

Organized private sector agricultural contributions towards food security in a multinational oil and gas region of Nigeria

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Abstract: This research examined Organized Private sector agricultural contributions towards food security in oil and gas region of Nigeria with strategic role to address unemployment and poverty. Specific objectives were to assess main contributions of organized private sector agriculture to food production, look out for possible influence of multinational industries in the Niger Delta and to ascertain individual farmers and group benefits from private sector agriculture. Multi stage sampling technique (purposive and random) was adopted in selecting 120 respondents. Questionnaire, Interview and focused group discussion were used to collect data for analysis. Descriptive statistics were used to analyze socio economic characteristics while four point Likert scale was used to evaluate benefits. Mean of ≥ 2.5 was adjudged acceptable, while a mean ≤ 2.5 was not accepted. Influence of Multinational agricultural services was positively deduced using the Focused Group Discussion. Findings showed absence of synergy between public and private sector agriculture in addressing food security in Nigeria. Organized Private sector agriculture had actually provided employment (mean of 3.4), capacity development (3.4), ensuring availability of food during (3.8), increase in agricultural produce (3.7), transfer of agricultural techniques (3.4) and Agricultural produce farm price reduction (3.4). Problem of food insecurity and unemployment will be addressed by encouraging organized private sector agriculture. Recommendations: Organized private sector agriculture should play roles in Nigerian Economic Development road-map to create employment and sustainable food production. Indigenous agricultural extension system should be encouraged as synergy to leverage on available opportunities in Niger Delta.

Keywords: food; insecurity; oil and gas; poverty; unemployment

Introduction

Agriculture has been the mainstay of man right from the earliest time. It is the oldest occupation and the entire world; depend mostly on it for food requirement. In the ancient days, Man practiced crude method of farming which involved local tools such as stones, sticks and other related equipment. Today, agriculture is being looked upon as a basic necessity of life, and food products gotten from farming aid man in his everyday life, creates employment and provides income to help curb illegal migration and national embarrassment.

Agricultural total output contributions to the economy is now higher than when Private sector participation was absent. In 2005-2009, real agricultural input grew by over 70% higher than it was last reviewed. Chipeta et. al., (2010), opined that during the 1990s, declining confidence in the effectiveness of the public sector, led to the prominence of the private sector where it was assumed that market based solutions could become an effective and sustainable base for pluralism. Today, in many countries, private sector has been of a wider reform process which promotes the need for recognizing the importance of agriculture in any country.

Christopolos (2010), emphasized that over the years, public sector has played the key role in agriculture, from setting up guiding polices to providing goods and services such as fertilizer, extension services and marketing. However, for an expanding, diversifying economy like Nigeria, private sector holds great potentials to mobilize additional investment and rural development as well bring in the desired efficiencies in the agricultural value through superior service delivery.

Private sector can offer their services in multitude of ways throughout the agricultural value chain, conducting research, direct marketing and setting up of private markets to allowing accelerated technology transfer, capital inflow and assured market for crop technology, introducing improved technologies, provision of credit through cooperation and self-help groups, creating infrastructure (for seed, fertilizer and pesticide, transportation and processing), helping with extension services, passing an accurate and timely information are key areas private sector can further improve food security. Food security needs to be seen within the framework of an intricate and holistic value Chain with the related elements, to improve the state of agriculture in the world. Time is therefore ripe to encourage private sector agriculture in order to gain from their abilities and therefore be able to wage war against the evils of food insecurity (Nishant Jain (2017).

To enhance private sector contribution to agricultural development, there is need to liberalize agriculture, admits the dwindling number of Farmer and fragmented land holdings. Steps should be taken therefore to make farming more profitable, enabling transition from subsistence farming to commercial agriculture while creating enabling environment for export of agricultural produce for a globalized development within the ambit of agriculture. It beholds on this research to reveal how private sector agriculture in the developing countries can wage war against the evils associated with illegal migrants that have continued to disgrace Africa and Asia continents.

Private sector contributions to agricultural development in Nigeria, has widened agricultural development towards improved standard of living of her populace, creating employment opportunities to ensure holistic economic development of the people. The Multinational oil and gas industries had championed this course some decades ago in the Niger Delta, Nigeria which is the hub of economic development in Nigeria; Ogueri and Ukpongson, (2017). Nnodim (2014), concluded that agriculture in Nigeria is the main source of livelihood for rural dwellers and contributes to rural development. Lungisa (2013) stated that when Countries invest heavily on her people through agriculture, high Return on Investment (ROI) is guaranteed. Alukogu (2010), opined that emergence of multinational companies in Rivers state, Nigeria have largely increased livelihood of people because they lay emphasis on agriculture and also develop technologies to raise productivity in agricultural investment and capital accumulations.

Organised private sector, the likes of VINTAGE FARMS AND PRODUCT LIMITED has complemented efforts of the multinationals in agricultural development especially now that restiveness has affected Corporate Social Responsibility of the latter.

As organized private sector, Vintage farms and Products seems to make enormous contributions in poverty alleviation equation in the Niger Delta, Nigeria. It seems to have provided employment for the locals while making produce available at Farm gate price. Unfortunately, it does appear that contributions of the organized private sector agriculture in a critical domain of Nigeria had not been x-rayed. To determine the value of contributions of organized private sector agriculture especially, in the bastardized Oil and Gas environment of the Niger Delta therefore, Vintage Farms and Product limited, stands distinguished, hence his study.

Objectives of the Study

The general objective of this study is to quantify the contributions of organized private sector agriculture in Nigeria towards combating hunger and poverty, especially in the multinational Oil and Gas bastardized environment.

Specific objectives were:

1. Assess main contributions of organized private sector to agricultural development in Multinational Oil and Gas Environment.
2. Determine possible Influence of the Multinational Oil and Gas Private Sector driven Agricultural Service
3. Identify individual or group of farmers' benefits from vintage farms Elele in Rivers state.

Methodology

Study Area

This study was conducted in the Nigerian Niger Delta. The Niger Delta is the hub of oil and gas activities that drive development in Nigeria. It is a truism that Nigeria is a mono-economy where foreign earnings come from hydrocarbon and its products. It means therefore, the economy of Nigeria fluctuates based on International oil and gas prices, International politics and associated crisis in the Middle East. The Niger Delta environment has had its fair share of crisis as a result of the presence of the Multinationals that had often being accused of exploitation and marginalization. That an organized private sector of note has risen while the Multinational oil and gas agricultural services are gradually folding is worth commendable and worthy of study.

Sampling Procedure and Data collection

Multistage random sampling technique was adopted in selecting respondents for this research. Purposively, Vintage Farms and Products Limited was selected due to prominence through advertorials and location. Randomly, four communities contiguous to Vintage Farms and Products location, Elele namely; Omopo, Agwugwuibor, Mgbuayim and Omukpuriukwu were selected to justify the adage “Charity Begins at Home”. Some staff of Vintage farms and products limited was also randomly selected. A total of 90 respondents were selected randomly from the four communities contiguous to Vintage Farm’s location in Elele, Rivers State, Nigeria and 30 workers were also selected randomly to produce a total of 120 respondents for the study. To avoid bias, the instrument for data collection was pre-tested. However, instruments used for data collection were; Questionnaire, Focused Group Discussion (FGD) among farmers co-operative groups and Staff of Vintage Farms and Products, Semi Structured Interview (SSI) and Personal Observation (PO).

Data Analysis

The study, deployed descriptive statistics and Likert rating scale in its analysis. Descriptive statistics such as table, frequency, means and percentage were used in addition to four point Likert scale of strongly agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with scaling as shown thus, Strongly Disagree (SD) –1, Disagree (D) –2, Agree (A) – 3, Strongly Agree (SA) –4. In this case, the 3 and 4 represent positive feelings while 1 and 2 represent negative feelings respectively.

Adding the scores; $\frac{4+3+2+1}{4} = \frac{10}{4} = 2.5$. A mean of 2.5 and above was adjudged acceptable, while a mean below 2.5 was not accepted.

However, the mean of the four point Likert scale was calculated using the mean deviation of the response score;

$$\text{Response score} = \sum \frac{fx}{N}$$

Where; \sum = Sum of the response score (number on the scale)

F = Frequency (number) of a parameter response on the scale

X = Particular category on the scale

N = Sample mean.

It is important to note that all scores were approximated to the nearest whole number.

Result and Discussion

➤ Demographic Characteristics

• Age

Table1. Age distribution

AGE RANGE (Years)	FREQUENCY	PERCENTAGE (%)
20-30	17	15
31-40	32	26
41-50	40	33
51-60	23	19
61-70	8	7
Total	120	100

Source; field survey 2017

Mean age = 43 years

In Table 1, it was obvious that a higher number of 40 respondents (33%) were between the ages of 40-50. The implication of this is that greater number of participating farmers and non farmers are within the middle age which is seen as the workforce, strong to undertake strenuous farming activities including adoption of technologies.

- **Gender.**

Table 2. Distribution of respondents according to sex

Sex	frequency	percentage (%)
Male	77	64
Female	43	36
Total	120	100

Source; field survey 2017

The table above showed that out of 120 respondents, 77 (64%) were male, while 43 (36%) were females. This implies that men as head of homes still tenaciously to land as main agricultural resource. It could also mean that they are more in the business of commercial agriculture even as they increased contact with Vintage Farms and Products. It could mean unconscious adoption and diffusion of technologies. Therefore, as the head of their families, they were bound to accept agriculture and learn from the private sector as a result of greater contributions of private sector towards ensuring food security.

- **Marital Status**

Table 3. Marital status

Marital status	Frequency	Percentage (%)
Single	47	39
Married	64	53
Divorced	2	2
Widowed	5	4
Widower	2	2
Total	120	100

Source; field survey 2017

The result of table 3 above where 53% were married can be correlated with tables 1 and 2 above. It could mean encouraging income level from agricultural business towards writing off some family incurred bills while the widows (4%) provides an interesting statistical inference where it could be deduced that buying and selling of farm produce from Vintage Farms had contributed to poverty alleviation in the Oil rich Niger Delta of Nigeria.

- **Educational Attainment**

Table 4. Level of educational qualifications

Options	frequency	percentage (%)
Primary education	8	7
Secondary education	66	55
Tertiary education	31	25
No formal education	15	13
Total	120	100

Source; field survey 2017

Table 4 clearly buttressed the fact that technology transfer should be faster comprehended and appreciated by educated farmers (55%) and 25% of the respondents could be said to be educated. It also means that technologies adopted from Vintage Farms and Products could be replicated while contributing to the fight against food insecurity in Nigeria.

- **Major Occupations**

Table 5. Major occupation of the respondents

OPTIONS	FREQUENCY	PERCENTAGE (%)
Government worker	18	15
Private worker	37	31
Farmer	46	36
Self employed	9	8
Others	13	11
TOTAL	120	100

Source; field survey 2017

Table 5 above followed a prior that only Farmers (36%) should appreciate the importance of such private sector agricultural establishment and its contributions towards poverty alleviation and by implication, Food Security. However, the study revealed an emerging scenario where Private (31%) and Public (15%) workers are keenly participating in agriculture. It could mean that paid salaries were no longer meeting up family demands as a result of inflationary economy of Nigeria or revelation about job insecurity as Private organizations especially, the Multinational oil and gas industries indiscriminately drop their workers thereby contributing to increase in crime rate of kidnappings and armed robbery in the Niger Delta region of Nigeria which had resulted to the region being militarized till date.

Main Contribution of Private Sector To Agricultural Development in Rivers State

- **Contributions of Organized Private Sector Agriculture in Nigeria towards Food Security**

Table 6: Areas of contributions of Private sector agriculture

VARIABLES	SA	A	D	SD	MEAN
Ensuring food availability during off season	95	25	0	0	3.8
Determinant of farm produce price	66	41	9	4	3.4
Ensuring the use of improved agric. techniques	66	41	8	1	3.4
Increase in agricultural produce	75	31	9	6	3.5
Mean score					3.5

Source: Field data survey 2017.

Mean ≥ 2.5 accepted, Mean < 2.5 not accepted

The table above showed the mean score of **3.5** from the respondents on the contributions of Private sector to agricultural development in the study area and by implication in the Oil Rich Niger Delta region of Nigeria. The table applauded the revelation that Private sector agricultural activities contribute largely to agricultural development, thereby solving the problem on food security in the areas of availability of food availability during off season with mean score of 3.8, increase of agricultural produce with mean score of 3.5 and determinant of farm produce price and ensuring the use of improved agricultural techniques with mean score of 3.4 respectively against an average mean score of 2.5. Therefore, the study strongly revealed the fact that food insecurity could actually be combated if Organized Private Sector agricultural initiatives could be encouraged. This is indeed a major challenge facing Nigeria in the 21st century.

Influence Of Multinational Oil And Gas Agricultural Extension Services.

Table 7. Possible Influence of Multinational Oil and Gas Agricultural Services

Options	frequency	percentage (%)
Great Influence	80	67
No Influence	36	30
Indifferent	4	3
Total	120	100

Source: Field data, 2017

As stated earlier, the multinational oil and gas industries in Nigeria answered to the clarion call to support agricultural development in the region to accusations of polluting the environment and depletion of nutrients. The Shell Petroleum Development (SPDC) commenced her agricultural extension programme in Ogoni (called Ogoni project) before spreading to her other operating zones like Oguta, Owaza, Elele-Alimini, Adebawa, Umuechem,

Rumuekpe, Kolo creek, Nun-River, Nembe, to mention but a few. Perhaps, the perceived success influenced other multinational industries like Total Exploration and Production (TEPNG) and Nigeria Agip Oil Company (NAOC) establish theirs at Oboburu Seed Multiplication Farm, Egi and Green River Projects at Obirikom respectively. Since these multinational oil and gas industries operate in the same ecological zone, it became imperative to evaluate if the Organized Private sector agriculture in this same may have been influenced in the areas of Technology transfer, Capacity development and societal dynamics (Social change). Table 7 above confirmed that the emerging influence of Organized Private sector Agriculture was greatly influence (67%) by the Multinational Oil and Gas agricultural services. These were through social interaction, cyclical theory of change, input distribution and transfer of innovative technologies. It was noticed that the Multinational oil and gas private agricultural services have been played down upon since it was outside the core mandate of these multinationals in addition to the fact of frequent attack (insecurity), looting and vandalization of agricultural equipment for technology transfer to the rural farmers. It therefore means that the coast is ripe and lucrative for organized private sector agricultural sector to take advantage of this lacuna so created.

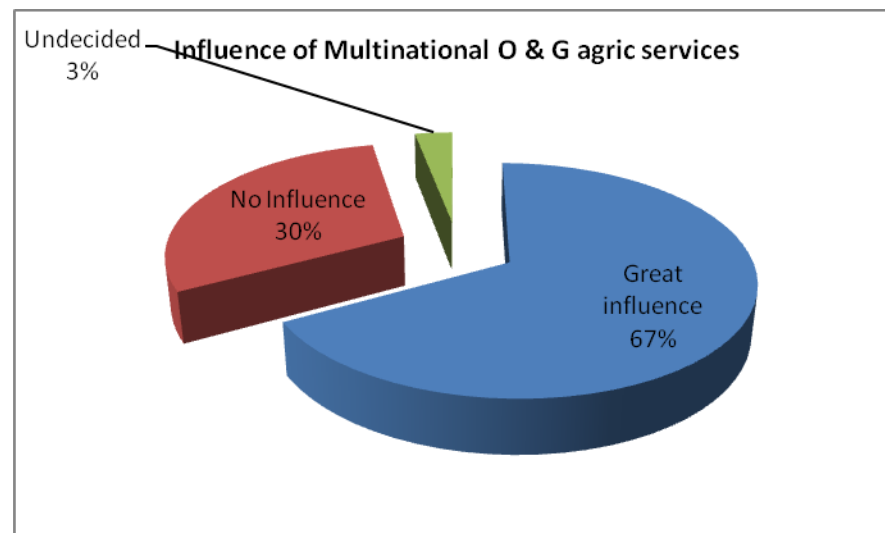


Fig 1. Influence of Multinational O & G agric services on Organized Private sector agriculture

Individual And Group Of Farmers Benefits From The Private Sector

Table 8. Benefits to Individuals and Farmers' group from Organized Private Sector agriculture

Variables	SA	A	D	SD	MEAN
Subsiding price of farm input	21	62	28	9	2.5
Job creation/employment	52	56	11	1	3.3
Job satisfaction	59	30	20	11	3.1
High precision service delivery	63	46	7	4	3.4
Capacity development (Industrial Training)	96	18	3	3	3.7
Educating farmers on effective agriculture	59	36	19	6	3.3
Mean score					3.2

Source; Field survey 2017.

Mean ≥ 2.5 accepted, mean < 2.5 not accepted

Table 8 showcased an average mean score of 3.2 from the respondents according to their benefits from organized Private sector agriculture. It showed individuals benefits to include industrial training, job creation and job satisfaction, purchase of farm produce at farm gate prices while farmers' group benefits were high precision service delivery and educating the farmers (Extension education) on how to practice effective agriculture so as to expand their scale of production. Capacity development for Farmers in the area Farmer to Farmer extension services and provision of practical experience for students of agriculture had the highest mean score of 3.7

Conclusion

Having x-rayed the contributions of Organized Private sector Agriculture in food security in the Oil hub Niger Delta, Nigeria especially in the areas of youth employment, technology transfer, reduction in farm produce prices, relative production cost reduction and availability of food even in off-season; it was therefore concluded that the usefulness of organized Private sector agriculture in solving food security challenges in Nigeria MUST work this sector into any postulated equation in this regard. It will encourage the actors while educating Nigerian populace the opportunities that exist therein in providing food for the teeming population while also earning a living.

Recommendations

The following recommendations were proffered based on the findings from the study

1. Organized Private sector agricultural entrepreneurs should ensure synergy with Multinational Oil and Gas industries to tap experiences and perhaps use some of their facilities where they exist. Apparently, it does appear that the public sector agriculture services providers (the ADPs) are very dysfunctional in Nigeria.
2. Organized Private sector agriculture can indeed abridge the gap on food insecurity if encouraged. Government should therefore introduce input incentives for the organized Private Sector Agriculture. Therefore, organized private sector agriculture should play significant roles in Nigerian Economic Development road-map.
3. Organized Private sector agricultural development actors should develop indigenous extension services delivery system so that Extension Services could be Privatized when such linkage is rewarding, economically with farmers..
4. Rural Farmers should take advantage of the emerging trend to form active co-operative societies, so that they can be reached for discussions with the organized Private sector agricultural entrepreneurs, when the need arises.

References

- [1] Ababass G. (2010). Introducing agricultural programs in Africa. Their contribution and short comings.
- [2] Adekunle A. M. (2011). "Public private partnership as a policy strategy of infrastructure financing in Nigeria".
- [3] Alukogu C. (2010). *Comparative analysis of the contributions of government and non-governmental organizations to agricultural development in river states, Nigeria*. MSc thesis Department of Agricultural Economics and Extension. Rivers State University of science and Technology, PortHarcourt.
- [4] Anayo O.(2013). *Amaechi-making agriculture the mainstay of Rivers State Economy*. July 4, 2013. All Africa.com
- [5] Chipeta I. M. (2010). *The declining confidence on the effectiveness of the public sector*. Lilongwe University of Agriculture and natural resources, Malawi. February 20th 2011.
- [6] Christopolos I. (2010). Mobilizing the potential of rural and agricultural extension. Available at www.FAO.Org/docrep/fao/012/i1444e/i144e.pdf. Food and Agriculture org. Rome, Italy.
- [7] Crop Life (2012). *Renewed interest on public and private partnership (PPP) in African countries*. *Crop life International Belgium (2012)*. www.croplife.org. May 2012
- [8] Chukwu Nnodim (2014). *Influence of organic agricultural practices on environmental sustainability in Emohua Local Government Area of Rivers State*. Rivers State University of Science and Technology.
- [9] Dipanway Bhabuk (2015). *Different problems faced by the private sector*. Available at <https://www.challengesofPrivatesector.org>. Feb 24, 2015.
- [10] Ezeano C. I. (2010). *Analysis of the contribution of Shell Petroleum Development Company (SPDC) to Agricultural development and transformation in Rivers State, Nigeria*
- [11] Federighi N. (2014). *Private sector development in the role of food and agricultural business principle*. Great insight volume 3. Issued June 6, 2014.
- [12] Gates (2014). *Emerging agricultural leaders*. *Gates foundation African agricultural agenda*. October 14, 2014.
- [13] George Atalls (2016). Global Government and public sector. www.ey.com>government-public sector
- [14] Innocent O. (2016). Driving agricultural mechanization in Nigeria, The role of private sector
- [15] Jayne T.S, Mather, D. Mghenyi, E. (2012). "Principle challenges confronting private sector in sub-Saharan Africa". *World development*. 38(10): 1384-1398
- [16] Lars thunnel (2012). Financing and enhancing food security: the role of the private sector.

- [17] Lungisa Andile, (2014). Youth in a state of emergency (Agriculture the way to ensure youth employment). June 15, 2015
- [18] Nishant Jain (2017). *Agriculture as the framework of an intricate and holistic value chain*.
- [19] Obozuwa D. (2011). "PPP as a tool for infrastructure development in Nigeria (I)". *www.businessonline.com*. Retrieved on June 15, 2017.
- [20] Ogueri, E.I and Ukpongson, M.T. (2017). Sustainable Agricultural Extension Education
- [21] for Oil and Gas Communities in Imo State, Nigeria. OIDA, International Journal for sustainable Development, Canada; vo.4. No. 5, Available at SSRN: [HTTP://SSRN.COM/ABSTRACT 2983855](http://SSRN.COM/ABSTRACT 2983855)
- [22] Olojede A. A, Adekunle A. A and Samuel E. A. (2013). *Analysis of rural literacy as a panacea for socioeconomic development of Nigeria*. *International journal of sociology and anthropology*, 5(9):381-390.
- [23] Olushola J. S. (2016). Impact assessment of FADAMA project on agricultural development in Nigeria. January 17, 2016
- [24] Pagileti, L and R. Sabine (2013). Who is vouching for the input voucher? Decentralized targeting and elite in Tanzania. *World development*, 40 (8), 1619-1633
- [25] Poulton, C. and J. McCartney (2012). "Can public-private partnership Leverage private investment in Agricultural value chains in Africa? A preliminary Review. *World development*. A savoir NO. 12.
- [26] Reardon T. (2012). "The quite revolution in staple food value chains" Asian development Bank and IFPRI, November, 2012.
- [27] Rouse Margaret (2013). *Concept and policy of private sector towards agricultural development*. August 15, 2013
- [28] Sikhugo K. O. (2011). *The evolving institutional structure of public sector in agricultural development*. January 20, 2014. Available at <https://www.nist.gov/document>.

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