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BOOK REVIEWS

Agrarian Crisis in India : The Case of Bihar, F. Tomasson Jannuzi, Sangam Books, Orient Longman Ltd., Bombay, 1974. Pp. x + 233. Rs. 33.00.

Agrarian Tension in Thanjavur, K. C. Alexander, National Institute of Community Development, Hyderabad (A.P.), 1975. Pp. v + 192. Rs. 45.00.

The authors of both the studies had as their main concern the identification of the main causes of agrarian tension in two different regions in India.

In his excellent monograph, Jannuzi traces the genesis of the legislative measures for agrarian reforms in the State of Bihar from the early 'fifties and examines the problems of their implementation due to clash of interests between those of the gentry and of the bureaucrats. The author has been able to prove his contention (at least by implication) that the growth of tension in rural Bihar was the result of half-hearted attitude of the Government towards radical land reforms which resulted in a piece-meal attempt of amelioration satisfying none. The author has clearly established the fact that in the 'fifties in India there were many who believed that the Zamindari system had outlived its existence but few of them were proponents of radical agrarian reforms. Only a minority in the ruling Congress Party thought in terms of such reforms and those were the people "whose origins were urban and whose education had involved exposure to Western liberal thought. They tended not to follow the guidelines of the more traditional elites whose values were rooted in sacred texts and myths and the inherited mores of the countryside" (p.4).

The author embarks on his analysis with an examination of the Bihar Land Reforms Act of 1950, the first effective legislation towards abolition of Zamindari system in Bihar and how the resistance of the gentry interest to this act led to an appeal to the Patna High Court which was upheld later to be dismissed by the Supreme Court. The author has been able to narrate the circumstances in which K. B. Sahay (the then Revenue Minister of Bihar), the most enthusiastic proponent of liberal reform, became a *bête noire* of the articulate landlord interest. As a result, as the author points out, the implementation of the provisions of the act by which a raiyatwari system replaced a Zamindari system became all the more difficult, because in the last analysis some form of overt or passive co-operation from the gentry class in this matter was imperative. The author then reviews the conditions of zamindars after the abolition vis-a-vis, their interest in land. According to the provisions of Sections 5 and 6 of the Act, the landlords were entitled to possess their homestead and *khas*, the latter "referred not only to land cultivated personally by the intermediary but also to lands cultivated by his servants, hired labour, or stock" (p 31). The landlords took full advantage of the provision of "*khas* possession" and augmented their land holdings at the expense of even already established small raiyats whose occupancy rights were based on tradition and

not by deeds. In addition to this, as the author has mentioned with the help of facts, the redemption or compensation for the loss of intermediary status payable to the landlords was sizable.

From the findings of a field enquiry, the author has ably analysed the reaction of the peasants towards the abolition. There was disillusionment all around among ordinary peasants because of (a) mass eviction of small raiyats; (b) the inability of the poor peasants to understand what right lay hidden in the legislative haystack and (c) the unusual delay in the implementation of whatever provisions were there for the benefit of the peasants. The ceilings legislation, as Januzzi observes, also met with stiff opposition from interested quarters. "It was suggested that there would be, as a consequence of ceilings legislation, social as well as economic disruption of rural areas . . . Tension between landed and landless, high caste and low, would mount, and disruption of the rural economy and the seeming "equilibrium" of the traditional pattern of life would become inevitable. From this perspective, then, to oppose ceilings was to opt for rural stability and order" (p. 71). Since this was the *raison d'être* of opposition to ceilings law, the author explains how the *entente* between the landlord class and the conservative section of the ruling party and of the government was instrumental in delaying the passing of the legislation from 1955 to 1961. As the author explains, there were different slabs of ceilings for different types of land but "the act permitted the eviction of thousands of under-raiyats or tenants from lands they had tilled for many years" (p 83). As a result, the tension that was slowly engulfing the whole of rural Bihar was on the point of bursting asunder. In the context of this tension, the author carefully examines the origin and decline of *Bhoodan* and *Gramdan* movements in Bihar, presents the results of field enquiry conducted in Gaya, Muzaffarpur, Darbhanga and Patna districts, on the awareness of the rural population of the utility and futility of the above two movements, portrays the frustration of a section who failed to receive land. In short, this new movement added a new dimension into the already evolved set of cleavages in the new production relation leading inevitably to social tension. The author finally gives a detailed account of the nature and extent of "the land grab" movement that gathered a tremendous momentum in the period 1966-69. The Central Government at this stage could not afford to remain a silent spectator and so had to come forward with positive actions. "During the last months of 1969 and the first months of 1970, perhaps the most conspicuous activity in Bihar in the broad field of agrarian reforms occurred in the state legislature, where numerous measures were introduced" (p 137). The State Government did not want to conjure up a menace of a total peasant rebellion, it tried to forestall a rebellion from below by a reform from above. That is the implication of what the author wants to say with a note that in the absence of a determined effort to eradicate the root cause of peasant unrest in Bihar, the tension would persist. On this perhaps he is correct. He has given a thorough account of the different attitudes and opinions for and against abolition and also about the vacillation of the government to come out with a clear-cut programme of

action. This assessment confirms the claim of *Gemeingeist* in different points of time in history. Almost the same type of problems, both ideological and real were faced by the Russian aristocracy before and after the abolition of serfdom in Russia in 1861. The reaction of the rural population to the different acts for agrarian reform cannot be ascertained properly from the case studies alone conducted by the author because he could not establish the fact that they were typical reactions. The author has emphasized a gulf between articulated ideals and solid accomplishments in the field of agrarian reforms which he admitted to be understandable in the case of India. But this sort of gulf can be discerned everywhere in almost every field, the difference lies in the extent of this gulf, because it is a truism that the ideal is never reached, but in the context of Bihar the author was correct in being concerned about the extent of the gulf.

In December, 1968, in Thanjavur 42 agricultural labourers lost their lives as a result of a serious conflict between cultivators and labourers over wage rates and issues related to working conditions. In the second monograph under review, the author has attempted an exhaustive analysis of the factors that contributed to the growth of agrarian tension in Thanjavur, a sad outcome of which was the above-mentioned tragedy. Through an exhaustive field study in both East and West Thanjavur, mainly confined to two taluks, Mannargudi and Mayuram, the author has been able to provide a clear understanding of the social, economic and political currents giving rise to an atmosphere of tension. The author has traced the role of different political parties in Thanjavur in organizing the agricultural labourers, which led to "the transformation of a caste society into a class society" to some extent. In this task, the Communist Party of India contributed significantly. From his findings on occupation, agrarian status, family assets and extent of operational holding, on the one hand, and political party affiliation, on the other, some interesting results have been presented, *i.e.*, the Communist Party has been the party of the economically and socially deprived whereas the Congress embraces the more fortunate stratum of the population (pp. 50-55). The author has also been able to contest successfully the claim that the Communist Party of India thrived on the support of the Harijans mainly by giving an account of the achievements of the labour union since its inception in 1939 upto its maturity in 1972, a fact that amply demonstrated the positive role of the Communists towards imparting a consciousness of class as opposed to that of caste to the agricultural workers.

In further support of this theme, the author examines in detail "the exposure of the respondents to various communication channels, the variations in their aspirations, ideological orientation," and also the "socio-personal characteristics of the respondents associated with the variations in their ideology and norms" (p. 59). Finally, the author endeavoured a factor analytic approach to understand the relative importance of some factors in the growth of agrarian tension. 53 items in the author's questionnaire "reflecting and

related to feelings of satisfaction and dissatisfaction of the respondents" were listed and scores were allotted according to a determined scale. With this the author wanted to examine "whether the distribution of the factor scores for the two categories of occupation, cultivators and labourers, were of the same magnitude or not" (p. 137). With the help of Mann-Whitney-U tests and Kruskal-Wallis's one-way analysis it was ascertained "whether the distribution of the scores obtained by the cultivators and labourers varied along with the variations in their caste, education, wealth, political party affiliation and membership in class associations" (*ibid*). On the basis of the analysis, the author has discerned five dimensions of agrarian tension in Thanjavur, *viz.*, trade unionism, concept of distribution, perception of distribution, role expectations and concept of justice in that rank order (p. 182). One interesting conclusion of the author has been that the agrarian unrest was not caused by a feeling of deprivation of the labourers due to green revolution (p. 183).

In spite of being able to present some interesting findings on the subject of agrarian tension in Thanjavur, the author has been inclined to depend more on the responses of the agriculturists than on objectively determined circumstances to draw conclusion. This approach however did not preclude the analysis to be exhaustive and sophisticated but as all partial approaches to revealing hidden factors behind disturbing socio-economic phenomena entail and this study not being exempt, the conclusions of this study could only be treated as verifiable hypotheses against a background of a more comprehensive enquiry.

K. K. DAS GUPTA

Studies in Agrarian Social Structure, André Béteille, Oxford University Press, Delhi, 1974. Pp. vii + 206. Rs. 30.00.

'Studies in Agrarian Social Structure' is a collection of essays written for different occasions by Béteille. As he says, it is a set of interconnected studies and not a book with a conclusion. Béteille was awarded Jawaharlal Nehru Fellowship to work on the problems of agrarian social structure and this book is a product of that work. There are eight essays reproduced in the book dealing with the problems of concept, approach, method, and the substantive issues relating to agrarian relations in the different parts of the country, and the problems of agrarian tension and unrest. In the first two essays, Béteille sketches the scope of the study of agrarian systems enunciating his 'anthropological' approach to the problem. The next four essays, as the author says, deal with the substantive problems like the social framework of agriculture in India, class structure in rural Bengal, class structure and peasant associations in Bengal and agrarian relations in Tanjore. The last two essays deal with the problems of agrarian tension and unrest in India.

While we may not agree with Bêteille on many points that he makes in his essays, we will have to agree with him that sociologists and social anthropologists in India, by and large, have neglected the field of agrarian relations. Most of us have been pre-occupied with the institution of caste. Other two institutions that have attracted most of our attention are family and community. Bêteille aptly remarks that "Indian sociology, being of relatively recent origin, had not developed a tradition of its own. The kinds of concerns which Indian sociologists brought to their study were largely a reflection of the concerns of sociologists and social anthropologists from the more advanced Western countries. And it was in a way natural that they on their part should seek to understand Indian society in terms of institutions which they considered to be unique to it, such as the joint family, caste and Hinduism." One would like to add here that the worst consequence of this influence has been a caricature of the Western empirical methods by many of us in different areas of our investigation which has led to a situation of intellectual sterility. This Western influence has had far-reaching consequences in terms of our entire intellectual orientation—in terms of the courses and syllabus, in terms of the research training, and in terms of ideological biases. To quote Bêteille: "As I pursued my interest in the agrarian hierarchy, I began to realize the profound significance of the problem and at the same time my own lack of equipment to do full justice to it. The ordinary course of training that one had to undergo as a student of sociology or social anthropology did not include even a superficial understanding of broad patterns of land distribution or of regional variations in tenorial conditions. A sociologist who was developing an interest in the agrarian hierarchy around 1960 could not teach himself much from the available textbooks in his subject." Clarifying his conceptual and methodological approaches, the author rightly observes that anthropologists of yesterday showed their interests in the esoteric side of tribal life and did not concern themselves at all with their economic activities. And this, according to him, was because of the British social anthropological training.

One feels that Bêteille is stating the fact only partially. For it also needs to be mentioned that the British social anthropological training in particular and the Western social anthropological training in general have essentially been a training in what may be called 'colonial anthropology.' This anthropology did not train scholars to view the problems of the Indian peasantry and the tribals in a historical and larger perspective. The result being that a large number of studies in this area are absolutely fragmentary presenting pictures of tiny segments of our rural reality. Large number of our tribal and village studies fail to reflect the significance of the larger social, political and economic matrix with which these 'little communities' have been vitally linked. It is interesting to observe that such studies have eschewed scrupulously the *class* question of our rural society. Raising the class question would have meant ultimately raising the question of the colonial economic policies. Another disquieting result of this 'colonial anthropology' was the creation and propagation of a myth through the characterization of the Indian peasantry

and the tribals by reference to such personality traits as ineptitude, religiosity, lethargy, passivity, traditionalism, change-resistance, etc. This was to suggest that the Indian peasantry and the tribals, in other words, the vast majority of the Indian population, were incapable of rising up for any mass action—they were like the herds of sheep—simple, innocent, harmless and, therefore, what they needed was the guidance and protection from above. Even a general acquaintance with the literature mainly in the form of governmental records and reports would show that the Indian peasantry and the tribals have fought many heroic battles, on occasions spontaneously without any leadership, not only with their local oppressors but also with the mighty power of the British government. Far from being lethargic, passive and change-resistant, they have demonstrated from time to time their volcanic explosive potential.

Béteille's essays on our agrarian social structure provide a fresh outlook. Going beyond caste, he tries to deal with the system of social inequality as it exists in agrarian India. In other words, as he claims, he has raised the class question. Explaining his approach, he says he has moved away from the conventional approach. He does not attach himself to 'any kind of orthodoxy—conservative or radical, Marxist or sociological'—and gives himself 'the liberty of separating the two, and using, as the occasion demands, the Marxist method of analysis without paying too much attention to the ideological objectives of Marxism.' As one goes through his essays, one finds that his analysis of the class structure and social inequality in agrarian India is, notwithstanding many valuable insights, rather unsatisfactory. One is not clear whether he ignores certain aspects of our rural reality or these do not strike him at all. For example, the seething discontent and the rumblings of class struggle in rural Bengal and Tanjore—the areas of his investigation—, do not seem to matter much for him. May be this, to him, appears as an ideological question which he prefers to avoid. Or, may be, this aspect of rural reality does not register to his intellectual being. Whatever be the reasons, neglecting the rural discontent and the conflict would mean ignoring social reality.

However, the above remark does not undermine the value of Béteille's incisive essays collected in this book. It is a welcome volume.

S. S. JHA

Spatial Sector Programming Models in Agriculture, Edited by Earl O. Heady and Uma K. Srivastava, Iowa State University Press, Ames, Iowa, U.S.A., 1975. Pp. xx + 484. \$ 12.95.

The spatial aspect is perhaps considerably a more important issue in agricultural development planning than planning for any other sector of the economy owing to the indispensable and overwhelming role played by land and

natural conditions in agricultural production. The quality of land, natural conditions, capital and labour vary considerably particularly in large countries. Consequently, the same product can have different production functions in different agro-climatic regions. Therefore, spatial sector programming models assume prime importance in determining optimum product-mix in different regions for systematic agricultural development.

The present volume is in fact a synthesis of the work done by Heady and his associates on spatial analysis since 1955 using mathematical programming techniques to agricultural planning policy and resource use in different regions of United States. Besides briefly reviewing programming models developed in a number of countries in the introduction chapter, the book presents 12 massive size spatial sector programming models developed in the Center for Agricultural and Rural Development at Iowa State University by Heady and his associates. Each model is given in a separate chapter. All the authors have employed linear programming as the basic technique of analysis in all models except in Chapter 11 where quadratic programming technique has been followed. Obviously, some repetition in methodology of different models is inevitable. Also the incorporation of material from previously published papers disturbs the continuity. However, the editors have attempted to present the models in a particular sequence so as to bring out the systematic development of models from the less complex to much larger and sophisticated ones with the improvement in data and modelling capabilities over time.

The editors start with more simplistic Egbert and Heady prototype model of regional production adjustment considering only a few crops. However, in the subsequent chapters more detailed and more sophisticated models incorporating simultaneous interaction of many crop and livestock activities, land qualities, government policy actions, trade-offs in farm policy, exports-imports, transportation and other characteristics of United States agriculture have been discussed. One generation of models included specification of farm size and land classes within regions as well as endogenous determination of resource allocation to crop and livestock. Another generation was extended to water allocation among agricultural and non-agricultural alternatives. Some of the models incorporate explicit consideration of optimal land and water use, technology development, soil conservation within certain environmental constraints, etc. Certain models reported, as well as others under development have become so massive in size that they incorporate as many as 10,000 equations and 75,000 variables.

The book presupposes familiarity with linear programming on the part of the reader. With this familiarity the presentation of objectives for the development of each model, their mathematical structure, difference from previously constructed models, techniques applied to provide voluminous data, and their interpretation are technically sound and reasonably clear.

Approximately half of each chapter has been devoted to analyse the various policy implications and impact of changing demand, technology, resources and costs, etc. The treatment though beneficial becomes quite laborious unless the reader has deep interest in the specific question being answered. Understanding of particular analysis is also cumbersome due to placing of all the 196 tables on microfilm for want of space.

The work of the authors on massive size programming models advocates that there is no difficulty in the computation and logical interpretation of data but the most intricate problem is the insatiable demand of the model for adequate, refined and accurate data to get reliable results. This demand is in fact a major stumbling block in the application of spatial sector programming models in agriculture particularly in developing countries of large size. By the time the reader reaches the end of the book he is so over-burdened by the large number of massive models on the subject that he retains less than would be the case if he had been presented with a few important studies incorporating the background of model building process in a shorter book.

Further, there is lack of discussion on the model development process and how to put these models to better use of the society, keeping in view the locational preference and locational rigidities caused by natural, historical, institutional and socio-economic factors.

The book requires, but does not contain discussion on the type of analytical soft-ware system that should be developed to facilitate such a massive model structure, the trade-offs between building simplistic and less costly models vis-a-vis obtaining realistic results, procedures to be used to properly validate models, the expected cost and resource requirements in building similar models, handling of aggregation problem, merits, limitations and practical disadvantages associated with given models on assumed stability of coefficients of the model and dependence of optimum product-mix in a lengthy time horizon, particularly when the gestation lags in investment in agriculture is to be considered. The above-mentioned discussion is essential to fulfil the major purpose of the book suggested in the Preface, *i.e.*, to help the process of model development in other countries and the extension of their use in the United States. A supplement on the above-mentioned aspects can probably provide another extremely useful book for the development of model builders. The editors perhaps omitted these aspects of model building process for want of space in an already voluminous book and considering the work relatively of elementary nature.

Regarding the usefulness of the book, one does not know for which class of readers the authors have written the book. For the professional regional economists, the value of the book lies in filling the gaps in individual knowledge in view of the synthesis of already published articles while for the students of regional economics or for the economists who are not familiar with regional economics

the authors have made the book unduly technical giving little background of model development process. However, they have provided reasonably clear account of the models in application for specific agricultural policy analysis for systematic planning of U.S. agriculture. The utility of the book to the potential model builders could have been considerably enhanced if the authors had introduced a comprehensive chapter on model development process.

In spite of the above shortcomings, the book is a significant contribution to the study of systematic agricultural development planning by putting all the excellent contributions of Heady and his associates on the subject since 1955 in one volume. The authors have successfully provoked serious thinking on the development of national and interregional planning models for different countries as well.

D. S. NANDAL

World Population—Food Crisis, Kaizo Noma, Institute of World Food and Agriculture Development, Inc, Tokyo, Japan, 1974. Pp. 313.

In this book Kaizo Noma has put forward some proposals to solve the problem of population and food crisis. Unless effective steps are now taken to check population and to increase food production, the situation will get out of control in future posing serious threat to humanity. The situation is all the more grave in the under-developed countries of the world because of their higher rate of population growth and slow increase in food production as compared with the economically developed countries. The mutual co-operation between the under-developed and the developed countries alone can solve this problem.

According to the author, there are vast potential resources lying unutilized in the under-developed countries because of the low level of technology, on the one hand, and on the other, thousands of people are migrating abroad from advanced countries in search of better opportunities owing to over-population at home. If these people, with all their knowledge of technology and growth, are settled in the under-developed countries to exploit their resources, there are immense possibilities of growth in the world. Arrangements should be made by some world organizations to finance such a project. Thus, what is required is the settlement of migrants from rich countries to the poor countries supported by some financial arrangements by some international organizations. Such a co-operation is in the interest of both the developed and under-developed countries as both will gain from such an arrangement. This will ensure peace, prosperity and solidarity in the world.

The chief measures suggested by the author to solve the food problem at global level are : (1) the establishment of a "World Food Bank" to regulate the

imbalances created in foodgrains because of surpluses and deficits in different countries over years and seasons; (2) to increase food production qualitatively and quantitatively, particularly the production of soybean and rice should receive special attention; (3) the resources can be mobilized for financing the scheme of settlement and for increasing foodgrains production by applying a marginal cut on the armaments of the advanced countries and by overhauling the money spent on foreign aid which is not utilized for productive purpose by the recipient countries; (4) under the effective utilization of manpower programme, many international Development Universities should be instituted to impart training in farming and family planning by the experts in these fields; (5) the small-scale and intensive projects should be preferred over the large-scale ones as the latter involve huge expenditure and take longer period; (6) a change in the dietary habits will be imperative; and (7) attention should be turned towards the vast maritime resources to meet future requirements of food.

To execute his scheme for immigrants from advanced countries to be settled in the under-developed tropical regions of the world, the author has chalked out an ambitious plan. According to this plan the proposed development area is to be at least 2 million hectares per year. Assuming the yield to be 2-3 tonnes per hectare and two crops a year, it has been estimated that the yield in terms of rice will be about 10 million tonnes per year. This is based on the world's population increase of 60 million per year at 150 kg. annual consumption of grain per capita given roughly to an allotted area of 20 hectares per family.

The author has suggested that 90 per cent of such area should be developed on collective farming basis on large-scale mechanized pattern and the rest to be run on individual basis. The immigrants settled in these colonies should be provided with all sorts of amenities for their social and economic development. Since such a settlement will involve a colossal amount of investment, this can be mobilized from the immigrant's own savings, grants and loans from the advanced countries especially those from where these settlers come and the rest of the amount to be arranged by international agencies such as UNO, Red Cross Society, FAO, etc. If properly implemented, such a plan can bring about a breakthrough on the food front in 10-20 years.

The author has rightly suggested the evolution of high-yielding varieties of crops especially that of "miracle rice" and Mexican wheat. Since these varieties are responsive to irrigation only, the author has proposed a cheaper and quicker method of irrigation in the under-developed countries as compared to the large-scale irrigation projects which are both costlier and time-consuming. In his own words, "Construct a low dam on the upstream of a river, with a hydroelectric power station capable enough to meet the local electricity demand for several years, and build a reservoir to keep the used water from the station and then conduct it by a pipe-line to irrigate fields. Use bottom water in the

tropics, where lower water temperature is preferred. The main pipe-line must be rather acutely declined to give water enough pressure, so that sprinklers may function for the irrigation of fields. If irrigation is available during the dry season according to the way of semi-land rice culture, development of rice fields need not be limited to levelled plain, but can be extended to gentle mountain slopes. Of course, these fields can be used for other crops than rice, enabling the farmer to adopt crops and rotation system at his will. By this way, it will be possible to advance comprehensive development on a considerable scale at a relatively low cost within a few years."

The high-yielding varieties also require a highly sophisticated technology which can be made use of only by a few rich farmers. It will further widen the disparities in income in these countries. Therefore, it has been suggested that remedial measures must be taken by the government by actively participating in the production and distribution process in the economy. It requires a high degree of administrative efficiency so scarce in the under-developed countries.

Kaizo Noma's plan to solve the problem of population explosion and food crisis at international level is highly praiseworthy as it transcends the narrow boundaries of nationalism. But its execution will be faced with a number of obstacles. Thus, no doubt, it is an ambitious plan but less practicable. Historically, the plan of migration might have played an important role in the 19th century but at present, the situation has considerably changed. The factors, direction and purpose of migration are different now.

During the last two and a half decades, the emergence of under-developed countries clamouring for rapid economic growth of their economies within their own boundaries and mostly by their own men and materials, has impeded the process of mass migration. Similarly, the economically advanced nations have also put a number of legislative restrictions on the immigrants from the under-developed countries moving in search of better opportunities. Thus, restrictions on migration from both types of countries have considerably discouraged migration and hence international co-operation among different countries of the world.

Contrary to the plan of mass migration, actually there is a selective type of migration to and from the under-developed countries. Such a selective migration is only for the purpose of higher education and specialised training by the people of the under-developed countries in the advanced countries and for providing technical know-how by the experts of advanced countries to the projects in the under-developed countries. Thus in place of migration, the under-developed countries receive foreign aid in terms of experts, finances and materials.

It has been historically observed that foreigners mostly settle in the export sector and only in big plantations in the agricultural sector, such as tea, jute and rubber plantations. One of the important reasons of such a trend is the readily available market for these products in the world market. Again, contrary to the author's proposal that the immigrants will bring their technology with them, it has been found that such sophisticated technology is not much relevant in these countries because of the poor infrastructure existing there to support such a technology. Technology has to be evolved in the home country rather than transplanted from abroad.

Apart from these pedagogical discussions about the plan of migration, the book also abounds in repetition of data and proposals. To mention a few, the statement that 10,000 people died daily by hunger in India is repeated on pp. 10, 32, 93, 110, 269, etc. It seems to be a highly exaggerated figure. The author claims to have taken these figures from a publication of FAO without giving the year of publication and the source from where FAO got this misleading figure. Similarly, the figures of expenditure on armaments are repeated on pp. 15, 22, 41, 87, 101 and 238. The figures of rate of population growth, immigrants, the estimate of land to be allotted to the immigrants are also repeated a number of times.

There is a lot of over-lapping of plans and proposals. For example, proposals in respect of solution of enhancing world food and population crisis are repeated in Chapters II, III and IV.

All these repetitions occur perhaps due to the fact that the author collected his various addresses to the Conferences and articles on the same theme, *i.e.*, world population and food crisis and published them in the form of a book.

The book is marred by poor editing, as for example, without mentioning the date and venue of the Conference (Chapters III and VI), one comes across a sentence such as "this Conference will adopt resolution." on p. 102. The weakest feature of the book is the printing mistakes which are too many and these are not listed here to save space.

In spite of these shortcomings, some of the proposals envisaged in the book at world level to solve the problem of food and population are worth consideration and require immediate actions. For example, the creation of World Food Bank to regulate the problem of deficits and surplus in foodgrains, a reduction in expenditure on armaments, manpower utilization programmes, exploring maritime resources and overcoming the protein deficiency are some of the laudable proposals given by the author.

S. D. CHAMOLA

Second India Studies—Food, V. M. Rao, The Macmillan Company of India Ltd., Delhi, 1975. Pp. xii + 117. Rs. 8.00.

The dynamics of India's population growth makes it virtually certain that the population of India will double within the next thirty to fifty years, in spite of vigorous and efficient Family Planning Programme. By 2000 A.D. a second India will be added to that which now exists. The book under review examines the challenges on this front and identifies alternative courses of action. It contains five chapters.

In Chapter 1, the author states that the study is mainly concerned with food: rather than agriculture as a whole. The food problem of the country hits the headlines when there is a failure of rains or when the procurement and distribution operation of the Government fails to cope up with the sharply rising prices of food. However, the problem of hunger for the persons lying below the poverty line remains even when the prices of food are not very high, hence it is not wise to judge the state of the food problem solely on the basis of market indicators.

The author has used two approaches for estimating the requirements of food: one based on nutritional norms and another based on market demand. To estimate the requirements of food, the prevailing pattern of food consumption was used. Four classes of population were identified, namely, 'lower poor' numbering about 30 per cent of the population facing the problem of serious under-nutrition, 'the poor' consisting of 30-35 per cent of the population which is assumed to be confronted with the problem of malnutrition, the 'middle' class consisting of the remaining population excluding the 'rich.' The author has assumed that this class enjoys adequate diet and the pattern of food consumption of this class conforms to nutritional norms. The 'rich' consists of the uppermost about 3 per cent of the population and the consumption of this class reflects an element of excessive indulgence in the richer varieties of foods. It is not clear on what grounds the author has assumed that the consumption pattern of the middle class conforms to nutritional norms. Further on p. 5 in the footnote the author states that the numbers in brackets refer to the references cited in the bibliography given at the end. However, the bibliography (pp. 114-117) does not have such numbers. In this book the growth rates observed in the Fourth Plan were used as yardsticks to estimate the production requirements.

In Chapter 2, the requirements for the Second India are discussed. The future requirements are estimated for three points, namely, 1980-81, 1990-91 and 2000-01. The results are presented in the form of indices to prevent the tables becoming unwieldy and to avoid duplication. In a projection study like this, the use of indices is of little meaning to a reader. It would have been better if the actual figures had also been shown with the indices. Table 5 shows the estimates of the population based on the assumption of low, medium and high growth rates. In Table 6 the distribution of the population on the basis of the four classes of population, per capita expenditure and per-

centage growth rates of the population for the rural and urban areas is shown. For the period 2000-01, three projections are made based on the growth rate of the national income at 4.5, 4.8 and 6.2 per cent of the income for the rural areas and 3.8, 4.2 and 5.3 per cent for the urban areas. These growth rates are represented by A_1 , A_2 and A_3 . However, no explanation for these notations in Table 6 is given. A reader has to consult the text in the following pages for this purpose. There is a typographical mistake in the footnote 1 of Table 6. Instead of 1990-81, it should be 1980-81. The estimated per capita requirements are shown in Tables 7 to 10.

In Appendix 1 the consumption pattern over time is presented. The year 1964-65 was selected by the author as a base for all types of estimates. The author observes that the 'lower poor' and the 'poor' in the rural areas are close to each other in their consumption pattern. Both these classes spend about 80 per cent of their total consumption expenditure on food of which 70 per cent goes for foodgrains. The only difference between these two classes is that the 'poor' consumes 60 per cent more food per capita than the 'lower poor.' The proportion of consumer expenditure for food is about two-thirds in the case of 'middle class' and less than half in the case of the 'rich.' Appendix 2 deals with the choice of the 'middle class' pattern of consumption of food as a nutritional norm. The author fails to provide adequate and sound reasoning for selecting the middle class consumption pattern as a nutritional norm for estimating the requirements. It is generally felt that even the diet composition of the 'middle class' is not consistent with the nutritional requirements.

Detailed results on the aggregate norm-based and demand-based requirements of food are given in Appendix 3. The aggregate requirements of foodgrains in the terminal year 2000-01 vary from a lower limit of 184 million tonnes (corresponding to the 'low' population and A_1 path of income growth, *i.e.*, 4.5 per cent growth in income) to a higher limit of 261 million tonnes (corresponding to the 'high' population growth and A_3 path of income growth, *i.e.*, 6.2 per cent growth in income). The author observes that the difference between the two estimates is due to population and income growth. An increase in the population growth rates from the 'low' to the 'high' will cause an additional requirement of foodgrains of about 50 million tonnes for a given path of growth of income. Whereas, due to income component (for the given level of population and movement of income from A_1 to A_3 paths of growth) the additional requirement of the foodgrains will be around 30 million tonnes. According to the author, in the context of a 'low' population, India could move along the A_3 path instead of the A_1 path by stepping up annual production of foodgrains from 184 million tonnes to 210 million tonnes, whereas this has to be further increased from 210 million tonnes to 261 million tonnes to remain on the A_3 path if the population growth were 'high' and not 'low' in 2000-01. The author further observes that if India moves along the A_1 path of growth and production of food responds to growing demand, the aggregate production of foodgrains in the year 2000-01 and total food will just equal the norm-based

requirements in that year. However, in all earlier years the demand-based requirements will continue to fall short of the norm-based requirements. In the case of A_2 and A_3 paths of growth in income, the demand will eventually overtake the norm-based requirement in the early 'nineties in the former case and somewhat earlier by the late 'eighties in the latter case. Indices of aggregate requirements of food are shown in Tables 11 and 12 and again in the Appendix Tables 16, 17 and 18. The indices of foodgrains, other food and all food of Table 11 and 16 must be the same in the year 1980-81, 1990-91 and 2000-01, but they are not. Similarly, Tables 12 and 18 should have the same figures in the above years but again they do not tally. The reason for this variation is not understandable.

In Chapter 3, the outlook for production is examined. To achieve the required production, emphasis is given to the intensive use of land. This can be made feasible by the better use of the human labour, human ingenuity and inputs coming from outside agriculture like fertilizers, pesticides, fuels, machinery and implements. The author incorporates the findings of two studies, namely, Projections of Demand and Supply of Agricultural Commodities by the National Council of Applied Economic Research, and Long Range Agricultural Adjustment Analysis by R. W. Cummings, Jr. (an unpublished study) of the United States Agency for International Development for discussion in this chapter as well as to compare his findings. A lengthy discussion of these studies diverts the reader's attention from the main text of the book. At the end of the chapter the author raises certain food policy issues on which nutrition research and education may have an important bearing in the near future. In the current food situation in the world as a whole and the future prospects, animal products, which dominate the diets in the affluent societies in the West and elsewhere, represent a very inefficient way to meet the requirements of human population. The author states that it is a controversial issue and it has little relevance to India at the present stage of development. But this controversy seems to have been settled by Rao and Singh in their study on "Foods of Animal Origin."*

Summary and conclusions are presented in Chapter 4. Important conclusions that emerge from the book (p. 107) are as follows: When the Second India arrives every one will probably be in a position to get enough of foodgrains but about a third of the population will have meagre access to quality food. Thus, India would be able to eradicate 'latent hunger' and the problem of malnutrition is unlikely to have been completely solved by the time. The prospects in the more distant future would depend not merely on how India tackles her food problem but even more on how wisely she uses the opportunities existing in the food and agricultural sectors.

The last chapter relates to the postscript in which comments offered by various reviewers and a more detailed discussion at a seminar are incorporated.

* A. R. Rao and I. J. Singh, "Foods of Animal Origin: Economics and Substitutes," *Eastern Economist*, Vol. 62, No. 26, June 28, 1974, pp. 1251-1258.

The purpose of this postscript chapter is to share with the readers the main burden of prognostications provided by the reviewers and discussions among the participants in the seminar.

The book as a whole is good for the planners and policy-makers.

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International Trade Policy : Agriculture and Development, Vernon L. Sorenson, Michigan State University, East Lansing, Michigan, U.S.A., 1975. Pp. xx + 290.

The post-World War II period has witnessed unprecedented increase in world trade both in primary products (majority of which are agricultural in origin) and in manufactures. While the bulk of trade expansion of manufactured commodities was due to the strengthening of the GATT type of arrangements that benefited primarily the developed countries, the less developed countries (LDCs) are finding it increasingly difficult to penetrate into the market of developed economies. Protection offered by the developed countries to their agriculture through price support and trade restriction policies coupled with their attempts to dispose of their domestic agricultural surpluses on world markets at discriminatory prices have posed serious threat to the LDCs. The four UNCTAD Conferences could make hardly any progress to resolve the conflicts of interests between the "haves" and the "have-nots." The relative slow progress in the direction of arriving at acceptable solutions makes a study of the problems of and policy issues pertaining to international trade in agricultural commodities more interesting for opponents on both the sides.

The chief merit of this book is that the author has taken great pains to avoid any bias in discussing various policy issues. The approach to the problems is unbiased and academic by interspersing discussion with both theory and facts. Each policy issue is discussed in the setting of theory so that justification or otherwise of a particular policy line followed by any country could be understood. A close reading of the book however indicates one lacuna which may not, however, be considered as being a serious deficiency of the book. Some economic policies are dictated by the relative importance or leverage commanded by certain pressure groups like the farm lobby in France. The discussion could have become spicy and more readable if some of these aspects were also taken into account at relevant places.

The author of the book has stated at the very outset that it is "intended for classroom use." One could admit without any reservations that the book serves this purpose admirably. Students specialising in international economics or in world agriculture at their master's degree would find it to be a dependable textbook. The utility of the book has been considerably enhanced by the comprehensive bibliography given at the end.

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