Roy Summit: **AGRICULTURE AND TECHNOLOGY IN DEVELOPING COUNTRIES - INDIA AND NIGERIA**, Sage Publications, New Delhi 1990, pp 223

The book attempts to study the role of technology in Agriculture in developing countries. The countries compared are India in South Asia and Nigeria in West Africa. The book is divided into four chapters in addition to Introduction and Appendices.

Introduction discusses the role of Agriculture in the economy as a key sector. The growth in Agriculture has its impact on self reliance, growth and equity. A short comparison of India and Nigeria is presented. The technology adopted is classified as Mechanical technologies and Biological technologies. The essential difference between India and Nigeria is in the fact that the former is characterised by land scarcity and labour surplus, while the latter by land abundance and labour scarcity. This part of the book discusses about the sharing or distribution of benefits and also the type of economy and political stability. It also discusses the process technology adoption and the role of state in this process. The methodology followed for comparison is by case studies and detailed study of Meerut in Uttar Pradesh (India) and Funtua in Nigeria. Some of the limitations, as mentioned by the author himself, are: technology means only modern technology not traditional, study covers only landed peasants and not landless. The organisation of the book is also mentioned in introduction.

The first chapter on 'The state of Agriculture and Technology in India and Nigeria' examines (a) the role of external agencies in influencing the shift to modern technology, (b) the creation of strategies and their culmination into Green Revolution and (c) Role of policies in providing incentives for the adoption of modern technology.

India is characterised as a country which encourages private investment and foreign capital is scrutinised. The state played a significant role in attaining self sufficiency. The plan allocations have also been reviewed with a view to bring about the shift which occurred from emphasis on Agriculture during the I Plan to emphasise on Industry in subsequent plans.

Whereas Nigeria is considered neutral to local and foreign capital, depended on exports, especially oil, and importer of capital goods, lack of local or indigenous industrialists, which gave rise to multinational operations. Traditionally Nigeria encouraged cash crops because of their export potential.

During the colonial rule in India, the food grain production dropped and inequality prevailed, India also failed to implement land reforms vigorously due to raising demand for food.

Nigeria which was also under colonial rule, had emphasis on commercial crops like cocoa, groundnut, cotton. World Bank assistance was received in a large measure and emphasis was on Biological and mechanical technologies to create competition and motivate farmers. Agricultural inputs were freely imported into the country. High yielding varieties were of no consequence in Nigeria, the only exception being Maize. Several Indian varieties were also tried but they performed as good as local varieties only. The tract of land, even though abundant in Africa, was of poor quality. Main projects in Nigeria aiming at food production were Agricultural Development Project (ADP) and River Basin Development Project (RBDP), which were successors to Operation Feed the Nation (OFN) and National Accelerated Food Production Programme (NAFPP) in early seventies. Fertilisers and Management absorbed much of the foreign exchange and large land holdings received more support. The controversies these programmes raised were, the bias to progressive peasants and exorbitant use of foreign skills.

Mainly three policies were followed in both the countries, i.e., credit policy, subsidies and output prices in both the countries. In India, the credit availability and consumption increased tremendously but resulted in defaults and overdues. The rural rich with assets were the main beneficiaries of institutional credit. There were subsidies on fertilisers and irrigation, which benefited the irrigated states/areas more. The output price policies fixed minimum support prices which again mostly benefitted rich peasants. Thus the question of inter-regional and inter-peasants equity was not tackled at all, rather inequity widened.

In Nigeria, the credit system was not successful, the subsidies were not stable and reduced often and the output prices failed to support the technology. The food policies were urban biased.

In conclusion, it is observed that technology was a force in achieving self sufficiency in India, even though it did not result in increases in consumption and nutrition levels, because of poverty. Still the inter-regional and inter-peasants inequality is present.

Self sufficiency was the thrust in both the countries, but India laid more emphasis on food production, whereas Nigeria followed a Laissez-faire policy.

The second chapter is on 'The Production and Import of Chemical Fertilisers in India and Nigeria'. This chapter mainly discusses the role of states in fertiliser production. India has been able to develop strong fertiliser sector because of the presence of strong indigenous industrial bourgeoisie. Foreign capital was restricted to certain sectors only and India had cultivated indigenous technological and scientific manpower. Anyway India had to rely upon international agencies for creation and expansion of fertiliser industry which resulted in delays and cost overruns.

Nigeria did not have the strong indigenous industrial bourgeoisie which forced reliance on foreign capital and multinationals. This country faced technological and skill deficiencies. This resulted in weak industrialisation. The efforts of Nigeria to shift the burdens of industrialisation to private sector is also doubtful, since the past experience was bad.

The third chapter is on 'The Diffusion of Technology in India and Nigeria'. Diffusion of technology is essential to boost productivity. The fertiliser consumption levels rose sharply in both the countries under comparison, but there was less coordination and stability in Nigeria. The diffusion of technology was characterised by inequality. Large peasants and irrigated areas were able to take advantage of technology. In India the inverse relationship between farm size and production in pre-modern technology era turned to be positive relationship after introduction of modern technology. Even small peasants were motivated to enhance productivity and profit. Whereas in Nigeria large peasants monopolised the advantages of technology. in India small peasants tried to rent in land under new technology, while in Nigeria small peasants rented out land to urban business and commercial classes. Large peasants had a marked relationship with produce markets. These observations have been substantiated by case studies undertaken in Funtua in Nigeria and Meerut in India.

The last chapter of the book is on some lessons emanating from this comparative study. Biological and mechanical inputs as modern technology was the major strategy to boost food production. This worked well in India, which is self sufficient, even though inequalities persisted, but did not work well in Nigeria in as much as it depended upon imports. The state can influence the goal of self sufficiency through relevant policy measures. Policies on credit, subsidies, output price can be successfully used to influence the peasants. Care should be taken to see that the policies are spread evenly across all peasants and all areas. This depends upon the agrarian structure, and socio-political set up of the country.

On the whole, the book brings out the success of modern technology in India, with very active investment of the State, but the same nearly failed in Nigeria. Traditionally Nigeria was concentrating on commercial crops and oil for earning foreign exchange. The problems arose only when the oil prices fell and the imports could not be supported. The book reviews in great details the processes and policies adopted in diffusion of modern technology in both the countries and makes an interesting reading. This book will be very useful for policy makers in knowing the consequences of various policy measures.

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