

INPUTS ACCESSIBILITY AND EFFECTIVENESS OF GROWTH ENHANCEMENT SUPPORT SCHEME (GESS) IN SOUTHWEST NIGERIA

Ibidun Olatohun IBITUNDE, Francis Oke ADERETI, Akinloye Jimoh FARINDE

Obafemi Awolowo University, Department of Agricultural Extension and Rural Development, Ile-Ife, Osun State, Nigeria, E-mails: tounibitunde@gmail.com, fadereti@yahoo.com, akinloyefarinde@yahoo.com

Corresponding author: tounibitunde@gmail.com

Abstract

The study assessed the level of accessibility of inputs through GESS and analyzed the structure and operations of the Growth Enhancement Support Scheme (GESS) on input supply to small-scale farmers in Southwestern Nigeria so as to examine the effectiveness of GESS in Southwestern Nigeria. A multistage sampling technique was employed in selecting 420 GESS farmers from three states in the southwestern zone namely: Osun, Ondo and Ogun. Validated and pretested interview schedule was used to collect quantitative data from the small-scale farmers. Data collected were described with frequency counts, percentages, mean scores and standard deviation. Chi-square and Correlation analyses were used to draw inferences from the hypotheses. Results showed that the mean age of the small-scale farmers was 49.57 ± 10.49 years and a high level, 75.70 percent were males. All the respondents (100.00%) showed low level of access to inputs. Analysis of the structure and operations of GESS on input supply showed that GESS was structured and operated by the government among the various stakeholders using the top-down approach. Out of the nineteen GESS effectiveness indicators, none was effective at solving the problems of inputs delivery to the respondents. Chi-square analysis showed a significant association between the effectiveness of GESS and respondents' sex ($\chi^2=46.159$; $p \leq 0.01$). Correlation analysis also showed a positive and significant relationship between effectiveness of GESS and accessibility of farm inputs ($r=0.222$; $p \leq 0.01$). It was concluded that GESS recorded a low level of effectiveness of GESS in the study area as a result of low level of accessibility of agricultural inputs through GESS. The study therefore recommends that quantity of input supply be increased and that more inclusive participatory approach instead of top-down approach should be adopted for planning, execution and evaluation of the GESS programme.

Key words: *inputs accessibility, effectiveness, Growth Enhancement Support Scheme (GESS)*

INTRODUCTION

Over 80 percent of the farming population in Nigeria is smallholders residing mostly in rural areas. (Anaman, 1988) in Afolabi J. A. (2010) [3] disclosed that small farms are mainly responsible for self-sufficiency of food in Africa and cultivation of export crops. They are also very significant in the world's development with 50 percent of world's population depending on them. Howbeit, the average Nigerian small-scale farmer is illiterate, poor, and does not have access to modern farming implements and improved varieties of inputs; these have resulted in low production and the slow rate of productivity (Opara, 2010) [7]. According to Upton (1972) in Obayelu, Afolami and Agbonlhor (2013) [10], farm sizes classification of less than 5ha

should be classified as small, between 5 ha and 10 ha as medium, and more than 10ha as large scale. Nigerian government since independence in 1960 had established and launched several policies development and improvement of farmers' access to means of production such as fertilizer, agro chemicals and hybrid seeds. However, the implementation of those policies/programmes has been faced with several challenges which led to results that were either unsatisfactory or unintended. The GESS was implemented to remove the difficulties usually associated with the distribution of agricultural inputs in the country and encourage critical actors in the inputs value chain to work together to improve productivity and enhance farmers' income. The quality and quantity of inputs were determined by the Federal Ministry of

Agriculture and Rural Development (FMARD). Registration precedes access of input by farmers. After registration, SMS are sent out to farmers on a day called “roll out day”. The message specifies the center and the input (every farmer has been coded to a center). When a farmer that has a functional phone receives the GESS SMS, he/she goes to the designated redemption center, the help line staff (employed by Cellulant) looks at the message, uses the phone of the farmer to dial with a particular number to Abuja, when the confirmation comes, the farmer is able to redeem. Whatever transaction takes place at the redemption center must reach the table of the technical partner (Cellulant). After reconciliation, whatever Cellulant says it sees is what the FMARD will pay the Agro dealer for. For a particular value chain, redemption could be for 4 weeks (usually before the planting season commencement) and may be extended for two weeks. Because of the enormity of the work at the redemption center, other agents were introduced; the supply chain manager/help line staff. This study was therefore embarked upon to assess the effectiveness of GESS’s e-wallet approach in grassroots agricultural inputs delivery in Southwestern Nigeria.

Objective of the Study

The broad objective of the study was to assess the effectiveness of GESS in Input Delivery in Southwestern Nigeria.

The specific objectives of this study were to;

- a.) describe the personal and socio-economic characteristics of the respondents;
- b.) assess the level of accessibility of inputs through GESS; and
- c.) analyze the structure and operations of GESS on input supply.

Research Hypotheses

The following research hypotheses stated were also tested.

Ho1: There is no significant relationship between the effectiveness of GESS and the respondents’ personal and socio-economic characteristics.

Ho2: There is no significant relationship between the effectiveness of GESS and the

level of accessibility of inputs to the respondents.

MATERIALS AND METHODS

The study area was southwest geopolitical zone of Nigeria. A multistage sampling technique was employed in selecting 420 GESS farmers from three states in the southwestern zone namely: Osun, Ondo and Ogun. At the second stage, proportionate sampling technique was used to select 20 percent of all the Local Government Areas (LGAs) in the 3 States. In other words, 6 LGAs were selected in Osun, 4 in Ondo and 4 in Ogun States, making a total of 14 LGAs. At the third stage, using purposive sampling technique, 3 rural communities each were selected in the LGAs making a total of 42 rural communities. At the fourth stage, simple random sampling technique was used to select ten small-scale farmers making a total of 420 GESS farmers. Validated and pre-tested interview schedule was developed and used to collect quantitative data on farmers’ personal and socio-economic characteristics, assessment of the level of accessibility of inputs through GESS, and evaluation of the effectiveness of GESS in solving the problem of inputs delivery to the respondents. Information on the structure and operations of GESS on input supply was collected from the States’ GESS coordinators and desk officers and three different agro-dealers selected from the three states. Frequency counts, percentages, mean, weighted mean, standard deviation and equal intervals were used to summarize and describe the data collected. Inferential statistics such as Chi-square and correlation analyses were used to test the hypotheses formulated.

RESULTS AND DISCUSSIONS

Personal and socio-economic characteristics of the respondents

Results in Table 1 show that the mean age of the respondents was 49.57, this indicates that most of the respondents were still young and are expected to be active in keying into the

GESS e-wallet approach and thus make effective utilization of the scheme to enhance their productivity. Majority, 75.70 percent of the respondents were males. This finding agrees with that of Umar et al., (2015) [9] which revealed that the respondents in the study area were largely male (78.9 percent). This result could be because it was the season of GESS, a special programme that bordered on inputs procurement and this task of inputs acquisition could be said to be largely male's task and that the men procure the inputs and may give some to their wives (who are also farmers). The years of farming experience of the respondents ranged from 1 to 54 years with a mean of 20.5 years. These findings agree with that of Nwaobiala and Ubor (2016) [6] which revealed that the mean of years of farming experience among GESS farmers was 16.5 years. This show that most of the respondents had relatively large number of years of farming experience and that they were expected to be active in keying into the GESS approach and thus make effective

utilization of it in accessing inputs for their farming activities. Majority, 68.80 percent of the respondents owned a functional mobile phone. This result could be because it was the season of GESS and ownership of a functional mobile phone with registered SIM card is one of the prerequisites for being registered as a GESS farmer and this is expected to boost the farmers' access to firsthand information about the availability and accessibility of farm inputs through GESS. This finding is in line with that of (Adebo, 2014) [1] who reported that the majority of GESS farmers sampled possessed mobile phones. Majority, 58.8 percent of the respondents became aware of GESS through Extension agent/ADP. This implied that Extension agent/ADP is still one of the best media of reaching farmers at the grassroots. The result agrees with that of (Adebo, 2014) [1] which revealed that the majority of the GESS farmers sampled indicated that they got their information from ADP and extension agents.

Table 1. Distribution of respondents by personal and socio-economic characteristics (n=420)

| Variables | Frequency | Percentage | Mean | Standard Deviation |
|--|-----------|------------|-------|--------------------|
| Age in years | | | | |
| 30 | 22 | 5.3 | 49.57 | 10.49 |
| 31-60 | 337 | 80.2 | | |
| 61 and over | 61 | 14.5 | | |
| Sex | | | | |
| Male | 318 | 75.70 | | |
| Female | 102 | 24.30 | | |
| Years of farming experience | | | | |
| 1-15 | 164 | 39 | 20.5 | 10.86 |
| 16-30 | 196 | 46.7 | | |
| 31 and over | 60 | 14.3 | | |
| Functional mobile phone ownership | | | | |
| Yes | 289 | 68.8 | | |
| No | 131 | 31.2 | | |
| Source of awareness of GESS | | | | |
| Extension agent/ADP | 247 | 58.8 | | |
| Television | 5 | 1.2 | | |
| Radio | 58 | 13.8 | | |
| Fellow farmers | 100 | 26.2 | | |

Source: Field survey, 2015.

Results in Figure 1 show that show that a little close to average, 48.10 per cent of the respondents got the land used for farming activities through inheritance while few, 37.14 per cent purchased the land, 11.67 per cent

got the land through lease, 2.38 per cent got the land as gift and 0.71 per cent got the land through pledge. The findings indicated that most of the farmers acquired their farmland by inheritance. This implied that most of them

must have been indigenes of the various communities within the study area. This result agrees with the findings of (Adebo, 2014) [1] who found out that the source of land used for planting by most of the GESS farmers sampled was through inheritance.

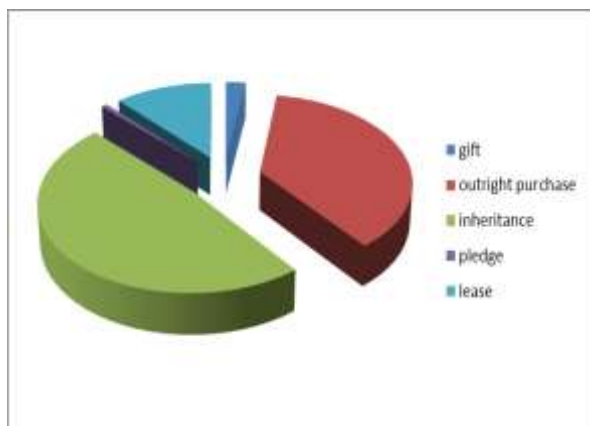


Fig 1. Pie chart showing the distribution of respondents by farmland acquisition pattern

Source: Field survey, 2015.

Assessment of level of accessibility of inputs through GESS

Results in Table 2 show the mean scores of the accessed inputs, NPK fertilizer (1 bag) had a mean score of 2.44, UREA fertilizer (1 bag) had a mean score of 2.32, improved maize seeds (10 kg) had a mean score of 1.80, and improved rice seed, (15 kg) had a mean score of 0.20. None of the farmers accessed 25 bundles of improved variety of Cassava stem cuttings, Special Cassava NPK fertilizer, Acatara, Champ DP, Funguran, Ridomil, Ultimax, 2 bags of fertilizer (Teractive), 50 units of improved oil palm seedlings, 1 litre of herbicide, ¼ bundle of wire collar, one bag of N P K fertilizer (75kg), 500 Juvenile (fish), 5 bags of fish feed, 100 Day Old Chicks (Broilers), 3 (50kg) bags of feed, 400 doses of New Castle vaccine, 2 sachets of Vitalite, 2 sachets of Coccidiostat, 2 (50kg) bags of feed for sheep/goat, 10ml of ecto-parasite drug for sheep/goat, 10bowls of Dewormer, 5kg of salt lick, 3 piglets, 10 bags of feed for pigs, 10 litres of disinfectant for pigs, 10 (50kg) bags of beef fattener, 10kg of salt lick. From the scales of measurement of 1, 2, and 3 of rarely accessed, often accessed and always accessed, the accessed inputs whose means measure up to rarely accessed, often accessed and always

accessed, that is, approximately 1, or 2 or 3 were used as benchmark for access to inputs. This means that out of the four inputs accessed by the small-scale farmers, two; NPK fertilizer (1 bag) and UREA fertilizer (1 bag) were often accessed and improved maize seeds were approximately often accessed. These results further show that all the inputs accessed by the farmers were in the generic category and that none of the inputs in the specific category was accessed, this might have been because majority of the sampled farmers were arable crop farmers and further infer that any intervention that would be applied to improve the accessibility of inputs through GESS by the respondents in the study area should be applied to bring about improvement in accessibility of all the inputs for farm enterprises that the respondents engage in and more especially the specific inputs.

Table 2. Mean scores of accessed inputs through GESS by small scale farmers (n=420)

| S/N | Inputs | Mean scores |
|-----|-----------------------------|-------------|
| 1 | NPK fertilizer (1 bag) | 2.44 |
| 2 | Urea fertilizer (1 bag) | 2.32 |
| 3 | Improved maize seeds (10kg) | 1.80 |
| 4 | Improved rice seeds, (15kg) | 0.20 |
| | Grand Mean | 6.76 |
| | Standard Deviation | 4.12 |

Source: Field survey, 2015.

Level of accessibility of inputs through GESS

Results in Table 3 show that all, 100.00 per cent of the respondents were at low level of accessibility of inputs through GESS. This result agrees with that of Umar et al., (2015) [9] which revealed that inadequate quantity of fertilizer was accessed by beneficiaries. The result also agrees with that of (Adebo, 2014) [1] which revealed insufficient fertilizer and seed supply to the beneficiaries.

Table 3. Distribution of respondents by level of accessibility of inputs (n=420)

| Level of accessibility | Values | Frequency | Percentage |
|------------------------|--------|-----------|------------|
| High | ≥65 | 0 | 0.0 |
| Moderate | 33-64 | 0 | 0.0 |
| Low | ≤32 | 420 | 100.0 |
| Total | | 420 | 100.0 |

Source: Field survey, 2015.

Analysis of the Structure and Operations of GESS on Input Supply

The rundown of the analysis of the Structure and Operations of GESS on Input Supply through the Agro-dealers, the States' GESS Coordinators and Desk Officers show that GESS is structured and operated by the government among the various stakeholders using the top-down approach. These findings agree with that of (Adebo, 2014) [1] who recommended that the government should embrace participatory approach in the GESS project planning, implementation and evaluation after 5 years to tackle all the teething problems.

Evaluation of the effectiveness of GESS in solving the problem of inputs delivery to the respondents.

Results in Table 4 show the statements on the effectiveness of GESS in solving the problem of inputs delivery to the respondents. The results show that the respondents (MS=0.98)

chose registration of farmers as an effectiveness indicator of GESS in solving the problems of access to inputs, also, respondents (MS=0.93) chose existence of nearby GESS redemption center, respondents (MS=0.86) chose availability of up to date GESS farmers' register, respondents (MS=0.69) chose good network for reception of electronic messages/alert from Cellulant before or during farming season, while respondents (MS= 0.48) chose timely dissemination/reception of information/electronic messages/alert. Also, respondents (MS=0.39) chose access to agricultural inputs through GESS with the assistance of supply chain representatives/help line staff and respondents (MS=0.38) chose reduction of chances of loss of plants/livestock as a result of use of good quality agricultural inputs as effectiveness indicator of GESS in solving the problems of access to inputs.

Table 4. Effectiveness of GESS in solving the problems of access to inputs by small-scale farmers (n=420)

| S/N | Effectiveness statements | Mean scores |
|-----|--|-------------|
| 1 | Prompt registration of farmers | 0.98 |
| 2 | Existence of nearby GESS redemption center | 0.93 |
| 3 | Availability of up to date GESS farmers' register | 0.86 |
| 4 | Good network for reception of electronic messages/alert from Cellulant | 0.69 |
| 5 | Timely reception of information/electronic messages/alert | 0.48 |
| 6 | Access to required quality agricultural inputs | 0.42 |
| 7 | Access to agricultural inputs through GESS with the assistance of supply chain representatives/help line staff that facilitate redemption of agricultural inputs at the redemption center. | 0.39 |
| 8 | Reduction of chances of loss of plants/livestock as a result of use of good quality of agricultural inputs. | 0.38 |
| 9 | Access to agricultural inputs through GESS before or during farming season | 0.34 |
| 10 | Access to agricultural inputs through GESS without interference of middle men and political elites | 0.33 |
| 11 | Access to required quantity agricultural inputs through GESS increased productivity | 0.32 |
| 12 | Increased income | 0.30 |
| 13 | Reduced cost of production | 0.30 |
| 14 | Access to agricultural inputs through GESS at affordable prices | 0.29 |
| 15 | Reduction of chances of loss of plants/livestock as a result of use of sufficient quantity of agricultural inputs | 0.28 |
| 16 | Increased productivity | 0.27 |
| 17 | Access to some of the agricultural inputs free of charge | 0.25 |
| 18 | Improved standard of living | 0.24 |
| 19 | Conservation of time and energy | 0.23 |

Source: Field survey, 201.

Others were access to agricultural inputs through GESS before or during farming

season (MS= 0.33), access to agricultural inputs through GESS without interference of

middle men and political elites (MS=0.33), access to required quantity of agricultural inputs through GESS (MS= 0.32) and increased income (MS= 0.33), access to agricultural inputs through GESS at affordable prices (MS= 0.30), reduced cost of production (MS= 0.29), reduction of chances of loss of plants/livestock as a result of use of sufficient quantity of agricultural inputs (MS= 0.28), increased productivity (MS= 0.27), access to some of the agricultural inputs free of charge (MS= 0.25), improved standard of living (MS= 0.24) and conservation of time and energy (MS= 0.23).

From the scales of measurement of 1, 2 and 3 of less effective, effective and very effective respectively, indicators of effectiveness whose means measure up to effective or very effective, that is, approximately 2 to 3 were used as benchmark for the GESS effectiveness. This means that out of the nineteen GESS effectiveness indicators, none was effective at solving the problems of inputs delivery to the respondents. This shows that the GESS has not effectively addressed the problems of input delivery to the respondents in the study area. This result further infers that any intervention that would be applied to improve the effectiveness of GESS in solving the problem of inputs delivery to the respondents in the study area should be applied to bring about improved standard of all the indicators of effectiveness identified above.

Results of Hypotheses Testing

Hypothesis one: There is no significant relationship between effectiveness of GESS and selected personal and socio-economic characteristics of the respondents. Results in Table 5 show significant association between the effectiveness of GESS and sex ($\chi^2=46.159$, $p \leq 0.01$) and farmland acquisition pattern ($\chi^2=145.98$, $p \leq 0.01$). Sex had a significant association with the effectiveness of GESS. This implied that the effectiveness of GESS varies between male and female farmers. This may be due to the fact that male farmers have the tendency to have more farmland, hence get engaged in farming more than their female counterparts

considering the point that most developing countries culturally give priority to male in land ownership than female as opined by (Alice, 2008 and Lawanson, 2010) [5] that women are culturally hindered from owing farmland in most African countries. This result might also be due to the fact that the majority, 75.70 percent of the respondents as observed from the study were males who might be assumed to be physically active engaging in different economic livelihood activities. This implied that the higher the number of male GESS farmers, the higher the effectiveness of GESS in solving the problems of access to inputs. Farmland acquisition pattern also had a significant association with the effectiveness of GESS. This implied that the effectiveness of GESS varied among farmers based on their farmland acquisition pattern. This might also be due to the fact that close to average, 48.10 percent of the respondents as observed from the study got the land used for farming activities through inheritance. This result shows that acquisition of land used for farming activities through inheritance will favor an effectiveness of GESS, meaning that the more the GESS farmers acquire land used for farming activities through inheritance, the higher the likelihood of accessing and utilizing information on GESS effectively. The implication of these findings is that sex and farmland acquisition pattern should be considered by GESS value chain actors/stakeholders for the achievement and enhancement of the effectiveness of GESS in solving the problems of inputs delivery in the study area. Results of correlation analysis between the effectiveness of GESS and some selected personal and socio-economic characteristics of the respondents is shown in Table 6. The result shows that age had a significant but negative relationship with the effectiveness of GESS ($r = -0.253$; $p \leq 0.01$). This might be due to the fact that the majority, 80.20 percent of the respondents as observed from the study were 31-60 years, that is, were still young and were expected to be active in keying into the GESS. This result agrees with the findings Oyediran *et al.*, (2014) [8] which

revealed that age was negatively correlated to the farmers' attitude on the GESS. This might be because GESS employed modern innovative approach as in the use of ICT (in form of e-wallet) which were more youth-friendly. Such could make the elderly skeptical, less comfortable and, therefore, not make effective use of it. The negative relationship also indicates that the younger the GESS farmers are, the higher the likelihood of making effective utilization of the GESS to enhance their productivity. Frequency of contact with extension agents had a significant and positive relationship with effectiveness of GESS ($r=111$; $p\leq 0.05$). This might also be due to the fact that the majority, 67.5 percent of the respondents that had contact with extension agents had the contact with extension agents twice a month. This finding is in contrast with the findings of Umar et al., (2015) [9] which revealed a negatively significant relationship between extension visit and GESS satisfaction. This result implied that an increase in frequency of the contact will lead to an increase in favor of effectiveness of GESS. This result is expected because the more the respondents have contact with extension agents the more their likelihood of accessing and utilizing information on GESS that could enhance their productivity. Years of farming experience also had a significant and positive relationship with effectiveness of GESS ($r=0.255$; $p\leq 0.01$). This might also be due to the fact that most of the respondents as observed from the study had relatively extensive farming

experience. This result agrees with the findings of Fadairo *et al.*, (2015) [4] which revealed a positive relationship between attitude of farmers towards GESS and years of farming experience. The result also agrees with the findings of Umar et al., (2015) [9] which revealed that the level of satisfaction with GESS increased among families with higher farming experience.

This implied that an increase in years of farming experience will lead to an increase in favor of the effectiveness of GESS. Functional mobile phone ownership also had a significant and positive relationship with effectiveness of GESS ($r= 0.344$; $p\leq 0.01$). This implied that an increase in functional mobile phone ownership will lead to the increase in effectiveness of GESS. This might be due to the fact that as observed from the study, the majority, 68.80 percent of the respondents owned functional mobile phone and this was expected to boost their access to the farm inputs through the GESS as ownership of a functional mobile phone with registered SIM card is one of the prerequisites for being registered as a GESS farmer and receive an alert about the accessibility of farm inputs. The implication of these findings is that age, frequency of contact with extension agents, years of farming experience and functional mobile phone ownership should be considered by GESS value chain actors/stakeholders for the achievement and enhancement of the effectiveness of GESS in solving the problems of inputs delivery in the study area.

Table 5. Chi-square analysis showing the association between the effectiveness of GESS and some selected personal and socio-economic characteristics of the respondents

| Variables | χ^2 -value | df | p-value |
|------------------------------|-----------------|----|---------|
| Sex | 46.159** | 19 | 0.000 |
| Marital status | 88.591 | 76 | 0.153 |
| Religious affiliation | 27.068 | 38 | 0.907 |
| Farmland acquisition pattern | 145.98** | 76 | 0.000 |

** Significant at 0.01 level, * Significant at 0.05, χ^2 = Chi- square value, df: Degree of freedom

Source: Field survey, 2015.

Hypothesis two: There is no significant relationship between the effectiveness of GESS and the level of accessibility of inputs to the respondents. To test this hypothesis, bivariate correlation was used. The results in

Table 7 show positive and significant relationship between effectiveness of GESS and accessibility of inputs ($r=0.222$, $p\leq 0.01$). This result is an indication that increase in accessibility of farm inputs will lead to an

increase in the favour of effectiveness of GESS in the study area. This result is expected as provision of affordable agricultural inputs like fertilizer, hybrid seeds and agro-chemicals to farmers is one of the main objectives of GESS. The contribution of access to inputs vis a vis effectiveness of

GESS was 4.93 per cent. This low value of percentage contribution could be because most of the inputs were not accessed by the respondents; hence, the percentage contribution of access to inputs to GESS effectiveness was low.

Table 6. Summary of correlation analysis between effectiveness of GESS and some selected personal and socio-economic characteristics of the respondents (n=420)

| Variables | Correlation coefficient | Coefficient of determination |
|--|-------------------------|------------------------------|
| Age | -0.253** | 0.064 |
| Total household size | 0.052 | 0.003 |
| Contact with extension agents | 0.000 | 0.001 |
| Frequency of contact with extension agents | 0.111* | 0.012 |
| Cosmopolitaness | 0.050 | 0.025 |
| Annual income from farming | 0.006 | 0.000 |
| Years of farming experience | 0.255** | 0.065 |
| Functional mobile phone ownership | 0.344** | 0.118 |

** Significant at 0.01 level,

* Significant at 0.05 level,

df: Degree of freedom

Source: Field survey, 2015

Table 7. Correlation analysis between effectiveness of GESS and accessibility of farm inputs to the respondents (n=420)

| Variable | Correlation coefficient (r) | Coefficient of determination (r ²) |
|------------------------------|-----------------------------|--|
| Accessibility of farm inputs | 0.222** | 0.049 |

**Significant at 0.01 level.

Source: Field survey, 2015.

CONCLUSIONS

The study concluded that there was high level of identified problems of access to inputs by the respondents, GESS was structured and operated by the government among the various stakeholders using the top-down approach, also there was low level of accessibility of inputs through GESS by the respondents, and low level of effectiveness of GESS in solving the problem of inputs delivery.

Based on the findings and conclusions from the study, the following recommendations were made.

- More inputs should be made accessible by inputs suppliers to agro dealers then to farmers
- Since the farmers used mostly interpersonal communication, more agricultural extension agents should be involved in the GESS.
- Radio and television broadcasts of the programs in various Nigerian local languages should be increased most especially before the onset of each program.

- The Nigerian Communications Commission should be required to improve network coverage so as to enhance the reception of calls and electronic messages for accessing agricultural inputs by farmers.

- There should be better orientation for future likely programmes and a reorientation of the farmers about the GESS in which there will be more extensive sensitization and enlightenment, especially at the grassroots levels.

- A more inclusive participatory approach instead of top-down approach should be adopted for planning, execution and evaluation of GESS programme.

- More redemption centers should be created, to move the centers closer to the farmers in terms of distance to be trekked or covered and number of farmers queuing up for redemption of inputs.

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