



# Effectiveness of multinational oil company's sponsored agricultural intervention in Niger Delta region, Nigeria

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## Abstract

The study assessed effectiveness of SPDC's agricultural intervention in Niger Delta communities of Nigeria. It examined the socio-economic characteristics of beneficiaries; determined the level of performance of agricultural intervention and assessed the impact of agricultural intervention on the wellbeing of beneficiaries. Multi-stage sampling technique was used to select a hundred and sixty respondents for the study. The study used primary data gathered through a semi-structured questionnaire and Focus Group Discussion (FGD) held with the community leaders. Data were analysed using descriptive statistics and composite index analysis while Pearson Product Moment Correlation (PPMC) was used to test the hypothesis. The findings revealed that the project was well funded by SPDC and performance was high as it exceeded 0.70 index range while the impact of intervention on the wellbeing of the beneficiaries was on the average between 0.40 and 0.69 index range. The result of hypothesis tested showed the correlation coefficient,  $R = 0.432$  meaning there existed a positive relationship between effectiveness of agricultural intervention and wellbeing of beneficiaries. It was concluded that, SPDC's agricultural intervention should perform effectively, have high level of impact on beneficiaries' wellbeing and be sustainable if the objective of improvement of beneficiaries' wellbeing must be achieved.

**Keywords:** Agricultural Intervention; Effectiveness; Shell; Niger Delta; Nigeria

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## **1. Introduction**

Development is usually described as educational in nature, which entails integrated activities that result in change. Therefore, Jibowo (2000) opined that actions of rural development entail; mobilizing and harnessing the human and material resources with a view to improving their economic and social conditions; ensuring full and productive employment in the rural community; increased productivity through sensitization of the rural people to develop their potentials; provision of welfare needs in form of housing, health and infrastructural facilities; and widespread literacy so as to allow for intelligent participation in political, economic and social activities of their society. As asserted by Nwachukwu and Ezeh (2007, p. 3), rural development is a veritable tool for fighting poverty and achieving economic prosperity at the grassroots level. Obviously, development irrespective of its aspect can be internally and externally driven, and could be led by an individual, community members and or corporate organisation. Where poverty incidence among community members is severe, corporate social responsibility (CSR) of organisations becomes a powerful tool in making positive contributions towards addressing the needs of disadvantaged community members in developing countries. Formal institutions or organisations do have positive impact in operating locations in the developing countries, especially through creation of corporate social responsibility (CSR) initiatives focusing on sustainable development. One of such organisation is the Shell Petroleum Development Company of Nigeria (SPDC).

Shell Petroleum Development Company (SPDC) has operated in the Niger Delta of Nigeria for over fifty-eight (58) years since the first discovery of crude oil at a village of Oloibiri in Bayelsa state (Anifowose, 2008; Onuoha, 2008; SPDC, 2010). SPDC's interventions in the Niger Delta region focuses on projects and programmes on economic empowerment of the youth and the people of the community, Human Capital Development, Community Health and Social Infrastructure.

The Niger Delta is one of the world's largest wetlands and consists of about 60 % of Nigeria's mangrove forests, the largest in Africa and third largest in the world. It has four ecological zones: coastal barrier (uplands), mangroves; freshwater swamp forests; and lowland forests. It is endowed with abundant natural resources which make for a source of livelihood of more than 60 percent of the people in the region.

The Niger Delta, which has about 188 Local Government Areas in 9 states of the Federation comprises of over 40 ethnic groups diversely accommodated in 3,000 communities (Ekanem and Nwachukwu, 2013, p.5; Ekanem and Inyang. 2014, p. 3). The size of the region is estimated at 112,000 square kilometers while the population is 27 million (NDDC, 2004). From the census figure and the UNDP's report of 2006, the population of Niger Delta region is estimated at 31,277,901 and 33 million respectively. Subsistence farming and fishing is the mainstay of the people.

SPDC as a multinational organization carrying out business in the region has been prominently supporting the development of the region. Its support for community development (CD) is based on a desire to reduce poverty in the Niger Delta, promote economic empowerment amongst its people and stimulate employment for its youths. The broad objective of SPDC's Interventions is to increase opportunities for wealth creation and sustain it at micro, small and medium enterprise levels.

Such intervention that is agricultural related included; establishment of poultry farms (Broilers/layers), Aquaculture, and Agro-processing mills (cassava, oil palm and rice processing mills). For effectiveness and goal attainment purposes, SPDC employs the services of licensed Contractors (NGOs), to partner with the beneficiaries while providing them with seed funds, equipment or material needed and monitoring. SPDC also reviews periodic reports from the contractors (NGOs) as a guide to keep abreast with milestones' deliverables.

Effectiveness measures the extent to which a project or programme has achieved its objectives and results, independent of the costs that were required for it. It is a measure of the extent to which targeted problems are solved. Measuring development effectiveness is an exercise in tracking progress towards development goals (UNDP, 2001 p.15); the interest lies on whether the immediate goals of assistance or intervention have been achieved. It is common sense that an effective intervention means a good intervention, an impactful intervention. This knowledge is therefore necessary for purposes of evaluating performance or goal attainment of SPDC's agricultural intervention in the Niger Delta where they operate. This informed the study, with a view to examining the socio-economic characteristics of the beneficiaries; determining the level of performance of agricultural intervention and assessing the impact of agricultural intervention on the well-being of the beneficiaries.

## **2. Materials**

### **2.1. The study area**

The study was carried out in the Niger Delta. Niger Delta comprises nine (9) states, namely Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers. However, SPDC's operations centre on the core Niger Delta states of Rivers, Bayelsa and Delta. The samples were drawn from communities in the three states.

### **2.2. Sampling method**

Multistage sampling method was used in the study to purposively select projects executed by Economic Empowerment Team and a Simple random sampling technique was employed to select 16 out of 32 agricultural projects implemented and completed within 2004-2008 being the study period while a snowballing method was used to select 10 persons per project which gave a total of 160 respondents sampled for the study. Primary data were used which, were collected by means of semi-structured questionnaire, responses from interview schedule during the Focused Group Discussions (FGD) session as well as field observation. The data were analyzed using descriptive statistics and composite index analysis.

## **3. Results and discussion**

### **3.1. The socio-economic characteristics of the respondents**

**Table 1.** Distribution of Respondents based on Socio-economic Characteristics

Item	Variables	Frequency	Percentage
1	<b>Age</b>		
	20 - 40	106	66.1
	41 – 60	46	28.8
	Above 60	8	5.1
	Mean		37.92
2	<b>Marital Status</b>		
	Married	99	61.9
	Single	61	38.1
3	<b>Educational Status</b>		
	FSLC	72	45.0
	GCE/SSCE	65	40.6
	NCE/OND	9	5.6
	Degree/HND	14	8.8
4	<b>Household Size</b>		
	1-3	78	48.8
	4-6	52	32.5
	7 and above	30	18.7
	Mean		4.1
5	<b>Occupation</b>		
	Agriculture	130	81.2
	Business	8	5.0
	Any other	22	13.8

Source: Field survey, 2011

### 3.1.1. Age

The result of analysis on age as shown in Table 1 revealed that the mean age of the beneficiaries was 37.92. This shows that the projects were in the hands of young, active people.

### 3.1.2. Marital status

Table 1 revealed that the project was dominated by married people as they formed the greater percentage of the respondents (61.9%). Indications are that married people dominated the project since it was intended for income generation, employment creation and provision of food for the people.

### 3.1.3. Educational level

The distribution of respondents by educational status as shown in Table 1 revealed that there was high literacy rate among the respondents as over 90% of them had one level of education or the other.

### 3.1.4. Household size

As shown in Table 1, the mean household size of the respondents was 4.1. Household size is an indication of the pressure on income of the household. Generally, a household size range of 1- 6 with the parents inclusive is recommended by the Nigerian Government.

### 3.1.5. Occupation

The major occupation of beneficiaries was agriculture. This was not surprising because according to Anriquez and Stamoulis, (2007), Ravallion *et al.* (2007), 75% of rural lives are dependent on agriculture, forestry, fisheries and related activities for survival. Again, the finding is in agreement with FMARD (2000) and UNDP (2006) which stated that Agriculture is important to the Nigerian economy as it engages about 70% of the labour force. With over 80% of the respondents attesting to the fact that agriculture was their major occupation is an indication that the agricultural projects implemented were out of the felt needs of the people.

## 3.2. Level of performance of agricultural intervention

### 3.2.1. Assessment of performance of SPDC's Agricultural Intervention (PAI) by respondents

First, a nominal scale was used to measure performance based on respondents' responses to statements on 6 identified project performance indicators. Second, a composite index analytical procedure was used to determine the magnitude of intervention' performance with PAI (performance of Agricultural intervention) being categorized into high (0.70 – 1.00), average (0.40 – 0.699) or low (0.00 – 0.399).

#### 3.2.1.1. Magnitude of Performance of SPDC's Agricultural Intervention

**Table 2.** Magnitude of Performance of SPDC's Agricultural Intervention

PAI Index Range	Interpretation	Frequency	Percentage
0.00 – 0.399	Low	24	15.0
0.40 – 0.699	Average	42	26.3
0.70 – 1.00	High	94	58.7
<b>Total</b>		<b>160</b>	<b>100.0</b>

Source: Field Survey 2011

The result in Table 2 shows that, 58.7% of the respondents stated that the performance level of the intervention exceeded 0.70 index range, which was interpreted as high, 26.3% stated that performance was on the average while 15% of the respondents stated that the level of agricultural interventions' performance did not exceed 0.399 index range, which means that performance was low.

#### 3.2.1.2. Responses on the Elements of SPDC's Agricultural Intervention Performance by Respondents

Results in Table 3 show that 75.6% of the respondents agreed that the intervention had provided employment for some community members, 78.8% stated that intervention had provided products which attracted people to the community, 65% affirmed that intervention had helped improve the lives of the

people in the community, while 58.8% stated that the establishment of the intervention in their communities opened them up for business transactions. Also, 79.4% stated that through the establishment of the agricultural projects in the community, social amenities had been brought into the community, while 88.8% stated that implementation of the agricultural intervention had made the community popular.

**Table 3.** Response on the performance of SPDC's agricultural intervention by Respondents

Item	Statement	Yes		No		Rank
		Freq	%	Freq	%	
1.	Project has provided employment for some people	121	75.6	39	24.4	3 <sup>rd</sup>
2.	Project has provided products that people come in to buy	126	78.8	34	21.2	4 <sup>th</sup>
3.	Project has helped to improve the lives of the people	104	65.0	56	35.0	2 <sup>nd</sup>
4.	Project has open up the community for people to come in and do business	94	58.8	66	41.2	1 <sup>st</sup>
5.	Brought social amenities to the community	127	79.4	33	20.6	5 <sup>th</sup>
6.	Made many people to know about the community	142	88.8	18	11.2	6 <sup>th</sup>

Source: Field survey, 2011

### 3.3. Assessment of Impact of Agricultural Intervention on the Well-being of Beneficiaries

Well-being is a better living, a contented state of being happy, being healthy and prosperous (Ereaut and Whiting, 2003), thus bringing about satisfaction. It is a very general term for what people collectively agree makes 'a good life' (Gurley and Harter, 2008). Simply put, well-being is peace of mind, it is good health, it is safety, it is good relationship, and it is freedom of choice and action. The assumption was that these translate to quality of life, if one is favourably disposed to them, leading to satisfaction. Measurement of impact of intervention on the well-being of beneficiaries was done by analyzing beneficiaries opinion on how satisfied they were on factors leading to good health, peace of mind, safety etc. as brought about by engaging in SPDC's agricultural intervention. Respondents were demanded to respond to thirteen identified well-being factors using a 3 point Likert rating scale. Thereafter, a composite index approach was used to compose and categorize the impact levels on well-being (IWB) as high (0.70 – 1.00) which means very satisfactory, average (0.40 – 0.699) satisfactory and low (0.00 – 0.399) meaning, not satisfactory. Interventions' expected performance indicators were employment creation and revenue generation. Employment of community members were to be carried out either on full time or part time bases. The assumption here was that employment creation will lead to revenue generation which will result in improved well-being of the people.

### 3.3.1. Impact of SPDC's Agricultural Intervention on the Well-being of Respondents

**Table 4.** Impact of SPDC's Agricultural Intervention on Wellbeing (IWB) of Respondents

IWB Index Range	IWB Index Range Interpretation	Frequency	Percentage
0.000 – 0.399	Low	64	40.0
0.400 – 0.699	Average	79	49.4
0.700 – 1.000	High	17	10.6
<b>Total</b>		<b>160</b>	<b>100.0</b>

Source: Field Survey, 2011 Key: IWB – Index of Wellbeing

The index scores in Table 4 show that 40.0% of the respondents affirmed that the impact of the agricultural intervention of SPDC on their well-being did not exceed 0.399 index value, which was interpreted as low, 49.4% stated that the agricultural intervention had an average impact on their well-being, while 10.6% said the impact was high exceeding 0.700 index value.

### 3.3.2. Responses on the Element of Well-being of Respondents from SPDC's Agricultural Intervention

**Table 5.** Response pattern on Respondents' Wellbeing

S/N	Elements of wellbeing	Not Satisfied	Satisfied	Very Satisfied
1	Your livelihood activities	38(23.8)	75(46.9)	47(29.3)
2	Your monthly income	52(32.5)	105(65.6)	3(1.9)
3	Number of hours spent on livelihood activities daily	49(30.6)	58(36.3)	53(33.1)
4	Quality and quantity of food in the house	47(29.4)	101(63.1)	12(7.5)
5	Providing/sustaining comfortable house where you live	64(40.0)	84(52.5)	12(7.5)
6	Giving help to spouse/relatives	83(51.9)	65(40.6)	12(7.5)
7	Getting money from spouse/relatives	85(53.1)	72(45.0)	3(1.9)
8	Giving you access to health facilities available	77(48.1)	83(51.9)	-
9	Providing traditional governance of your community	61(38.1)	74(46.3)	25(15.6)
10	Improving your relationship with your neighbours	61(38.1)	62(38.8)	37(23.1)
11	Improving your relationship with your spouse/relatives	69(43.1)	53(33.1)	38(23.8)
12	Improving your relationship with God	61(38.1)	47(29.4)	52(32.5)
13	Providing security to lives and properties in your community	63(39.4)	53(33.1)	44(27.5)

Source: Field Survey, 2011

Thirteen items indicating basic elements of wellbeing, ranging from having access to some basic needs such as shelter, food, healthcare to human security, etc. were identified. The sub-section made attempt to examine how the respondents were fairing with each of the indicators of wellbeing. Looking at the individual responses, the result revealed that none of the respondent was very satisfied with any element of well-being as the percentages were far below 50 whereas few were satisfied with some elements of well-being. This therefore translates to the average impact of interventions on the well-being of the respondents.

#### 4. Level of Sustainability of Agricultural Intervention (LSAI)

##### 4.1. Field observation of SPDC's agricultural intervention' performance

Sustainability of agricultural intervention was seen as the potential for the positive effects of a project to persist for an extended period after the end of SPDC's support or the likelihood that SPDC's intervention will survive and continue to exist over time after SPDC's withdrawal. It relates to viability of a project/programme that was why the study was conducted with projects executed and completed within 2004-2008.

**Table 6.** Distribution of Agricultural Intervention based on Functionality

Project Type	Number of Projects	Functional Freq. %	Non- Functional Freq. %
Aquaculture	8	2 (12.5)	6 (37.5)
Cassava Mill	3	- -	3 (18.75)
Rice Mill	1	- -	1 ( 6.25)
Poultry	4	3 18.75)	1 ( 6.25)
<b>Total</b>	<b>16</b>	<b>5 (31.25)</b>	<b>11 (68.75)</b>

Source: Field survey, 2011

Result in Table 6 shows that out of 8 aquaculture projects implemented by SPDC in the study area, 2 were functional, while 6 were non-functional. Also, out of 4 poultry projects studied, 3 were functional, while 1 was non- functional. Again, of the 3 cassava processing mills, none was functional; while the only rice mill project studied was not functional. This means that in all, 31.25% of SPDC' agricultural intervention was functional and performing, while 68.75% was non-functional.



#### 4.2. Analysis of level of intervention's sustainability (LSAI) using functionality and effectiveness indices

**Table 7.** Level of Sustainability of agricultural intervention (LSAI)

LSAI Index Range	LSAI Index Range Interpretation	Percentage
0.000 – 0.399	Least sustainable	58.3
0.400 – 0.699	Less sustainable	10.4
0.700 – 1.00	Sustainable	31.3
<b>Total</b>		<b>100</b>

\* LSAI = Level of Sustainability of Agricultural Intervention

The results in Table 7 reveal that greater percentage of the intervention was least sustainable as the index did not exceed 0.399. This means that 58.3% of were virtually unsustainable or least sustainable whereas about 31.3% of the intervention, with an index value of not less than 0.70 were sustainable.

From the field visit it was obvious that these projects barely survived up to one production cycle. Some of the projects implemented ended at the exit of the NGOs. Some of them that thrived beyond that point were not functional after one year. These findings agree with the Impact Assessment Report of 2003 on Economic Empowerment programmes of SPDC which stated that 33.3% of beneficiaries admitted to their likelihood to remain in business at close-out (withdrawal of sponsors' support). The low level of intervention's sustainability (not exceeding 39.9%) is also in agreement with ESR (2005) which revealed that SPDC's projects were 25% sustainable. Ogueri (2006) also stated that SPDC's rural development programmes were unsustainable even though he did not state to what extent.

## 5. Hypothesis testing

5.1. Hypothesis: There is no significant relationship between agricultural intervention's effectiveness (AIE) and the well-being of the beneficiaries (BW)

**Table 8.** Correlation Analysis of Agricultural Intervention' Effectiveness (AIE) and Beneficiaries' Wellbeing (BW)

Variable	Correlation coefficient (r)	Coefficient of Determination ( $r^2$ )	Sig (2-tailed)	p-value	Remarks
AIE and BW	0.432	0.18662	0.000	0.05	Ho – rejected

Based on the result as shown in Table 8, there exists a linear relationship between SPDC's agricultural project effectiveness and the well-being of the beneficiaries. The correlation coefficient ( $R = 0.432$ ) shows that there is a positive relationship existing between agricultural intervention' effectiveness and well-being of the beneficiaries. The *apriori* sign is in line with the normal expectation that, effectiveness of agricultural intervention was expected to bring about the improvement of the beneficiaries' well-being as one of the objectives of the intervention.

## 6. Conclusion

Agricultural Interventions in Niger Delta communities executed by SPDC was aimed at poverty alleviation through income generation via employment of community members. From the study therefore, Shell succeeded for a short term to implement these interventions effectively and impacted on the wellbeing of the beneficiaries averagely but lacked a sustainability plan which was meant to sustain the benefits of the intervention as seen from the result of field observation.

Therefore, for Shell to achieve its goal the following recommendations are made:

- Shell should take a critical look at the selection of individuals in the communities for capacity building and project establishment to ginger ownership for effective management and sustainability of projects since sustainability of projects is very important in bringing about the desired change.
- Shell as a financing organization, should therefore exercise its oversight responsibility more objectively without much dependence and reliance on a third party.
- SPDC should undertake periodic independent monitoring and evaluation of the intervention to ensure compliance, effectiveness and sustainability. There is need also for effective periodic external monitoring and evaluation team for the SPDC's projects.
- Community people should be involved in the planning, implementation and evaluation of the projects that affect them.
- In line with the Group Memorandum of Understanding (GMOU)'s principles, Shell should give resources to the communities for them to plan their development with maximum supervision since the community people know their problems and have answers to most of them.

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