

Sustainable children investment in guinea pig production and its implications for extension services

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Abstract

This study was conducted specifically to identify the level of children investment in guinea pigs production, the major sources of fund for the children, the methods of communication between the children and their source of information; and to determine their level of performance in guinea pig production. Implications for extension service were also determined. The children who invested in the production of guinea pigs within Ilesa East Local Government Area of Osun State constituted the study population. Simple random sampling technique was used to select twenty-five percent of the population as sample. To this end respondents were selected and interviewed for the study using structured interview schedule. The data collected were analysed through frequency counts, percentage, mean and standard deviation. Correlation analysis was used to establish relationship between the variable of the study. Findings revealed that all the respondents were male secondary school children, aged between 11 and 20 years. The major sources of information were friends (100%), successful farmers (27.3%) Osun State Agricultural Development Programme (OSADEP) 27.3%, interpersonal visits (92.7%) and field demonstration (81.8%). Majority (52.7%) of the respondents had between 1 and 4 guinea pigs while only few (9.1%) had between 15 and 19 guinea pigs. Positive and significant correlation existed between the sources of agricultural information and the performance of children in guinea pig production ($r=0.313$) and between methods of communication (when combined) and performance of respondents in guinea pigs production ($r=0.291$). Based on the findings, it was posited that the agricultural extension system should identify and reach the children guinea pig producer with programmes intended to encourage sustainable guinea pigs production.

Keywords:

Introduction

The need to increase the level of agricultural production has long been emphasized. It has also been emphasized that Agricultural development in the context of nations' economic development should lead to industrial and social development. In attempting to solve the problems created by over reliance on oil as the major source of the nation's foreign exchange earnings and neglect of the agricultural sector.

Structural strategies or development schemes have to be evolved. To achieve a long-term sustainable farm production, functional, efficient and cost effective advisory and distribution services to farmers are major pre-requisites.

The rural-urban influx of the young, able youths who are the major source of farm manpower either to seek more dignifying jobs or for educational purposes is worthy of note. This has

largely resulted from the lack of necessary social infrastructures in the rural areas where farmers and their households live. The consequence is that majority of the farmers are now old. To create interest of the youths in farming and to achieve development, the extension programme for rural youths of both sexes should include emphasis on developmental education (Jones, 1986).

Children involvement in agricultural production was seen as a sort of complementary role, assistance to parents/guidance on farms or in marketing of farm produce. Children direct investments in farm production were until now not common. Even where children have participated in farming, the various reasons advanced for such include:

- i. Inability of parents to pay school fees resulting in children being made to hawk agricultural produce (Bamisaye, 1990 and Robert *et al.*, 1990).
- ii. Cultural barriers for instance, Fulani children could be used to herd cattle right from age of seven (Ekong, 1988).
- iii. Children of low income parents usually go out to fend for themselves (Bamisaye, 1990 and Robert *et al.*, 1990).
- iv. Many rural parents engage their children on farms during planting or harvesting seasons or engage them in hawking of produce during market days (Ojo, 1990).

Apart from the above, note worthy is the involvement of children of school age in guinea pigs production. Their involvement is simulated out of personal desire hence no trace of child abuse existed. This is common among the secondary school children. Against this background, this paper poses to determine the possible implications of sustainable children investment in guinea pig production on Agricultural Extension services. Specifically, it identified the level of children methods of

communication between the children and their sources of agricultural information; the major sources of fund available to children for investment in production; and the various reasons why children invest in guinea pig production. Relationship between the level of children investment in guinea pigs production on one hand and the children's methods of communication as well as their sources of agricultural information on the other hand were determined.

Methodology

The population of the study comprises the children who invested in the production of guinea pigs within Ilesa East Local Government Area of Osun State, Nigeria. Children that invested in production of guinea pigs within the study area were identified and twenty-five percent of them were selected for the study using random sampling technique. The total number of respondents was 55. Based on this, 55 copies of a validated interview schedule were printed and administered on the children.

The interview schedule contained information on socio-economic characteristics of respondents such as sex, age, education background and access to agricultural instruction in schools on sources of agricultural information, methods of communication and frequency of communication by children with the sources of agricultural information. Four-point scale was used to measure the frequency of use of communication methods.

The schedule also elicited information on investment in guinea pigs production. Items such as when the operation started, number of guinea pigs, the use of the proceeds of the operation were included. Also, information was elicited on influence of participants on other children, number of farrows per year, analysis of operation, general comments on performance record, problems encountered in production and suggestions for improvement or encouragement of sustainable children investment in guinea pigs

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production. Number of farrows per year and little size were recorded directly, analysis of production record were scored considering only the number of animals at intervals as follows 0-4 scored 1 point, 5-9 scored 2 points, 10-14 scored 3 points, 15-19 scored 4 points while 20 and above scored 5 points. For respondents' comments, problems in production and suggestions for improvement, each point was awarded a score of 1 point. Total scores were calculated by adding scores.

Performance of children in production was measured in terms of the number of guinea pig raised. Mean score was 6 with standard deviation 2.0. Average performance in guinea pigs production is given as 6.0 ± 2.0 . Therefore, below this range is low performance while above is high performance. The interview schedule was subjected to content validity and test-retest validity test. Correlation coefficient of $r=0.89$ was obtained, which indicates the consistency of the instrument.

Result and Discussion

Socio-economic characteristics of the respondents

Result of the study revealed that all the respondents were male. 78.0% were aged between 16 and 20 years while 21.8% were aged between 11 and 15 years. 63.6% of the respondents were in Junior Secondary School

while 36.4% were in Senior Secondary School classes. Only 78.2% of the respondents were revealed to have had previous experience in livestock production.

Access to sources of agricultural information

About twenty seven percent of the respondent claimed to have had access extension agents of Osun State Agricultural Development Programme (OSADEP), 27.3% claimed to have been informed through the activities of the successful farmers in the area while all the respondents claimed peer groups or friends as the major sources of agricultural information. This analysis revealed that more than one source of agricultural information was used but more emphasis was on information from friends. As a result, extension workers should identify contact farmers among these youths who will serve as useful link with the extension agents and as such would aid acceptance and adoption of innovations.

Communication methods

Data in Table 1 show that 92.7% of the respondents received information through interpersonal visits, 81.8% received through field demonstration while 47.3% claimed to have received information through radio and television programmes. The result implies that majority of the respondents were reached by either personal contact or field demonstration.

Table 1: Distribution of respondents by available sources of agricultural information and communication methods (N=55)

Characteristics	Yes Frequency	%	No Frequency	%
Sources				
OSADEP	15	27.3	40	72.7
Successful farmers	15	27.3	40	72.7
Friends in production	55	100.00	00	00
Methods				
Interpersonal visits	51	92.7	4	7.3
Field demonstration	45	81.8	10	18.2
Radio and Television	46	47.3	29	52.1

NB: Multiple responses were obtained.

Source: Field Survey, 2000

Period of participation in guinea pig production

Forty percent (40.0%) of the respondents started the business two years ago, 21.8% started less than a year ago, 20.0% started 3 to 4 years ago while 18.2% had started 5 to 6 years ago. Majority (81.8%) of the respondents started their projects with a male and a female guinea pig.

Further investigation also shows that 69.1% of the children generated fund by self efforts to start, 20% operated jointly with friends while 10.9% of them were aided by their parents. Data in Table 2 show that 67.3% of the children had initial or take off cost of production less than ₦ 250.00, 21.8% between ₦500.00 while only 10.9% had between ₦ 501 and ₦ 1000.00.

Table 2: Distribution of respondents' initial/take off cost of production (N=55)

Take off cost of production (₦)	Frequency	Percentage
Less than ₦ 250.00	37	67.3
251 – 500.00	12	21.8
501 – 1000,00	6	10.9
Total	55	100.00

Source: Field Survey, 2000

From these findings, it was clear that majority (69.1%) of the children saved personally towards the investment. This shows that they are highly interested in production. As a result, extension programme aimed at encouraging such children to develop interest in future career in agriculture will be very desirable. The participating children should be specifically identified for information dissemination and improvisation with local materials should be encouraged to reduce cost of production. This is also a challenge for the extension service systems wishing to reach such group.

Reasons for starting guinea pi production

Results of the study revealed that 61.8% of the respondents started, guinea pig rearing with commercial motive, 47.3% for nutritional motive, 32.7% for academic purposes while 27.3% of the respondents keep stock as hobby. These findings imply that majority of the children/respondents keep guinea pigs for commercial purposes. As a result, extension services should be prepared to reach the group

with modern technology to improve their level of production for constant market supply.

Influence of their participation on others

The respondents have influenced other people/children within their localities to start keeping guinea pigs. Results show that 58.2% claimed to have influenced not more than 4 persons, 14.5% have influenced between 5 and 9 children, 9.1% between 10 and 14 children, 5.5% have influenced between 15 and 19 children, while 12.7% have influenced more than 20 children. From these findings, it could be inferred that these children could be used as extension multipliers and extension agents should try to work with them.

Number of animals in stock at present

Data in Table 3 show that 52.7% of the respondents had between 1 and 4 guinea pigs in stock, 20.0% had between 5 and 9, 16.4% had between 10 and 14 while 10.9% had between 15 and 19 guinea pigs in their stock.

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Table 3: *Distribution of respondents by the number of animals in stock*

Number	Frequency	Percentage
0-4	29	52.7
5-9	11	20.00
10-14	9	16.4
15-19	6	10.9
Total	55	100.00

Source: Field Survey, 2000

This findings shows that majority of the children are small holders. From this it could be deduced that they either lacked managerial expertise necessary to increase the stock or they have just started producing. The average number of animals in stock per respondent is 6 guinea pigs with standard deviation of 2. Efforts should be made by extension agencies to reach them with methods that will help to increase their level of production.

Problems faced by respondents in production

The result revealed that 72.7% of the respondents were faced with problems of little or no technical know-how, 21.8% had problem of security, 14.5% lacked adequate information about production and market situation while 9.1% had problem of inadequate/lack of research information especially on crossing of breeds of guinea pigs. From this finding, it could be deduced that majority of the children were faced with either problems of inadequate finance or lack of sufficient technical know-how. This group could be targeted through the poverty reduction programme of the Federal Government while the extension system should target the group for technical assistance.

Suggestions by the respondents

Results revealed that all the respondents want financial assistance to increase their investments. 90.9% would want career or practically oriented agricultural education in schools, 83.6% requested for agricultural extension services, 18.2% would want children to be organized into production cooperatives or young farmers club, 10.9% wanted a more intensified research into their production problems while few (9.1%) would want a good market arrangement for their products. From these findings, it is clear that majority of the children wanted financial assistance,, educational programmes and improved agricultural extension services for a sustainable investment in guinea pigs productions.

Hypothesis testing

Data in Table 4 shows a positive and significant correlation between the source of agricultural information and the performance of children farmers in guinea pigs production ($r=0.313$) positive and significant correlation between methods of communication (when combined) and performance of respondents in guinea pigs production ($r=0.291$) while positive but non-significant correlation existed between frequency of use of communication methods and performance in production of guinea pigs ($r=0.050$).

Table 4: Correlation analysis showing linear relationship between respondents' performance in guinea pigs production and other variable of the study

Variable (x)	Correlation Coefficient (r)	Coefficient of determination (r^2)	%
Sources of agric. Information	0.313	0.0978	9.78
Combination of communication Methods	0.291	0.0848	8.48
Frequency of communication Methods	0.050	0.0025	0.25

*Significant at 0.05 level d.f 60, critical value of $r = 0.250$

Source: Field Survey, 2000

Coefficient of determination (r^2) in the table shows the percentage variations in the children farmers' performance in guinea pigs production as indexed by the numbers of guinea pigs in stock (y-variable) as explained by each of the x-variable of the study. As shown in Table 4, 9.78% of the variation in the level of performance in guinea pigs production could be attributed to the available sources of agricultural information, 8.4% to the communication methods used especially when combined while 0.25% due to the frequency of use of the communication methods. The analysis indicated that the more the children have access to source of information on their projects, and the more a combination of methods are used by the sources to communicate agricultural information to the children the more their production performance. This has implication for sustainable investment in guinea pig production by the children.

Conclusion

Based on the findings of the study, it could be concluded that majority of the children (67.3%) started the project with less than N 250.00 69.1% generated investment money through personal savings, while majority (52.7% were small holders with about 4 guinea pigs. Sources of agricultural information available to the children were extension services, successful farmers and friends who had earlier invested. The most commonly used source is their friends due to proximity and easy accessibility. The methods of communication most commonly

used were interpersonal visits, field demonstration, radio and television and field demonstrations.

Majority (61.8%) of the children produce for markets. Other reasons were domestic, educational and hobby. Positive and significant correlation existed between sources of agricultural information, methods of communication (combined) and children performance in guinea pigs. Based on the above deductions, it could be concluded that children form important part of investors in guinea pigs production and they should be reached with agricultural extension services.

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