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# IMPACT OF OIL PRODUCTION ON NIGERIAN AGRICULTURAL POLICY

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## I

### INTRODUCTION

Although there are many angles from which the effects of oil production on Nigerian agriculture could be discussed, attention in this paper will be focussed on the impact of oil industry on agricultural policy. There are two reasons for adopting this approach.

First is the fact that at present, the price mechanism seems to play a virtually negligible role in transmitting the benefits of the oil boom to agriculture. This is because the production function and the technology in the industry call for lumpy investments and a high level technical manpower derived from external sources—a circumstance which largely rules out the existence of backward linkages between the industry and agriculture. The export and urban orientation of the industry's products and the urban location of such activities as refining and transportation further reduce the possibility of forward linkages between the two industries. The implication of all this is that the scope and character of the oil industry's impact on the agricultural sector depend critically on government agricultural strategies.

A second reason for focussing on agricultural policy is the existence of considerable fiscal linkage possibilities.[1] There is evidence to show that the dramatic increase in government revenues[2] consequent on oil production will permit the undertaking of expenditure calculated to increase the productive capacity of Nigerian agriculture as well as reduce tax burden on rural inhabitants. Government policy in this respect will have important consequences on output, income, employment and the pattern of resource allocation in the Nigerian economy and could raise interesting as well as controversial issues which merit careful examination.

The rest of the paper is divided as follows: Section II considers the effect of oil production on the policy-makers' perception of the role of agri-

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1. S. R. Pearson, "Nigerian Petroleum: Implications for Long Term Planning" in C. K. Eicher and C. Liedholm (Eds.): Growth and Development of the Nigerian Economy, Michigan State University Press, East Lansing, Michigan, 1970.

2. In 1974-75 fiscal year, oil production accounted for 80 per cent of total Nigerian government revenues of US $ 4.1 billion. See S. M. Essang, "Pattern of Government Estimated Capital Investments in Nigerian Agriculture, 1975-1980: Some Implications," Department of Agricultural Economics, University of Ibadan, Ibadan, 1976.

culture in the Nigerian economy and how this is reflected in agricultural strategies, especially in the 1975-80 development plan. In section III the impact of oil revenues on the scope and character of government intervention in agricultural development is examined. The summary and conclusions are briefly presented in section IV.

## II

### OIL PRODUCTION AND THE CHANGING ROLE OF AGRICULTURE IN NIGERIA'S DEVELOPMENT

Among the most significant effects of oil production is the change in official and academic attitude with regard to the appropriate role of agriculture in Nigeria's economic development. To appreciate this change, it is necessary to point out that until 1973, it was an article of faith among Nigerian policy-makers that a central role of agriculture was to generate capital for the development of the Nigerian economy. The vigorous promotion of agricultural exports through the establishment of commodity research institutes, investment in large-scale export crop plantations, the building of extension institutions exclusively geared to the service of export crop producers and the use of marketing boards as a fiscal device for siphoning off incomes from peasant export crop producers for use in public sector capital investments, were seen as strategies aimed at making agriculture play this role effectively.

To be sure, the execution of the strategies designed to maximize the contribution of agriculture to capital formation had adverse consequences. Among these were the neglect of investment in food production, a heavy and dangerous dependence on external markets, the failure to experiment with new cash crops for the expanding domestic market and depressed rural incomes consequent on marketing board taxation of peasant export crop producers.[3] Still, the policy-makers and their advisers were convinced that they were pursuing defensible strategies, given the lack of alternative sources of capital and foreign exchange in a predominantly agrarian economy.[4]

By 1973, however, the government's perception of the role of agriculture changed dramatically. Far from being regarded as a sector from which capital had to be extracted for the development of the rest of the economy, agriculture was to be the net recipient of capital from the non-agricultural sectors.

3. D. Olatunbosun and H. M. Onitiri: The Marketing Board System, Nigerian Institute of Social and Economic Research, University of Ibadan, Ibadan, 1974; and S. O. Olayide, O. Ogunfowora and S. M. Essang, "Effects of Marketing Board Pricing Policies on the Nigerian Economy: A Systems Simulation Experiment," *Journal of Agricultural Economics*, Vol. XXV, No. 3, September, 1974.

4. In 1950 and 1955 agriculture accounted for 67 and 55 per cent of the gross domestic product (GDP) respectively. See Third National Development Plan, 1975-80, Vol. II, Federal Ministry of Economic Development, Ibadan, Nigeria, 1975.

Accordingly, not only were domestic prices of agricultural export crops centrally fixed so as to eliminate the taxation of farmers, but also in some cases export crop producers sold their crops to government marketing agencies at prices which exceeded those prevailing in the world markets—a clear case of income transfer from the government to the farmers. This is evident from the data in Table I.

TABLE I—A COMPARISON OF PRODUCER AND WORLD PRICES OF SELECTED EXPORT CROPS, NIGERIA, 1973-74 AND 1974-75

| Export crops | Producer price (N£/ton) | | World price (N£/ton) | | Producer price as per cent of world price | |
|---|---|---|---|---|---|---|
| | 1973-74 | 1974-75 | 1973-74 | 1974-75 | 1973-74 | 1974-75 |
| Cocoa | 550 | 660 | 540 | 692 | 102* | 95 |
| Copra | 165 | 200 | 118 | 200 | 140* | 100 |
| Groundnut | 165 | 250 | 210 | 230 | 79 | 109* |
| Palm kernels | 132 | 150 | 85 | 186 | 155* | 81 |
| Coffee (Arabia) | 581 | 700 | 504 | 463 | 115* | 151* |

*Source:* Computed from *Nigerian Trade Journal*, October-December, 1974 and January-March, 1975.
* Producer prices exceed world prices.

Although other factors also account for the new government attitude, there is no doubt that the dominant role of oil in the Nigerian economy provides the single most important explanation. By 1973-74, the contribution of mining to the GDP had jumped from a mere 2 per cent in 1962 to 45.5 per cent.[5] The contribution of agriculture, by contrast, had declined from 62 per cent to 23.4 per cent within the same period. Also between 1971 and 1975, the growth rates of the agricultural and mining sectors were as shown in Table II. These rates highlight the almost stagnating character of agriculture as against the fast growing mining sector.

TABLE II—COMPARATIVE GROWTH OF AGRICULTURE AND MINING, NIGERIA, 1971-75

| Sector | Percentage growth rates | | | |
|---|---|---|---|---|
| | 1971-72 | 1972-73 | 1973-74 | 1974-75 |
| Agriculture | 5.2 | — 6.3 | — 3.2 | 3.9 |
| Mining and Quarrying | 40.4 | 18.4 | 14.9 | 10.5 |

*Source:* Third National Development Plan, 1975-80, *op. cit.*, p. 22.

5. Second National Development Plan, 1970-74, Federal Ministry of Information, Lagos; and Third National Development Plan, 1975-80, Vol. II, *op. cit.*

More important is the fact that by 1974-75, oil revenue had accounted for 80 per cent of US $ 4.1 billion retained by the Federal Government as against 16.4 per cent which was the contribution of agriculture.

Apart from causing a shift of emphasis from agriculture's role as a net contributor of capital to the rest of the economy, oil production has also led to reduced emphasis on the role of agriculture as a generator of foreign exchange. This is evident from the fact that in contrast with previous development plans, which were characterized by a heavy emphasis on expansion of export crops and consequent relative neglect of food crops, the current 1975-80 plan places considerable emphasis on food crop production which is expected to absorb N£ 527 million[6] (32 per cent) of total capital expenditures on crop programmes. The estimated expenditures on export crops, by contrast, constitute only 12.34 per cent of the total.[7]

Oil production does not only create conditions which make the reduced emphasis on the provision of foreign exchange by agriculture feasible, it also makes greater emphasis on food production very essential. First, oil exports have completely displaced agricultural exports in value terms. Whereas agricultural exports accounted for 84 per cent and 63 per cent of total export values in 1955 and 1969 respectively, they contributed only 14 per cent in 1973. Second, petroleum has displaced agriculture as the main source of foreign exchange as is shown in Table III and has considerably strengthened Nigeria's external reserve position.[8]

TABLE III—PROJECTED CONTRIBUTION OF OIL AND NON-OIL EXPORTS TO NIGERIA'S FOREIGN EXCHANGE, 1974-75—1979-80

| Year | Total foreign exchange (N£ million) | Oil exports | | Non-oil exports | |
|---|---|---|---|---|---|
| | | N£ million | Per cent of total | N£ million | Per cent of total |
| 1974-75 .. | 7,435.5 | 6,458.1 | 87.0 | 304.3 | 13 |
| 1975-76 .. | 8,087.2 | 7,120.3 | 88.0 | 346.8 | 12 |
| 1976-77 .. | 9,318.7 | 7,913.0 | 85.0 | 355.6 | 15 |
| 1977-78 .. | 10,292.7 | 8,665.1 | 84.0 | 368.6 | 16 |
| 1978-79 .. | 11,415.9 | 9,603.8 | 84.0 | 387.0 | 16 |
| 1979-80 .. | 12,599.3 | 10,633.2 | 84.0 | 396.0 | 16 |

*Source:* Computed from the Third National Development Plan, 1975-80, *op. cit.*, p. 60.

6. The estimated capital expenditures on food production include expenditures on fertilizer and food crop oriented irrigation projects. See Essang, *op. cit.*
7. *Ibid.*
8. *Ibid.*

Quite apart from the purely financial conseqences indidcated above, the production of oil has led to internal developments such as rapid urbanisation, a quantum jump in government defence and social expenditures, rapid development of manufacturing industries, drastically upward adjustments of salaries and wages and generally increased personal incomes. The result is a sharp increase in the demand for food which, given the neglect of food production in previous plans and the shortage of farm labour due to rural-urban migration,[9] cannot be adequately met from domestic supply. While the short-run solution to the food problem consists of direct government intervention by way of food imports and the fixing of food prices, the long-run approach, as seen by policy-makers, is increased investment in food production evident in the current 1975-80 plan.

## III

### OIL REVENUES AND THE NATURE OF GOVERNMENT INTERVENTION IN AGRICULTURAL DEVELOPMENT

The positive revenue effect of oil production has led to (*i*) increased direct government entrepreneurship in agricultural production and (*ii*) the dominant role of the Federal Government in financing agricultural development. These two aspects of government intervention raise important issues which are examined in this section.

(A) *Increased Direct Government Entrepreneurship in Agricultural Production*

The data in the Third National Development Plan show the increasing involvement of both the Federal and State Governments in direct production of agricultural product, especially food crops. For the country as a whole, it is estimated that government food production companies are to spend N£ 114.2 million or 45 per cent of a total allocation of N£ 252 million[10] to food crops between 1974-75—1979-80.[11] In the six southern states, government plantation and food companies are to spend N£ 67.35 million, out of a total of N£ 131.38 million for food crops. The most glaring evidence of direct government involvement in food production is provided by the data in Table IV.

According to information in Table IV, N£ 84 million out of a total allocation of N£ 111.30 million is earmarked for government food programmes in the seven states which appear in the table. The same emphasis on direct government production is reflected in the pattern of allocation to tree crop production. A computation from the data in the Third National

9. S. M. Essang and A. F. Mabawonku, "Impact of Urban Migration on Rural Development: Theoretical Considerations and Empirical Evidence from Southern Nigeria," *The Developing Economies*, Vol. XIII, No. 2, 1975.
10. This amount does not include expenditures on fertilizer and food production oriented irrigation projects.
11. Essang, *op. cit.*

TABLE IV—CAPITAL ALLOCATION TO GOVERNMENT FOOD PRODUCTION PROGRAMMES AS PERCENTAGE OF ESTIMATED CAPITAL EXPENDITURES ON FOOD CROPS, SELECTED STATES: 1974-75—1979-80

| States* | Total food crop allocation (N£ million) | Allocation to government programmes | |
|---|---|---|---|
| | | N£ million | Per cent of total |
| Benue Plateau .. .. .. .. | 3.03 | 2·30 | 76 |
| East Central .. .. .. .. | 35.62 | 30.16 | 85 |
| Kwara .. .. .. .. | 24.84 | 12.72 | 51 |
| Midwest .. .. .. .. | 16.55 | 16.55 | 100 |
| North Central .. .. .. .. | 4.57 | 2.00 | 44 |
| Rivers .. .. .. .. | 12.20 | 9.00 | 75 |
| South East .. .. .. .. | 14.49 | 11.64 | 80 |

*Source;* Computed from the Third National Development Plan, 1975-80, Vol. II, *op. cit.*
* The data in the Third National Development Plan are presented in the context of a 12-state federal structure which preceded the present 19-state structure.

Development Plan shows that the estimated allocation to government tree crop projects accounts for 70 per cent, 77 per cent, 95 per cent, 64 per cent and 50 per cent of the total capital allocation for tree crop development in East Central, Midwest, Rivers, South East and Western states respectively.[12]

As should be expected, many reasons are advanced in favour of this high degree of direct government involvement in agricultural production. Among these are the need to supplement private production efforts, and the need to promote a fuller use of land resources by establishing plantations in those parts of the country which, though characterized by the existence of abundant land, yet do not make adequate contribution to the supply of food and raw materials because existing tenurial practices discourage private investments in agriculture. Direct government involvement is also looked upon as a means of introducing new techniques and technologies in agricultural production.

While an examination of the validity of these arguments will not be undertaken in this paper, the fact must be stressed that this strategy of agricultural development entails a very high opportunity cost to the Nigerian economy in many respects. First, it ties down a large number of high level administrative and technical personnel in the management of government production projects and so aggravates the problem of manpower shortage. Second, it involves a grossly unfair and unrealistic allocation of funds between private and public agricultural projects. Though private

12. Essang, *op. cit.*

small producers account for virtually all the food and raw materials in Nigeria, less than 50 per cent of the total allocation to agriculture will be spent on small producers' projects. In the Midwest, for example, the whole of N£ 16.55 million is to be spent on government food production project. If it could be shown that government companies and corporations are more productive users of capital than private small holders, perhaps the strategy would have been more defensible. In practice, however, government agricultural projects tend to be inefficiently managed and unproductive. Moreover, a calculation based on the data in the Third National Development Plan suggests that if the governments of the Rivers, South East, East Central and Western states were to devote all the capital expenditures earmarked for oil palm development to small holder projects, output of palm oil would increase by N£ 50.3 million at 1973 prices, over and above what is likely to be achieved under the current strategy which biases allocation towards government projects.[13]

### (B) *Dominant Role of the Federal Government in Financing Agricultural Development*

According to the data in the Third National Development Plan, the Federal Government is to embark on estimated capital expenditures of N£ 750 million on crop production in the plan period, 1975-1980. This amount represents 45.6 per cent of N£1,645 million, the total estimated capital expenditure on crop production. In the area of livestock, the estimated federal capital expenditures constitute over 50 per cent of the capital allocation to livestock programme. When the three sub-sectors of agriculture crops, livestock/fishery and forestry are taken together, the estimated federal expenditures account for 46 per cent of the total. This is a far cry from the federal role in the 1962-1968 and 1970-1974 plans, during which the estimated federal capital expenditures accounted for 22.3 per cent and 25.2 per cent respectively of total capital expenditures.[14]

However, the dominant role of the Federal Government has important implications among which is the need for strengthening the planning division of the Federal Ministry of Agriculture and Rural Development at present hit by shortage of experienced and highly educated agricultural economists and statisticians. Second is the need for an institutional arrangement which, while facilitating federal leadership, at the same time enables the states to display initiative and imagination in formulating and implementing agricultural programmes of interest to the local people. This, in our view, should merit the consideration of policy-makers at present engaged in drafting a new federal constitution for the country.

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13. For details on the yield and price assumptions underlying the calculation, see Essang, *op. cit.*

14. Second National Development Plan, 1970-74, *op. cit.* and Third National Development Plan, 1975-80, *op. cit.*

The third implication of the dominant federal role is the need to use federal agricultural spending for combating regional, state and personal income disparities, one of the objectives of the current development plan. Ideally, the Federal Government should concentrate its expenditures heavily in relatively economically weak states. Its programmes, moreover, should also be tailored to specific groups in the rural areas in an effort to raise the income of such groups. In practice, federal expenditures, as revealed in the Third National Development Plan, are more likely to accentuate state and personal income disparities. Most of the estimated investment expenditures are for large-scale, capital intensive irrigation projects located in a few areas and, therefore, likely to benefit a much smaller farm population than would have been the case if the government had concentrated on tubewells and bore holes. Also, though the sum of N£ 150 million is earmarked for agricultural credit, there are no efforts to ensure that the vast majority of small-scale farmers benefit from this amount. On the contrary, considering the present lending policy of the Agricultural Credit Bank which discriminates in favour of State Government production companies and large-scale, politically influential farmers, there appears to be a deliberate policy to exclude small farmers from consideration.

More serious is the absence of measures for dealing with negative externalities of oil production on the agricultural sector. One of these negative externalities is a high rate of rural-urban migration which creates labour shortage in the rural areas and involves a net capital transfer from the rural to urban areas.[15] Another aspect of the same problem is oil pollution. In a recent study of the problem in the Rivers state, it is shown that oil pollution leads to (*i*) increased carbon/nitrogen ratio which reduces soil fertility, (*ii*) a decline in the size of cultivable land from an area of 1.3 hectares before pollution to 0.9 hectares after pollution, (*iii*) a decline of 20 per cent in food production and (*iv*) a decline of 48 per cent in the average per capita income of palm oil producers.[16] Since the Federal Government controls and re-allocates oil revenues, it should be the responsibility of that government to set aside a small fraction of the oil revenues for compensatory investment expenditures on infrastructure and the production of high value agricultural products in these oil producing villages.

## IV

### SUMMARY AND CONCLUSIONS

In this paper, it is shown that oil production has dramatically increased the revenue and foreign exchange resources of the Nigerian government.

15. S. W. Eremie: Capital Transfers in Rural-Urban Migration: Empirical Evidence from Okrika, Rivers State, Project Monograph, Department of Agricultural Economics, University of Ibadan, Ibadan, 1975; and Essang and Mabawonku, *op. cit.*

16. S. A. Oni, J. K. Egunjobi and E. G. Mubana, "Environmental Effects of Oil Pollution on Nigerian Agriculture: A Case Study of Dere Area in the Rivers State," Department of Agricultural Economics, University of Ibadan, Ibadan, 1975 (mimeo.).

Accordingly, the government no longer emphasizes the role of agriculture as the source of capital for developing the rest of the Nigerian economy. On the contrary, the government now seems determined to effect a transfer of funds to the agricultural sector in order to increase that sector's productive capacity and raise rural incomes. Also, the fact that foreign exchange is no longer a constraint on development accounts, to a large extent, for the discernible shift from export biased agricultural development to greater emphasis on the production of food crops.

Another important effect of oil production is the changing character of government intervention in agricultural production. Two aspects of this were highlighted, namely, the increasing emphasis on direct government production of agricultural products and the dominant role of the Federal Government. With regard to the former, it is maintained that irrespective of the case made in its favour, the strategy is likely to involve for the economy in substantial opportunity cost and in a highly inequitable distribution of development funds between the government and the private sector, the backbone of the Nigerian economy. With reference to the latter, the paper points out several policy implications. Among these are the need to strengthen the planning machinery of the Federal Government, the creation of institutional/organizational arrangements for co-ordinating federally funded agricultural programmes in the states in such a way as to allow free play to state initiative in the formulation and execution of projects at the local level. The need to use federal spending power to reduce rural income disparities among the existing states is also stressed. Finally, in view of the fact that oil production imposes negative externalities on the oil producing rural areas, it is suggested that a small proportion of government revenues be earmarked for compensatory investments in the oil producing villages.