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CONTENTS

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SURPLUS LABOUR AND THE DEVELOPMENT OF THE RURAL ECONOMY: IMPLICATIONS FOR ANAMBRA STATE OF NIGERIA

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ABSTRACT OF PAPER

The theory of disguised unemployment and surplus labour shows that in the Agricultural sector of most developing over-populated economies the marginal product of labour tends towards zero with considerable surplus labour. Growth in agricultural productivity is contingent on the withdrawal of the surplus labour and their utilization in industry. In the Nigerian situation and also in Anambra State the agricultural sector was shown to have some surplus labour, thus the Agricultural sector is not the leading sector, but the lagging sector in the economy. Growth of Rural based industries and Associated supporting equipments and infrastructures could induce productivity in agriculture by absorbing the labour surplus. Injection of additional manpower in agriculture would not achieve desired objective. Policy package of Anambra State Government can help transform the state economy by inducing efficiency in the agricultural sector.

1. LABOUR SURPLUS THEORY

The theory states that in the agricultural sector of most developing economies there exists a considerable amount of surplus labour as evidenced by the fact that the marginal product of labour tends to zero in this sector. In the theories of development as propounded by Sir Author Lewis (1) J.C.H. FEI and G. Ranis (2), R.F. Findlay (3), D. Jorgenson (4) and others, agriculture is characterised by the following assumptions:

1. Labour is paid a susbsistence wage whose level is determined by tradition related in some ways to its average product.
2. Disguised unemployment, a situation where the marginal product of labour is zero, prevails in the whole sector. In the models they utilised, the allocation of resources within agriculture is inefficient because of the unfavourable endowment of land and capital. The process of economic development would lead to a re-allocation of factors of production between the agricultural and industrial sectors. The resultant movement of labour from agriculture to industry would correct the adverse labour-land ratio that was responsible for the inefficiency in agriculture.

The above models of Lewis, Ranis and FEI show that economic development is essentially a process of re-allocation of labour from the overpopulated agricultural sector to the growing industrial sector. Agriculture provides both labour and the funds for investment in industry. The wage differential between the agricultural and industrial sectors and the increased agricultural productivity consequenct on the withdrawal of labour from agriculture to industry would both activate economic expansion. The wage differential plays this role by serving as an inducement for intersectoral migration. Labour's marginal product in agriculture is zero and its share of output is related to an average productivity index which is a subsistence wage. On the contrary, productivity in the industrial sector is higher and the wage rate is related to the positive marginal product of labour.

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Also increased agricultural productivity as a result of outmigration from agriculture, would enlarge the amount of surplus originating in agriculture which is available for investment in industry and by moving the terms of trade in favour of industrial goods increases the real income of industrail workers. This increase in real income would further widen the gap between agricultural and industiral wages and further encouraging an outmigration of labour from agriculture to industry (5).

Thus agricultural development is predicated on the withdrawal of labour from Agriculture and not on the injection of additional man power in an already congested agricultural sector. Additional employment implication of growth and development in the agricultural sector is zero. The industrial sector absorbs the labour offloaded from the agricultural sector. The industrial sector is thus the leading sector for growth and development. It is the modern sector utilising vintage technology for enhanced productivity. As the model shows agriculture cannot be the leading sector for growth, it is rather the lagging sector. If there is going to be any type of rural based growth, it should come through rural based industries, not rural based agriculture. This is because agriculture is already congested and development is consequent on withdrawal of the surplus labour from agriculture.

2. EMPIRICAL VALIDITY AND THE ANAMBRA SITUATION

Shultz (6) and Paglin (7) concluded that there is no surplus labour in Indian Agriculture. Hansen (8) did not find surplus labour in Egyptian agriculture. These investigations use highly aggregated data. Shultz's data were at state level and Paglin's were derived from group averages for different farm sizes in various states. A use of more disaggregated data would reveal the presence of surplus labour in India and Egypt.

Empirical evidence accumulated from India and Egypt reveal the following features in both countries: that while marginal productivity explains agricultural wages, disguised unemployment does occur in some places but is not a prevalent feature in "overpopulated" economies.

Mazumdar and Dasai used the estimating equations of output as a function of human labour implements and bullock labour. The equation was normalised to prevent heterodasticity.

(1) $\frac{G}{A} = F\left(\frac{L}{A}, \frac{K}{A}, \frac{B}{A}\right)$ in linear and log forms.

Where G = Value of total output
L = Total labour input
K = Value of major and minor implements
A = Size of cultivating unit in number of acres
B = Hours of bullock labour.

They disaggregated their data into (a) Farms employing hired labour (b) Farms employing only family labour. The results of the test showed that the co-efficients of the labour input in (a) were statistically significant from zero while those for (b) were statistically insignigicant from zero. This shows that the modern sector (employing hired labour) pays labour its marginal product and the traditional sector still uses some subsistence or institutional wage since labour is over utilised to the extent that the marginal product and the real wage is zero.

This illustrates the nature of daulism in traditional agriculture and potential gains from re-allocating labour resources in agriculture from the traditional sector of labour surfeit to the more rational modern sector since the necessary condition for Pareto optimality is that the marginal product of each factor be equated among all sectors.

The author conducted a farm survey in Western Nigeria (9). Data on output, value of equipments, size of cultivating units amount of labour employed in labour months, value of fertilizers used were collected from two hundred farm families around Ibadan and Ife Districts of Western Nigeria. With these data Cobb-Douglas production functions were estimated.

(2) $Y = e^{\alpha} L^{\beta} A^{\gamma} K^{\delta} F^{\varepsilon}$

For which

$$\text{Log } Y = \alpha + \beta \text{Log } L + \gamma \text{Log } A + \delta \text{Log } K + \varepsilon \text{Log } F$$

where Y = Income
L = Labour months applied
A = Total acres cultivated per farmer
K = Value of Equipments
F = Value of fertilizers.

The estimated production function was as follows:

$$\text{Log } Y = 44.2317 + 0.2056 \text{Log } K + 0.158 \text{ Log } A + 0.2939 \text{ Log } L + 0.0015 \text{ Log} F$$

standard error	(0.1938)	0.0538)	(0.0364)	(0.0667)	(0.0082)
T-statistics	(21.8363)	(3.8115)	(4.2235)	(4.4066)	(0.1869)

The co-efficients of labour, capital and land were statistically significant from zero at the one percent confidence level. This shows positive marginal product of labour. This does not indicate fully the absence of surplus labour in the relevant agricultural sector.

In order to fully depict the absence of disguised unemployment and hence labour surplus an examination of the marginal product - opportunity cost ratio of labour was made. Maximum efficiency in resource use occurs when its marginal product opportunity cost ratio is equal to unity. If the ratio is less than unity it indicates that too much of the particular resources is being utilised. If the ratio is greater than unity, it indicates that too little of the resource is being utilised. In the sector of Western Nigeria investigated, the marginal product - opportunity cost ratio was 0. 35. This shows the presence of considerable surplus and hence disguised unemployment in the relevant agricultural sector.

For Anambra State, no such production was estimated. If the assumption that the western study is reprsentative of the Nigerian Situation is valid, that is that Ibadan and Ife agricultural situation is a microcosm of Nigeria, then by logical extension there is disguised unemployment and surplus labour in Anambra State agricultural sector. Ibadan is the largest city in black Africa,and the West is the most Urbanised region of Nigeria. The 1963 census shows that the population density for Anambra State was 203 persons per square mile while the relevant density for Oyo State, the area of study in Western Nigeria, was 138 persons per square mile. Thus concentration of population is greater in Anambra state than Oyo State. As a result the concentration of population in the rural sector in western Nigeria will be less than what would obtain in a more rural setting of Anambra State. It is expected that the congestion in the Agricultural sector would be greater in Anambra State than in the ______ ___ West since the West is more Urbanised and that the marginal product of labour would tend more towards zero in the agricultural sector of Anambra State.

Thus empirical evidence shows the presence of surplus labour in the agricultural sector of developing overpopulated economies. The presence of surplus labour means that economic development could proceed with inter-sec-toral migration from agriculture to industry. The surplus labour in agriculture moving to industry would achieve exactly the same solution as postulated by Lewis, Ranis and Fei et al. It would lead to a Pareto-optimal solution by tending to equalise the sectoral marginal products of labour and enhancing efficiency in the agricultural sector.

In Nigeria the rural sector is almost synonymous with the agricultural sector and the two words can be used interchangeably. 70% of the Nigerian population live in the rual sector and 70% are engaged in the agricultural sector. Of this number 51% of the Nigerian labour force work in the agricultural sector (10). It is expected that the process of economic development would reduce the percentage of manpower in the agricultural sector and increase the share of the agricultural sector in the gross domestic product which presently stands at 26%. That is 51% of the labour force presently produce 26% of output. The process of re-allocation of labour from agriculture to industry will thus increase efficiency in the agricultural sector. Thus prospects for increased employment in agriculture is nil and emphasis should be concentrated on the industrial sector as the leading sector to induce growth and efficiency on the agricultural sector.

3. PROGRAMMES FOR RURAL DEVELOPMENT IN ANAMBRA STATE AND THEIR ADEQUACY

The State Government recently stated its priority of development of the rural agricultural sector. Some of the programmes listed for meeting, the goal of rural development include provision of the following: (a) School to land programme (b) Rural based industries (c) Skills Acquisition centers (d) Rural infrastuctures (e) Village Adoption Scheme.

The School to land programme pioneered by Rivers State and being emulated by a few Nigerian States would see the settlement of School leavers in acquired land for agricultural endeavours. Local Governments have been asked to acquire hectares of land for this purpose. School leavers would be settled in parcels of land and given aid in form of loan to be amortised with interest over a medium term period. Infrastructures would be provided to complement the efforts of the farmers in increased productivity.

As stated earlier inadequate manpower is not the constraint in agricultural sector. Rather the abundance or surfeit of manpower reduces producivity. growth in agricultural productivity would follow withdrawal of manpower from agricultural sector. Increased injection of manpower in agriculture would displace inefficient peasant farmers who may not be absorbable in the industrial sector. This would lead to greater unemployment of peasant farmers.

The provision of rural based indusries of the small scale variety would absorb more manpower. Small scale industries are labour intensive and capital saving. Since Nigeria is a labour abundant and capital scarce economy the small scale industires be emphasised. Rural based instries of the small scale variety would help induce efficiency in the agricultural sector by absorbing the erstwhile agricultural surplus labour. This is consistent with the theory as postulated by Lewis, Ranis and FEI in the Theory of disguised unemployment.

The setting up of skills acquisition centres would help create skills necessary for small scale industries. Handicraft and machine skills would be imparted to school leavers who would now become job creators as they practice their skills rather than remaining job seeking school leavers. This is consistent with rural industrialisation and would help effect the necessary shifts that would induce efficiency in agriculture.

Provision of rural infrastructures is also in the right direction. Roads, bridges, electricity , water are necessary social capital that would enhance productivity in the rural sector. Good roads will help evacuate agricultural products, reduce food wastage and make the products of farms easily available to the consumer. Electricity is an input in production and rural based industries would operate at high costs without this input socially provided. Pipe borne water is also an invaluable input in production. These infranstructures are being provided in Anambra State in recognition of their vital role in accelerating rural development.

The village adoption scheme is another strategy to increase agricultural productivity. The injection of adequate capital into agriculture would definitely increase yields and raise the marginal productivity of labour. This is as a result of factor complementarity in production. Under this scheme Banks adopt villages in the same way as families adopt children. When the Bank adopts a village, it is conscious that it will have to mobilise enough resources, both financial and human to make the village self reliant and prosperpous. The Bank has to act as a catalyst and it has to plan for the integrated development of the adopted villagers (11)

Under the scheme, a village or bunch of villages with all their eligible farmers (as individuals or co-operatives) are selected and assisted. This takes care of land surevey, soil texture, availabilty of water, seeds, fertilizers etc. For a homogeous group of small farmers working as a small community. Extension services are provided at intervals for imparting necessary knowledge about modern methods of farming. The Bank becomes a co-ordinator, providing adequate credit for farming operations and bringing together all those agencies that contribute to agricultural productivity and the enhancement of the incomes of rural farmers.

The idea for the village adoption scheme was borrowed from the parent foreign partner of the indo-Nigeria Merchant Bank, the State Bank of India (S.B.I), the largest commercial Bank in the India subscontinent. The S.B.I. which has more than 6,600 branches (the largest in the world) has adopted 49,525 villages and provided direct finance to over 4 million farmers (12). The village adoption scheme is recommended for adoption in Nigeria because it reduces loan de fault and diversion and helps increase agricultural productivity.

Thus the programmes of Anambra State Government that are consisitent with theory as adduced above are the provision of small scale rural based industries, skills acquisition centres, rural infrastructurees and the village adoption scheme.

4. RECOMMENDATIONS AND CONCLUSIONS

Agricultural sector cannot be the leading sector for the economic transformation of overpopulated developing economies. This is because of the existance of considerable surplus labour in this sector. Growth in agricultural productivity is contigent on the withdrawal of this surplus labour and their employment in the modern Industrial sector. The development of rural based industries could absorb this surplus and induce efficiency in traditional agriculture.

With respect to Anambra State, the policy package of government has the potential of inducing such efficiency. Specifically the desired programmes are rural based industires, skills acquisition centres, rural infrastructures and the village adoption scheme. Further injection of additional labour in agriculture would not achieve desired objective. Emphasis on rural development should not be seen as emphasis on agriculture alone. The industrial sector is the leading sector and together with other supporting equipments and infrastructures would induce productivity in the agricultural sector and lead to growth and development of the larger macroeconomy.

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