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HYBRID OIL PALM SEEDLINGS PRICE SUBSIDY AND OIL PALM HECTARAGE EXPANSION IN AKWA IBOM STATE, NIGERIA.

By

I. C. Idiong, D. S. Udom, S. O. Abang and E. E. Ekpe

Abstract

Subsidy on oil palm seedlings in particular and other inputs in general was designed to help reduce the cost of oil palm production and hence encourage the cultivation of hybrid oil palm by small-holder farmers in Akwa Ibom State. The paper assessed the influence of subsidy on the cultivation of hybrid oil palm by small-holder oil palm growers in the State between 1975 and 1996 using ordinary least squares (OLS) multiple regression technique. The results show that more hectares of hybrid of oil palm were cultivated during the 1975 to 1985 period when there was subsidy than the 1986 to 1996 period when subsidies were abrogated. This difference in cultivation of hybrid oil palm was also significant at the 1 per cent level. The coefficients of the price of seedlings and dummy had negative signs indicating an adverse impact of the new price policy on the hectareage cultivated. These coefficients were significant at the 5 per cent level. It was therefore suggested that oil palm subsidy especially on seedlings should be re-introduced as a short term measure while advocating for policies that will improve the oil palm farmers income, if sustainable oil palm cultivation is to be enhanced (*International Journal of Social Science and Public Policy 2002:5(1) pp132-137*).

INTRODUCTION

Before the advent of crude oil boom in Nigeria, oil palm products (palm oil and kernel) formed the bedrock export commodity, accounting for about 80 per cent of the total foreign exchange earned from agricultural exports by the 1950s and 1960s (Orewa, 1991). These products were harnessed from semi wild oil palm groves that are ubiquitous in the rain forest belts of Nigeria. The lack of adequate capital made the rehabilitation of the existing groves and the development of new plantations quite tasking to the smallholder farmers in the Southeastern region where oil palm is prevalent.

However, the position oil palm occupy in the country's export commodities, had become an issue of concern to successive governments in Nigeria. Efforts aimed at revamping the ailing oil palm industry by government over time have been properly documented, (Zeven, 1967 and Usoro, 1974). Udom (1986) also reported that government had to encourage the planting and replanting of

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improved oil palm along plantation lines by providing seedlings fertilizer free or at subsidized rates. Whetham (1972) reported that government price policies such as subsidies would encourage the expansion of cultivation of the commodity concerned, whereas a no subsidy situation will tend to discourage hectarage expansion given the increasing cost of production. Askari and Cummings (1976) asserted that, making available inputs such as new strains of seed by government to farmers at little or no cost to them would go along way in making them to expand their cropped area. Subsidies per unit price of input granted on per area planted reduce cost of production and therefore encourage production (Agiobenebo, 1995 and Onuk, 1979). Idachaba (1981) has asserted that input subsidies are expected to play at least roles among others which include the stimulation of desired resource allocation pattern; cushioning of farmers against inflation of production costs as well as acting as incentive for new management entry and farm investment. The subsidization of inputs in oil palm production especially on oil palm seedlings was therefore necessary to engender the cultivation of hybrid oil palm and thus boost palm oil and kernel production in Nigeria in general and Akwa Ibom State in particular. During the Nigerian Palm Produce Board (NPPB) era (1977 - 1986), fertilizer and oil palm seedlings were subsidized and cash was given to smallholder oil palm growers to enhance hybrid oil palm production development. A part of the logic for the withdrawal of subsidy was that it created both intra and inters sectoral resource misallocation. In fact, it tilted the balance of development in favour of oil palm production. However, for resource efficiency and sustainable growth of the aggregate economy and the need for proper resource alignment is critical. This was what informed government to introduce the structural adjustment programme (SAP) in 1986. With the introduction of SAP, market forces were to determine the prices of agricultural inputs and produces flow including oil palm seedlings. It is on this basis that the paper examines the effect of the removal of subsidy on oil palm seedlings on the cultivation of hybrid oil palm in Akwa Ibom State.

METHODOLOGY

Study Area:

The study was carried out in Akwa Ibom State in Southern Nigeria. Akwa Ibom comprises thirty-one Local Government Areas and has its administrative headquarters in Uyo. The State is recognized as a producer of both cash and food crops such as oil palm, rubber, cocoa, coconut, cassava, yam, maize etc. It is however ranked amongst the highest producers of palm oil and palm kernel in the country, (Udom, 1986).

Data And Method of Collection

Data used in the study were sourced principally from the records of the Research and Statistics unit of the Ministry of Agriculture and Natural Resources, Uyo, Akwa Ibom State. The data collected include: prices of hybrid oil palm seedlings and annual hectarage cultivated with hybrid oil palm seedlings between 1975 and 1996.

DATA ANALYSIS

Simple averages, standard deviation and percentage growth rates were estimated. A student t-test was used to compare the mean hectarage cultivated between 1975 and 1985 (pre-SAP) and 1986 to 1996 (after SAP) at the one per cent and 5 per cent levels. An Ordinary Least Squares (OLS) multiple regression technique was used to determine the influence of seedling prices, and policy shift on the hectarage cultivated over the period of study.

The equation took the form shown below:

$$\text{here } H_o = 2_0 + 2_1 P_s + 2_2 D + U$$

Where;

H_o = hectarage cultivated

P_s = price of hybrid oil palm seedling

D = dummy indicating policy shift during the two periods, 1975 - 1985 = 1; 1986-1996=0

U = error term

$2_0, 2_1, 2_2$, are parameters. There is no a priori expectation of the signs of the coefficient 2_2 . But 2_1 , is expected to carry a negative sign.

RESULTS AND DISCUSSION

Difference between the hectarage cultivated in 1975 to 1985 and the 1986 to 1996 periods in Akwa Ibom State.

The study revealed that a total of 17,351.57 hectares of hybrid oil palm was cultivated during the 1975 to 1996 periods with a mean annual hectarage of 788.708 hectares and a standard deviation of 576.41 hectares, while that for the 1986 to 1996 period was 348.961 and 23.033 hectares respectively. The calculated t (5.03), which was greater than the tabulated t and the 1 per cent level, indicated that there was a significant difference in the mean hectarage cultivated between the two periods in the State. These results revealed that, hectarage cultivated were much more during the 1975 to 1985 period than the later. The mean annual growth rate for the 1975 to 1985 was 5.04 per cent while it was 1.19 per cent for the 1986 to 1996 period. There was also a significant difference in the growth rates between both periods in the 1986 to 1996 period. It will be recalled that the Nigerian Palm Produce Board (NPPB) encouraged the cultivation of hybrid oil palm in the State by supplying farmers with free or subsidized seedlings, fertilizer and even cash subsidies during its existence. However, with the abolition of this board in 1986, market forces were allowed to determine the prices of agricultural products and inputs. This has led to farmers having to pay more for seedlings and other necessary inputs. This new policy initiatives appear no to be attractive to the smallholder farmers who have alternative used of land in the area of arable crops production.

MULTIPLE REGRESSION ESTIMATES

Two functional forms were estimated (linear and double logarithmic forms). The results were as shown below:

Linear functional form estimates

$$H_o = 970.383 - 22.43 IP_s - 428.673Dt \dots\dots\dots (1)$$

(124.943) (14.611) (199.288)

$$R^2 = 0.87, \text{adj } R^2 = 0.51, \text{F-ratio} = 9.18 \quad \text{D.W.} = 1.82$$

Double logarithmic form estimates

$$H_o = 6.829 - 0.242Ps^* - 1.071Dt \dots\dots\dots (2)$$

(0.102) (0.106) (0.362)

$$R^2 = 0.87, \text{adj } R^2 = 0.85, \text{F-ratio} = 44.91, \quad \text{D.W.} = 1.87$$

Note; * Significant at 5 per cent level.

** Significant at 1 per cent level.

() Standard errors in parentheses.

The usual economic, statistical and econometric criteria were used for evaluation and selecting satisfactory result. The double logarithmic function yielded the most satisfactory results and is used in the discussion. The coefficients of the price and dummy variables carried negative signs and were significant at 5 per cent level. The two variables together accounted for about 85 per cent of the variability in hectareage cultivated with hybrid oil palm over the period of study ($R^2 = 0.85$). The Durbin-Watson statistic indicated a no serial correlation situation. The negative sign of the coefficients of price of seedlings indicates that an increase in the price of oil palm seedlings will lead to a decrease in the hectareage cultivated with hybrid oil palm over time.

Hectareage elasticity with respect to price of seedlings was 0.242 indicating that 10 per cent increase in seedlings price will lead to 2.42 per cent decrease in hectareage cultivated. Since hybrid oil palm seedlings constitute the most important input, the removal of subsidy on it must have discouraged smallholder farmers from devoting their limited land holdings to increase the cultivation of hybrid oil palm. Agiobenebo (1995) had reported that this situation is often exacerbated by the late delivery of this important input to farmers even at relatively higher prices.

The dummy variable, which carried a negative sign, was also significant at the 1 per cent level. This sign indicates that the new government policy of no market intervention had an adverse effect on smallholder hybrid oil palm plantation development. Reduced expansion of hybrid oil palm plantations implies decreases in palm oil and kernel output. Udom (1986) had reported that during the 1975 to 1985 period in Cross River State, the policy of the Oil Palm Development Scheme (ODS) involved the distribution of hybrid oil palm seedlings as well as cash at zero cost to farmers. Since oil palm cultivation is labour intensive, the cash subsidy was to pay for hired labour. With the removal of this cash subsidy in 1986 and coupled with the increasing cost of inputs 1 and the long term characteristic of oil palm and any other tree crop investment, farmers would have been discouraged from developing, expanding or even maintaining their oil palm plantations. However, with the adoption of a no market intervention policy in the nation's economy, there is the need to adapt and reverse the methods/techniques of intervention initiated before the 1986 period. Some policy initiatives that can be advocated should center on how to maintain intra sectoral resource competition

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