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REVIEWS IN BRIEF

World Food Production, Demand, and Trade, Leroy L. Blakeslee, Earl O. Heady and Charles F. Framingham, Iowa State University Center for Agricultural and Rural Development, Iowa State University Press, Ames, Iowa, U.S.A., 1973. Pp. viii+417. \$12.95.

An attempt is made in this study to project production and consumption of food for the majority of the population and agricultural producing areas in 96 countries of the world (excluding Mainland China) upto the year 2000 in terms of the trends observed, especially in the post-war period, and to apply a trade or distribution model to certain production-demand comparisons generated for groups of countries. The trade model is applied to estimate the potential future movement of food and fertilizer among surplus and deficit producing countries. Divided into three parts and 16 chapters, Part 1 presents a historical account of the world food problems and describes the methods for estimating future demand and production possibilities. Part 2 examines the projections of population and income and future food demands, analyses the potentialities of the Green Revolution for augmenting food supplies in the world and reviews the foundations in agricultural policy needed to provide the necessary degree of certainty on the supply side. Projected production trends are interpreted in terms of recent developments in new varieties and auxiliary technologies. Models of trade patterns, distribution of food supplies, capital requirements, trade in fertilizers and phosphate rock and the implications for regional plant capacities are dealt with in Part 3. The linear programming model is applied for surpluses and deficits among regions and countries for the years 1975, 1980 and 2000 and to a specific combination of population, income and land variants which allow feasible solutions. The study does not however attempt to evaluate the nutritional aspects of the diets which might result if the projected production and demand figures were to be realized. Neither has any attempt been made to determine future levels of production, domestic demand, and trade which would reduce excess demand to zero for every commodity, country and time.

The study has estimated future food demand by using three alternative population projections and two alternative total income trends for each country under nine alternative population and per capita income assumptions. Based on time-series observations, demand and production projections are made for the following nine product classes : cereals, raw sugar, starchy roots, pulses, vegetables and fruits, oil crops, meat, milk, and eggs. Least-square estimation techniques are used to estimate time trends in total income.

The results of the study indicate that potentials in the expansion of supply and demand constraints are such now that the world could attain a favourable food production-demand balance by the year 2000. The analysis of production indicates few instances of stagnant trends. For the 96 countries as a whole, conditions of medium population growth and constant per capita

income would result in an estimated surplus of 145 million tons of cereals or 12 per cent of production in 1985 and of 158 or 179 millions tons in 2000, depending on whether crop land expansion is based on low or high variant constraints. The estimated deficit for the low income countries is 60 or 55.6 million tons in 1985 and 148 or 128 million tons in 2000, depending on which land constraint is used. Assuming high population growth rates and continued income trends, the deficit in cereals is estimated at 280 or 301 million tons for the low income countries in 2000, depending upon the land constraint assumptions. Estimates of production range from 47 to 70 per cent of the corresponding demand in raw sugar, root crops, pulses, fruits and vegetables and oil crops. The estimated yield trends in most under-developed countries are less vigorous, but even in these, substantial progress in improving yields over the post-war years has been apparent even before the advent of the green revolution. In addition, expansion in crop land has been important in explaining production trends in many developing countries. In both low and high income countries, population growth would account for most of the projected increase in demand.

The analysis of policy implications of the projections highlights policy alternatives for balancing food demand and supply in the low income countries. The countries of South-East Asia appear to have the greatest potential for adding new land, but multiple cropping and irrigation from available water sources seem possible throughout Asia. The most promising alternatives are identified in policies designed to stimulate the rate of increase in crop yields in the developing countries. Possibilities of meeting projected food deficits of the poorer nations through increased trade appear remote in the long-term. Population control or more properly fertility control is assigned an important role in any long-term solution. The results of this study indicate that with appropriate population control, aggregate food problems of the world could be overcome over time without a powerful green revolution. The study points out that the high foreign capital requirements which projected grain imports dictate will provide strong incentive for developing nations to explore potential means of increasing domestic agricultural production and/or earning foreign currencies.

This book is a valuable work of reference which provides insights, on the basis of conservative projections in production possibilities, into the prospects of meshing of future population and world food demand with supplies.

Farm Management in Peasant Agriculture—A Handbook for Rural Development Planning in Africa, M.P. Collinson, Praeger Publishers, Inc., New York, U.S.A., 1972. Pp. xxvi+444. \$22.50.

This handbook deals with the role of farm management economics in the development of traditional African agriculture in which tribal affiliation dominates the community and family labour the farm organization. Divided into three parts, Part I of the handbook examines the conditions of developing economies in Africa affecting the application of farm management tech-

niques and covers three groups of factors. The first group consists of the characteristics of the farmers, particularly their objectives in farming and their level of education. The characteristics of the agricultural sector such as the the producer-market balance, the scale of the typical production unit, and community organization constitute the second group of factors. The third group is the structure of the economy itself which emphasizes the rural-urban balance, the infra-structure framework covering both institutions and qualified manpower as slow changing constraints and government policy. The range of direct and indirect influences of the three groups of factors is described in detail and their impact on the investigation, planning and extension phases of the approach is outlined. Parts II and III analyse the conditions of rurally based African economies within which farm management economics must operate and set out a sequence of methods of investigation and planning for guiding the farmers in resource use under these conditions. The structure of the extension services and government policy on agricultural development strategy are identified as important conditions moulding the approach which farm management economics must adopt. A case has been made for a development strategy aimed at improvement within the existing structure of the agricultural sector, dominated by small farms primarily dependent on family labour and usually limited in scale by seasonal labour needs. Based on the analysis of the existing farming system and evaluation of the improved technology available to the system, farm management economics makes its major contribution through the existing extension services by identifying an innovation sequence, initially attractive to the small holders, yet with the potential for sustained development of the system. The sequence is a balance among three factors, viz., the priorities and resource position of the farmer, his changing attitudes to change, and Government's priority for increased agricultural productivity. The progression of changes provides the content for extension effort on the farms of adopters identified by their willingness to try out the initial innovation.

This handbook makes a valuable contribution to the understanding of the problems faced in the application of farm management economics in African peasant agriculture.

Survey of India's Export Potential of Coir and Coir-based Products : Volume I—Summary and Recommendations, and Volume II—Annexures, Indian Institute of Foreign Trade, Prepared under the sponsorship of the Export Promotion Division, U.S. Agency for International Development, New Delhi for the Ministry of Foreign Trade, Government of India, New Delhi, 1971. Pp. 3+2+xvi+453 and 492 respectively. Rs. 100.00 per set.

The major objectives of this Survey were (a) to study the structure of coir industry in India and a few selected countries with a view to determining the scope and extent of improvements necessary in production, processing, manufacturing and export marketing of India's coir and coir-based products for making the industry competitive in the world markets; (b) to identify the obstacles affecting India's exports and to suggest appropriate measures in

relation to major world markets; (c) to investigate the nature and scope of competition from synthetic substitutes in different user-sectors and to suggest measures for product development and diversification; and (d) to recommend specific measures to be taken by the Government and the trade and industry in the short, medium and long-term for augmenting export earnings from the industry. The Survey is based on extensive research and field study conducted in India and selected countries abroad. Issued in two volumes, Volume I of the Survey contains a synopsis of the conclusions and recommendations followed by a detailed exposition of the strategy for development of the coir industry. It also includes an analysis of trade prospects for coir and coir-based products and for selected countries. Volume II contains 70 annexures covering a wide range of useful statistical and technical data on coir and related items grouped under following heads: production, trade, prices, ocean freight, import duties, technical information, organization, research and development, list of firms, trade associations and organizations associated with the survey and an exhaustive bibliography on coir and related industries.

Out of the world coir production of 2,86,000 tonnes in 1969, India and Ceylon accounted for 1,60,000 tonnes and one lakh tonnes respectively. India held a virtual monopoly in the exports of coir yarn with an average annual exports of 45,000 tonnes. India's share in the export of coir mats and mattings averaged 17,000 tonnes per annum during 1965-69. Out of an average annual production of 4,800 million coconuts in India, 1,800 million are utilized for extraction of fibre in Kerala and 100 million in other States. Because of labour intensive nature of production operations, the coir industry provided employment to 5 lakh workers. The value of exports of coir and coir-based products which averaged Rs. 180 million per annum during 1961-66 declined to Rs. 140 million during 1966-71. Though the coir industry is more than 100 years old, there has hardly been any impact of research and development on the progress of the industry. The techniques of production from the stage of retting of coconut husks through spinning of yarn and manufacture of mats and mattings have followed the traditional pattern without any significant change, and the industry has continued to suffer from built-in inadequacies of the production structure. Inadequate attention has been paid to product modification and diversification. No new investment has flowed into the industry in recent years. Some of the traditional coir manufacturers and exporters have tended to move away from the industry. The survey in selected countries of Western Europe highlighted the deficiencies of Indian coir products in terms of quality, texture and presentation, especially in the mats and mattings sector. Competition from a host of synthetic materials has hindered the development of the industry. The survey points out the immense scope for initiating measures for the improvement of quality, reduction of cost and diversification of production. The need is also stressed for making determined efforts to streamline the structure of production and methods of marketing. The survey has suggested specific measures to be initiated in these areas.