ENHANCING VEGETABLE PRODUCTION THROUGH COMMUNITY PATRTICIPATION IN DASS LOCAL GOVERNMENT AREA OF BAUCH STATE, NIGERIA.

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Abstract
The study was conducted to determine the level of community participation in enhancing vegetable production in Dass Local Govt Area of Bauchi State, Nigeria. The population of the study consisted of 350 vegetable farmers distributed across the four wards of the Local Government Area, which were: Durr, Wandi, Dot and Bununu East. While the sample population was obtained by random selection of 25 farmers from each of the four wards in the area, thus giving a total sample of 100. Structural questionnaires were used to obtain information from the respondents. Percentages and mean were used to analyse the data collected. The results of the study showed that majority of the farmers were male (10%) as against the 2.8% who were female, mostly youths were between 20 – 35 years, over 3.9% had education above primary school as much as 5.4% of the farmers have been engaged in vegetable farming for over five years. However, findings from the study also revealed that the community has been participating in the production of vegetables but not above other crops and are hampered by constraints such as inadequacy of farm inputs, poor soil fertility, land tenure, pest/diseases, marketing, inadequate extension services and financial support. The study therefore recommended that extension services be intensified in the area, while policy interventions including measures of obtaining loans are made easy to the farmers for increased participation and production of vegetables.
Key Words: Vegetables, Community, Production, Constraints.

INTRODUCTION

Vegetable simply defines as ‘’crops usually grown for culinary purposes’’ (Rimando, 20040. He gave examples of vegetable crops under the following classifications: Leafy vegetables, Cole crop or crucifers, Root and bulb crops, Legumes or pulses, Solanaceous vegetables and Cucurbits. It is to be noted that these are a mixture of types of vegetables based on plant parts that are edible and on botanical family; apparently these are mere examples of vegetable grouping. Those plants with immature succulent roots, bulbs, stem, blossoms, leaves, seed or fruit that are eaten (Musa, 2014). Leafy vegetables are eaten for their leafy parts e.g. spinach (*Amaranthus, caudatus*), lettuce (*Lactica sativus*), cabbage (*Brassica olearacea varity capitata*), rossel (*Hibiscus sabdariffa L.*) etc, and they belong to different families (Musa, 2013). Fruit vegetables are group of plant that produce edible fruits example tomato (*Lycopersicom lycopersicom*), garden egg (*Solanum melongena*) and okra (*Abelmoscus esculentus* L. Moench) among others. Presently various communities are actively involved in the production and consumption of vegetables. In Nigeria, vegetable growing is one of the major enterprises of agriculture and is becoming increasingly popular owing to a greater appreciation of their food value. Vegetables, in no small measures, offer people with limited access to meat and fish, rich sources protein and some vital micro nutrients needed for healthy living (Ajewole and Folayun, 2008). Vegetables are not only important as protective food and highly beneficial for the maintenance of health and prevention of diseases, but they are also a source of livelihood for small holder farmers (Oguniyi and Oladejo, 2011). However vegetable are the best source for overcoming micro-nutrient deficiency and provide small holder farmers with much higher income and

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more jobs per hectare than staple crops (AVRDC, 2008).

World health organization (2004) reported that majority of Nigerians live below poverty line with house hold earning less than 400 naira per day. Household food security has been defined as house hold ability to acquire adequate food for its members in terms of quantity, quality, cultural acceptability, and when it is not in an undue risk of losing such access (Okigbo and John, 1998). Food insecurity on the other way round is the lack of access to enough food. Participation of community in vegetable production assist to eradicate frustration and depressed individual from becoming vulnerable to be used to stir up violence, atrocities, unrest and other forms of terrorism which are becoming order of the day in the country (Danjuma and Ibrahim, 2016).

There are some trees that provide shade and their leaves are used as vegetables for human consumption are: Linden (Tilia spp), Horse radish or miracle tree (*Moringa oleifera*) and Boabab (*Adansonia digitata*) among others (Musa, 2014). These vegetables are highly respected suppliers of edible leaves and they generally provide fresh green leaves serving the dry season when most other source of green vegetables is limited (Musa, 2014).

There are various numbers of plants, both wild and domesticated in Nigeria of which the leaves can be consumed either fresh or cooked, information available on the production and value of these vegetable is very scarce, although vegetables are grown in significant quantities, but little or no statistical data are provided for levels of production. For the past few years, most of these vegetables have been cultivated for home consumption and market around the back yard. This is the actual reality for the leafy ones which are mainly ephemeral that grow rapidly and can be harvested within a short period of time. Apart from these, a reasonable percentage of vegetable are still gathered in the wild. The varieties of vegetables that bound in Nigeria are diverse and range from leaves of annual, biennial, perennial shrubs and trees. Study revealed that annual, biennial and perennial shrubs constitute the bulk of vegetables consumed in Nigeria (Pattamaik and Haruna, 1994).

Failure of the community to participate in the production of vegetables would lead to food insecurity, starvation, mal nutrition and all sort of social crisis (Stuart and John, 1995). Vegetable foods have direct bearing to human health and development when vegetables are not given proper priority, human development will be at risk. This failure may surely affect the level of income of the community and a total decline in the standard of living. Another classical example is that if vegetable are under supplied the teaming population will suffer from nutritional imbalance due to lack of vitamin and minerals in their food (Schippers, 2000).

It is therefore significant that the study will examine the demographic characteristics of the community and their level of participation in improving the production of vegetables in Dass local government area of Bauchi state, Nigeria.

METHODOLOGY

Study Area

The study was conducted in Dass local government area of Bauchi state, Nigeria. Dass is located between latitude 10^0E, 21^0N and longitude 9^0N, 47^0E and 609,5m above sea level. It is located in the Northern guinea savannah ecological zone of Nigeria. The raining season in the area last from (April to October) with an annual rainfall of about 1400mm. The highest hill in the study area is Mbula which reach

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between 700m-744m. The average minimum temperature is about 11^0c while maximum temperature is 32^0c (Bala and Damina, 2009).

The design used for the research was descriptive survey such as frequency and percentages were used to interpret the data. However, the population of the study consisted of three hundred and fifty (350) vegetable farmers distributed across the four wards of the Local Government Area, which were: Durr, Wandi, Dot and Bununu East. While the sample of the study was obtained by random selection of twenty five farmers from each of the four wards in the area, thus giving a total sample of one hundred.

INSTRUMENTS FOR DATA COLLECTION

The instrument used for data collection for this study is a structural questionnaires, four likert bipolar scale format was designed to answer the research questions.

What is the position of community participation in vegetable production?

What are the demographic characteristics of the respondents?

The data were analyzed using descriptive statistics such as means, percentages and level of community participation and constraint of each of the items under the variable were measured using a 4-point rating scale of Strongly Agree [SA]=4; Agree[A]=3; Disagree[D]=2; and Strongly Disagree[SD]=1; base on the 4-point scale, a mid-point of 2.50 was established thus; 4+3+2+1=4. Decision rule was therefore made that any mean score ≥ 2.50 suggest an extent of community participation or constraints, while any mean score < 2.50 suggest otherwise.

RESULTS AND DISCUSSION

Table 1 showed that 10% of the respondents were male, while 2.8% female. This implies that men are more actively engaged in vegetable production than female. This observation is in line with the findings of (Daniel, 2010) who opined that labour can be divided and used for different farm operations depending on age and sex even though the nature of the task to be performed by the two sexes may differ.

The result however, agrees with the findings of Njoku, (2004) in his study of women labour in household management and vegetable production in rural communities in Jigawa state. He lamented that farm activities and household routine task competes for women participation in vegetable production activities in the area compared with men. Men work more hours per day (12hrs on average bases) to discharge their duties effectively to be able to meet the challenging and participation in vegetable production demands.

Results revealed that 1.7% of the respondents are old above 40 years while 4.1% are young below 40 years. This age structure implies that participation in vegetable production would likely be optimum because the correct age groups were involved in the production.The study indicated that 4.2% of the respondents are married, while 3.8% are single and 1.1% is divorced and 0.5% is widowed respectively. This is in line with the findings of Quayyum,(2009) and Nathalia, (2010) who opined that majority of the farmers are married and would try to raise large family that could assist them coup with labour required in vegetable production. The study also showed that 1.3% completed primary education, while 5.4% completed junior and secondary school education respectively, while 3.6% had attended tertiary education. The study further indicated that 5.3% of the

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vegetable farmers have small family size of between 5-10, while 1.4% of the vegetable farmers have family size of between 11-12 and only 1% of vegetable farmers have family size > 20. This result revealed that labour supply to vegetable production through family labour is low; these lead farmers to hire labour which would further increase the cost of vegetable productions.

This support the opinion of Shehu and Musa, (2011) that family participation rate was low in their study of vegetable harvesting in Kadawa River Basin Agricultural Scheme ((KRBAS). However this also is in line with the finding of (Thomas, 2013) in his study of groundnut harvesting showed that family labour is affordable compared to hire labour outside the family line, he reported that 76% of his respondents in the survey indicated their acceptance.

The study also lamented that majority of the vegetable farmers (3.3%) have less years of experience in vegetable production, 1-15 years compared to 2.6% who have 16 years of experience and above in vegetable production. This indicated that majority of the farmers have < 16 years of experience in vegetable production, this may affect the level of achievement and participation of the production. This further indicated that 4.6% of the respondents cultivated 1-3 hectares of farm land, while 2.3% cultivate 4-5 hectares respectively. This implies that respondents cultivate small large farm size in rural setting; this may be due to low cost and high available land. The study under occupation showed that 5% of the respondents are farmers while 2% are Civil servant/farming while traders 1.8% and others 3.2% respectively.

This also showed that majority of the respondents 5.8% depend solely on personal saving to initiate vegetable production, only 1% sources capital from commercial banks, co-operative societies only 0.8% while 3.1% depend on other source of capital. This may be due to the fact that farmers do not have proper access to source of capital. This is in agreement with the observation of (Balarabe, 2000) that farmers rely only on personal saving due to lack of availability of loan facilities and unpopularity of other sources of capital for initial investment. Table 2 showed the level of community participation in vegetable production. This also stated that out of all the ten (10) statements indicted in respect of community participation in vegetable production 1-6 were agreed on. This lamented that the production activities of vegetable in the area adds to the general vegetable production in the local government, state and at large to assist farmer's income and improve their standard of living. However, statements 8, 9 and 10 disagreed upon which related mainly to the community production of onion for household consumption and the community producing vegetable more than any other crop respectively. This indicated that community produces onion in large scale and is only consumed at household level but also served for commercial purposes, the respondents deeply involved in other kind of occupation observation 9% respectively. Were used to obtain information from the respondents, Percentage for women participation and mean were used to analyse the data collected. The results of the study showed that majority of the farmers were male (10%) as against the (2.8%) who were female, mostly youths were between 20-35 years, over (3.9%) had education above primary school as much as (5.4%) of the

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farmers have been engaged in vegetable farming for over five years. However, findings from the study also revealed that the community has been participating in the production of vegetables but not above other crops and are hampered by constraints such as inadequacy of farm inputs, poor soil fertility, land tenure, pest/diseases, marketing, inadequate extension services be intensified in the area, while policy interventions including measures of obtaining loans are made easy to the farmers for increased participation and production of vegetables.

Table 3; Indicated that responses in constrains to community participation in vegetable production. The researchers revealed that all the ten statements in respect to the constraints of the community participations in vegetable production were accepted by the respondents and number 9-10 disagreed with the statement. This indicated that the identified constrains reduced the participation of the community in vegetable production. This also agreed that the remedy to the identified constraints will dependently increase community participation in vegetable production such will also assist in alleviation of poverty to individuals and also brings about community development in the area.

CONCLUSION

The major findings of this study revealed that the community has been participating in production of vegetables but not above other crops and that they are faced with a lot of constraints, such as inadequacy of farm inputs, poor soil fertility, land tenure, pest/diseases, marketing, inadequate extension services be intensified in the area, while policy interventions including measures of obtaining loans are made easy to the farmers for increased participation and production of vegetables.

RECOMMENDATIONS

Based on the findings of this study the following recommendations were made:

i. Government should encourage researchers that would be farmers specific for awareness to be created on how to improve the quality of land management practices currently in practice.
ii. There is need for the Government to add to the present subsidy style (credit support) providing subsidizing planting material and Agro- Chemical as well as provision of soft loan with price support policy where farmers output at peak period is brought at Farley reasonable price above the current market prices.
iii. Effective extension services should be seriously pursued by Government at all levels to ensure that farmers are educated on vegetable production and utilization practices.

REFERENCES

Africa Vegetable Regional Development Centre (AVRDC, 2006. Diversity of Vegetable Crops at AVRDC World vegetable centre, safari park hotel, Nairobi Kenya. 31

Bala, M and Damina, B. (2009).

ISSN 978-978-54729-6-7
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International Institute Tropical Agriculture.

Danjuma, M and Ibrahim, G.N (2016). Dry land farming in the Tropics Research Guide Vol. 8 PP 5-7

Daniel, I. (2010). Agriculture and Nigeria Economic Development London: Long man press.

Habila, K.(2013). Economics of Vegetables production in small Farming setting: Text of paper presented at the LFN short training workshop for local farmers in Kaduna, Nigeria.

Musa, A. (2013). Principles and practices horticultural crops in the Tropic Training manual, Katsina state.

Nathalia, F. 2010). Profitability and production function of small scale irrigated tomato production in Niger state, Nigeria. Continental Journal of Agricultural Economics 3:16-22

Njoku, T.R.(2004). Agricultural prices in a backward Economy National publishing Houses, Delhi.PP 134-135.

Ogunniyi, H and Oladejo, G.w. (2011). African Indigenous vegetable, an overview of the cultivated species National Research Institute, Chathau. U.K. 9-14 PP.

Pattanaik, F.S and Haruna, L. (1994). Vegetable production in Northern Nigerian Agricultural Extension Bulleting 2.

Queyyum, K.(2009) commercial vegetable growing. Oxford Tropical hand book. Oxford University press.

Rimando, M.(2004). Statistical method fifth Edition. Iowa state University press U.S.A.

Schippers, J. (2000). Profitability of small scale dry season Tomato Journal of Science and Technology Vol 11, No: 5, PP. 420-460.

Shehu, K and Musa, G. (2007). Intercropping a food production strategies for Resource poor farmers Nature and Science, 5(1): 46-47

Stuart, O and John, S. (1994). Economic Analysis of Exotic vegetable production among urban Fadama women Farmers in Akinyele Local Government Area of Oyo state, Nigeria. International *Journal* of Agricultural Economic and Rural Development.

World Health Organization, (2002). The benefits of vegetables, seminar paper presented at Conference for infectious Diseases, Berlin.

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Table1: Demographic characteristic features of the respondent

Character	Frequency	Percentage%
Gender		
Male	78	10
Female	22	2.8
Age		
10-20	11	1.4
21-30	32	4.1
31-40	31	3.9
41-50	13	1.7
Above 50	6	0.8
Marital Status		
Married	33	4.2
Single	30	3.8
Divorce	8	1.0
Widow	4	0.5
Level of Education Attained		
Primary School	10	1.3
Junior Secondary School	8	1.0
Senior Secondary School	42	5.4
Tertiary Institution	28	3.6
Family Size		
01-05	34	4.4
06-10	41	5.3
11-15	13	1.7
16-20	11	1.4
Above 20	8	1
Years of Farming Experience		
01-05	18	2.3
06-10	26	3.3
11-15	20	2.6
16-20	12	1.5
Above 20	10	1.3
Farm Size (ha)		
1-3	36	4.6
3-5	18	2.3
<5	10	1.3
Occupation		
Farming	39	5
Civil servant/Farming	16	2
Traders	14	1.8
Others	25	3.2
Source of initial capital		
Commercial Bank	8	1
Cooperative Bank	6	0.8
Personal saving	45	5.8
Others	24	3.1

Source: Field survey data, 2015

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Table 2: Responses on the level of community participation in vegetable production

S/N	Items	SA	A	D	SD	N	X	Decision
1	The Community participates in the production	36	22	26	16	100	25	Agreed
2	The Community produces onion	14	35	38	13	100	25	Agreed
3	The community produces spinach in large quantity	16	30	28	27	100	25	Agreed
4	The Community produces tomato in high quantity	23	13	50	14	100	25	Agreed
5	The Community produces garden egg in large quantity	20	26	40	14	100	25	Agreed
6	The Community produces rossel in high quantity	21	38	19	22	100	25	Agreed
7	The Community produces pepper in small quantity	20	23	38	19	100	25	Agreed
8	The Community produces okro in large quantity	26	32	26	16	100	25	Disagreed
9	The Community produces sesame in high quantity for household consumption	18	14	43	25	100	25	Disagreed
10	The Community produces cabbage in high quantity for household consumption	43	26	17	14	100	25	Disagreed

Source: Field survey data, 2015: SA = Strongly Agreed, A = Agreed, D = Disagreed, SD = Strongly Disagreed, N = Number of Farmers, X = Means

Table 3: Response on the constraint to community participation in vegetable

S/N	Items	SA	A	D	SD	N	X	Decision
1	Low soil fertility discourages Community participation from vegetable production	53	33	9	5	100	25	Agreed
2	Problem of land tenure system affect the participation of Community in vegetable product	34	55	10	1	100	25	Agreed
3	Problem of finance is a major constrain to vegetable production	62	28	6	2	100	25	Agreed
4	Problem of pest and diseases discourage vegetable production in the Community	36	51	8	5	100	25	Agreed
5	Problem of poor extension service slows dawn participation in vegetable production	21	51	25	3	100	25	Agreed
6	Problem of low pricing/unorganized market affect vegetable production in my area	19	41	24	16	100	25	Agreed
7	Poor quantity and quality produce due to climate change discourage our participation in vegetable production	36	45	8	11	100	25	Agreed
8	Problem of domestic animals discourage our participation in vegetable production	41	38	16	5	100	25	Disagreed
9	Lack of seed/seedlings affect our participation in vegetable production	16	51	23	10	100	25	Disagreed

Source: Field survey data, 2015: SA = Strongly Agreed, A = Agreed, D = Disagreed, SD = Strongly Disagreed, N = Number of Farmers, X = Means

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