constituted the sample size of the study. Initially, random sampling method was used in selecting five out of the thirteen communities of the Akpor clan. Following this procedure, the purposive sampling method was used in selecting 12 mobile phone owners from each of the five sampled communities to have a sample size of 60 respondents. The interview schedule was the instrument used for the gathering of primary data for the study. Frequency and percentage were used for data analyses.

Results and Discussion

Table 1 which is the socio-economic characteristics of mobile phone owners, shows that 50.0% of the respondents were males, while 50.0% were females. This result tends to imply an equal ownership of mobile telephone between men and women in the area. The highest age range of mobile phone ownership was 25-34 years which accounted for 63.3% of the respondents.

This was followed by the age range of 15-24 years, which had 28.3%. This finding shows that mobile telephone ownership in the area was more with the middle age class. This assertion is supported by the fact that there was no response by younger respondents of below 15 years and the older once of 45 years and above. The fact that there was no response for respondents of 45 years and above appear to imply that in this study area, as the respondents gets older, their ownership of mobile telephone reduces.

Table 1: Socio-economic Characteristics of Mobile Telephone Owners.

Characteristics	Frequency	Percentage (%)
Sex		
Male	30	50.0
Female	30	50.0
Total	60	100.0
Age (in years)		
Below 15	17	28.3
15 – 24	38	63.3
25 – 34	5	8.3
35 – 44	-	-
45 and above	60	100.0
Total		
Marital Status		
Married	40	66.7
Single	20	33.3
Total	60	100.0
Occupation		
Applicants	3	5.0
Farming	42	70.0
Trading	2	3.3
Civil or Public Servants	12	20.0
Students	60	100.0
Total		
Educational Status		
Non-formal education	6	8.3
Primary school	43	71.7
Secondary school	12	20.0
Tertiary education	60	100.0
Total		
Commencement of Mobile Phone Ownership (in years)		
Less than 1	8	20.0
1 – 4	28	51.7
5 - 9	24	28.3
Total	60	100.0

Source: Field Survey, 2012

Findings in Table 1 also shows that more (66.7%) of the respondents were married. This finding tends to connote that there are more married than unmarried mobile phone owners in the study area. From occupation point of view, telephone ownership was highest (70%)

among traders and least (1.7%) among farmers. The fact that telephone ownership was highest among traders could be traceable to the various contacts traders maintain with their numerous customers and the fact that they appeared to be more economically viable in many rural communities. The poor ownership of mobile telephones among farmers imply that majority of farmers in the area are shut out from the benefit of mobile phones in terms of contacts with farm input suppliers, extension agents, and the market for sale of their farm products. The study shows that all the respondents have got one form of education or another with majority (70%) indicating that their highest level of education was secondary school. The fact that all the respondents are educated is traceable to the fact that education is important for effective mobile phone access. This is because mobile phones come with instructional manuals which illiterates would find difficult to access. The highest duration in the commencement of mobile phone ownership in the study area was 1– 4 years by 51.7% of the respondents. This connotes that many of the respondents are late users given the fact that mobile phone has been in use in Nigeria since 2002, being the last 12 years. The fact that the respondents are rural dwellers may justify the reason for this late commencement in the use of mobile telephone in the area.

Mobile Telephone Service Providers in the Study Area

MTN was the highest service provider in the area as indicated by majority (83.3%) of the respondents in Table 2. The second was ETISALAT with 33.3% response. The third was GLO as mentioned by 21.7% of the respondents. The higher network stability, advertisement, sales promotion activities and customer care services usually associated with MTN as is the case with the various media in the country may have been responsible for it becoming the highest network provider to these rural respondents.

Table 2: Percentage distribution of service providers of mobile phone to respondents (n=60).

Service Providers	Frequency (n=60)	Percentage (%)
MTN	50	83.3
GLO	13	21.7
ETISALAT	20	33.3
ZOOM	-	-
STARCOM	2	3.3
VISAFINE	2	3.3
AIRTEL	7	11.7

Source: Field Survey, 2012.

Multiple responses were allowed.

Types of Mobile Phone used by Respondents

The type of mobile phone mostly owned in the area as indicated by 88.3% of the respondents was Nokia (Table 3). This finding agrees with the study of Pathel and Ratrod (2011) among the rural students of Visnaga, Gujarat of India. The second was blackberry with 20.0% response. The third, as shown by 11.7% of the responses was etisalat.

Table 3: Percentage distribution of types of mobile phone owned by respondents.

Types	Frequency (n=60)	Percentage (%)
Nokia	53	88.3
Samsung	5	8.3
Techno	4	6.7
Blackberry	12	20.0
Visafone	2	3.3
Etisalat	7	11.7
Airtel	1	1.7
Glo	6	10.0
Motorola	1	1.67

Source: Field Survey, 2012.

Multiple responses were allowed.

Socio-economic Uses of Mobile Phone to Users in the Study Area

Table 4 indicates that the primary use of mobile phone to the respondents with 100.0% was socialization with friends and relatives, with the mobile telephones, communication with dear ones were made easier.

Table 4: Distribution of social and economic uses of mobile phone to users area (n=60).

Roles	Percentage (%)
Social Uses	
Socialization with friends and relatives	100.0
Reduced hazard of movement	91.7
Internet browsing	56.7
Reinforcement of peer group	56.7
Sense of security	58.3
Reduced rural-urban migration	6.67
Invitation of fire service	73.3
Public enlightenment	86.7
Monitoring of election	35.0
Narrowing the rural-urban divide	63.3
Reporting of crimes	6.7
Economic Uses	
Reduced cost of communication	78.8
Advertisement of products	31.7
Information on market prices	78.3
Contact with agricultural extension services	5.0
Employment of others	35.0
Mobile banking	8.3
Bank alerts	78.3
Self employment	31.7
Income generation	56.7

Source: Field Survey, 2012.

Multiple responses were allowed.

This finding agrees with an earlier study of Ling(2001) which showed that girls and young adult men have adopted the use of mobile phone as their major way of socializing and maintaining real time relationships. The finding also agreed with the later study of Vaceres and Ardevol (2012)where communication with relatives and friends was the highest impact of mobile phone among Asille and Taraco rural users in Peru. Reduced hazard of movement which accounted for 91.7%of the response was the second use of mobile telephone to the respondents. This result has confirmed that the use of mobile phone has actually reduced the rate of traveling and therefore the rate of hazards resulting from both intra and inters city movements. Reduced rural-urban migration, which accounted for 86.7% of the response, was the third use of mobile phone to these respondents. With the mobile phones, rural dwellers are able to keep in contact with urban areas thereby reducing their desire to relocate

their abode to the cities. Further analyses show that four variables were indicated as the fourth use of mobile phone by the respondents. These four variables with 78.3% response each were: reduced cost of communication, information on market prices, bank alert and public enlightenment. The results in Table 5 generally implied that mobile telephone usage in the area made beneficial contribution in the social and economic well-being of these respondents.

The findings however showed that the least role of mobile phone in the area was for accessing agricultural extension as mentioned by 5.0% of the respondents. This finding connotes that the respondents are falling short of the result in the study of Balarinwa and Oyeyinka (2011) in Oye State Nigeria, where the ownership of mobile phone by farmers was responsible for increased contact with agricultural extension agents. The fact that accessing agricultural extension information was the least impact of mobile phone in the area is expected since Table 1 has already shown that only as low as 1.67% of respondents who owned mobile phone in the area were farmers.

Conclusion and Recommendations

The study has shown that mobile telephone has got important social and economic uses in the well-being of rural communities in such activities as socialization with friends and relations, reduction of hazards of movement, reduced rural-urban migration, reduced cost of communication and provision of information on market prices. Contact with agricultural extension services was the least use of mobile telephone to the respondents. The study has further shown that while MTN was the primary service provider in the area, Nokia was the major brand of phone used by the respondents. While traders were the highest users of mobile

phone in the area, farmers were the least. By these findings, empirical evidence on the uses of mobile phone in the area has been provided. The study recommends increase in the ownership of mobile phones by farmers as this will enhance their contacts with agricultural extension services, input suppliers, fellow farmers and market outlets.

References

- Aker, J.C. & Mbiti, I.M. (2010). Mobile phone and economic development in Africa. Center for Global Development,, Working Paper, Number 211, accessed on 25th of June 2013 from Ssrn.com/so13/papers.Cfm%3fa.
- Bolarinwa, K.K., & Oyeyinka, R.A. (2011). Use of cell phones by farmers and its implication on farmers' production capacity in Oyo State, Nigeria. *World Academy of Science, Engineering and Technology, Issue, 75*, 654-659.
- Caceres, R.B. & Ardevol, M.F. (2012). Mobile phone use among market traders at fairs in rural Peru. *Information Technology and International Development*, Fall 2012, 8(2), 35-52.
- Ling, R. (2001). Adolescent girls and young adult men: Two subculture of the mobile telephone Research and Development Report, (34/2001), Kjeller, Telenor.
- Nwachukwu, I. (2008). *Planning and evaluation of agricultural and rural development projects*. Umuahia, Nigeria: Lamb House Publishers, pp. 1.
- Patel, A., & Rathod, H.S. (2011). Mobile phone usage habit of students commuting from rural areas to nearby towns. An explanatory study of Visnaga, Gujara, India. *Global Journal of Management and Business Research*, 11, (issue 6, version 1), 31-38.





PROCEEDINGS

of the

22nd ANNUAL NATIONAL
Congress
of the

NIGERIAN RURAL SOCIOLOGICAL ASSOCIATION (NRSA)