

A Review of Small holder Farming in Nigeria: Need for Transformation

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Abstract: By international standard, a farm that is less than 10 hectares is classified as small scale. More than 80 percent of farmers in Nigeria are small holder farmers. Agriculture is a major contributor to Nigeria's gross domestic product (GDP) and small-scale farmers play a dominant role in this contribution. A small scale farmer depends on his efficiency in the utilization of basic production resources available to him. He makes a significant and important contribution to the national product, about 99 percent of total crops output. The small scale farmer is the main producer of 98 percent of the food consumed in Nigeria with the exception of wheat. Over the years, deliberate efforts have been made to improve agricultural production by Nigerian governments and some foreign bodies but these efforts have not yielded expected results. Much of the failure can be attributed to different constraints that militate against small holder farming in Nigeria which include economic, political and financial constraints. The failure can also be attributed to the adapted transformation approach to agriculture which is characterized by the introduction of a wide variety of large scale farming and processing technologies. The emphasis is now from the big scale transformation approach to the small scale improvement strategy approach which is attuned to Nigerian age-long farm practice. This study reveals certain constraints militating against efficiency in small holder farming in Nigeria and suggests many ways to transform the activities of the farmers for enhanced productivity. Some recommendations are made which includes, Nigerian governments should encourage the participation of private sector in supplying farm inputs to ensure steady and timely supply of such inputs, etc.

Key words: Small holder farmers • Agricultural production • Inefficiency • Transformation approaches

INTRODUCTION

As agricultural land in developed countries shrinks because of urban expansion, food production is gradually being a critical resource which Africa can supply to the world. The cost of producing food in first world countries is extremely high and land is scarce; but on the other hand, sub-Saharan Africa has enormous natural, physical and human potential. The focus of the agricultural finance donor community has shifted away from food aid and is now focused on developing small farmers and establishing food security. The stage is being set for food production in Africa to gain momentum. Africa's small farmers are unique in that they generally have access to land that is free (communally held) or can be used at a relatively low cost. This free/low cost land provides farmers with a significantly lower cost structure.

Nigeria alone has a land area of 98.3 million hectares, with 74 million hectares good for farming; yet half of its arable land has not been exploited to produce crops and livestock to stem the threat of hunger and poverty through efficient production system [1]. It is obvious that from growth point of view, opportunities exist in Africa's agriculture sector. In Nigeria, with small-scale farmers no doubt, having a lot to benefit in a situation where there is a favourable operating environment. Small-scale farmers are the suppliers of food to the tables of Nigerians. In fact, a report has it that more than 80 per cent of the total farmers, including medium and large ones, are small scale farmers [2]. They are the backbone of the Nigerian agricultural sector and deserve every support to produce more food, grow more raw materials for the agro-industrial sector and contribute in ending a food supply deficit that costs the country US\$10 million in food import annually.

Dambatta (2012) [3] reports that the agricultural transformation component of the transformation agenda of the administration of President Goodluck Ebele Jonathan is expected to generate at least 3.5 million jobs through the value chains of various commodities and turn agriculture into business that can create wealth for farmers. They operate at subsistence, smallholder level, with intensive agriculture being uncommon. A characteristic feature of the agricultural production system in Nigeria is that a disproportionately large fraction of the agricultural output is in the hands of these smallholder farmers whose average holding is about 1.0-3.0 hectares. According to Federal Office of Statistics (1999) [4], smallholder farmers are farmers whose production capacity falls between 0.1 and 4.99 hectares holding.

There is very limited access to modern improved technologies and their general circumstance does not always merit tangible investments in capital, inputs and labour. Agriculture sector being a major employer in Nigeria notwithstanding, yet provides a decreasing contribution to National Gross Domestic Product (GDP). Certain factors are responsible for these inefficiencies in small scale farming in Nigeria. This has come about through the persisting dry conditions that small holder farmers experience. These farmers lack agriculture information and this is a factor that promotes ignorance of modern farm technologies in the farmers hence the constraint requires more attention than it now gets. These farmers also operate under high costs of production that affects both the commercial and small-scale farmer and most importantly other constraints against small holder farmer. Small holder farmers in Nigeria have limited access to credit facilities which reduces their productivity to a great extent. In spite of the fact that Nigeria has a lot of cultivable land, a great percentage of it is being converted other uses than agriculture. One of the most destructive factors that hinder productivity in small scale farming is lack of market because it impoverishes and discourages them from production. In addition to these challenges, Obiechina (2012) [5] points out that the main reason for poor performances of small-scale farmers is due to brazen lack of commitment by all tiers of governments to implement the right policies.

This paper therefore reviews small holder farming in Nigeria: Need for transformation; examines different constraints that contribute to the ineffectiveness of small holder farmers in Nigeria such as lack of information to farmers, limited access to modern agricultural technology, lack and high cost of inputs, land tenure system, inadequate agricultural credit, poor access to marketing

information and extension needs of farmers. It also examines sources of information to small holder farmers on their different production needs, proposes some solutions to these constraints. Some recommendations for transformation of small holder farming in Nigeria were also made. This paper relied on current literature, oral interview and observations on the nature of small scale agricultural production in Nigeria.

Constraints Militating Against Small Holder Farming in Nigeria

Lack of Information to Small Holder Farmers: Information is an essential ingredient in agricultural development programmes but Nigerian farmers seldom feel the impact of agricultural innovations either because they have no access to such vital information or because it is poorly disseminated. Often, agricultural information is not integrated with other development programmes to address the numerous related problems that face farmers. There are some limiting factors and apparent constraints to agricultural information dissemination in Nigeria, including status differences between extension agents and their clients; agents' inadequate knowledge of how communication works; lack of interagency cooperation both in programme planning and implementation; and the extension's general lack of interest in traditional media.

The ineffectiveness of small holder farmers in Nigeria can also be attributed to the treatment of information delivery as a matter of course by most African governments. The non-provision of agricultural information is a key factor that has greatly limited agricultural development in developing countries. Ozowa (1995) [6] observes that the agricultural information provided is exclusively focused on policy makers, researchers and those who manage policy decisions with less attention paid to the information needs of the targeted beneficiaries of the policy decisions.

It is safe to assert that the information needs of Nigerian small scale farmers revolve around the resolution of problems such as pest hazards, weed control, moisture insufficiency, soil infertility, inadequate farm credit, labor shortage, soil erosion and so forth. Ozowa (1995) grouped the information needs of small holder farmers into five headings: agricultural inputs; extension education; agricultural technology; agricultural credit; and marketing. Modern farm inputs are needed to raise small farm productivity. These inputs include fertilizers, improved variety of seeds and seedlings, feeds, plant protection chemicals, agricultural machinery, equipment and water. An examination of the factors influencing the adoption and continued use of these inputs will show that

information dissemination is a very important factor. There are many improved agricultural innovations from our universities and research institutes not properly diffused.

Limited Access to Modern Agricultural Technology:

There is very limited access to modern improved technologies and their general circumstance does not always merit tangible investments in capital, inputs and labour. Agricultural technology for the small scale farmer must help minimize the drudgery or irksomeness of farm chores. It should be labour-saving, labour-enhancing and labour-enlarging.

The farmer needs information on production technology that involves cultivation, fertilizer application, pest control, weeding and harvesting. This sort of information is at the moment being diffused by extension workers, other farmers, government parastatals and agricultural equipment dealers but the impact is yet to be felt.

Lack and High Cost of Farm Inputs: The International Food Policy Research Institute, in its Nigeria Strategy Support Programme document says that the average small-holder farmer in Nigeria does not have access to sufficient fertilizer for one hectare. Yields require a combination of education through extension services, access to appropriate and timely inputs as well as access to finance to purchase inputs [7]. International Fund for Agricultural Development (IFAD) (2009) [8] observes that a number of negative factors that militate against high productivity in small scale farming in Nigeria include: (i) a large proportion of small-scale agriculture is uncompetitive and is neither profit-/business- oriented nor sustainable; (ii) there is a vicious circle of low productivity and income, total shortages of cash and limited investments or input availability/use; and (iii) the lack of market access and of credible processing and trading outlets also hinders improvements in or expansion of production. For example, an effective distribution system is needed to give smallholders access to fertilizer at affordable prices and help them remain competitive. The existing seed and planting material industries are underdeveloped and supplies are often of substandard quality.

Land Tenure System: Among the major problems facing the small scale farmers is land for farm use in promoting agricultural development because of the land tenure system that Nigeria operates. [9], reports that acquisition of land for new entrants into farming is one of the

agricultural roles of local government councils that has not been achieved. Small scale farmers lack capital, hence they do not acquire land for agriculture. Unavailability of land is one of the serious problems militating against small scale farming in Nigeria.

Inadequate Agricultural Credit: Small-scale farmers' productivity and growth are hindered by limited access to credit facilities [10]. According to the authors, agricultural credit encompasses all loans and advances granted borrowers to finance and service production activities relating to agriculture, fisheries and forestry and also for processing, marketing, storage and distribution of products resulting from these activities. Enhancing Financial Innovation and Access (EFInA) (2008) [11] notes that 23 percent of the adult population in Nigeria has access to formal financial Institutions, 24 percent to informal financial services, while 53 percent are financially excluded.

Odoemenem and Obinne (2010) [12] also report that the ratio of rural branches to total branches of formal (commercial banks, the Nigeria Agricultural and Cooperative Rural Development Bank (NACRDB) credit institutions is low compared to informal (money lenders and thrift savings and credit associations) and semiformal (non-governmental organizations- institutions) ones and this constitutes a limitation of small-scale farmers' credit access in Nigeria. Okojie *et al.*, (2010) [13] report that the poor have limited access to financial services and the main source of finance for the majority of rural women in Edo state is their contribution to the savings/market associations.

The important role of credit in agricultural enterprise development and sustainability has prompted the Federal Government of Nigeria (FGN) to establish credit schemes such as the Agricultural Credit Guarantee Scheme (ACGS) and Agricultural Credit Support Scheme (ACSS) to ensure farmers' access to agricultural credit (Badiru, undated). Yet, the situation has not improved substantially. Based on the 2006 Core Welfare Indicators Questionnaire Survey, it is estimated that only 18 percent of farm households (mainly small- scale farmers) have access to financial services [14]. The author also states that small-scale farmers are among the potential beneficiaries of agricultural credit in Nigeria but because of their low level of literacy they are mostly unaware of existing loan facilities. While the medium and large scale farmers, who are mostly educated and well connected to the government in power access soft loans from financial institutions based on their collateral, the small scale, otherwise known as peasant farmers, do not have access to these basic facilities for the growth of their profession.

Marketing: Marketing comprises all business activities involved in the movement of commodities from production to consumption. [15], observes that increase cost in of transportation is the major problem facing marketing of agricultural products in Nigeria.

The farmer's market information needs are those that enable him make rational and relevant decisions. [16], observes that market information services have the function of collecting and processing market data systematically and continuously and of making it available to market participants in a form relevant to their decision making. The author reiterates that market information needs of small scale farmers include:

- Information on product planning. This is information on what crop and variety to grow at a given season with marketability of such a crop as an important deciding factor.
- Information on current prices.
- Information on forecast of market trends. This type of information assists farmers in planning their market products.
- Information on sales timing. This assists farmers in ensuring that they do not cause a market glut. It enables them to stagger harvesting and quantity for marketing.
- Information on improved marketing practices. It includes information on improved harvesting methods. This information is disseminated by field level extension workers by demonstration on farmer's fields, at local and wholesale markets.
- Information on group marketing. This enables small scale farmers to have organized sales of marketable surplus and bulk transport of produce.

In Nigeria, agricultural market information to small scale farmers is provided by the Ministry of Agriculture through the field level extension workers and broadcasting media. There is need for proper training of those in charge of market information in Nigeria.

Extension Education Needs: The general lack of awareness among small scale farmers can be attributed to their high level of illiteracy. This contributes to the low level of adoption of agricultural production technology. Extension is a type of education which is functional rather than formal. It is better provided by extension workers whose main task is to convey information in a meaningful form to farmers. One of the ways they do this is by training a group of model contact-farmers with the hope that such farmers come in contact with other farmers. This

trickle- down effect is particularly necessary because farmers outnumber available extension workers with the present ratio of 1:3000.

Another major constraint to agricultural information dissemination is the inadequacy of existing extension programmes. Some of these programmes are conceived without well thought out plans and are prepared in a hurry without the farmers whose attitudes are to be changed making any input. Such agricultural information packages can neither sustain the farmers' interest nor effect the desired attitudinal change. Many people in extension are ill-prepared for extension. The emphasis in their training is more on technical proficiency rather than on rhetorical and persuasive skills. An extensionist trained in this way is unlikely to make an impact on a conservative farmer who is not likely to put his farm inputs to risk by trying the extensionist's improved technique. There is real need for extension agents training to be relevant to their jobs at the grassroot [17].

Sources of Information to Small-scale Farmers: An oral interview held with a group of farmers by the author reveals that farmers obtain agricultural information from the following sources: television, agricultural radio programmes, Agricultural Development Projects (ADP), Field days, fellow farmers, agricultural Igbo radio programmes and Ministry of Agriculture. They affirm that the types of information they obtain from these sources include: agricultural production, processing and storage packages of crops such as cassava, yam, sweet potato andsoyabean, agricultural practical on crop and livestock (such as poultry birds, sheep and goats) production, production recommendations on sole maize production, extension service delivery of ADP, yam/cassava/maize intercropping and income –generating activities. The farmers also get information on production recommendation such as planting spacing, use of improved varieties of cassava crop etc., late cassava/maize, early weeding, planting and harvesting in yam/cassava/maize intercrop, etc.

Solutions to Constraints That Hinder Productivity of Small-scale Farmers in Nigeria: Generally, it is recommended that politicians be encouraged to have Farmer Support Programme to provide support, to promote economic and market development, to sustain adequate on-farm incomes which promotes stability, competitiveness, growth and transformation in the agricultural sector in Nigeria. The following are solutions recommended for different constraints of small- scale farmers in Nigeria:

Agricultural Credit Constraint: Agricultural lending institutions should ensure that increased efficiencies are realized at every step as Stanbic IBTC Bank applies in its lending model [18]. There should be provision of a system through which small farmers can improve efficiencies in all areas, including accessing inputs, improving yields, making linkages, infrastructure development and skills transfer. Taylor, an agriculture funding expert of Stanbic IBTC Bank urges Nigerian small farmers to key into the recent alliance between the Central Bank of Nigeria and the Alliance for a Green Revolution in Africa, a fund for small Africa's smallholder farmers to which Standard Bank Group, the parent company of Stanbic IBTC Bank, has made \$100m available for lending for three years, involving countries, like Ghana, Uganda, Tanzania and Mozambique. The lending structure makes use of a cooperative mechanism that includes linkages to formal markets that provide minimum price guarantees (thus mitigating price risk), includes weather index insurance (to mitigate climate risk) as well as training and mentorship. The cooperative structure allows farmers to consolidate their bargaining power which reduces input costs and contributes to economies of scale in terms of output and market access.

The Central Bank of Nigeria (CBN) has recently initiated a new agricultural financing paradigm called Nigeria Incentive-based Risk Sharing System for Agricultural Lending (NIRSAL) that took off in 2012. This paradigm aimed at providing farmers with affordable financial products, while de-risking agriculture and unlocking the access of input suppliers, farmers, agro-processors and product marketers in the agricultural value chain financing from financial institutions. It is estimated that it will take N77.5 billion for its implementation. This is hoped to have a great positive impact on agricultural production in Nigeria and economically empowers smallholder farmers and other rural dwellers.

It is suggested that with the government of the day already implementing several programmes aimed at promoting best practices in agricultural development, including Fadama111 and others being implemented by the Federal Ministry of Agriculture, farmers should get closer to the relevant authorities to know how they can fit in and subsequently benefit from the schemes.

Information Needs of Farmers: FAO (2003) [15] observed that farmers can improve agricultural productivity and ensure food security when up-to-date information is provided using appropriate languages and formats and delivered through proper communication channels. If the approaches to agricultural development programmes are

to work, Nigerian governments need to take new approaches to information dissemination and management that grow out from a clear understanding of what farmers information needs are. Information gets to small scale farmers usually through channels such as relations, friends, neighbors, government officials. Grassroot organs such as village heads and local government officials are used to diffuse such information because of their personal touch with small-scale farmers. Mgbenka and Agwu (2011) [10] suggest that the most effective communication platforms that extension agents use to effectively disseminate information to farmers are those that promote face-to-face interactions such as discussion, visit to farmers, field day, meetings, etc. These platforms can be maintained by adequate government funding and staffing of extension agencies and research institutes.

Apart from the use of extension for diffusion of agricultural innovation, other channels like rural development field staff, contact farmers, school teachers, private sector agri-business people, staff of the Ministry of Agriculture and the electronic and print media are effective. These channels have their strengths and weaknesses. To strengthen the efforts of the print and broadcasting media in ensuring proper agricultural information dissemination to farmers, the Media Forum for Agriculture, was formed by media practitioners from all over Nigeria in 1989 with the aim of providing better support for agriculture by improving the quality of agriculture coverage in the media.

Extension Education: Extension agents need to intensify their efforts in educating farmers to increase their level of awareness. Of all the existing channels of agricultural communication, Nigerian farmers rank extension highest in terms of providing credible information and advice, especially on agricultural technology (FAO, 2003) [15]. A major function of extension is to get the farmer into a frame of mind and attitude conducive to acceptance of technological change. The use of fertilizers, for example, is fairly widespread in the middle belt region of Nigeria where information about fertilizers is well diffused. Effective services of extension can be sustained by adequate government funding and staffing of extension agencies and research institutes.

Land Tenure: Local governments are better placed in acquiring large areas of land for farm purposes and distribution to intending farmers (especially new entrants according to Land Use Act of 1978) with token being collected as annual rent. The LGs are nearest to the communities and therefore can engage community heads

in discussion on the importance of making such land available. Also, LGs should ensure that land preparations equipment such as heavy duty equipment to open the land and tractors are available for farmers to use at appropriate time and at a subsidized rate.

Agricultural Technology: Nigerian governments should encourage research institutes and universities to carry out more researches and equip the extension system more to disseminate the research findings effectively to farmers. The government and private sector should also increase financial assistance to small scale farmers for practical application of the research findings.

Additionally, farmers have achieved some level of efficiency through deployment of their indigenous knowledge. If provided with the right inputs, feasible technology and relevant information, they are capable of transforming traditional agriculture.

High Cost of Inputs: Dambatta (2012) [3] reports the newly-introduced e-Wallet and voucher system for delivering subsidised seeds and fertilisers (agro-inputs) to small-holder farmers in the country. It is a new innovation that is designed to ensure that small-holder farmers in Nigeria actually benefit from the system by accessing the inputs at affordable prices or free as in the case of seeds. The innovation is tagged Growth Enhancement Support scheme (GESS). It is a system whereby the government does not engage in direct purchase of fertilizers but agro dealers and suppliers deliver their wares to the markets for the farmers to procure their needs without going through any intermediary. Indeed, the system is barely 11 months old in Nigeria and as it is making its debut in the 2012 wet season to cover 4.3 million registered farmers. They were registered in the initial round of the registration exercise scheduled to end in 2015 when at least 20 million peasant farmers would have been registered. They now actually pay for and collect their subsidized fertilizers and free improved seeds. For them, the e-wallet has worked and they smiled home, each carrying his two bags of fertilizers and a bag of seeds. This is an important achievement and a paradigm shift that takes care of the agro-inputs needs of the small-holder. The Governors of states that are participating in the GESS have praised its efficacy in delivering the inputs to the targetted beneficiaries.

This seems to be an answer to a call for availability of farm inputs, which include good quality planting materials that are early maturing, high yielding, pest and disease resistant, etc. and availability of fertilizers. It is essential

that other agro-chemicals such as herbicides, pesticides and those that control diseases are available at the time of need; this is essential for good harvest likewise in fish and livestock farming. This will increase production and large area of land would be cultivated by farmers when they are sure of getting inputs at the right time and price. It is recommended that the federal and state governments extend this GESS programme to all the states of the federation and increase the number of farm inputs involved.

According to Dambatta (2012) [3], the Federal Government has also announced measures to overcome price volatility such as Guaranteed Minimum Prices (GMP) for maize, millet, gari, dry cassava chips, soyabeans, sorghum and paddy rice to ensure that farmers sell their produce at competitive price, get protection from glut and fully recoup their investments in food production and earn sustainable income. More crops are being considered under the GMP to expand the safety net against poor prices for our hardworking farmers. These measures if properly implemented will transform small scale farming in Nigeria.

Additionally, IFAD, (2009) [8] reports that the Country Programme Evaluation (CPE) findings suggest that there are three key elements to renewing the focus on small-scale farming which will help transform small scale farming and equally improve the lives of small holder farmers. These include:

Ensuring Farmers' Access to Inputs and to Markets for Outputs: The private sector should be encouraged to participate in the supply of inputs which would lead to a gradual reduction of the role of the state in this area. It should also be the main driver of competitive commodity value chains and the promoter of farmer group/out-grower marketing schemes, with Government providing an enabling environment for commercial operations. Small farmers must be helped to organize themselves into viable associations or groups that would enable them to respond to market demands.

Public-Private Partnerships: Such partnerships would ensure an integrated approach to producer, processor, trader and marketer arrangements. The most successful precedents in Nigeria have involved clusters of farmers being organized around major agro-based industries, notably in the supply of rice and other cereals for processing and food manufacture. The private sector's willingness to participate in such arrangements is likely to depend on the Government's commitment to: (i) financing the social element of basic transport and handling

infrastructure; (ii) providing policy continuity for and judiciously applied subsidies to, small farmers; and (iii) undertaking an active programme of sensitization, advocacy, training and mentoring of State and LGA agencies and their field staff with regard to development approaches, partnerships and collaboration.

Provision of Business/technical Advice and Services:

The lack of reliable access to credit is a major impediment to improving small farm operations and enhancing the livelihoods of rural households. Priority attention should be given to resolving the problem of microfinance in much greater depth across Nigeria. The national agricultural research institutes are potential sources of much more effective advice and services, particularly if they are better resourced and their operating paradigms are oriented to the commercial, rather than just the technical/scientific, aspects of agriculture. IFAD support is required for commodity-based marketing groups and for marketing information systems. Finally, in its efforts to support the renewed focus on small farmers, IFAD is in a strong position to take advantage of its experience in West Africa, other parts of the continent and elsewhere. This implies pro-active and strategic use of knowledge management and policy dialogue.

CONCLUSION

Small-scale farmers make up to 80% of farmers in Nigeria and produce a substantial percentage of the food consumed by Nigerians. These farmers are producing below their capacity because of numerous challenges they experience. Different governments have had many programmes to solve some of the constraints that militate against the farmer's efficiency but they are yet to produce enough for Nigerian citizens to stop food importation. Many solutions to the problems have been proposed by many authors. If these proposals are put into practice, inefficiency in small-scale production in Nigeria could be overcome.

Recommendations: The following are the recommendations of the study:

- Nigerian governments should provide storage and marketing facilities to buy and store produce from farmers at good prices during harvesting seasons when the farmers over produce. This will prevent the farmers from incurring some losses that can discourage or drastically affect their production in subsequent planting seasons.

- Extension system in Nigeria should be revamped by funding arrangement to provide mobility, training, incentives and institutional support so that it will increase its services to farmers for enhanced production.
- There should be monitoring teams at national, state and local government levels to monitor the management and usage of agriculture fund allocation and farm inputs. This aims at checking embezzlement and reduces corruption to a great extent.
- Young people in primary, secondary and tertiary institutions should be encouraged to take careers in agriculture especially production and processing by giving scholarships both local and overseas and providing credit facilities to such people after training as many of our farmer are getting old.

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