



ASSESSMENT OF ATTITUDES OF MAIZE FARMERS TOWARD E-WALLET INFORMATION SCHEME ON FERTILIZER UTILIZATION IN BAUCHI STATE, NIGERIA

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ABSTRACT

The study assessed the attitudes of maize farmers towards e-wallet information scheme on fertilizer utilization in Bauchi State, Nigeria. Multi-stage sampling techniques was used to select one hundred and sixty (160) registered Growth Enhancement Support Scheme (GESS) farmers. Data for the study were collected through a structured questionnaire and analysed using descriptive statistics (frequencies, percentages and mean scores). The result revealed that majority (68.1%) of the respondents were males, with mean ages of 45 years. The result also revealed that 36.9% had secondary education, with a mean farming experience of 14.5 years. The mean household size of the respondents was 8 persons with 41.9% and 25.0% had their major occupation as farming and artisanship, respectively. The result showed that the respondents were satisfied with the scheme activities and consider the quantity of fertilizer and cost of fertilizer to be effective with a mean 3.68 and 3.82 respectively. The result further revealed that the respondents had positive attitude toward the scheme as they strongly disagreed that e-wallet does not end up as a failure ($X=4.43$) and that the too many noise of success was not a propaganda ($X=4.49$) and disagreed that the beneficiaries were not selected based on their influence. Some of the constraints identified with the scheme includes poor network (45.6%) and long distance to redemption centres (33.0%). It can be concluded that, the scheme brought great changes in yield, access to fertilizers at subsidized rate and access to improved seed. It is recommended that accessibility to redemption centres and network could increase wider coverage of e-wallet system in the study area.

Keywords: socioeconomic, attitude, information, E-wallet and utilization

INTRODUCTION

Agriculture in Nigeria is a major sector of the economy accounting for 40% of the country's GDP and employing about 70% of the population (FEPSAN, 2014). About 90% of the total agricultural output is produced by small holder farmers cultivating between 0.8 to 1.2 hectares in forest areas and 2-4 hectares in savannah areas (FEPSAN, 2014). The use of inputs such as fertilizer and improved seeds is below the recommended rate per hectare. Average fertilizer consumption is 12-15kg nutrient per hectare against 100kg world average (FEPSAN, 2014). Inorganic fertilizer use is considered low in Africa and many reasons have been cited to explain this. These include limited or untimely availability of the fertilizer (World Bank, 2006), imperfect markets (Abrar *et al.*, 2004), poor agronomic knowledge (Asfaw and Admassie, 2004), riskiness and credit constraints (Croppensted *et al.*, 2003) and economies of scale in supply which have all been invoked to give rise to "market smart subsidies". While there are signs of an increase in fertilizer use, especially in those countries with subsidy programs



(Nigeria, Malawi, and Zambia) or other concerted support (Ethiopia), fertilizer use generally remains low (Shea han and Barrett, 2014). Despite the numerous factors cited as responsible for low fertilizer use, there is limited empirical evidence on the nature and rationale for the actual patterns of observed fertilizer use rates across Nigeria's diverse farming systems and cropping patterns. Fertilizer use and needs will naturally vary depending on agro ecological and market conditions, government policies, cropping systems, and fertilizer responsiveness. Fertilizer use in the north is typically higher than in southern states. This is partly attributed to lower soil fertility (FFD, 2011), larger area cultivated, and the growth of high value crops such as vegetables and particular cereals in the region (Eboh *et al.*, 2006). Additionally, northern states have traditionally provided greater fertilizer subsidies since the colonial era when administrations provided support for fertilizer use out of concerns over soil depletion and desertification (Mustapha, 2003).

Maize is one of the three most important cereals grown in Nigeria along with sorghum and millet (USAID, 2010). Being a priority crop under the flagship agricultural programs of the Nigerian government since 2012, maize farmers have received intentional support in terms of access to subsidized fertilizer and improved seeds (Federal Ministry of Agriculture and Rural Development, 2011). The e-wallet approach is designed for smallholder farmers, who appear the most hit and vulnerable by the impropriety in the fertilizer and other input sector of the Agricultural Ministries across the country. The criteria for farmer's participation include: farmers being above 18 years old; have participated in a survey authorized by the government to capture farmers personal detailed information; must own a cell phone with a registered SIM card and have at least sixty naira credit in the cell phone. The fulfilment of these conditions guarantees the issuance of an e-wallet voucher to the farmer. The voucher is used to redeem fertilizers, seeds and other agricultural inputs from agro-dealers at half the cost (Signal Alliance, 2014). Adebo (2014) further highlighted that for an agro input dealer to participate in the programme, he/she must own a cell phone with a registered SIM card, understand the process of using e-wallets, and attend training programmes designed for the project.

The agro dealers are required to conduct honest business and guide against fraud; choose and prepare a location for the business transaction; provide storage facilities and be available at the appropriate time to attend to farmers' needs. Other prominent personalities in the scheme are the helpline personnel and redemption supervisors. Each state Agricultural Development Project (ADP) supplied the helpline staffs, and about 3-5 helpline staffs are assigned to each of the Local Government Area. The helpline staff and supervisors connect to the farmers on a daily basis to attend to their needs.

The redemption supervisor helps in verifying farmer's identity as well as a farmer's code in the text message received by the farmer, and then compares it with the name and code listed in the farmers register which the supervisor received from the cellular. The subsidized farm inputs are delivered directly to farmers through their mobile phones. The project was expected to provide direct linkage between the farmers and the government. This was to enable the government disseminate valuable information to the farmers, thus ensuring farmers' progress (Ezeh, 2013). The system ensures the involvement of the private sector in agricultural input supply (NAN, 2012). According to the Federal Ministry of Agriculture and Rural Development (2011), about 14 million farmers registered for the scheme throughout the federation. Inputs were distributed along seasonal production cycles to farmers for their needs and interest, for which the programme was designed primarily.

The e-wallet system is so transformative that Kenya, Tanzania, Brazil, and India have indicated interest in learning from Nigeria. Based on this impressive food production, Nigeria achieved two years ahead of the deadline the Millennium Development Goals (MDG) - its goal



of halving the number of hungry people. The e-wallet system is also farmer friendly as it allows farmers to conduct transactions in their local languages. The GES has also stimulated rapid growth in the agro-input private sector (FMARD, 2014).

The goal of farm input subsidy program is to enhance food self-sufficiency by increasing small holder farmers access to and use of improved agricultural inputs, thereby boosting the income of resource poor farmers.

It is now recognized that for Africa to startup the wheel of economic development, there is need to invest in agriculture which is the major economic activity. This would earn funds that can be invested in other economic activities for increased economic development. It is this realization that prompted the African Union through the New Partnership for Africa's Development (NEPAD) to initiate a move for the governments to commit them to gradually increase budgetary allocation to agricultural development to 10% under Maputo declaration. Increasing fertilizer use is seen as a key input in breaking the low productivity trap.

Bauchi State is facing a key gap in improving the current fertilizer distribution in order to increase maize production to meet domestic food requirements of her citizens and have access for export at quality levels required for market success. The introduction of E-wallet information scheme on fertilizer utilization pose a challenge driven by an input system and farming model that requires an investigation to uncovered E-wallet information scheme on fertilizer utilization of the maize farmers.

There was no study conducted to reveal the attitude of maize producers toward E-wallet information scheme on fertilizer utilization in Bauchi State, Nigeria. Earlier study was on E-wallet assessment on distribution but ignored the important gap of its utilization. Therefore this study was conducted to describe the socioeconomic characteristics of the respondents under the e-wallet information scheme of GESS in the study area, examine the attitudes of the maize farmers towards e-wallet information scheme of GESS in the study area and investigate the challenges of e-wallet information scheme among maize farmers in the utilization of E-wallet information scheme of GESS in the study area

METHODOLOGY

The Study Area

The study was conducted in Bauchi State, Nigeria. The State occupies a total land area of 49,119 km² representing about 5.3% of Nigeria's total land mass and is located between Latitudes 9° 3' and 12° 3' North and Longitudes 8° 50' and 11° East of Greenwich Meridian (BSADP, 2015). The State consists of 20 Local Government Areas (LGAs) with three agricultural zones and an estimated population of 8,308,800 (NBS, 2022; BSADP, 2022). The state is bordered by seven states, Kano and Jigawa to the north, Taraba and Plateau to the south, Gombe and Yobe to the east and Kaduna to the west. Bauchi state is one of the states in the northern part of Nigeria that span two distinctive vegetation zones, namely, the Sudan savannah and the Sahel savannah. The rainfall in Bauchi state ranges between 1,300 millimetres per annum in the south and only 700 millimetres per annum in the extreme north and the temperature ranges from 9.11⁰C to 40.55⁰C (BSADP, 2015).

In addition to rainfall, The Gongola River crosses Bauchi state in Tafawa Balewa LGA in the south and in Kirfi and Alkaleri LGAs in the eastern part of the state, while the Jama'are River cuts across 5 LGAs in the northern part of the State. Moreover, a substantial part of the Hadeja-Jama'are River basin lies in Bauchi state, which along with various *Fadama* (floodplain) areas in the state provides suitable land for agricultural activities. These are further supported by the number of dams meant for irrigation and other purposes. Such as Gubi Dam



among others. There are also lakes such as the Maladumba Lake in Misau Local Government Area that further provide the necessary conditions to support agriculture (Gaur, 2015).

Agriculture dominates the economy of the state as cowpea, soybean, millet, sorghum, corn (maize), sweet potato, rice, cassava, tomatoes, sesame and vegetables are the most crops grown. Bauchi is one of the country's main cotton-producing states; peanuts (groundnuts) are the other cash crops. Cattle, goats, and sheep are raised. From the mid-1970s irrigation schemes have greatly increased production. Cotton weaving and dyeing, and blacksmithing are traditional activities. The state's industries include meat-products processing and canning, peanut processing, vegetable-oil milling, and cotton ginning. Bauchi town, the state capital, is an important collecting and shipping centre on the railway from Maiduguri to Kafanchan and is also a major road hub in the state. Yankari National Park, with a hot spring at Wikki, is a major tourist attraction centre (Gaur, 2015).

Sampling Techniques and Sample Size

They study adopted a multi-stage sampling technique in selecting respondents. In the first stage, Western and Central Zone of Bauchi State Agricultural Development Programme were selected for convenient. In the second stage, four (4) LGAs (Bauchi, Ganjuwa, Ningi and Toro LGAs) were purposively selected. Purposive sampling was used to captured local government areas with high intensity of maize production in the zones. In the third stage, two highest maize producing communities were chosen from each LGA making a total of eight (8) villages. In the final stage, twenty (20) E-wallet beneficiaries were proportionately and randomly selected from each community to give a total of 160 respondents as the sample size for the study.

Method of Data Collection

Data were collected with the aid of a well-structured questionnaire which were administered to only the registered beneficiaries of the Growth Enhancement Support Scheme (E-wallet scheme) in the selected communities.

Method of Data Analysis

The data collected were analyzed with the use of descriptive statistics such as Frequencies, percentage, range, mean score were used to analysed the objectives of the study

Descriptive statistics

The mean scores was used to assess maize producers' attitude towards the scheme. A five-point Likert scale score were used as follows; strongly agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1). Where it will be $5+4+3+2+1=15$, $15/5=3.0$, any mean value of 3.0 and above will be considered effective (important) and any mean value less than 3.0 will be regarded as non-effective (not important).

RESULT AND DISCUSSION

Socio-Economic Characteristics of the Respondents

The Socio-economic parameters analyzed were; age, sex, marital status, educational level, household size, farming experience of the respondents among others.

According to Jabil (2009), age is one of the important determinants of human reasoning, decision making and taking responsibilities. The result showed that 38.1% of the farmers were within the age bracket of 31 – 40 years, while 26.9%, 16.3%, 10.6% and 8.1% were within the age bracket of 51 – 60 years, 41-50 years, 60 and above and 21-30 years, respectively. This showed that majority of respondents were within their productive age where their energies could be harnessed and utilized for productive venture in agriculture. It could be seen that farmers were still very strong and full of vigour and can contribute immensely, mentally and physically to promote crop production through participation in GESS. Farmers' age can



contribute to receptiveness to new agricultural innovations (young aged), which will in turn boost production and contribute to food security. The result is in line with the findings of Okoh *et al.*, (2010) who noted that farmers who participate in agricultural programmes like GESS are usually young and active. It also agrees with the opinion of Nwaobiala and Ubor (2015), which implies that majority of the respondents were in their productive and active ages.

The sex of the respondents revealed that 68.1% were male while 31.9% were female. Adewale *et al.*, (2003) observed that gender is not hindrance to the active involvement in farming activities. Meanwhile, Oladeji *et al.*, (2003) observed that there is a general outlook that males are more involved in farming because they are more energetic than their female counterpart, also being bread winners of their respective homes, they have no choice but to provide for the up keep of the family and personal needs, so there is every need to participate in farming activities, moreover the low percentage of the female farmers could be attributed to the fact that females in the study area were majorly house wives. This finding also tends to agree with similar study by FEPSAN (2013), which showed male dominance over female (83% male and 17% female) in the Growth Enhancement Support Scheme in 12 states of Nigeria. The result in Table 1 also revealed that majority of the respondents 84.4% were married, 9.4% and 6.3% were single and widowed, respectively. The result implies that the scheme is dominated by married farmers. The motivation behind married farmer's patronage of the programme could be the need to take care of their families. This assertion is supported by Adegbite *et al.*, (2007), who opined that married people are prompted to join the Scheme in order to cater for their households. Ibrahim (2014), who opined that, higher participation and interest of married in agricultural programme may be as a result of the need for more economic efforts to meet up with the challenges of family responsibilities. The need to meet with the demand for food, health, education of children, housing and clothing e.t.c. influences people into economic activities, especially farming.

Education refers to both formal and informal training acquired by an individual. This is represented by the number of years a person spent in formal or informal school. The result in Table 3 showed that 36.9% and 24.4% of the respondents had attended secondary and primary school education while 18.8%, 15.6% and 4.4% of the total respondents had tertiary, no any form of education and had an informal education, respectively. All in all 84.4% had one form of education or the other. Education had been shown to be a positive factor in the adoption of modern practices, including high yielding varieties of seeds and fertilizer as contained in GESS mandate. Supporting this assertion, Omoregbe and Ajayi (2009), noted that education enhances farmers' understanding of improved technologies and hence has a positive influence on farmers' adoption behaviour. This also agrees with the results of Ojukaiye (2001) who reported that education is an essential socio-economic factor that influences farmers' decision because of its effects on the awareness, perception, reception and quick adoption of innovation that can increase productivity.

Membership of cooperative contributes to the dissemination of new ideas, practices and products as well as in sourcing for loan and farm inputs. 53.8% of the respondents were members of a certain cooperative while 46.2% were not members of any cooperative/union.



Table 1: Socio-economic Parameters of the Respondents Sample Size (n=160)

| Parameter | Frequency | Percentage (%) | Mean |
|-------------------------------|-----------|----------------|-----------|
| Ages (Years) | | | |
| 21-30 | 13 | 8.1 | 45 |
| 31-40 | 61 | 38.1 | |
| 41-50 | 26 | 16.3 | |
| 51-60 | 43 | 26.9 | |
| 61 and above | 17 | 10.6 | |
| Sex | | | |
| Male | 109 | 68.1 | |
| Female | 51 | 31.9 | |
| Marital Status | | | |
| Single | 15 | 9.4 | |
| Married | 135 | 84.4 | |
| Divorced | 0 | 0.0 | |
| Widowed | 10 | 6.3 | |
| Education Level | | | |
| Never Been to School | 25 | 15.6 | |
| Primary School | 39 | 24.4 | |
| Secondary School | 59 | 36.9 | |
| Tertiary Institution | 30 | 18.8 | |
| Others | 7 | 4.4 | |
| Cooperative Membership | | | |
| Yes | 86 | 53.8 | |
| No | 74 | 46.3 | |

Source: Field survey (2019)

Household Size, Farming Experience and Major Occupation of the Respondents

According to Ojuekaiye (2001), household size is defined as the number of people eating from one pot. Also, family is an important element in agricultural production because sometimes the available workforce is gotten from it and the size of the farm land is sometimes related to it. The result in table 4 showed that 34.4% of the respondents had 15 and above persons while 28.1%, 24.4% and 13.1% of the respondents had family size of between 5-9, 10-14 and <5 persons, respectively as their household size.

Experience represents the technical skills or knowledge acquired in participation or practicing a particular trade over a period of time. Experience is measured in years an individual have had a client to a particular programme. It enables beneficiaries adequately organize and manage their business in expectation of profit. As shown in Table 4 30.6% of the respondent had occupational experience of 16-20 years and 29.4% had between 6-10 years. The result also indicated that respondents with above 20 and 11-15 years constituted 20.6% and 13.1%, respectively. About 6.3% had experienced between 1-5 years. Experience is an asset in farming as it inspires the farmers' decision-making process and rationalizes the farmers stand, especially in input procurement (Anyoha *et al.*, 2010). The result also indicated that farmers with lesser farming experience accept the intervention more than those with higher farming experience, because they sees it as a way out. Farmers with higher farming experience may be reluctant in accepting newer innovation because of the risk associated with with modern means of farming introduced by programme, this can be attributed to the fact that certain farmers who



have more years of experience are more resistant to change than new entrants (Edeogbon, 2008). The result is in line with the findings of Okoh *et al.*, (2010) who noted that farmers who participate in agricultural programme like GESS were usually young and active.

Table 2 described the distribution of the respondents based on their occupation. The result revealed that 41.9% of the respondent's major occupation was farming, this shows that, the respondents had interest in the Scheme as its generally provide them with input. 25.0%, 21.9% and 11.3% of the respondents were artisan, civil servants and traders, respectively.

Table 2: Distribution of respondents based on their household size, farming experience and major occupation

| Parameter | Frequency | Percentage (%) | Mean |
|-----------------------------------|-----------|----------------|-------------|
| Household Size | | | |
| < 5 | 21 | 13.1 | 8 |
| 5-9 | 45 | 28.1 | |
| 10-14 | 39 | 24.4 | |
| 15 and above | 55 | 34.4 | |
| Farming Experience (years) | | | |
| 1-5 | 10 | 6.3 | 14.5 |
| 6-10 | 47 | 29.4 | |
| 11-15 | 21 | 13.1 | |
| 16-20 | 49 | 30.6 | |
| 20 and above | 33 | 20.6 | |
| Major Occupation | | | |
| Trading | 18 | 11.3 | 41.9 |
| Artisan | 40 | 25.0 | |
| Civil servant | 35 | 21.8 | |
| Farming | 67 | 41.9 | |

Source: Field Survey, 2019

Attitudes of the Respondents towards the E-wallet Information Scheme of the GESS

The result in Table (3) reveal that 73.8%, 64.4%, 50.6%, and 63.1% respectively of the respondents strongly agreed that, telephone method is very suitable to access input for farmers, GES's e-wallet platform had reduced corruption in input supply, E-wallet had instilled farmers' interest in further agricultural programme and that more farmers will emerge if e-wallet implementation is extended. This implies that e-wallet beneficiaries have good attitudinal disposition towards the Scheme and also the e-wallet platform has been able to address the problems of corruption in the supply of agricultural inputs, and thereby achieving one of the main aims for which the scheme was launched in the study area. The study further reveals that majority (50.0%) of the respondents agreed that; e-wallet adequately addressed farmer's input needs without much stress, more than half (61.9%) and (61.3%) of the respondents agreed that all services provided by e-wallet platform are beneficial to farmers and also the quantity of inputs provided to farmers were too small for their farming activities, respectively. This agrees with the findings of Fadairo *et al.*, (2015), who stated that the scheme was a pointer to the fact that the e-wallet platform has been able to address farmers' needs properly, that they now have some levels of trust and confidence in government agricultural programmes.

Also the study in Table 3 revealed that 69.4% and 76.9% strongly disagreed that, the e-wallet platform does not end up as a failure as other past programme and its success proclamation was not a propaganda (M=4.43) and are also both effective (M=4.49). Also the



findings showed that 68.8%, 53.8%, 61.9% and 51.9% disagreed that; GES could be much better if farmers were consulted thereby being effective with $M=3.62$, general neglect of farmers perception is a major impediment for successful e-wallet scheme and effective with $M=3.69$, agro-input given to farmers are costly and also effective with $M=3.58$ and also that farmers always feel reluctant in responding to the scheme's messages and as being effective with $M=3.77$.

The study reveals that the scheme was only beneficial to selected group of farmers based on their influence ($M=4.11$), the text message from the scheme looks like a scam ($M=4.03$), poor feedback opportunity makes the e-wallet platform uninteresting ($M=3.52$), the messages were sent to the farmers very late ($M=3.51$) and farmers spent considerable time at the redemption centres ($M=3.06$) were all effective with mean greater than 3.0. The findings are pointers to the fact that majority of the farmers have favourable attitude to the programme in the study area. This corroborates the report of Akinwumi (2013) that the GESS is an innovative approach to fertilizer subsidy and other input administration, through an electronic system that ensures that only registered farmers benefit. It is meant to change the mentality of Nigerians to view agriculture as a business instead of a part-time. In the same vein, Oyediran *et al.* (2014) obtained a similar result among cocoa farmers that had positive attitude towards GESS in Ogun State, Nigeria.

Table 3: Distribution of respondents based on their attitudes to the e-wallet platform of the GESS

| Attitude on E-wallet Scheme | SA | A | UD | DA | SD | M |
|--|------|------|------|------|------|------|
| E-wallet platform end up as failure in the past Programme | 3.1 | 6.3 | 5.0 | 16.3 | 69.4 | 4.43 |
| Telephone method is very suitable to access input for farmers | 73.8 | 22.5 | 2.5 | 1.3 | 0.0 | 1.31 |
| GES's e-wallet platform had reduced corruption | 64.4 | 23.8 | 6.3 | 5.6 | 0.0 | 1.53 |
| E-wallet adequately address farmer's input needs, without stress | 39.4 | 50.0 | 8.1 | 1.9 | 0.6 | 1.7 |
| GES could have been better if farmers were consulted | 1.9 | 11.9 | 13.1 | 68.8 | 4.4 | 3.62 |
| Poor feedback opportunity makes the e-wallet platform uninteresting | 10.6 | 10.0 | 21.3 | 31.9 | 26.3 | 3.53 |
| E-wallet had made farmers' interesting in further agricultural programme | 50.6 | 29.4 | 8.1 | 5.0 | 6.9 | 1.88 |
| E-wallet will blossom more with more commitment from ADP staff | 5.6 | 8.1 | 9.4 | 41.9 | 35.0 | 3.93 |
| More farmers will emerge if e-wallet implementation is extended | 63.1 | 28.1 | 2.5 | 2.5 | 3.8 | 1.56 |
| General neglect of farmers perception is a major impediment for a successful e-wallet scheme | 4.4 | 10.6 | 13.8 | 53.8 | 17.5 | 3.69 |
| All services provided by e-wallet platform are beneficial to all individual farmers | 19.4 | 61.9 | 8.8 | 2.5 | 7.5 | 2.17 |
| The scheme is only beneficial to selected group of farmers | 1.9 | 6.3 | 6.9 | 49.4 | 35.6 | 4.11 |
| The too much proclamation success about e-wallet is truly nothing but propaganda | 3.1 | 6.9 | 5.0 | 8.1 | 76.9 | 4.49 |
| Farmers spent considerable time at the redemption centres | 1.9 | 31.9 | 29.4 | 32.5 | 4.4 | 3.06 |
| The agro-inputs given to the farmers are costly | 8.8 | 8.1 | 10.0 | 61.9 | 11.3 | 3.58 |
| The text message from the scheme looks like a scam | 1.9 | 8.8 | 14.4 | 34.4 | 40.6 | 4.03 |
| The quantity of inputs provided to farmers are Too small for their farming activities | 10.6 | 61.3 | 3.8 | 16.3 | 8.1 | 2.50 |
| Farmers always feel so reluctant in responding to the scheme's messages | 3.1 | 3.8 | 23.8 | 51.9 | 17.5 | 3.77 |
| The messages were sent to the farmers very late | 3.8 | 16.9 | 18.8 | 45.6 | 15.0 | 3.51 |

SA=Strongly agreed, A=Agreed, UD=Undecided, DA=Disagreed, SD=Strongly disagree, M \geq 3.0

considered effective in the attitude of the e-wallet beneficiaries

Source: Computed from Field Survey, 2019

Challenges to the Utilization of E-Wallet Information Scheme by the Respondents

The Scheme like any of its kind has some problems which limited against the smooth implementation of the designed action plan. These problems may have effect on the redemption processes and can hinder the smooth conduct of the entire E-wallet activities. The study identified the following as major constraints as shown in Table 8. The result showed that 45.6% of the respondents were faced with a poor network challenge in receiving text messages in order to redeemed the farm inputs. This is in line with the reports of FEPSAN (2013) where poor network was one of the constraint to the implementation. Okoh *et al.* (2018) reported that farmers had difficulties in activation of PIN due to in poor network in Delta State, Nigeria. The result further revealed that 33.1% of the respondents complained that the redemption centres were too far. This makes it difficult to farmers to convey the farm input after redemption. Tanko (2013), who reported that farmers location was too far to the redemption centres in Kaduna



State, Nigeria. Reasonable proportion (30%) of the respondents reported that the E-wallet platform lack manpower, this makes it difficult for farmers to redeem their inputs and also leads them to spent considerable time at the redemption centres. A few (5.6%) of the respondents complained that they could not redeem their input and doesn't see adequate number and that fertilizer was in supply at redemption centre. There were reports from 29.4% of the respondents that most of the registered people were not farmers, so they were not using the fertilizer for farming activities but sold it out at cheaper rates. About 27.5% of the respondents' complaint of loss and lack of functional mobile phones to receive the e-wallet messages which could generally let them know the quantity of farm input to redeemed. Among the challenges were late delivery of farm input (13.8%), this agrees with the report of Tanko (2013), who reported that fertilizer did not arrive on time.

Table 4: Distribution of respondents according to constraints of E-wallet beneficiaries

| Challenges | Frequency | Percentage |
|--|-----------|------------|
| Poor network | 73 | 45.6 |
| Inadequate number of fertilizer supplied | 9 | 5.6 |
| Late delivery of input | 22 | 13.8 |
| Most registered people were not farmers | 47 | 29.4 |
| Difficulty in redeeming input | 9 | 5.6 |
| Inadequate manpower | 48 | 30.0 |
| Loss and lack of functional mobile phone | 44 | 27.5 |
| Redemption centre is too far | 53 | 33.1 |
| Total | 160 | 190.6 |

Source: Field Survey, 2019

*Multiple responses recorded as percentage were >100

CONCLUSION AND RECOMMENDATION

From the findings of this study, it can be concluded that the scheme brought about great changes in increase in yield, access to fertilizers at subsidized rate and access to improved seeds. Findings from this study also have shown that majority of the respondents have favourable attitude towards the e-wallet scheme and also helped them to increase their farm size, farm income and farm output.

- Government should support in promoting GESS by recruiting more workers and reinforcing the existing ones so as to ensure adequate contact with the farmers, as this will facilitate prompt redemption of agricultural inputs,
- Establishment of more redemption centres to reduce the time spent and long distance covered before accessing the centres
- The management of the scheme should ensure early supply of fertilizers and improved seeds to farmers for optimum utilization.

REFERENCES

- Abrar, S., Morrissey, O., and Rayner, T., (2004). Crop-level supply response by agro-climatic region in Ethiopia. *Journal of Agricultural Economics*, **55** (2): 289–311.
- Adebo, GM (2014) Effectiveness of E-Wallet Practice In Grassroots Agricultural Services Delivery In Nigeria - A Case Study Of Kwara State Growth Enhancement Support Scheme. *Journal of Experimental Biology and Agricultural Sciences*, **2**: 4 - 10.



- Akinwumi, A. (2013). Press Briefing on Agricultural Reform. In: Acha, E., Boosting Food Security through Growth Enhancement Support Scheme. The Road Newspaper online. July 17th. Accessed on 20th August, 2019.
- Asfaw, A., Admassie, A., (2004). The role of education on the adoption of chemical fertiliser under different socioeconomic environments in Ethiopia. *Journal of Agricultural Economics*, **30**(3): 215–228.
- Croppenstedt, A., Demeke, M., Meschi, M.M., (2003). Technology adoption in the presence of constraints: the case of fertilizer demand in Ethiopia. *Journal of Rev. Dev. Econ.*, **7**(1): 58–70.
- Eboh, E. C., Ujah, O.C., Amaechina, E.C., (2006). Do government fertiliser subsidies benefit rural poor farmers in Nigeria? Making sense out of existing data. PMMA Network Session Paper. Available online at: <http://132.203>, 59.
- Ezeh Ann Nnenna (2013) Access and application of information and communication technology (ICT) among farming households of south east Nigeria. *Agriculture and Biology Journal of North America*, **3**(2): 56 – 62. doi: 10.5251/abjna.2013.4.6.605.616.
- Fadairo, O. S., Olutegbe, N. S. and Tijani, A. M. (2015). Attitude of crop farmers towards e-wallet platform of the Growth Enhancement Support Scheme for input delivery in Oke-Ogun area of Oyo state. *Journal of Agricultural Informatics*, **6**(2): 62–71.
- Federal Ministry of Agriculture and Rural Development Abuja, Nigeria (2011) Agricultural Transformation Agenda: We will Grow Nigeria's Agricultural Sector. Available on <http://www.unaab.edu.ng/attachments/Agricultural%20Transformation%20Blue%20print.pdf> accessed on March 25, 2014.
- Federal Ministry of Agriculture and Rural Development. (2011). *Agricultural Transformation Blue Print*. Abuja, Nigeria: FMARD.
- FEPSAN (2014). A study on consumption and fertilizer use by crops (FUBC) in Nigeria.
- FEPSAN, (2013). The Growth Enhancement Support Scheme (GESS) Monitoring Report. A report submitted to the honourable minister of Agriculture and Rural Development Federal Republic of Nigeria. Available at [http://www.fepsannigeria.com/files/GESSMonitoring Report FC Revised Final.pdf](http://www.fepsannigeria.com/files/GESSMonitoring%20Report%20FC%20Revised%20Final.pdf)Assessed.
- FFD, (2011). Report on Fertilizer Use and Management Practices for Crops in Nigeria. Report of the Federal Ministry of Agricultural & Rural Development (FMARD), Abuja.
- FMARD (2014). Ten million farmers captured in agric e-wallet scheme. Federal Ministry of Agriculture and Rural Development, Abuja, Nigeria. Available on the internet at http://www.fmard.gov.ng/news_inside.php?nid=135. Accessed 2nd of August, 2014.
- Gaur A. (2015). Ed. (c) 2018 Encyclopaedia Britannica, Inc.
- Mustapha, A.R., (2003). Colonialism and environmental perception in Northern Nigeria. *Oxford Dev. Stud.*, **31**(4): 405–425.
- Nwaobiala, C. U. and Ubor, V. U. (2015). Effect of Electronic Wallet System of Growth Enhancement Support Scheme Distribution among Arable Crop Farmers in Imo State, South Eastern Nigeria. *Nigerian Journal of Agricultural, Food and Environment*, **11**(4): 130–135.
- Oyediran, W. O., Omoare, A. M., Ajagbe, B. O. and Sofowora, O. O. (2014). Attitude of Cocoa Farmers in Growth Enhancement Support Scheme (GESS) in Ijebu East Local Government Area of Ogun State, Nigeria. *World Journal of Biology and Medical Sciences*, **1**(3): 108 – 117.
- Signal Alliance (2014) ERP FOR THE AGRICULTURE SECTOR IN NIGERIA. Transforming Big Data into Big Value in Agriculture Industry. Retrieved from



<http://www.slideshare.net/signalalliance/erp-for-the-agriculture-in-Nigeria> accessed on August 23, 2019.

- Sheahan, M., Barrett, C.B., (2014). Understanding the agricultural input landscape in Sub-Saharan Africa: recent plot, household, and community-level evidence. World Bank Policy Research Working Paper, 2014.
- United States Agency for International Development (USAID), (2010). Packages of practices for maize production. Prepared by USAID/Maximizing Agricultural Revenues and Key Enterprises in Targeted Sites (MARKETS)
- World Bank, (2006). Well Being and Poverty in Ethiopia: The Role of Agriculture and Agency, Report No. 29468-ET. World Bank, Washington D.C.