# ANALYSIS OF INFORMATION NEEDS OF RURAL YOUTHS ON GARDEN EGG PRODUCTION (*Solanum melongena*) IN ABIA STATE, NIGERIA

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## ABSTRACT

The study investigated the information needs of garden egg farmers in Abia State, Nigeria. One hundred and twenty garden egg youth farmers who are registered member of the association were selected from Umuahia Agricultural zone (Isialangwa North and South Local Government Areas). Data for the study were collected through semi-structured interview descriptive, mean and inferential statistics. Major findings from the study show that majority of the youths relied mainly on friends/ radio with mean score of ($\bar{x}$ = 2.29) on garden egg production respectively. The youths needed information on density/plant ($\bar{x}$ = 9.04), nursery management ($\bar{x}$ = 8.54), site selection ($\bar{x}$ = 8.03), and fertilizer application ($\bar{x}$ = 8.01) which they considered very important but which were relatively difficult for them to perform due to lack of sufficient and appropriate technical information. The study, therefore recommends that agriculture extension services which are saddled with the responsibility of disseminating timely, complete actionable information should be repositioned and strengthened to ensure that youth farmers access information, through appropriate channels and to shift the balance between success and failure of farmers.

**Keywords:** Garden-egg, Youth Farmers and Information Needs.

## INTRODUCTION

Information plays a key role in improving the livelihoods of farm households and accelerate rural development. The strategic importance of increasing access to knowledge and information is emphasized in the Human Development Report (UNDP, 2001). World Summit for Sustainable Development Plan of Action (UN, 2001) and the Revised World Bank Rural Development Strategy (World Bank, 2002). Agricultural information is defined as the data for decision making and a resource that must be acquired in order to make informed decision (Samuel, 2001, Yazidu, 2005). Agricultural information as a proven idea, technology which comes as a direct result of research activity or government policy designed to educate farmers or policy issues which would enhance their farming activities.

The Nigerian economy was previously almost entirely dependent on agriculture for many years before the oil boom. Even though agriculture still remains the largest sector of the economy and employs two-third of the entire labour force, the production hurdles have significantly stifled the performance of the sector. Food production have not kept pace with population growth resulting in rising food importation and declining levels of national food self-sufficiency (FMAND, 2008). The main factors undermining production include reliance on rain-fed agriculture, small holder land holding, inadequate farm inputs and weak agricultural extension system among others. The consequences of these has been low production and productivity.

This performance so far indicates that the farmer have neither used nor assembled most of the technologies being introduced to them (Odoemelam *et al.*, 2014). This appear to be the case considering the findings of Yayock and MIsan (1990) who stated that there exist a wide gap

between farmers improved yields at the research field and farmers' field. This scenario the authors attributed to the gap between available agricultural information on improved practices and its use.

According to (Mbanasor *et al.*, 2012), the economic profile of inhabitants of Abia State is worrisome. They reported the core welfare indicator questionnaire survey of NBS (2006) that overall dependency ratio of Abia State was 0.6, indicating that at least six persons were dependent on each economically active person. Rural-urban migration was high among the youths, seeking for employment in the cities, without getting any. The need to revamp agriculture by federal and state government and introduction of many programmes has made most of our youths to go back to land. Though the youths have desirable qualities that can promote agriculture, most of them have limited access to productive resources especially agricultural information. Information system complemented with longer term observation of mark prices and their interpretation and matched with the appropriate management skills may assist the youths in planning their production.

Most of these youths depend on indigenous knowledge for their production resulting to low yield. This study is there designed to identify information needs of rural youths on garden egg production; with the following specific objectives to;

1. identify the socio-economic characteristics of the respondents
2. identify their sources of agricultural information on garden egg production
3. ascertain the information needs of the youths on garden egg production
4. determine the factors influencing their information needs.

**Theoretical framework**

Farmers need timely and appropriate information to make effective use of their limited resources. In every State in Nigeria, the Ministry of Agriculture in collaboration with State ADPs is responsible for the provision of Agricultural extension service, the agricultural extension agents who are assigned to different communities, known as operational areas, which are sometimes very large. As a result and due to inappropriate availability of resources, the EAs are not able to reach many farmers. Research institutions, NGOs and other stakeholders are also directly or indirectly involved with the generation and dissemination of agricultural information to varying degrees. However, information often remains within the sector where it is collected and is not made available for wider use.

## METHODOLOGY

The study area was Abia State. Abia State is made up of 3 agricultural zones with 17 Local Government Areas, namely Aba North, Aba South, Arochukwu, Bende, Ikwuano, Isialangwa North, Isialangwa South, Isiukwuato, Obingwa, Ohafia, Osisioma, Ugwunagbo, UKwa-east and Ukwa-west.

Multi-stage sampling procedure was used in the selection of the sample size. In the first stage, one agricultural zone (Umuahia) was selected; followed by a purposive selection of 2 Local Government Areas (Isialangwa North and South) known in Abia State for the production of garden egg. From these 2 Local Government Areas, 3 blocks and 2 cells were selected followed by a selection of 10 youths who are actively involved in garden egg production, forming a sample size of 120 youths. Data were collected with the use of questionnaire and Focus Group Discussion (FDG) and later analyzed with descriptive and

inferential statistics. For objective 1, descriptive statistics like frequency distribution and means were used for the analysis. Objective 2 was captured using the FAO's (1992) methods of determining need. To determine the needs of the youths on garden egg production, they were subjected to a 11 items statement on management practices placed on Likert-type scale. This method involved job analysis by ascertaining the frequency of performance, importance of and difficulties faced in garden egg production by the youths. Frequency of performance was placed on a 5 point Likert-type scale where seldom = 1, occasionally = 2, weekly to monthly = 3, daily to weekly = 4 and daily = 5. The value were added up and later divide by 5 to get a mean score of 3.0 which is the cut-off points. Difficulties faced in the production of garden egg was placed on 3 point Likert-type scale where marginally important = 1, moderately = 2 and extremely importantly = 3.

Any management practice whose mean is greater than 1.5 and above is very important. Difficulty in handling production practices was placed on a 4 point Likert-type scale where easy = 1, moderately difficult = 2, very difficult = 3 and extremely difficult = 4. Any management practice whose mean is greater than 2.5 is difficult for the garden egg farmers. Information need score (INS) was computed by cumulating the total respondent score on each practice for each performance, importance and difficulty. The minimum INS was 6.65 and maximum was 9.04 INS were further dichotomized into high scores (7.0 – 12.0) and low scores (1.0 – 6.0). using this system, any management practice with high INS (7.0 and above) was regarded as priority task where additional information is needed to improve performance. Objective 3, was realized using multiple regression analysis. The explicit form is stated below.

The four functional forms are expressed as follows;

1) Linear function
   $Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + ei$
2) Semi-log function
   $Y = L_nb_0 + b_1L_nX_1 + b_2L_nX_2 + b_1L_n\,X_3 + b_3L_nX_3 + b_4L_nX_4 + b_2L_nX_4 + b_5L_nX_5 + b_5L_nX_5 + b_6L_nX_6 + b_2L_nX_6 + ei$
3) Exponential function
   $LnY = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + ei$
4) Double-log function
   $LnY = L_nb_0 + b_1L_nX_1 + b_2L_nX_2 + b_1L_n\,X_3 + b_3L_nX_3 + b_4L_nX_4 + b_2L_nX_4 + b_5L_nX_5 + b_5L_nX_5 + b_6L_nX_6 + b_2L_nX_6 + ei$
   $Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7 + e)$
   Where Y (dummy variable) = 1 if needs are available, 1 otherwise = 0
   Where ($X_1 – X_7$) independent variables
   $X_1$ = Sex (dummy variables male 1; female 0)
   $X_2$ = Age of respondents (measured in years as supplied by the respondents)
   $X_3$ = Education level (number of years of formal schooling)
   $X_4$ = Marital status (dummy variables; married 1; otherwise 0)
   $X_5$ = Membership of social organization (dummy variables; members 1; non – members 0)
   $X_6$ = Farming experience (measured in years as supplied by the respondents)
   $X_7$ = Household income (measured in naira from major occupation)
   e = Error term

## RESULTS AND DISCUSSION

**Table 1: Socioeconomic characteristics of the respondents**

| Variables | Frequency | Percentages | Mean (STD) |
|---|---|---|---|
| **Sex** | | | |
| Male | 59 | 49.2 | |
| Female | 61 | 50.8 | |
| **Age (years)** | | | |
| 15 – 20 | 24 | 20 | |
| 25 – 30 | 68 | 56.7 | |
| 35 – 40 | 28 | 23.3 | |
| **Total** | **120** | **100** | **40.14 (9.06)** |
| **Marital status** | | | |
| Single | 24 | 20.0 | |
| Married | 70 | 58.3 | |
| Divorced | 9 | 7.5 | |
| Widow | 17 | 14.2 | |
| **Education qualification** | | | |
| No formal | 16 | 13.3 | |
| Primary | 28 | 23.3 | |
| Secondary | 57 | 47.5 | |
| Tertiary | 19 | 15.8 | |
| **Total** | **120** | **100** | **9.58 (4.96)** |
| **Household size** | | | |
| 2 – 4 | 62 | 51.7 | |
| 5 – 8 | 41 | 34.2 | |
| 9 – 12 | 17 | 14.2 | |
| **Total** | **120** | **100** | **5.71 (2.79)** |
| **Farming experience** | | | |
| 2 – 4 | 47 | 39.2 | |
| 6 – 8 | 53 | 44.2 | |
| 10 – 12 | 16 | 13.3 | |
| 14 – 16 | 4 | 3.3 | |
| **Members social organization** | | | |
| Yes | 87 | 72.5 | |
| No | 33 | 27.5 | |
| **Farm size (plots)** | | | |
| 1 – 2 | 34 | 28.3 | |
| 3 – 4 | 49 | 40 | |
| 5 – 6 | 32 | 26.7 | |
| 7 – 8 | 5 | 4.2 | |
| **Average Income** | | | |
| 40,000 – 80,000 | 54 | 45.0 | |
| 120,000 – 160,000 | 47 | 39.2 | |
| 240,000 – 280,000 | 13 | 10.8 | |
| 281,000 – above | 6 | 5.0 | |
| **Total** | **120** | **100** | |

***Source: Field survey, 2015***

Table 1 indicated that majority of the respondents (50.8%) were female while 49.2% were male. The average age of the respondents was 40.14 with a standard deviation of 9.06 this

showed that the respondents were in their economic active age. The implication is that they will be innovative and less conservative in trying new methods of producing garden egg. The finding has implication for extension organization to target younger garden egg farmers who are still strong and full of energy to make full impact in garden egg production. Result indicated that 47.5% of the respondents had secondary education, 23.3% had primary education, and 15.8% had tertiary education while minority 13.3% do not have access to formal education. The mean level of education is 9.58 with a standard deviation of 42.96. This showed that most of the respondent attempted formal education at least at the secondary level. The implication of this level of education is that the farmers in the study were literate and capable of reading and writing, this will enhance their access to information. The level of education is sufficient enough to support adoption of technology through information sharing and distribution. The result tallies with the assertion of Imo and Essien (2005) and Ironkwe *et al.* (2007) that education increases adoption and enhances farmers' ability to understand and evaluate production technologies. The result revealed that majority (51.7%) of the respondents had a household size of 2 – 4 persons, 34.2% had a household size of 5 – 8 persons while very few 14.2% had a household size of 9 – 12 persons. The mean household size is 5.71 with a standard deviation of 2.79. This situation indicated that most garden egg youth farmers in the study area came from households with large family size which could place much demand on agricultural information. The table further indicated that many (44.2%) of the farmers had a farming experience of 6 – 8 years. 39.2% had a farming experience of 2 – 4 years 13.3% had a farming experience of 10 – 12 years, while only 3.3 had a farming experience of 14 – 16 years, which implies that the entrance rate of people into garden egg production is rapid in the recent past. Table 1 also showed that majority (72.5%) of the farmers belongs to one social organization or the other while, only few (27.5%) do not belong. The farmers belong to garden egg producers association because it supports dissemination of information among them. Those involved in these associations do so because of ease of access of extension services, market and credit facilities (Uzokwe and Ideh, 2006). The implication is that these farmers will have access to information through their affiliation to social organizations. The data showed that the 40% of the respondents had a farm size 3 – 4 plots while just 4.2% had a farm size 7 – 8. The average income of majority of the farmers was between 40,000 – 160,000. The implication is that the farmers are not just peasants youth though small scaled but are little comfortable with their income.

**Table 2: Distribution of respondents according to sources of agricultural information**

| Variables | Frequency | Mean |
|---|---|---|
| Radio | 275 | 2.29* |
| Television | 230 | 1.92 |
| Newspapers | 200 | 1.67 |
| NGO | 208 | 1.73 |
| Extension agents | 251 | 2.09* |
| Friends and relatives | 275 | 2.29* |
| Input dealers | 255 | 2.13* |
| Church | 193 | 1.61 |
| Research | 224 | 1.87 |

***Source: Field survey, 2015***

* Significant decision rule (M = 2.0)

Multiple responses

Table 2, showed the sources of agricultural information used by the respondents and the level of usage. The mean score above 2.0 indicates high level of usage. Out of the nine sources of information studied, the respondents made high use of four (4), and they included radio ($\bar{x}$ = 2.29). This agrees with the outcome of many studies, especially in Southwestern Nigeria: Ajayi (2003) found radio to be the most popular source of information in Southwest Nigeria, and other authors cited radio's potential as a source of agricultural information (Igodan and Adekoya, 1987; Olowu and Igodan, 1989; Yahaya, 1995, 2002). Extension agents ($\bar{x}$ = 2.09), friends and relative ($\bar{x}$ = 2.29), input dealers ($\bar{x}$ = 2.13). This finding agrees with Ajayi, Banmeke, and Solomon (2011) and Antholt (1994), who attributed the rise in farmers' preference for fellow farmers as a first-hand information source to the apparently ineffective public extension services in Nigeria. The preeminent position of follow farmers as a source of agricultural information is not surprising as the farmers were brought together under the umbrella of garden egg producers association for mutual benefits especially exchange of information on improved management practices.

Results with respect to television, newspapers, NGO, churches, and researchers follow the traditional pattern in studies of this nature that have confirmed these sources as always playing second fiddle to radio (Ajayi, 2003). Radio has been acknowledged to be the cheapest and by far the most effective means of reaching rural targets with agricultural innovations (Yahaya and Akinboye, 1999; Owolade, Odebode, and Alonge, 2008), compared to other sources of information. The implication is that farmers in the study area received information from radio, extension agents, friends, and relative and input dealers more than they receive from television, newspaper, NGO, church and research institute. This result in general is in agreement with what was observed by Ogungbeni *et al.* (2013) in Lagos State Nigeria were professional colleagues or other farmers (90.0%), television (86.3%), radio (81.3%) and community leader (76.3%) were the most often used sources and media by the respondents to obtain information on agriculture. Whereas, the farmers rarely rely, on newspaper (2.6%), poster (3.8%), textbooks (3.8%) and internet (2.6%) as a means of getting information. Moreover, the farmers depend sometimes on extension personnel in order to get information.
**Note**: Access to reliable and timely price information is a prerequisite for farmers to make informed decisions about their input purchases and product sales in the short term. The youths complained that information on important issues rarely reaches a large number of them. Radio appears to be preferred sources of agricultural information by all the youths. However, even if information is disseminated through this channel few youths will have access to it because of their limited ownerships of radios, similarly the user of television and newspapers or other printed media may not reach the poor rural youths. Verbal communication is a popular source among the youths, this point to the need for contact with EAs for agricultural information.

**Table 3: Mean distribution of respondents according to their information needs**

| Production management practices | Frequency of performance ($\bar{x}$) | Importance ($\bar{x}$) | Difficulties ($\bar{x}$) | Information need scores |
|---|---|---|---|---|
| Site selection | 3.14 | 2.38 | 2.57 | 8.03 |
| Land preparation | 2.88 | 1.67 | 2.51 | 7.12 |
| Nursery management | 2.67 | 2.15 | 3.26 | 8.54 |
| Access to improved seedlings | 2.58 | 1.75 | 2.32 | 6.65 |
| Transporting to site | 2.69 | 2.09 | 3.16 | 7.94 |
| Soil conservation | 2.58 | 2.13 | 2.68 | 7.39 |
| Integrated pest management | 3.21 | 1.61 | 2.58 | 7.4 |
| Fertilizer application | 3.58 | 1.87 | 2.56 | 8.01 |
| Processing/storage | 2.48 | 1.57 | 2.88 | 6.93 |
| Dry-season planting | 3.21 | 2.42 | 2.78 | 8.03 |
| Density/plant spacing | 3.56 | 1.68 | 3.80 | 9.04 |

Table 3 reported production and management practices that are relevant to youth farmers on garden egg production. Five of the practices that were frequently performed were fertilizer application ($\bar{x}$ = 3.58), density/plant spacing ($\bar{x}$ = 3.56), integrated pest management ($\bar{x}$ = 3.21), site selection ($\bar{x}$ = 3.14), land preparation ($\bar{x}$ = 2.88), transporting seedlings from nursery to plots ($\bar{x}$ = 2.69), nursery management ($\bar{x}$ = 2.67), access to improved seeds ($\bar{x}$ = 2.58), soil conservation ($\bar{x}$ = 2.58) and processing/storage ($\bar{x}$ = 2.48) were occasional activities performed by the youth farmers. Site selection is considered as the bedrock of the enterprise that determines profitability. Agricultural soils loose their fertility by plant nutrient exhaustion which poses a humungous threat to food security. So selection of a good site is the first step towards a successful business enterprise; every other things being equal. Table 3 also indicated that dry season farming ($\bar{x}$ = 2.42), site selection ($\bar{x}$ = 2.38), nursery management ($\bar{x}$ = 2.15), soil conservation ($\bar{x}$ = 2.13) and transporting from nursery to site ($\bar{x}$ = 2.09) were considered very important activities. Other important activities included fertilizer application ($\bar{x}$ = 1.8), access to seeds ($\bar{x}$ = 1.75), density/plant spacing ($\bar{x}$ = 1.68) and IPM ($\bar{x}$ = 1.61).

The implication is that all those factors that will influence the successful growth of the garden production were considered important. Table 3, revealed that very difficult activities carried out by the youths include; density/plant spacing (3.80), nursery management ($\bar{x}$ = 3.26), transporting seedlings from nursery to plots ($\bar{x}$= 3.16), other difficult activities include processing/storage ($\bar{x}$ = 2.88), dry season planting ($\bar{x}$ = 2.78), IPM ($\bar{x}$= 2.58), site selection ($\bar{x}$ = 2.57), fertilizer application ($\bar{x}$ = 2.56) and land preparation ($\bar{x}$ = 2.51).

Furthermore, based on the computed information needs scores for the various activities, the result established that respondents needed information on density/plant spacing ($\bar{x}$ = 9.04), nursery management ($\bar{x}$ = 8.54), site selection ($\bar{x}$ = 8.03), dry season planting ($\bar{x}$ = 8.03) and fertilizer application ($\bar{x}$ = 8.01).

Others were transporting seedlings from nursery to plots ($\bar{x}$ = 7.94), soil conservation ($\bar{x}$ = 7.39), IPM ($\bar{x}$ = 7.4) and land preparation ($\bar{x}$ = 7.12), access improved seedlings ($\bar{x}$ = 6.65) and storage/processing ($\bar{x}$ = 6.03).

The result indicated that the respondents needed information on management practices which the considered very important but which were relatively difficult for them to perform due to lack of sufficient technical information. The youths needed information on these management practices to bridge the gap between their present levels of performance and the expected levels. According to (Odoemelam and Onumadu, 2013), garden egg farmers in Abia were displeased with the low grades seeds mixed with prime quality. Seed is the basic input for the crop and therefore information on a better varieties and their availability would have the young farmers to perform better. Also information on the appropriate use of fertilizer will also help them to achieve maximum output. Again, appropriate plant protection measures is necessary to ensure higher yield but also improve the quality of yield.

Information on specific land treatment was of special interest for the youths on processing/storage. The youths lack formal technical information for minimizing crop losses though they do make use of traditional methods for securing them.

**Table 4: Regression result of the relationship between the information needs of garden egg farmers and selected socioeconomic characteristics**

| Variables | Linear | Exponential | Semi-log | Double-log |
|---|---|---|---|---|
| Constant | 9.374 | 26.702* | 6.679 | 12.707* |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Sex | -1.653 | -1.798 | -1.733 | -1.865*** |
| | (0.101) | (0.75) | (0.86) | (0.065) |
| Age | -4.520 | -4.921* | -4.490 | -4.907* |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Marital status | 0.373 | 0.440 | 1.052 | 1.107 |
| | (0.710) | (0.661) | (0.295) | (0.271) |
| Level of education | 3.650 | 3.463* | 3.762 | 3.606* |
| | (0.000) | (0.001) | (0.000) | (0.000) |
| Occupation | -0.206 | 0.182 | 0.667 | 1.036 |
| | (0.837) | (0.856) | (0.506) | (0.302) |
| Membership of socio organization | 1.694 | 1.617 | 2.009 | 1.875*** |
| | (0.93) | (0.109) | (0.47) | (0.063) |
| Farming experience | 1.315 | 1.729 | 1.695 | 2.132*** |
| | (0.191) | (0.87) | (0.93) | (0.035) |
| Household income | 0.260 | 0.498 | 0.661 | 0.885 |
| | (0.795) | (0.620) | (0.510) | (0.378) |
| $R^2$ | 0.59 | 0.612 | 0.590 | 0.608 |

***Source: Field survey, 2015***
*** Significant at 10% level of significance
** Significant at 5% level of significance
* Significant 1% level of significance

Table 4 showed a four functional regression result of the relationship between the information needs of the garden egg farmers and their selected socioeconomic characteristics. The result showed a coefficient of determination ($R^2$) for (linear = 0.59), (exponential = 0.612), (semi-log = 0.590), and (double-log = 0.608). The double-log function is chosen as the lead equation because it has the highest number of significant variables and also a higher coefficient of determination ($R^2$). The coefficient of determination ($R^2$ = 0.608) showed that more than 60% of the variation in the information needs of the garden egg farmers in the

study area is accounted for by the variations in the explanatory variables included in the model.

The result showed that at (0.10) level of significance sex (-1.865) is negatively related to the information needs of the garden egg farmers. The application is that particular genders are more interested in, and have more need of information in garden egg production than the other. This result furnishes reason for further research on gender analysis of information needs among garden egg farmers in the study area. Also the analysis showed that at 10% (0.10) level of significance membership to social organization (1.875) is positively related to the information need of garden egg that is to say that as farmers are exposed to social organizations the more there information needs increases.

Table 4, also showed that at 5% (0.05) level of significance farming experience (2.132) is positively related to the information need of the farmers. The implication is that the more experienced the garden egg farmers become the more they have need for information. These needs could be essential information needed to expand the scope of production.

The result in Table 4 also indicated that at 1% (0.01) level of significance age (-4.907) is related to information needs of the farmers but negative related, and also level of education (3.606) is positively related to the information needs of the garden egg farmers. The implication of these results is that as farmer advance in age they depreciate in strength and become less active and will no longer want to source for information as the information will be of little or no use for him since they are no longer in active farming, and also as ones level of education increase the less conservative and more inquisitive he becomes wanting to known virtually everything around him or that is connected to his survival that will either increase his production or make him exceptional to other uneducated conservative illiterate young farmers.

## CONCLUSION AND RECOMMENDATIONS

Findings from the research confirm that the youths farmers needed information on planting density and spacing, nursery management, site selection, dry season planting, and fertilizer application. The implication is that vital information is an important asset that must be relied upon to develop the competencies of the youths to see farming used to sustain livelihoods. Based on this premise, the study recommends that agricultural extension services which are saddled with the responsibility of disseminating timely, complete actionable information should be repositioned and strengthened to ensure that youth farmers access information, through appropriate channels and to shift the balance between success and failure of farmers. Improved availability of information to youths farmers and other farmers from within and outside the communities will enable them to explore opportunities for using production methods that will improve their productivity and livelihoods.

Government or donor agencies may help to decentralize information flow and strengthen the communities information capacity by equipping them with information system that would enable prompt access to agricultural information.

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