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## BOOK REVIEWS

*Famine—1975!*, William and Paul Paddock, Weidenfeld and Nicolson, London, 1967. Pp. x+276. 42s.

*The World Food Problem: A Report of the President's Science Advisory Committee, Vol. II — Report of the Panel on the World Food Supply*, The White House, Washington, D.C., U.S.A., May, 1967. Pp. xxi+772. \$ 2.75.

*The Food Problem of Developing Countries*, Organization for Economic Co-operation and Development, Paris, France, 1968. Pp. 114. \$ 3.00.

The post-war phenomenon of the Developing Countries as a group becoming net importers of foodgrains from the position of net exporters has become a matter of grave concern. And this trend is steadily getting accentuated. During the years preceding World War II, the less developed regions of Asia, Africa and Latin America together exported, on a net basis, 11 million tons of foodgrains to the developed world. By the close of World War II, the net flow of grain was reversed, moving from the developed to the less developed world. From 1948 to 1952, an average of 4 million tons per year flowed from the developed to the less developed regions. The flow increased to 13 million metric tons annually during the 1957-59 period and 20 million tons in 1961.<sup>1</sup> A recent Report by the FAO estimates that the gross import requirement of the developing *food importing countries* in 1975 may vary from 27.6 million tons to 6.2 million tons depending upon the 'low' and 'high' growth rates in production.<sup>2</sup>

In view of these observed and projected trends, a legitimate question arises : are the developing countries losing the capacity to feed their population? All the three publications cited above seek to find an answer to this question—and in the process, examine with a wealth of relevant material, associated problems of international trade and aid, nutrition and health, and welfare in general. This review, however, does not aim at a comprehensive review of these publications, but concentrates attention on those portions which are germane to India and her food problem.

As the blurb on the jacket of *Famine—1975!* suggests, the central question posed by Paddock brothers is : Is the world doomed to starvation? And the answer, according to them beyond doubt, is in the affirmative. Now, if, as the authors believe, by 1975 the only country with the capacity for substantial food aid will be America, a most embarrassing dilemma will confront that country : whom to give and how much? The Paddock brothers argue that America will have to apply the classical medical 'triage' method. Like doctors in the battle-field trying to make the best out of the limited resources, she will have to decide which countries to save and which to sacrifice. The authors, convinced of their competence and of their concern for humanity, felt that they should help the policy-

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1. Lester Brown : *Increasing World Food Output*, Foreign Agricultural Economic Report No. 25, United States Department of Agriculture, U.S.A., 1965, p. vi.

2. *Agricultural Commodities — Projections for 1975 and 1985*, Vol. I, Food and Agriculture, Organization of the United Nations, Rome, 1967, p. 76.

makers in this critical decision. They, therefore, survey the prospects of food demand and supply globally as well as for individual countries over whom the doom is hanging, and make specific recommendations.

The medical 'Triage' thesis, it may be mentioned, is concerned with assigning of priority of treatment to the wounded brought to the battlefield hospital in a time of mass casualty. The wounded are divided on the basis of three categories : (a) "Can't-be-saved," (b) "Walking wounded" and (c) "Can-be-saved" by immediate medical care. The only way to save the maximum number of lives in the circumstance of critically limited resources is not to waste them on the 'can't-be-saved.'

Applying the Triage theory to food aid, the authors come to the conclusion that India—along with Haiti and Egypt—"can't-be-saved;" from which it rationally follows that she need not be saved. The argument briefly is : (1) it will be beyond the resources of the U.S. to keep famine out of India during the 1970's, (2) Indian agriculture is too antiquated, (3) the present government is too inefficient to inaugurate a long-range agricultural development,<sup>3</sup> (4) its population tidal wave is too overwhelming, and lastly and perhaps significantly (5) "if we (U.S.A.) cut-off the food to India we are not losing a reliable friend. Nor do we gain an enemy able to do us serious hurt." The argument ends with a compassionate moan: "We do condemn a segment of the human race to disastrous suffering, people who in the end, may be worthy to receive our limited food aid." Let us hope, India would some day be worthy and thank Paddock brothers for their condolence.

The Report of the Panel of the (U.S) President's Science Advisory Committee on World Food Supply is a monumental work, rich with facts and penetrating analysis. The Panel has devoted a special chapter to Evaluation of Population and Food Production Problems in India. The chapter is a model of concise presentation of a wealth of sophisticated data. The chapter gives a 4-page summary, 10 charts, each facing its one or two page interpretation, and two Appendices containing 11 tables of statistical data used in chart presentations. The chapter thus condenses material on which a research apprentice would have written a prolix thesis.

The major conclusion of the Panel is : India can achieve foodgrain self-sufficiency by 1976. "This calls for the tripling of historical rate of increase in yield per acre, but with the advent of intensive cultivation, high fertilizer dosages, and improved seed varieties, it is certainly within reach technologically, provided all the necessary farm inputs are made available in a balanced and timely sequence. Nevertheless, it calls for effort on a scale that has not been paralleled elsewhere in the world over so short a period." This is a somewhat more cheerful prognosis, but with a cautioning caveat. The Panel considers the Government of India's target of achieving self-sufficiency by 1971 unrealistic, 'even though technically feasible.' Let us examine its analysis in more details. According to the Panel, by 1976, India's population will grow to 648 million (GOI estimate 630 million),

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3. In fact, "of all the national leaderships, the Indian comes close to being the most childish and inefficient and perversely determined to cut the country's economic throat." Paddock: *op. cit.*, p. 217.



and gross national income to Rs. 230 billion. The combined impact of these two demand factors would imply a human foodgrain demand in 1976 of 104.3 million metric tons—at 15.6 ounces per person per day. Let us accept all these estimates as valid. The Panel's estimates of gross and net harvested foodgrain production in 1976 are 135.5 million and 104.1 million metric tons respectively. This means a deduction of 31.4 million tons or approximately by 23 per cent from gross production, for seed, feed and storage and other losses, as against 12.5 per cent post-harvest disappearance factor assumed in Indian statistics. On the basis of a disappearance factor of 12.5 per cent, gross production needed in 1976 for the estimated requirement of 104.3 million tons would be about 119 million tons—not 135.7 as estimated by the Panel. We may accept the Panel's estimates of seed and feed requirements, but the post-harvest losses—estimated at 17.3 per cent—in processing, handling, storage and pests—, are anybody's guess. If all the calculations of the Panel were to be accepted, the gap between human foodgrain demand and supply would come to (—) 2 million tons in 1956, the year in which cereal prices were 24 per cent below the 1952-53 level!

The Panel's Report, besides estimating India's foodgrain demand and supply for 1976, 1981 and 1986, makes a valuable contribution through its estimates of irrigation, fertilizer and pesticide requirements as well as of the capital cost of achieving foodgrain self-sufficiency. The cumulative capital cost of achieving self-sufficiency by 1986 (over the 22-year period from 1964 to 1986) is placed at \$ 29.0 billion, or \$1.32 billion per year—approximately Rs. 1,000 crores. This includes investments necessary for agro-industry and farm inputs and directly associated fertilizer and foodgrain transportation. On the vital question of pricing of inputs (fertilizer) and output (Sonara 63 wheat), the Panel states that at a 3 : 1 price ratio, the farmer will be able to apply the most profitable dose of fertilizer (92 kgs./hectare of NPK) and earn a net return of 183 per cent on his fertilizer cash outlay.

The main concern of the OECD Study was to examine the bilateral and international programmes aimed at increasing food production and improving the nutritional levels in the Developing Countries with a view to maximizing their effect. For the purpose of this Review, our main interest is in portions which deal with the agricultural prospects of the Developing Countries. One major finding of the study is that during 1965-1980, the demand for food in the Developing Countries will outstrip production by an annual rate varying from 0.65 to 0.30 per cent, depending upon the lower (2.60 per cent per year) and the higher (3.10 per cent per year) assumptions regarding the growth rate for food production. (Actual for 1953-65=2.85 per cent.) In these calculations, population is assumed to grow at 2.58 per cent per annum and income available for consumption at the rate of 1.60 and 1.80 per cent. Income elasticity for food is assumed at 0.40 and 0.45. On the basis of these calculations, the gap between demand and production, in monetary terms (1965 prices) would grow to 4 to 8 billion dollars per year by 1980. These figures of the net trade gap in themselves do not reveal enough about the food problem in some large regions. Some Developing Countries would be net exporters of food, others will be net importers, and the export proceeds of the former will not be available to finance imports of the latter.

A very interesting section in the study contains projections of agricultural land per head of agricultural population both in the Developed and Developing Countries.

In 1965, in the Developed Countries, there were 6.14 hectares of agricultural land (adjusted for pastures) per head of agricultural population, as against just 1 hectare in the Developing Countries. By the year 2000, the former will increase to 12.90 hectares and the latter will decrease to 0.57 hectare. This is likely to happen not because of any increase in agricultural land in the Developed Countries—it is assumed to remain constant—, but because the agricultural population will be reduced to just 50 million (from 105 million in 1965). In the Developing Countries, on the other hand, the agricultural population is expected to be doubled (400 million). This analysis, though subject to all the limitations of long-term projections, is highly significant for development strategy. If the population growth trend does not markedly slow down, the Developing Countries will be confronted with a most formidable problem of accommodating larger and larger numbers of labour force in their already over-crowded agriculture. Even if population in agriculture grows at a slower rate of 2.1 per cent per year against 3.5 per cent in non-agriculture, the higher growth in the GDP (5.3 per cent per annum) in non-agriculture compared to agriculture (2.8 per cent), will widen the disparity in the per capita incomes of the two sectors from 4.3 : 1 in 1965 to 5.0 : 1 in 1980. If this is to be avoided, productivity in agriculture has to increase at a much faster rate and employment in non-agriculture has to grow more rapidly. The implications of the above for investment and development strategy in the Developing Countries need serious thought.

M. L. DANTWALA

*Agricultural Innovations in Indian Villages*, Frederick C. Fliegel, Prodipto Roy, Lalit K. Sen and Joseph E. Kivlin, National Institute of Community Development, Hyderabad (A.P.), 1968. Pp. 119. Rs. 12.00.

*Agricultural Innovation Among Indian Farmers*, Prodipto Roy, Frederick C. Fliegel, Joseph E. Kivlin and Lalit K. Sen, National Institute of Community Development, Hyderabad (A.P.), 1968. Pp. iv+112. Rs. 10.00.

*Communication in India—Experiments in Introducing Change*, Joseph E. Kivlin, Prodipto Roy, Frederick C. Fliegel and Lalit K. Sen, National Institute of Community Development, Hyderabad (A.P.), 1968. Pp. 56. Rs. 4.00.

The experiments in introducing the improved methods of production are old in India. Serious attempts in this direction were undertaken, however, in 1952 with the commencement of the Community Development projects. Nearly 16 years have passed since the community development projects were started. Acceptance of the use of some of the improved practices by Indian farmers during this period has surpassed even the most optimistic expectations of the social scientists. This has proved beyond doubt the inherent openness of mind of the so-called traditional farmers. The demand for fertilizers and that for the use of improved seeds has in fact outrun the supply planned for these inputs by a very wide margin. In this situation we find ourselves confronted with scarcity of essential inputs rather than their relative abundance. Farm production is now being held back not by resistance of farmers to change but by shortage of improved inputs.

Though the general character of the farmer's approach to change is thus one of ready acceptance of a change, those research workers who have tried to probe into the problem have found that the response to change varies among farmers. These variations are governed, according to them, by several factors. What factors dominate the adoption of improved practices, whether they are economic forces or they are social factors, is still an unsettled question among scientists of different social disciplines.

The three publications under review take up for investigation this problem of varying response to change. Their central theme is to investigate into the relationship between the adoption of improved practices and various social and economic characteristics of farmers and villages and also the influences of different media of communication. Thus between them these publications provide a comprehensive study of the problem. The study has been designed to take into account the varying geographical background. For this reason, it was spread over three different States, Bengal, Maharashtra and Andhra Pradesh and over 108 different villages. Such States as Bihar so also the villages where adoption was complete (over 95 per cent) or where adoption had not yet made any headway (adoption by less than 5 per cent of farmers), were excluded to avoid a highly skewed distribution. At the village level the characteristics related to the adoption of improved practices include leadership, extension agency contact, geographic isolation factors, *e.g.*, distances from such centres as railway station, post offices, *mandi* centres, etc., and mental isolation factors, such as favourableness or otherwise of leaders towards health programmes, agricultural programmes, etc., urban contact and use of mass media, radios, etc. Such other factors as human resources, which include population, male and female literacy, higher level education, and non-human resources such as land, cattle, electricity, oil engines, irrigation, grain mills, have also been studied. The analysis covers also social and economic institutional structures, such as agricultural structure denoted by farm labourers per cultivator, size of cultivated holding, concentration of ownership, etc., occupational structure, caste structure, existence of formal, traditional and non-traditional organizations, *e.g.*, religious organization, co-operatives, etc. Such factors as levels of living facilities for education and health services, communication are also covered. At farmers' level fewer variables are studied. Most important among them included in the study are extension contact, size of holding, attitude towards borrowing, urban contact, education, level of living, social participation, use of mass media, political knowledge, caste, etc. Thus the coverage of the characteristics related with a change is quite comprehensive. Of the three stages of adoption, *viz.*, knowledge, trial and actual adoption, in so far as the analysis of the relationship to different characteristics with the adoption is concerned, the extent of trial, the second stage, has been selected by the study as the indicator of adoption. One of the reasons for this may be that the proportion of farmers undertaking trial of different practices seems to closely resemble normal distribution curve. The other two are highly skewed. Further, the problem of aggregating adoption of different practices can be a complicated one. This has been tackled in the study with the necessary expertise. A uni-dimensional scale has been used with the help of Guttman score. This ensures necessary care in the measurement of an abstract index of aggregate picture of adoption of improved practices.

The three studies lead to some very bold conclusions. To mention a few : Tenancy is not related to the adoption of improved practices; farm size is very

highly related with it; more than the literacy or educational level, it is the contact with the urban centres or with the extension agency that facilitates adoption of improved practices; supply of hired labour compared to the number of cultivators acts as a limiting factor; and between the social and economic characteristics the former seem to dominate. Among social characteristics secular orientation of leaders has a greater influence on the adoption of improved practices than caste cohesion.

Of all the resources, rural electrification stands out in its influences on the adoption of improved practices. Among the resources surprisingly, the supply of bullock power is not related to the adoption of improved practices. Among village characteristics, an important factor to influence change is the index of mental isolation factors rather than that of geographic isolation factors. At farmers' level political knowledge and at the village level the existence of a number of political parties were two highly important factors compared to even caste or religious organizations. Between formal and informal organizations the former has greater influence than the latter. Cataloguing of results can be extended still further. A sample of some of them given here is however sufficient to indicate the nature of the study.

The study has merits as far as it goes. It, however, does not go far enough. We have a hunch that instead of the second stage, *i.e.*, trial, if the third stage, *i.e.*, actual adoption were to be selected to represent adoption, the order of importance of some of the factors influencing adoption would have changed. For fuller study it would be considered necessary to investigate the influences at all the three stages. This would have enabled us to isolate the influences that operate at different stages. One would expect social factors, organizations, contacts, communications to dominate the acquisition of knowledge or undertaking trials of improved practices. As against this at the stage of actual adoption of improved practices, economic factors, education, etc., would dominate more than other factors. It is at the level of actual adoption we can argue that the profitability of inducing change would be more carefully considered by the farmer. In fact, some of the studies that have used actual adoption as the index have indicated better relationship of adoption with economic factors than that with the social factors. Particularly, tenure status, debt position, etc., are found to be the important factors influencing adoption. The selection of the second stage of trial as the index of adoption by the authors leaves the question regarding final dominance of social or economic factors still unanswered despite the comprehensive character of the study.

For the depth, comprehensiveness and expertise that have gone into these three studies, the research reported in the publications of the National Institute of Community Development would be received widely and remembered long. Some of the questions raised but that remained unanswered in the study may profitably be taken up by a future study to be undertaken by other scholars or the authors themselves. These publications even in their present form are nevertheless a valuable addition to a relatively meagre literature on the very vital aspect of economic change in the rural areas.

*Village Community Projects in India*, V. P. Pande, University of Saugar, Saugar, Asia Publishing House, Bombay, 1967. Pp. x + 258. Rs. 20.00.

The community development programme in India has been very much in the limelight since 1952. The big push given to the programme by enthusiasts under the patronage of the late Shri Jawaharlal Nehru soon after Independence led people to think of it as a panacea for all ills afflicting the rural people. The turn in the tide against the programme has been equally violent. Critics have, of late, dubbed the programme as a complete failure and a social waste of scarce resources. Any writing on the programme, which has cost the exchequer about Rs. 535 crores in the course of the three Plans, is always welcome for future guidance. Pande's effort is still more interesting since he not only analyses the Village Community Projects initiated in Independent India, but also throws light on the earlier attempts of rural reconstruction.

The history of rural reconstruction efforts has been divided into three periods. During the first period (1860-1920) isolated attempts at rural development were made by Christian missionaries. The second period (1920-1947) witnessed the launching of rural reconstruction movements by Indian patriots, enlightened officials, quasi-missionary societies and even some enlightened princes. The story of the third period (1947 onwards) is all too familiar. This period marks the beginning of community development programmes in force to-day in India.

The first attempts at rural reconstruction in India were made by Christian missionaries. As early as 1793, Dr. William Carey established the 'Agricultural and Horticultural Society of India' aimed at uplifting the economic status of farmers in Bengal. These attempts took a somewhat systematic shape with the establishment of Christian peasant settlements. In 1920 the total number of Christian peasant settlements in India was at least 83. The attempts of most Christian missionaries for rural development, however, proved to be shortlived and at best were confined to the converts only. Religious animosity, lack of official patronage for programmes in non-Christian areas, etc., made these attempts very much of a localised affair.

Recognizing the failure of the earlier attempts, the International Missionary Council Conference held at Jerusalem in 1928 outlined a new approach to rural problems. The Conference sought to give an integrated character to the rural reconstruction programmes. The village was to be the unit of endeavour in rural missionary work. All aspects of rural life, *i.e.*, health, education, farming, etc., were to be encompassed by the programme. Thus, the Jerusalem Conference laid down the principles, aims and methods of community development programme as early as 1928.

Indian patriots and social workers were on their own engaged in experiments of rural reconstruction even prior to the Jerusalem Conference. Tagore's efforts at Sriniketan, Mahatma Gandhi's experiments at Champaran and Sevagram were some of these. F.L. Brayne's efforts in the Gurgaon district during 1920 to 1928 also deserve a special mention. The installation of 'popular ministries' in 1937 led to the initiation of rural development schemes on an official level. The real push to the programmes, however, came after Independence. The Firka Development Scheme in Madras, the Pilot Project in Etawah and the Nilokheri

Project all acted as the forerunners of the present day version of community development programme in the country. The concept of a 'multipurpose' village level worker owes a great deal to these projects, particularly to the Etawah Pilot Project.

The final stage of the drama of rural development programmes in India started with the launching of 55 Community Projects in 1952. This stage culminated in the spread of the movement, though in a much diluted form all over the country. The entire country was brought under these programmes by 1963.

Pande has rendered a valuable service in very lucidly outlining the genesis of the community development movement in India. His account of the work done by Christian missionaries makes very interesting reading. The author has rightly highlighted the value of India's experiences in community development for developing countries. He states, "...the survey shows how a community development programme works under varied circumstances... Thus India possesses valuable experiences in the field of community development which could be useful to all developing countries engaged in a crusade against ignorance and poverty." (p. 194.)

The chapter on "Conclusions" is the weakest part of the book. After having provided a brilliant account of the genesis of the community development movement in India, the author has failed to present a good analysis of the causes of success or failure of the various movements. His analysis is stereotyped. Adequate attention has not been paid to analyse the weak and strong points of community development programmes as they are run and operated today. Some of the inferences drawn by the author indicate lack of understanding of the basic motivations of Indian farmers. For instance, the author's prescription, "Hence, if we want the Indian farmer to work for more than a bare subsistence and to plan his family he may well be asked to pay more land revenue than he is paying at present" (p. 197) is indeed based on very strange economic logic. The recommendation of using legal provisions for ensuring high standards of efficiency in farming (pp. 199-200) is indicative of lack of realism. The recommendations relating to the role and qualifications of a village level worker (p. 201) are equally out of tune with the actual needs of the programme. The author's charge on the weaker sections of the village having been ignored by the village level worker (p. 202) comes too soon after his own recommendation for extending the principle of "selective approach" (such as the Intensive Agricultural District Programme) "...to those communities who have greater production potential." (p. 202.) Special economic programmes rather than the appointment of special workers for scheduled castes, as has been suggested by the author, are needed to take care of the economically non-viable rural households.

The author has failed to put his finger on the most glaring shortcoming of community development programmes launched in India since 1948. These programmes lacked sound economic foundations. For instance, prior to the introduction of the high-yielding varieties, agricultural development programmes did not have much to offer to the farmer by way of improved farming techniques. Further, the farmer instead of being treated as a rational decision-maker was merely dubbed as an "illiterate and ignorant creature." Another major shortcoming of the programme lies in its faulty administrative set-up. It has now



become amply evident that the concept of a 'multipurpose' village level worker is unsuited to meet the needs of Indian farmers. This fact has been brought into much sharper focus after the introduction of the high-yielding varieties. Moreover, saddling the field staff with administrative burdens of handling the supply of farm inputs leaves very little time at their disposal for advisory work.

The obvious successes of community development programmes in India cannot also be ignored. While the programme failed to uplift the productivity of Indian agriculture till recently, a great deal of awareness about the role of modern agricultural inputs was created in the rural areas. The adoption of high-yielding varieties at a record pace is an evidence of this fact. Secondly, the programme has created a great deal of political awakening among the rural masses, a phenomenon which gives hope and confidence in the viability of Indian democracy.

To sum up, Pande is to be congratulated for providing a very interesting account of the genesis of the community development movement in India. The value of the book could have been considerably enhanced had the author attempted a much closer scrutiny of community development programmes initiated in India after 1952. However, all those interested in the subject will find the book under review very interesting and instructive.

JAI KRISHNA

*Harold H. Mann—The Social Framework of Agriculture : India, Middle East, England*, Edited by Daniel Thorner, Vora & Co., Publishers Private Ltd., Bombay, 1967. Pp. xxx+501. Rs. 25.00.

This volume has a selection of thirty-five papers of the late Harold H. Mann who is well-known among agricultural economists for his path-breaking and pioneering survey of the Deccan village, Pimla Soudagar in 1913-15. The papers are grouped under six parts, and three of the parts, viz., Part II—'Village Studies in India and England,' Part III—'Town Studies in India,' and Part VI—'Agricultural Science and Method' present the results of his enquiries into social and physical phenomena. The earliest of these enquiries relates to "Life in an Agricultural Village in England," and originally appeared in the *Sociological Papers*, 1904, London. Two of these, "Note on the Diet of Tea Garden Coolies in Upper Assam and its Nutritive Value," and 'Calcutta Drink Shops' were written during the period 1900-1907 when Harold H. Mann served in Calcutta as the Scientific Officer to the Indian Tea Association. Of the other papers in these three parts, a large number relates to results of enquiries conducted in two Deccan villages and in Poona and Bombay cities. These enquiries were conducted during the period 1907-1927, when Mann was the Principal of the Agricultural College at Poona and Agricultural Chemist to the Bombay Government and subsequently Director of Agriculture for the Bombay Presidency. Part I, entitled 'Approach and Outlook' presents four papers in which Mann outlines his approach to science in general and scientific social surveys in particular. The nine papers brought together in Part IV, under the title 'The Social Setting of Agricultural Development in India' contain reflections and critical comments on Indian agricultural development and suggestions for rural development. Part V of the volume under the title 'The U.S.S.R. and The Middle East' brings together Mann's review of the

collective farm system in Russia, two papers on Turkey, and two reports, one on wheat and another on millets in the Middle East from the *Empire Journal of Experimental Agriculture*.

F. C. Bawden, F. R. S., Director of the Rothamsted Experimental Station and Daniel Thorner of the Ecole Pratique des Hautes Etudes, Sorbonne, Paris, both contributed introductions, the first emphasizing Mann's career as a man of Science, the second his work as a student of society.

The volume will have an appeal to all those interested in scientific enquiries. When woolly theories based on axioms of doubtful validity are tending to be fashionable in social sciences, Mann's vigorous and passionate plea for experimental approach in science, careful and systematic observation, and intensive study of social conditions over comparatively small areas deserves attention.

In his enquiries he faithfully and successfully applied the methodology of research outlined by him. In presenting the results of enquiries, Mann shows the spirit of a true scientist. He never hesitates to confess the limitations of his data, takes extreme care in pointing out the conditions under which the inferences drawn are valid, and never draws an inference which is not warranted by the facts under observation. These are qualities which should be cultivated by all research workers and the volume could be an inspiring and valuable reference work for courses in research methodology in social sciences.

The enquiries of Mann are praiseworthy for another reason. All of them were motivated by a deep and genuine concern for the welfare and progress of the community in which he was situated. The problems he chose for his enquiries were those with which people around him were struggling for a solution. He threw a flood of light on these problems by his enquiries and helped his contemporaries to see them with a better perspective.

Mann displays a keen historical sense in his enquiries. The paper on "A Deccan Village under the Peshwas" is noteworthy as an essay in economic history. In this Mann shows how the economic history of the country could be understood better from the 'unprinted records of village vicissitudes than in the more showy array of documents concerning conquests and Governments, princes and their retainers, or palaces and their inhabitants.' This paper should be of particular interest to students of economic history of India.

Though Mann's enquiries were conducted more than five decades ago the inferences and policy conclusions are not of mere historical interest. This reviewer is struck by the relevance of the papers—"The Supply of Milk in Indian Cities" (1914) and 'The Provision of Milch Cattle Stables in Bombay' (1919)—to the contemporary scene of Indian Cities.

This reviewer has no doubt that this volume will be a source of inspiration for research workers both here and abroad. It was very thoughtful of the editors to have included two photographs of Harold H. Mann, one, taken in 1915, and another taken at the age of 84. Daniel Thorner deserves our gratitude for editing these papers, and for his excellent introduction.

G. PARTHASARATHY



## REVIEWS IN BRIEF

*Intensive Agricultural District Programme, Third Report 1965-66 and 1966-67*, Expert Committee on Assessment and Evaluation, Ministry of Food, Agriculture, Community Development and Co-operation (Department of Agriculture), Government of India, New Delhi, 1967. Pp. iii+77.

The objective of the Intensive Agricultural District Programme (I.A.D.P.) is to demonstrate the way to achieve a rapid increase in agricultural production through an integrated and intensive use of improved agricultural techniques and by providing sufficient incentives to the farmers. Being third in the series, this report on the I.A.D.P. examines the overall changes that have taken place in the working of the programme during the two-year period 1965-66 and 1966-67. The programme which was launched in three districts in 1960-61 covered 15 districts at the end of *kharif* 1966-67. These districts were further divided into 308 blocks having 27,850 villages and a total gross cropped area of 81.06 lakh hectares. The actual coverage of the programme extended to 87 per cent of the villages and nearly 40 per cent of the gross cropped area of the selected districts. Despite the extremely unsatisfactory climatic conditions during the period under review, the activities in respect of the principal aspects of the programme such as preparation of farm plans, use of critical inputs like improved seeds, fertilizers and plant protection chemicals were generally maintained, and in some cases further improvement was achieved. The number of farm plans prepared in these districts increased from 11.37 lakhs in 1964-65 to 14.90 lakhs in 1966-67. The quantity of improved seeds distributed similarly increased from 25,009 tonnes to 47,045 tonnes during the same period. The offtake of fertilizers however showed a mixed trend. While the offtake of nitrogenous fertilizers increased from 3.10 lakh tonnes to 4.11 lakh tonnes between 1964-65 and 1966-67, the offtake of phosphatic fertilizers declined from 1.55 lakh tonnes to 1.17 lakh tonnes during the same period owing to their acute shortage. The area covered by plant protection measures increased from 1.11 million hectares to about 1.48 million hectares during the same period. It was, however, observed that cultivators were generally inclined to undertake plant protection measures only as a curative measure when the crop was infested or diseased. The report has emphasized the need for adopting plant protection measures by farmers as a preventive measure. Though considerable progress was made in demonstrating the use of improved agricultural implements by the agricultural implements workshops established in all the I.A.D.P. districts, the implements programme had met with several problems such as lack of resources with cultivators, the small size of their holdings, lack of alternative employment opportunities for farm animals, etc. The report has emphasized the need for taking up comprehensive correlation studies between soil fertility and crop response for making soil testing recommendations more useful.

A significant development during the period was the introduction of the High-Yielding Varieties Programme on an extensive scale in the country. The programme was planned and implemented more effectively in the I.A.D.P. districts because of the existence of trained and specialised staff at the field and higher levels and the availability of other supporting services. The coverage of area under the high-yielding varieties of foodgrains crops in all the I.A.D.P. districts was about 66 per cent of the aggregate target, the coverage under wheat, paddy,

hybrid maize and jowar being about 83 per cent, 64 per cent, 65 per cent and 33 per cent respectively at the end of 1966-67. In the case of bajra, the coverage was lower, being only 17 per cent of the target due to shortage of seed. The increase in the yield rate of high-yielding varieties of paddy (Taichung Native-I) over their control ranged generally from 27 to 90 per cent; in the case of Mexican wheat, it varied between 51 and 131 per cent. An examination of yield rates obtained in the fields fertilized and those non-fertilized in the I.A.D.P. districts indicated that fertilizer use along with other associated improved practices contributed for higher crop production even under extremely unsatisfactory climatic conditions.

In regard to agricultural credit, supplies, marketing and storage, co-operative societies continue to be the principal institutional agency for providing these services to the cultivators in the I.A.D.P. districts. Between 1961-62 and 1966-67, loans advanced by co-operative credit societies increased by 57 per cent from Rs. 15.27 crores to Rs. 24.04 crores. The crop loan system was in operation either partly or with certain modifications in 9 out of the 15 districts. The report has recommended the adoption of this system in all its aspects by the remaining districts with a view to facilitating a smoother flow of credit to the cultivators. It has also underscored the need to bring down the overdues which ranged between 44 to 92 per cent in 6 districts at the end of June, 1965. Though some progress has been made in linking credit with marketing in the I.A.D.P. districts, the report has indicated the great need and scope for expansion of these activities. As regards marketing of agricultural produce and the distribution of agricultural inputs, the co-operatives made good progress in these districts. With a view to giving a fillip to co-operative marketing, a price fluctuation fund scheme has been recommended for adoption in districts where it is not in operation.

The report has recommended that the administrative structure needs to be streamlined with a single line of command and direction by the Department of Agriculture over the field staff for ensuring concentrated attention to the agricultural programme, greater co-ordination between the various organizations and agencies concerned with agricultural production, delegation of greater powers to the key staff to ensure speedy action, etc. Though the basic concept of the programme has proved to be sound and considerable progress has been made during the last few years of its operation, it is observed that the success of the programme would depend ultimately upon how effectively the 'package of practices' is backed by the 'package of works' and production requisites, credit, remunerative prices and other types of production incentives, sound technical guidance from extension personnel and by an efficient administrative machinery. This report emphasizes once again the major conclusion drawn in the Second Report that the full impact of the I.A.D.P. is likely to take a much longer time than the five-year period contemplated in the original formulation of the programme.

*Proceedings of the Twelfth International Conference of Agricultural Economists, held at Lyon, France, 24 August-3 September, 1965, Disparities in the Pace and Form of Agricultural and Rural Development, International Association of Agricultural Economists, Oxford University Press, London, 1966. Pp. xv+584. 70s.*

This volume contains the Papers and proceedings of discussion of the Twelfth International Conference of Agricultural Economists held at Lyon in France

during 24 August–3 September, 1965. The main theme of the Conference was "Disparities in the Pace and Form of Agricultural and Rural Development," analysing the causes and consequences of disparities as well as the measures aimed at solving the problems. In addition to the Papers and proceedings, this volume also includes Addresses of Welcome and the President's Address. In his Presidential address, Nils Westermarck emphasized that the large countries like U.S.A., the Soviet Union, the United Kingdom and Germany, where agricultural economics is well-developed, should devote more attention to research and literature outside their national borders. A condition for all material and cultural progress is that the theoretical basis of research should be deepened and widened. He pointed out that economic research should naturally not become an end in itself but, in order to come into its own, to be utilized, it should bring profit to the farmer to whom it is actually directed. Particular attention needs to be directed in rapidly industrializing societies to the adoption and utilization of new results and methods by farmers. Comparing the position of agricultural economics with the technical biological branches of science, it is noted that the importance of agricultural economics has increased in modern society. The developing countries should be on the watch and learn from the mistakes that the more fully developed countries have made. The need for tackling simultaneously the technical and economic problems has also been stressed. Within agriculture, biological-technical development has generally preceded economic penetration, for which reason economic research has often found itself confronted with a technical *fait accompli*, as exemplified by the mechanization of farming. In conclusion, Westermarck stressed the significance of education as one of the foundations for all progress; and in all the activity that tends toward better economic education, agricultural economics has an important mission to pursue.

The papers discussed at the Conference covered the following diverse aspects of the main theme: (1) The relevance of the theory of comparative advantage to agricultural production and trade; (2) Role of agriculture in a growing world; (3) Application of quantitative research in agricultural economics; (4) Contribution of the region to the gross national product; (5) Conflicts between local interests and national plans in relation to agricultural development; (6) Contribution of investment in human resources to agricultural and community development; (7) Population and migration factors in rural development; (8) Future of part-time farming; (9) Shifts in the location of agricultural production in a selected country; (10) Changing structure of agriculture's labour force; (11) Co-ordination of economic and technical research in agriculture; (12) Co-operation between rural sociology and agricultural economics in solving agriculture questions; (13) Dependence of commercial farming in ancillary industries; (14) Impacts of vertical integration by contract in agriculture; (15) Changing importance of land in farming; (16) Large-scale agricultural production and its problems; and (17) Appropriate size and location of rural development areas—Country experiences.

As space is limited, this review attempts to cover only a few of the leading papers discussed at the Conference.

Gottfried Haberler in his paper on "An assessment of the current relevance of the theory of comparative advantage to agricultural production and trade"

states the basic assumptions of the comparative cost theory and discusses the possible deviations of the real world from the "ideal" conditions under the following headings: monopolies and oligopolies in industry, adverse trend in terms of trade, disguised unemployment, technological and dynamic external economies and trade theory *versus* growth theory. Numerous, small, unsystematic and hence unimportant deviations from the 'ideal' conditions aside, the conclusion is reached that the theory requires one major qualification. Allowance must be made for that type of external economy on which the infant industry argument for protection is based: the training of a skilled labour force in the broad sense, including the 'learning process' of supervisory and entrepreneurial labour. Policies to achieve this aim are aptly described as 'investment in human beings,' implying a temporary sacrifice. It is argued in this paper that the conflict between trade theory and growth theory as observed by many modern economists, deriving from these two approaches contradictory conclusions concerning development policy, disappears if trade theory is qualified or amended so as to take into account the possibility of the external economies mentioned above. The overall conclusion is that the theory of comparative advantage applies to the modern world, including modern agriculture. A point of criticism which has been refuted by the author is that some of the major assumptions of the theory have alone been examined without empirical evidence where agriculture is concerned. It is even hinted that the theory of comparative costs may be just a psychological weapon invented by the exporting countries in need of expanding their markets. Issues have also been raised regarding the extent of disguised unemployment in agriculture in the developing countries.

In another paper on "Need agriculture be disadvantaged in a growing world?" P. Lamartine Yates examines the essential features of the development process that has already taken place within the agricultural sector and of the efforts made by governments to promote or retard the transformation. Three inter-related issues are discussed in detail: (1) the impact of the outlook for world trade in farm products (a) on the economies of the developed food-exporting countries and (b) on the future balance of payments of the developing economies; (2) the type of agricultural adjustments that will be needed in the industrialized countries for contributing to their own economic growth and the scope for food aid from these countries to lower income ones; and (3) the role of agriculture in the developing countries and the ways by which it can be harnessed to assist overall economic growth. B. N. Ganguli in his paper on "Population and migration factors in rural development" identifies the main elements in the economics of migration of labour from agriculture to non-agriculture from the viewpoint of its impact on rural development. The three elements that are examined in this paper are (1) the impact of migration on total agricultural employment; (2) its impact on production; and (3) its impact on net productivity per worker in agriculture seen in relation to net productivity per worker in non-agriculture, both of which, as determinants of the level of national income, act and react on each other in the process of economic growth. J. N. Lewis in his paper on "The changing importance of land as a factor of production in farming" reviews briefly the reasons for the changing role of land in agriculture. He discusses some of the diverse forms in which discredited ideas about land still permeate the thinking of economists on agricultural and general economic policy and examines the importance of land as a factor, viewed from the standpoint of the individual farm. The future role of

land under conditions of rapid growth in world population is then briefly examined.

This volume will prove an invaluable source of reference to students, teachers and researchers interested in the study of agricultural economics.

*Marketing and Economic Development: Readings in Agribusiness Research*,  
 Edited by Clarence J. Miller, University of Nebraska Press, Lincoln, U.S.A.,  
 1967. Pp. xi+422. \$3.25.

This anthology containing a collection of 22 selected readings by authors specialised in the respective fields, explores the role of marketing in the development of foreign economies as well as its changing role in the economy of the United States. The selected readings are grouped under six sections, viz., I. Foreign marketing and economic development; II. Market power and prices; III. Transportation and plant location; IV. Demand, supply, and consumption; V. Firm decision-making and competition; and VI. Marketing research. Among the articles in the first section, the article on "The role of marketing in the development of backward agricultural economies," by J. C. Abbot and another on "The relevance of marketing research to economic development" by William E. Folz discuss the importance of improvements in the marketing system which aid general economic development. In the article on "Agricultural exports and economic growth," Shyam Nandan Sinha discusses the role of agricultural exports in the economic growth of India. The second section emphasizes three main concepts, viz., (i) market power, (ii) bargaining, and (iii) the vast area of prices. The market power-bargaining aspects are illustrated by the articles on "Economic theory of bargaining in agriculture" by Peter G. Helmberger and Sidney Hoos and "Marketing agreements and orders" by Sidney S. Hoos. Different aspects of pricing are discussed by Paul E. Nelson and Lee E. Preston and by Roger W. Gray in their articles on "Price merchandizing in food retailing: A case study—conclusions and implications" and "Some thoughts on the changing role of prices" respectively. In the third section on "Transportation and plant location," an article on "Spatial equilibrium models of the livestock—feed economy" by Karl A. Fox deals with one of the earlier models with particular reference to the United States; while the study on "Interregional competition in frozen peas" by Harvey M. Hutchings deals with a later model. The economic implications of transportation rates and the physical aspects of transportation are highlighted in two other articles. The section on "Demand, supply, and consumption" deals with two viewpoints: (i) interest in the use of grouped data, usually of a historic nature, which results in studies of demand or supply or both, and (ii) the approach from the viewpoint of the individual consumer, which may result in insights into changes in demand. The article on "Evaluation of time series as data for estimating supply parameters" by Dale A. Knight and another article on "Defects, uses, and abuses of national food supply and consumption data" by Helen C. Farnsworth examine the first point of view. The second point of view is illustrated by the article on "Contributions of sociologists and cultural anthropologists to analysis of U.S. demand for food," by James D. Shaffer.

Section V, 'Firm decision-making and competition,' discusses two main aspects: (i) decision-making by the firm under a multitude of real or simulated



conditions, including various competitive situations; and (ii) firm competition, including firm theory. The selections in the section on 'Marketing research' are concerned primarily with the various approaches in marketing research. Additional articles of special interest are mentioned in the brief introduction to each section. Supplementary reading lists follow each section.

Students, administrators and researchers interested in the study of marketing, business and economic development will find this book as a useful reference work.

*Agriculture in South-Western Nigeria*, Martin Upton, Development Studies No. 3, Department of Agricultural Economics, University of Reading, Reading, England, 1967. Pp. 115.

The twin objectives of this analytical, statistical study are (i) to describe the patterns of agriculture and levels of productivity and consumption existing in South-Western Nigeria and (ii) to investigate the relationships between social characteristics and agricultural production in the region. The investigation was carried out between mid-1963 and mid-1965, and covered a sample of 153 farmers in six villages selected from four districts out of the eight Provinces of the region. In all the survey villages, arable crops like yam, cassava, maize, etc., were grown, tree crops were harvested and some livestock maintained. The study revealed that production of staple crops for subsistence is common in all the villages and considered important by most of the farmers. The extent of arable land under cultivation per farm family was about 3 acres, village means ranging from 2 to just over 4. In each of the villages a system of bush fallowing is practised. The only form of organic manure used was household garbage; the use of chemical fertilizers was not reported by any farmer. No direct and simple correlation between population density and the ratio of cropped to fallow land was found in these selected villages. It is observed that land is not generally a constraint on production but labour is a major constraint. The main source of labour is the family and considerable differences in the hours of work per head per week were noticed between villages. About 30 to 64 per cent of the farmers in the different villages had secondary occupations but there was no evidence to suggest that these occupations were associated with reduced labour inputs on the farm. Wages for hired labour varied considerably between villages, being lowest in two villages where cocoa is the predominant tree crop and immigrant, landless labourers are available. Only in one village, the estimated marginal product of labour was found to be less than the wage rate, and none of these estimates were zero or negative. This evidence suggests the existence of some disguised unemployment in this village. Average net farm incomes varied between \$74 to 94 in the different villages. Non-agricultural sources of income were inversely related to income from farming. Food consumption was significantly related with total income; food accounted for a small proportion of the larger incomes per family and per consumption unit. In all the selected villages except one, about one-third of the family income was saved on an average, the marginal propensity to save being about .50. Estimates of the marginal rate of consumption per consumption unit in the family show that the marginal cost of increasing family size might well exceed the marginal product in agriculture, suggesting thereby that large numbers of children in the region may prove an economic liability rather than an asset. The

study of relationship between social characteristics and agricultural production indicated no clear relationship between the level of social amenities and patterns of agricultural production, although there was some indication of a link between these amenities and the marginal productivity of labour.

This study fills up an important gap in information relating to the economies of farm families in South-Western Nigeria. The author deserves warm praise for undertaking this study and attempting a rigorous analysis of the data, to which well-known statistical techniques are applied.

*UNCTAD Commodity Survey 1966*, United Nations Conference on Trade and Development, Geneva, United Nations, New York, U.S.A., 1966. Pp. xi + 224. \$ 3.50.

This volume is the first in the annual series of Commodity Survey prepared by the secretariat of UNCTAD for the Committee of the Trade and Development Board and replaces the earlier series brought out by the Department of Economic and Social Affairs for the Commission on International Commodity Trade which was discontinued from March, 1965. Divided into two parts, Part I of this volume deals with the principal trends in commodity trade both in the developing and developed countries in the first half of the United Nations Development decade, discusses the commodity situation during 1965-66 with reference to changes in demand, supply and stocks and price movements, describes briefly the scope and general nature of international actions or consultations having a direct bearing on conditions of trade in primary commodities, especially on the export opportunities for developing countries and indicates the longer term prospects for primary commodity exports. Part II contains a review of main developments in regard to consumption, production, trade and prices of individual agricultural and non-agricultural commodities during the period 1960-65, submitted by International Commodity Councils and Study Groups. The Survey is generally based on information available up to September, 1966.

*The World Food Problem*, A Special Report to President Johnson, United States Information Service, New Delhi, 1967. Pp. 32.

In February, 1966, President Lyndon Johnson of the United States directed his Science Advisory Committee 'to bring together in one report all that can now be known about the world's food problem and what can and must be done about it.' The Committee submitted its Report in May, 1967. This brochure contains the main conclusions and recommendations of the Committee. The report is addressed to the grim reality of the food shortage that will occur during the next 20 years (actually 1965-66 to 1985-86) before programmes of family planning can be expected to bring about amelioration of the problem in the long-term by reducing world population growth. The principal findings and conclusions of this report are as follows : (1) The scale, severity and duration of the world food problem are so great that a massive, long-range, innovative effort unprecedented in human history will be required to master it. (2) Programmes of population control should be initiated now for the solution of the problem that will exist after about 1985. Food supply is critical for the immediate future. (3) Food supply is directly related to agricultural development and, in turn, agricultural development and

overall economic development are critically interdependent in the hungry countries. (4) A strategy for attacking the world food problem will, of necessity, encompass the entire foreign economic assistance of the United States in collaboration with other developed countries, voluntary institutions and international institutions. The Committee's recommendations cover such aspects as population and family planning, food production and nutrition, increasing agricultural productivity, food aid, production incentives for farmers, transportation, marketing, processing and distribution of farm products, agricultural and trade policies, research and education, etc.

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