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BOOK REVIEWS

Applications of the Sciences in Marketing Management, Edited by Frank M. Bass, Charles W. King, and Edgar A. Pessemier, John Wiley and Sons, Inc., New York, U.S.A., 1968. Pp. xiv+456. \$11.50.

This book is a collection of papers presented at a marketing symposium held at Purdue University in 1966. The objective of the symposium was to provide a better understanding of how the social sciences can and have contributed to marketing management.

The reviewer found the book of general interest but not in the mainstream of agricultural economics. Practically all of the papers described research on consumer reaction to various retail marketing strategies for differentiated products. This is in contrast to most agricultural marketing research which has been concerned mainly with pricing and handling efficiency for undifferentiated products in assembly and wholesale markets. It is interesting, however, to note the types of research being conducted by some business economists and for that reason some of the main topics and findings presented in the book are summarized below.

The book is divided into three parts. Each part is introduced by a well written overview putting the material in perspective.

Part I of the book deals with consumer behaviour and normative models. Some of the topics covered and some of the findings reported follow.

1. *Market segmentation*: Socio-economic characteristics were found not to be closely related to either average purchases, response to promotion, or brand loyalty for beer, tea, and coffee, and thus marketing segmentation was not useful for these products.
2. *Stochastic models for consumer behaviour*: Markov models, as applied, were of little use in explaining repeat purchases by consumer panel members. Massey has developed a model called STEAM (stochastic evolutionary adoption model) which he feels will be useful in forecasting future purchase rates of new products.
3. *Simulation techniques in the analysis of marketing strategy*: The principal benefit from simulation models, at the present state of the art, seems to be a better understanding of interacting forces in the market resulting from the hard thinking it takes to build a relatively realistic model.

Papers in Part II of the book discuss behavioural theories related to consumer behaviour.

1. *Cognitive dissonance*: Cognitive dissonance refers to new knowledge that conflicts with a person's previous views and how he reacts to the new knowledge depending on how it is presented to him. The area has obvious interest for those looking for ways of persuading consumers to

change their buying practices. The author states, however, that the yield for marketing firms from dissonance theory has been meagre.

2. *Learning of consumer likes, preferences, and choices*: Consumers select products because of their likes, preferences, and choices. These are influenced by product exposure, product quality, and product familiarity respectively. The more the seller knows about his customers the more economically he can influence them to buy his products.
3. *Designing a new product for an old market and estimating its demand*: The technique consists of comparing it with similar products already in the market through consumer interviews, large scale purchase data, and testing in quasi-purchase situations.

Part III deals with experimental methods and simulation models in marketing management.

1. *New product profit projection*: Seven profit models are compared : break-even model, cash-flow model, simple marketing mix model, Bayesian decision model, Monte Carlo simulation model, Go-On-No information network model, and product interaction model. The models vary in complexity, substantive emphasis, and mathematical character.
2. *Controlled experiments in marketing research* : Controlled experiments in marketing research are becoming increasingly popular. Areas of study include advertising, displaying, pricing, taste, and perception. The rigorousness and complexity of the experiments vary greatly.
3. *Pupillometrics* : This is an area of psychological study that is based on the finding that the pupils of a person's eyes dilate when they see something pleasant or positive and they constrict when they see something unpleasant, distasteful or negative. This phenomenon has been used to test the potential drawing power of advertisements.

JOHN R. MOORE

Developing Rural India—Plan and Practice, John W. Mellor, Thomas F. Weaver, Uma J. Lele, Sheldon R. Simon, Cornell University Press, Ithaca, New York, U.S.A., 1968. Pp. xxii+411. \$ 10.00.

This book is divided into five parts. The first part written by John W. Mellor deals with the historical evolution of rural development in India describing the role of agriculture in Indian economy and the developmental efforts, achievements and failures, during the three Five-Year Plans and provides some ideas for the future programmes of development for the rural sector. He gives a good exposition of economic, social, administrative and political conditions that have checked or promoted the growth of agriculture in India and particularly pin-points the role of rigidities in behaviour pattern, community living, frugality, administrative legacy from the British, etc. His method of writing is interesting. Very ably he first paints a dismal picture of the Indian economy, then provides some rays

of hope through narrating the achievements and indicating the potentials, and, often, in the end prefers to leave the reader a little dismayed on the progress of the Indian society and the developmental policies. His statements such as "In the United States, nationalism tends to lower horizons, it is often anti-international. In India, nationalism raises horizons beyond family and caste and province" deserve a pointed attention of all concerned with the development of Indian society.

On the emphasis placed on population control, no one will differ with him, particularly when he points out that the weakest motivation is among the rural landless labour families and emphasizes that the normal pattern of economic development calls for urban employment to expand at a faster rate than rural employment so as to bring a decline in the proportion of population working in agriculture. It is a matter of concern that this proportion in India has so far remained almost unchanged. At other places, however, he emphasizes the importance of rural public works which would use large inputs of labour. This, as he himself points out, need capital by way of payment of wages which in turn involves increase in demand for food and consumer goods. Also this will mean creating proportionately higher rural employment.

Mellor has commented critically on the Indian policy of emphasis on heavy industries and has agreed with John P. Lewis on the advantages of small industry located in market towns. Here he conveniently forgets the close link amongst heavy, medium, small and cottage industries and agriculture. Can we obtain, on a scale needed by India, most of the modern agricultural inputs without developing heavy and basic industries? It is not a question of small *versus* heavy industries but one of relative emphasis which should keep shifting with the pace of development and changing needs.

At one place, Mellor has tried to prove the obvious that there is no fear of decline of agricultural prices in India because of increasing population and income elasticity effects and goes to emphasize the role of rapid growth of demand in creating a favourable economic environment for expanding agricultural production. He further states that the natural resource base in agriculture has a clear potential for this increase in production and attributes, partly, the failure in agricultural development to lack of concern for this sector. Here he adopts a common run approach of the writers of today typified by criticism without suggesting an alternative. In a subsequent chapter, however, the author narrates the achievements and directions of development in India with respect to its emerging as a single unified nation and commends the first years for paving the way for forces of development to become more effective in the future. In this context, he has rightly emphasized the need for community development, irrigation projects, land reforms, etc. In the case of community development, for example, he says: "It is easy to argue the failure of the community development programme but it is difficult to formulate a better alternative for the India of 1951." Further, commenting on land reforms, he states that more than 30 million persons cannot be absorbed except by extraordinary increase of non-farm jobs. India's problem of landless labourers is one of too little land which cannot be solved by redistribution. Again, however, he prefers to state that agriculture remained a neutral force in the economic development rather than a positive one. Such a variability in the argument leaves the readers wondering on the conclusions.

In a subsequent chapter relating to a historical account of Indian experiment in planning, Mellor's exposition of the inter-play of weather conditions with temporary successes and failures in achieving the targets, its impact on setting targets, on hopes, aspirations, disappointments, etc., is a good job done.

Encouraged by the results obtained in Part III of the book, Mellor tries to show that market system in India operates well. He used estimated normative prices and reported prices to prove his point and found non-significant differences in the two prices. Although in the graph on page 91, the two curves appear to be moving in the same direction, yet a careful observation can reveal a wide divergence between the two prices, particularly in the scarcity periods. In the beginning of the Third Five-Year Plan, the movement in the two sets of prices is in the opposite direction. No doubt, in Indian literature, a lot of unnecessary mud throwing has been done on trade in agriculture, yet the trade is not absolutely free from blame. At least, the data put out by Mellor do not clear the trade of the same.

In the concluding sections of this part, he places very right emphasis on the need for research to serve as a base for the future policies. He states that predictions of needs have been poor and the planners have made the error of not planning the next step till the last step proved insufficient.

On the input side, Mellor lays emphasis on fertilizers and irrigation. In the case of fertilizers, he rightly points out that continual scrimmaging over the extent to which the fertilizer should be a public or private industry contributed to the failure of the programme along with obsolete production process with usually high costs and faulty distribution system, as the management in co-operatives has had little training or incentive for the job. Further, he produced the response data on fertilizers and compared the same for two places in U.S. with two places in India. Response to fertilizer in India prior to 1964 is obviously very low. This situation, however, stands changed today with the introduction of high-yielding varieties. Commenting on the prices of fertilizer, he provides a comparison between developed and developing countries. Except for U.A.R., prices of fertilizer in India turn out to be highest in the world. Commenting on research again, he emphasizes the need for a widespread system of adaptive and basic research, and for co-ordination between research stations. He goes further to say that the success of a system aimed at turning out a steady stream of innovations requires an advantageous salary structure, promotional system and prestige, the things India did not provide.

On problems of water, he points out the lack of knowledge of water management. The system and its knowledge are not tuned to the needs of a dynamic agriculture and that deficiencies in water research will be a significant obstruction to expansion of agricultural output. He further points out the critical importance of technically competent extension workers which has not yet been recognized—as the experiences in Raipur used by him go to show. Besides general reasons, this in his view is important because there has to be a balance between the emphasis on changing farmers' attitude towards innovations along with sufficient emphasis on the technology of change. With the growth of agricultural universities, this problem is nearing a solution. He finds a great harm done in the past in separating extension training from centres of agricultural education and also in forcing

research in behavioural sciences within the agricultural universities into the narrow confines of extension education.

On the planning procedures, he rightly points out that often the programmes are gradually pushed into a form quite different from the original. Community development he cites as an example. Observations of a seasoned economist that the reputation of Indian development planning is quite different from the practice or that in many respects India's formal planning could stand as a text-book classic, need our careful consideration. A good planning, Mellor emphasizes, should be sufficiently flexible to take advantage of unanticipated opportunities as they arise. He, therefore, advocates decentralization of decision-making because of the variability in the soil, climate and socio-economic complex in the country. This diversity he also uses to justify the next three parts of the book. Although the major points of these sections he summarizes here, yet it is worthwhile to read these which are an interesting and educative write-up.

Part II on "The Farmers of Raipur" written by Thomas F. Weaver first traces the earlier history of the district, describes the land revenue and tenure in respect of *Khalsa* and *Zamindaris*, caste organization and its influence on the changes in the social structure and values. The reproduction of the action recommended by the society against specific social offences is of good deal of interest. Commenting on the influence of the caste on the urban residents from the villages, he points out that although they were no longer the village residents, they felt the need to fix their lives within the caste community. This part of the book is a good depiction of the inter-play of the forces of tradition with the dynamics of a developing village society and emphasizes in this context the importance of improved technology and research. The slow rate of development can be attributed in part to incomplete and unsound technical recommendations. Writing on the economics of irrigation in relation to wheat, for example, he brings out a common fault in our recommendations, *i.e.*, lack of evaluation of their overall impact on the farm organization. Further, he remarks that water-plant relationship is not completely understood and seems to be strongly conditioned by locational and varietal differences. The section provides a very good production functions analysis on the irrigation use for wheat and rice crops.

Part III of the book written by Uma J. Lele deals with traders of Sholapur in Maharashtra State. This section deals with marketing of jowar in selected markets of the district, describes the market channels and provides an analysis in respect of price spreads between the producers and the consumers, regional variations in prices and the seasonal price fluctuations. Describing the degree of competition in the wholesale trade, the author contends that a large number of traders makes it difficult to develop a common policy due to conflicts of interests or differences of opinion. It is, however, conveniently forgotten that the same large number creates conditions due to inadequate volume of individual business, because of which the traders tend to adopt measures unfair to the producer-sellers. There is, in fact, a need to create conditions where the number of traders gets reduced in the Indian markets and the volume of business thus enlarged enables them to operate on lower margins. This part of the book, however, should dispel many misplaced beliefs that the traders are always dishonest and they join hands to exploit the farmers. Quite a few studies in other parts of India

have supported the contention of the author that the traders live on very precarious profit margins.

A description of the price changes over space and over time brings out some very pertinent, but not often understood, factors which have a close bearing on these price movements. Again, a good job is done on the description of storage situation, especially in respect of costs, losses, etc. Government policy, the author correctly points out, remains to be of a stop-gap nature and the statistical information inaccurate and outdated.

Part IV written by Sheldon R. Simon deals with a village in Uttar Pradesh and describes the emerging pattern of village life, inter-action between the village community and the developing environment, especially the road rail communication and the urban influence. The influence of political, social and economic changes is described on different groups of people in the community. Major emphasis in this part is laid on the importance of education facilities, communication and transport and the impact of inflow of urban earnings on living conditions and agricultural development. This section provides a comparison of the change at two points of time, 1954 and 1964, with respect to changes in income, sources of income, income distribution, degree of monetization and indebtedness, consumption patterns and investment opportunities. Through a detailed study in respect of the inventory changes in the houses, the author aptly brings out a motivation for investment in agriculture and opportunities as well as problems facing such investments. The importance of specific technological innovations, which are either not available or unprofitable at present, finds emphasis for increasing agricultural productivity. In the end, the need of problem-oriented research and extension services is brought out.

In the last section of the book, Mellor reviews the problems and the prospects of agricultural development in India and points out to some of the lessons that can be drawn out of experiences. He remarks that the success in India appears to be a random happening rather than the result of man's careful planning. The increase in production has come primarily from symmetrical expansion through traditional process. If agricultural production in India grows around 4.5 per cent annual compound rate, this will be consistent with the growth of the industrial sector at approximately 10 per cent. Maintaining this 4.5 per cent rate of growth, let alone exceeding it, would, however, be difficult because of smoothing out of the sudden and more concentrated initial break-throughs, transfer of pressures to increasing production of crops needed as industrial raw materials and the complicated problems of research in much diverse conditions in India. India will, therefore, have to run quickly to even hold the rate of 4.5 per cent.

He sees the potential sources of failure in lack of adequate fertilizers, irrigation and an integrated programme of agricultural research. In his view, the allocation of resources in India is conditioned by political pressures and this will become increasingly so with the rising power of the rural peasantry. He does not prefer lowering the fertilizer prices, as such changes tend only to redistribute production and incomes among sectors of economy and destroy the incentive and financial

means of the private sector. He thinks that future progress depends very much on the kind of break-throughs in rice, area by area which have been attained for wheat, because 40 per cent of the Indian foodgrain production is accounted for by this crop. Finally, he points out to the chain of problems of water management, disease control, marketing, etc., all of which must be solved if the progress is to continue.

Commenting on the role of future food aid, he visualizes that in addition to coping with year to year fluctuations in production, such aid will play a major developmental role. The building of huge buffer stocks as an alternative is considered politically difficult, economically expensive and all in all unlikely. The international debate on this issue, he feels, has been carried on with little knowledge of larger considerations such as the resources required and their alternative uses. Mellor's viewpoint, from purely economic angle, however, does not account for the sense of security, which the buffer stocks provide. Rightly, of course, he points to the need for foreign aid which is not just one of providing foreign exchange but is more generally of allowing a substantial rate of investment without extreme privation and consequent pressure on the political system. In his view, the optimal form of commodity aid should, in a technical sense, be a function of the nature of the relative supply and demand schedules for various commodities and successes of primary sector should be judged by the rate of growth of production and not by whether or not self-sufficiency is achieved. Commenting on the need for changing the agricultural production-mix, he feels that it is highly unlikely that a rate of increase in foodgrain production of more than 4 per cent per year could be sustained without pressures to reallocate resources to other agricultural commodities. In his view, the changing price relationships should tell about the course of agricultural development. If these shifts do not occur easily and efficiently, the lack of research for the other crops will be largely to blame. In the case of perishable commodities, lack of adequate marketing facilities may also be a cause. He sees the problem of agricultural development as a continuum. In respect of employment and income distribution, it is visualised that with the nature of development, inter-regional and inter-class disparities will widen. Income inequalities may be tolerable in a static framework but not in a dynamic situation as they leave an impact on the political structure by creating tensions. He, however, pins hope in the cohesiveness of the Indian rural social structure which will bring to notice and dispel the tensions as they arise. Finally, he points out two specific errors in Indian development planning with respect to research and the method of planning and three apparent errors with regard to the degree of centralization of decision-making, relative emphasis on public sector and lack of provision of trained manpower. Planning, according to him, should be flexible enough to make quick adjustments to solve the development problems as they are visualised.

In the end, this reviewer congratulates John Mellor and his co-authors for doing a good job of analysing the Indian planning problems in a rigorous manner and providing some usable directions for future efforts on developing rural India. The book is nicely documented with references for each section.

Economic Development—Papers and Proceedings of the U. G. C. Seminar-cum-Training Institute on the Theory of Economic Development, October 14-18, 1964, Edited by K. S. Sonachalam, Annamalai University, Annamalainagar, Githa Press, Tiruchi, 1967. Pp. xxi+353. Rs. 20.00.

The book under review is a reproduction of the articles presented at a seminar on the theory of economic development held at the Annamalai University. In addition to 23 research papers, the book carries a thought provoking inaugural address delivered by B. Natarajan and a valedictory address by C. P. Ramaswami Aiyar. The papers are grouped under five subject headings, *i.e.*, factor allocation, role of agricultural development, financing economic development, growth models and balance of payments. The first paper by Gnanadoss lays stress on factor reallocation which he thinks in true sense constitutes economic development, *i.e.*, non-linear macro-dynamic changes. The reallocation of factors, he says, must take clue from the changing pattern of consumer preferences. Stress is laid on additional savings and existence of suitable investment opportunities for private entrepreneurs and public agencies. Gnanadoss feels that lack of motivations in the developing countries leads to a preference for investment on real estate, which does not create new production but involves only the transfer of existing assets. He, however, provides no evidence to disprove that through these transactions money is transferred from those who prefer real estate to those who do not. This money might get invested or consumed outside of these estates. The process, thus, is not merely of transfer of assets, as is commonly believed. It also involves additional money put in different hands which in turn is capable of influencing the pattern of investments.

The paper by Kurien, based on his Ph.D. dissertation, contains a rigorous analysis on the theoretical aspects of the problem of factor allocation. He has developed alternative models for factor allocation. After dealing with the theory of factor allocation, especially Walras-Kassel Model and other concepts, he characteristically deals with the models of development for "an over-populated under-developed economy with absolute redundancy of labour." The mathematical exposition of the models has not, however, received proper editing.

The article by Rangachari is more or less only a collection of the quotations and criteria given out by classical and neo-classical economists. Two other papers, one by Sabapathy and the other by K. S. Sonachalam on factor allocation also deal with the concepts and approaches of classical and neo-classical economists.

There are seven papers on the role of agricultural development. The authors have followed mainly the textbook approach. These papers have dealt with theoretical conceptual framework and have avoided specific empirical treatment except the one by Thamarajakshi based on her Ph.D. thesis. Almost the same theme runs through all the papers and the consensus seems to be for more emphasis on development of agriculture in the initial stages and shifting it to industry through successive stages of economic development. The authors emphasize the importance of agriculture in providing a base for and removing constraints such as food shortages and inflationary pressures to development. The role of agriculture is visualised in respect of providing food and fibre, export earnings, domestic

capital formation and market for the non-agricultural products. The role of science and technology is also emphasized in increasing agricultural productivity.

There are four papers on financing economic development through different sources such as internal finance, external aid, deficit financing and manpower utilization. S. V. Ayer remarks that astronomical figures of investment do not necessarily imply astronomical figures of achievement. On the basis of data on the internal financial resources and the extent of deficit financing, external assistance and the increasing liability for repayment of foreign debts, he emphasizes the need of intensive manpower utilization in India. Balasubramaniam deals with the subject of taxation and remarks that tax policy for economic development should be oriented in part to attract foreign personnel and investment at substantially increased rates. In his view the concept of taxation extends, beyond equity principle, to the entire problem of income distribution in a community. Jussawala prefers to link taxation with fiscal policy. She remarks that, in under-developed economies, productivity is a stronger criterion in tax policy formulation than equity. She, therefore, prefers indirect taxation which has advantages of bringing large masses of rural dwellers under its coverage. She, however, emphasizes the need for a selection of the commodities to be taxed so that the desired level of discouragement on the consumption of particular commodities is achieved. Though a believer in the built-in flexibility of the tax system, yet, she feels that its operation is not so simple in an under-developed economy. This is so because the tax effort is not only directed towards diverting resources to developmental investment but also towards reducing the inequalities of income. She prefers non-project foreign assistance and long-term loans to reduce the burden on the payments' position during the period of growth.

A. Subbiah discusses the history of foreign investment in U.K., U.S.A., Australia, Canada and Argentina. He emphasizes the need for foreign aid and holds that India has a good image for obtaining it, due to her political importance, size of her population, presence of Indian minorities in large numbers in other countries with their articulate, literate, vocal and internationally influential intelligentsia.

There are two papers on growth models. Ganapathi in his paper on the theory of fluctuations in post-Keynesian growth models critically examines the models of 'cyclical growth.' He divides the economists in three groups on the subject. Harrod, Domar, Hicks and Joan Robinson as cycle exponents, Duesenberry as growth theorist and Kaldor, Goodwin, Pasinetti and Kurihara as those believing in cyclical growth. He agrees with Pasinetti's thesis that what is required is not a cycle or growth possibility but a cycle and growth reality. He very aptly remarks that the modern emphasis and over-indulgence in mathematical principles and formulae blurs the vision of reality in this field. The cyclical growth, in his opinion, is a field of analysis wherein model building has to be rescued from the tyranny of mathematical symbolism.

Sarangadharan likes to disagree with the Schumpeterian treatment of innovations and bank credit as casual forces of development and emphasizes the role of capital arising out of savings as the prime mover in economic development.

There are six papers in the section dealing with the question of balance of payments. D. Bright Singh believes that the excess of domestic investment over domestic savings leads to an imbalance in the economy which in turn necessitates an excess of imports over exports and, thus, creates balance of payment difficulties. He advocates labour intensive projects yielding quick returns because they are non-inflationary and involve less strain on external payments. He does not find favour with classical trade prescriptions such as the principle of comparative cost advantage in the matter of trade between countries of unequal economic status, because the differences in economic opportunities and natural endowment do more harm to the less developed partners. In order to ensure that the national income grows faster than the population, so that per capita income rises and the margin of savings widens, he believes in encouraging investment on major industries and social and economic overheads.

Laxmi Devi in her paper explains the rationale of exchange controls on the basis of India's situation and advocates strict control on exchange and imports.

Parkasha Rao identifies the causes of deficits on trade account for developing countries such as (i) adverse terms of trade, (ii) limited markets due to price inelasticity, import substitution and tariff barriers in importing countries and (iii) the lack of diversification in their export. Food imports, he thinks, act as heavy drag on developmental effort, and planned development that does not make them unnecessary needs to be radically changed in approach and technique. He finds scope of extending India's export to non-sterling areas including Afghanistan, Ethiopia, Iran, Iraq, Lebanon, Spain, Saudi Arabia, Sudan, U.A.R., Yugoslavia, Yemen, Soviet block countries, France, Italy, Netherlands, Japan, South Korea, Thailand, etc. Further, he emphasizes that in a two-sector model of growth, the public sector should not place itself under a self-denying ordinance but should undertake, in a big way, the production of consumer goods.

Tigadi believes that deficits in balance of payment are due to certain planned objectives and they are likely to disappear from the scene as soon as these objectives are achieved. His argument is that these deficits are due to efforts directed towards structural readjustment and not due to structural mal-adjustments in our economy. These deficits, thus, reflect on the hopes and aspirations of the economy. They should be regarded as development or planning deficits and not the marketing deficits. He ascribes the decline in India's exports in U.K.'s market to the relatively high cost of production vis-a-vis her competitors. This, he thinks, makes out a case for re-examination of the objective of socialistic pattern based on certain ideology of the Congress which appears to be contributing to the high cost of production by keeping planned capacity idle.

M. Srinivasan feels satisfied by providing information on agricultural productivity, yields, technical programmes, achievements of the Five-Year Plans and the future programmes of development in the Madras States. James S. Lanigan, in his remarks, underlines the scope of private American capital flowing into India. But, he believes, the capital will not flow where it is not welcome, which means authentic hospitable investment climate, free from harassment and unnecessary restrictions, in which return is competitive with that available in other places in the world. On the whole, the book is a good collection of articles on subjects of development. Editing and get up, however, leave considerable scope for improvement.

Changes in Mikir Society : A Case Study of Kanther Terang Village, Mikir Hills, Assam, P. D. Saikia, Studies in Rural Change, Assam Series, Agro-Economic Research Centre for North-East India, Jorhat, 1968. Pp. xiv+82. Rs. 8.00.

In the wake of planned development, especially of backward and neglected areas in the country, it is but proper that an assessment of the impact of the measures taken in those areas is made from time to time so that any modification or change in the developmental measures may be introduced to bring about the desired effect. The Agro-Economic Research Centres in the country established by the Union Ministry of Food and Agriculture are engaged, besides the study of the socio-economic problems in rural areas, in the study of rural socio-economic change. The present study of rural change by such a Centre for North-East India pertains to the socio-economic change in the Kanther Terang village in the Mikir Hills of Assam. The selection of the village is said to have been "necessarily purposive on the basis of the operation of certain forces of change, e.g., new irrigation project, urban impact, establishment of an industry in the vicinity, community development project, panchayat, etc." The change that is under study here pertains to a period of five years from 1960 to 1965.

While the study proposes to consider a number of factors as forces introducing social change in Kanther Terang, it has been mainly due to the urban impact of the town Diphu, at a distance of two and a half miles, "a small town which attained the status of district headquarters in 1951, after the formation of the new autonomous hill district of United Mikir and North Cachar Hills."

Although a period of five years seems too short to show any marked change, it is heartening to note that the author has been able to quantify certain of the economic changes and bring them into bold relief. The statistical statements given in the appendix and the tables appearing in the text are instructive from this point and help one to follow the author's arguments.

After giving a brief outline (the study itself appears to be brief and sketchy) of the land and people of the village Kanther Terang, the author straightway proceeds to deal with the changes occurring in the basic demographic factors, the occupational structure, the economic resources, the levels of inputs and outputs and in economic conditions of the households. The seventh and the last chapter incorporating the summary and conclusion, the study is distributed over six small chapters.

As for the changes that were perhaps expected but did not occur, the author mentions that there has been no 'remarkable change' in the demographic aspects, no "noticeable change in the occupational pattern as shifting cultivation or *jhuming* remains the only primary occupation, no emergence of private ownership in land, no tendency to avail of the educational facilities at Diphu, no tendency to take to any enterprise pertaining to livestock and more and more emphasis on agriculture, in spite of the growing importance of secondary sources of income." While there is ample scope for the expansion of agriculture both extensive and intensive, the features listed in the study appear understandable.

The changes that have occurred relate to the 'rapid expansion of the commercial sector of crop production,' and to 'gradual transformation of the village economy from the traditional self-sufficient to a progressive and market-oriented type.' This change is related to the changing consumption patterns of the villagers.

While the quantitative features by their very nature are substantiated by facts, the qualitative aspects of the people appear to lack much of the details which are necessary to have a deep understanding of the people. The village itself is too small, comprising 14 households and 88 people in 1961 and 22 households and 106 people in 1966, to justify any generalisation. Besides, one does not know anything about the town Diphu beyond its name; it is not known as to how big and how urban is Diphu. The population figure and the census-occupational structure would have been more instructive. Looking to the small number of the households, one wished that a detailed case study of each household would have been more enlightening. Besides these, certain of the questions pertaining to the social life of the Mikirs of Kanther Terang remain unanswered: does the shift in the village site also result in the shift of the common cultivable lands?; the post of *Sartha*, the village headman is said to be hereditary: is it the privilege of any class, sub-class or family?; what is the method of selecting a new headman?; what are the required qualities?; if the clans are exogamous, how are the marriage relations spread in space?; the post of *uchepi*, caretaker of the dead bodies is said to be important and always handled by a woman: why?; which are the 'minor disputes' and 'grave offences' said to be dealt with by the village council and the inter-village council respectively?; if the housing pattern has 'degenerated,' is it not a change and why has it taken place?; and why does the headman belong to the Terang clan? These and similar questions are to be answered in order to throw more light on the social life of the people.

Likewise no explanation is given as to why the prices in Diphu of locally produced foodgrains have soared much higher than the non-agricultural commodities brought from outside (p. 10). It is rather comic to compare the demographic features of the village with those of the country (p. 13). The villagers are said to be busy with *jhuming* operations for only six months in a year (p. 29). This contradicts the annual programme of agricultural practices (pp. 8-9) which are said to start in February with the felling of trees and end with the harvesting of cotton and sesamum in November-December. Similarly, there appears to be contradiction in the two statements that 'the idea of profit and loss does not play an important role in farm enterprise, especially in food crops (p. 35), and that 'the urban market has given incentive to the expansion of agricultural production, especially the field crops' (p. 37).

These and similar shortcomings might mar the otherwise instructive value of the study. This notwithstanding, the study should be welcome as it brings encouraging news that the tribals too are changing, gradually at least, and that too without any disturbance, agony, or 'loss of vitality.'

The Planning of Milk Production in India, R. O. Whyte and M. L. Mathur, Orient Longmans, Bombay, 1968. Pp. 221. Rs. 10.00.

In the book under review, the authors have analysed the available information and brought out, in a vivid manner, the difficult problems required to be faced in developing milk production in India. Those working in the field are generally aware that the animals in the country are low producers, that a large population of cattle is unproductive, that, as in case of other essential commodities, the country is deficient in feeds and fodders required by the livestock and that there is a need to do something to change the situation for better. Never before, however, the magnitude of the problem and the challenge required to be met have been so clearly brought out. The fact that dairying is as essential for improvement of farm yields as are other improved practices of farming has more or less been lost sight of in planning of dairying. Hithertobefore, planning of dairying has been taken as synonymous with starting of milk processing factories in the hope that once the factory is established, 'the milk will flow.' In a lesson included in a textbook,¹ "Dairy" has been defined as "a place where milk is processed and stored before distribution, and where butter, cheese and such other products are made. Dairies are usually situated in large cities and towns. These dairies generally obtain supplies of milk from cows or buffaloes either kept in the city itself or from the nearby farms and villages." This is no longer true.

The milk schemes that were started had thus to depend on imported skim milk powder and were not able to make the impact that they should have. In a study report, presented to the 38th Session of the Committee on Commodity Problems, Rome, May 7, 1965, on the general situation of agriculture and dairying, specially referring to India, it is stated "Not in all cases were these hopes fulfilled." It has to be borne in mind that in most developed countries, modern dairy industries grow out of and parallel to the improvement of general agricultural conditions, they are inter-related with agricultural development. In India, the sequence is reversed. The expectation that the establishment of a milk plant will, *per se*, result in improvement in dairy husbandry, thereby increasing yields per animal and lowering production costs, was hardly ever met; farm income was not substantially affected by the plants.

Dairying has three important aspects.

- (a) The production phases of dairy development involving all factors and operations 'up to the bucket,' which generally go by the name "production."
- (b) The handling phases relating to improvement of access in rural areas, collection, chilling and transport of milk to processing plants.
- (c) The processing phases relating to processing of milk, its distribution and/or conversion into products.

These aspects have the importance in the order named. However, the most important phase of production has been seriously neglected or considered too

1. New Radiant Readers, Book VII, Allied Publishers Private Ltd., Bombay, 1964.

late in relation to the milk factory, which has been given a priority in the planning of dairying. This is what is meant by the statement "In India the sequence is reversed."

The authors recognize two approaches to development of dairying; the consumer approach and the producer approach. The former is concerned with the provision of cheaper and cleaner milk and milk products. The other approach is that of land use, which would regard dairy farming and dairy development as means to an end, the wider objective being an overall intensification of crop and animal production, maximum integration of crop and animal husbandry (on cultivated land). It should be noted, however, that both the approaches are supplementary to each other. For, unless good market demand is available, producers do not get the necessary encouragement to produce.

The study brings out clearly the need for reorienting our outlook and methods towards dairy husbandry and makes some very important recommendations which need to be implemented, if agricultural production in general and dairy production in particular has to be materially improved. Some of these are enumerated below.

- (a) The need to grow more area under fodder crops is possibly the most important recommendation. Though straws and hay form the main bulk of cattle feed in the country, growing of quality fodder crops needs to receive more and more attention. For, not only the country has limited supplies of concentrates, but also production of milk based on highly concentrate and straw feeding programme is high.
- (b) However, farmers would not take up to growing of green fodders, unless they find that in doing so they can get returns comparable with those from money crops and other crops. To be able to fulfil this expectation, the farmers must have animals capable of producing more milk. According to the authors, both the indigenous cattle and buffaloes are incapable of meeting these expectations. They, therefore, recommend grading and improvement of indigenous cattle with the help of reliable bulls of exotic breeds, such as, Jersey, Holsteins and Brown Swiss.
- (c) Further, in order to be able to feed the productive animals, it is of paramount importance that efforts need to be made to raise farm yields by adopting improved practices. Further, if this increased production is combined with the removal of all non-milk producing and non-draught animals, the serious position with regard to straws and hays may be alleviated to some extent. Whereas on one hand, enthusiasm created by the milk schemes must not be dampened by the absence of sufficient number of animals capable of responding to good feeding, on the other hand, it is for those responsible for political and genetical aspects of cattle policy in India to decide how this need could be met. The choice apparently is between no improvement in production, very high cost of milk produced and wasteful utilization of land resources on one hand and the luxuries of maintaining the large unproductive strength of live-stock on the other.

- (d) In order to achieve improvement in the production of milk, business of milk production has to be thoroughly integrated with farming. An efficient and well trained farm advisory service, capable of understanding the problems of farmers, of demonstrating to them the improved practices, of meeting their needs for seeds, fertilizers, plant protection measures, breeding and improvement of farm animals and of supplying them balanced feeds at reasonable cost has to be built up.

The authors have taken great pains to collect data with a view to define targets at national, regional and local levels. Excellent methods of surveys have been suggested and those methods that have been so far attempted have been commented upon at considerable length. Tables have been prepared showing that the task is extremely difficult of achievement. Detailed description of the problems required to be solved to meet the targets of projects, such as, Koraput, Neyveli and Barauni, has been given. Tables have been prepared showing the livestock strength, the quantities of feeds and concentrates and the areas required to produce the same for achieving the different targets of milk for the milk factories.

It is not, however, clear why the authors start all these calculations on the basis of the capacity of a factory (and its possible expansion). They agree that many of the factories are located in the areas where these should not have been, and yet they attempt to calculate targets on the basis of the factory. In respect of Koraput, the authors state: "As there are no areas of intensive agricultural and animal production within a distance that may be regarded as economic for transport of milk to the factory settlement, the dairy animals will have to be kept mainly on such agricultural land as is available in the hills around the settlement and the present small town of Koraput." The same is more or less true of cities like Bombay, Delhi, Calcutta and Madras. Does that mean that milk required for that cities must be produced in the areas around these cities? This is evidently not correct. If at Koraput an Aircraft Factory is planned, which would mean making transport arrangements for complicated machinery, parts, etc., that arrangement could certainly incorporate transport of milk from areas, where it could be produced cheaper. We have had some experience of producing milk near the industrial areas and there are no two opinions about the fact that producing milk in the neighbourhood of cities is costly. In the United States, milk supplies to cities of New York, Chicago and the like, are often obtained from farms which are located as many as 250 miles or more away.

Apparently, the authors are more concerned with the needs of the consumers and with the need for running the factories that are established and/or planned. This is partly due to the fact that somehow they feel that the targets fixed must be fulfilled (*i.e.*, the target based on the nutritional requirements). There are many commodities in the country which are in short supply as compared to the intrinsic requirements. The outstanding example is that of cereals, the production of which is far short of requirements. The correct approach to the problem is, therefore, to make efforts to increase the output of cereals, milling plants may wait. So also the approach to the supply of milk, according to requirements, has to be production-oriented. All efforts must be made to produce more milk.

No doubt, providing proper and remunerative market for the milk produced is of paramount importance if milk production is to increase. From this point of view, milk processing units are a necessity, but the growth of these plants need to go hand in hand with the increased production. Fortunately, techniques have been developed by the use of which smaller quantities of milk could be marketed. Based on the incentives resulting out of such marketing facilities, farmers could be made to grow more feeds and fodders, maintain better animals, give them better care, management and veterinary aid and thus produce more and cheaper milk, which can then be processed in the factories that are developed in accordance with the need. This would help in avoiding heavy capital expenditure in the erection of factories and the need for planning on the basis of the installed capacity, which would lie idle till the production targets are achieved. Money thus spent in erecting factories can be better utilized for production incentives for which there is a great need.

In the general survey of the economics of milk schemes,² it is stated: "Generally, the most successful plants are those manufacturing dairy products, other than liquid milk." This, as reported, is only partly true. The manufactured products, which fetch better returns are special infant foods, processed cheese, etc. The demand for these products is extremely limited in India and is only from a small section of the rich people. It would, therefore, not be correct to generalise the assumption that preparation of the milk products is the most remunerative. As is done in other countries, selling of milk as liquid milk is the most remunerative method of marketing milk.

The book would make a very useful reference book and would materially assist those, who are charged with running of the milk plants, in realizing the problems they have to understand and face. The book also makes extremely useful suggestions, which are based on realistic facts. It is important that all those, who are charged with the work of developing milk production, study the various suggestions made in this book and try to implement the same.

G. S. GODBOLE

2. Review presented to 38th Session of the Committee on Commodity Problems, Rome, May 7, 1965.

REVIEWS IN BRIEF

A Handbook on Methodology of Research, Edited by Rajammal P. Devadas, College of Rural Higher Education, Sri Ramakrishna Mission Vidyalaya, Coimbatore District, Madras, 1969. Pp. xii+267. Rs. 10.00.

This handbook is the outcome of a workshop on research methodology conducted by the College of Rural Higher Education of Sri Ramakrishna Mission Vidyalaya in 1967. It contains a collection of 24 papers dealing with various issues relating to research methodology. These pertain to (i) selection and definition of a problem and functions and components of a research design, (ii) sampling design, (iii) methods of collecting data, (iv) construction of schedule, (v) conducting an interview, (vi) tabulation, analysis and interpretation, (vii) classification and interpretation of data, (viii) report writing, and (ix) organization and administration of a research project. The differences in the approach between research in physical sciences and social sciences are highlighted in a few papers. The handbook includes model research designs and research perspective indicating the areas of research in science, agricultural economics, psychology and rural sociology and a comprehensive bibliography on methodology of research.

Economics of Agricultural Production, Markets, and Policy, John P. Doll, V. James Rhodes and Jerry G. West, Richard D. Irwin, Inc., Homewood, Illinois, U.S.A., 1968. Pp. xiii+557. \$8.50.

This textbook deals with some of the more important aspects of agricultural economics and is composed of 21 chapters, excluding the introductory chapter, grouped under three parts, viz., production economics, competition and market theory, and agricultural policy. Each part emphasizes the fundamentals of economic theory with liberal applications to current problems in American agriculture. The introductory part outlines briefly the nature and content of the book. Part II consisting of nine chapters deals with the economics of production. It begins with the definition of production and presents an example of farm production to illustrate the biological and technological environment in which the farmer works. Based upon the illustrative example, definitions and assumptions used in this part are explained, followed by a review of the role of management in the production process and a comparison of the viewpoints of the economist and the manager. It discusses the concept of a production function, presents a production function and discusses its characteristics as well as the nature of costs and their derivation from production functions. Different types of production functions are then presented. The marginal concepts of resource allocation based on the production function are discussed in detail and the effects of time upon the production process are considered. Background material and analytical techniques are developed to make time analysis amenable to the marginal principles. This is followed by a neat exposition of the theory of decision-making under conditions of risk and uncertainty. Factual information about the quantity and value of agricultural land, distribution of farm earnings, land tenure and rent, capital and credit and technological change in the U.S. agriculture is provided to illustrate the use of concepts presented in the earlier part of the book. It further defines the production activity within processing firms, discusses some of the corresponding theoretical concepts and the problems faced by the processing firms with special emphasis

on the uncertainties encountered by them and deals with the problem of moving finished goods to retail markets.

Chapters 11 to 17 in the third part discuss the structure of the agriculture industry, marketing efficiency, pricing policies, aggregate concepts of market performance in agriculture, the competition among food retailers and among farmers and the interdependence of farmers and marketing firms. The last part composed of five chapters focusses attention on some of the important policy issues, proposed solutions, and economic principles which are helpful in understanding the role of government in the U.S. agricultural economy.

The book is designed as a text for an intermediate course in agricultural economics in the U.S.A. Students of agricultural economics in India will find this book useful. References given at the end of each chapter enhance the utility of this book.

The Role of Agriculture in Economic Development—A Case Study of Pakistan, Mahmood Hasan Khan, Centre for Agricultural Publications and Documentation, Wageningen, The Netherlands, 1966. Pp. xii+161. Dfl. 25. \$ 7.50.

This book examines the role of agriculture in the process of economic development with special reference to Pakistan. Divided into six chapters, the first two chapters attempt to provide an analytical theoretical framework for the study of economic development in which the role of agriculture is given the central place. The starting premise of the theoretical explanation of economic development provided in Chapter 1 is the characterisation of the structure of an under-developed economy as a dual economy. The basic characteristics of an under-developed economy broadly speaking are identified to be agricultural labour surplus, a relatively high rate of population growth, poor resources (including reproducible capital), and an acute shortage of entrepreneurship. Since in the initiation of growth, the emergence of certain conditions is essential, the concept of "take-off" with some modifications in Rowstow's stages of growth scheme has been used. In addition to the two conditions laid down by Rowstow, *viz.*, an increase in capital formation and the establishment of one or more 'leading' sectors, following three elements are considered to be an integral part of the characteristics of the take-off: (i) substantial improvement in agricultural productivity, especially land; (ii) disappearance of the initial state of under-employment of the agricultural labour force in a chronic form by a simultaneous transfer of the redundant labour force from the agricultural sector to the newly emerging industrial sector and by the application of techniques within agriculture which favour the intensification of labour input; and (iii) the moment when the integration of the economy is more or less completed, the end of the take-off stage must clearly indicate that, on the one hand, the surplus agricultural labour in its initial form is exhausted and, on the other, the labour force engaged in the agricultural sector begins to decline absolutely. In the rest of the chapter, an attempt is made to demonstrate the role of the industrial sector in attaining high rates of growth of total output and in absorbing the reallocated agricultural labour force. Chapter 2 sets out with a few introductory remarks about the interdependence of the agricultural and industrial sectors and presents a general strategy for the expansion of agricultural production, or for increasing agricultural factor productivity during the

take-off stage, taking into consideration the initial conditions obtaining in the agricultural sector of an under-developed economy. Chapters 3 to 6 focus attention on (a) the basic features of the economy of Pakistan, with special reference to the place of agriculture in the economic system, (b) some major causes of the backwardness of agriculture, (c) the role of the State in the development effort and (d) the prospects and problems of self-sustained growth during 1965-85. The major conclusion is that the alleged take-off, occurring during 1965-85, cannot be completed within this period because some of the crucial assumptions and changes projected in the Perspective Plan of Pakistan are either unrealistic or inconsistent.

Despite a few limitations of the study as noted by the author, this book will prove useful to students of agricultural economics and economic growth.

Role of Opinion Leaders in Fertilizer Promotion, K. B. Kothari and A. G. K. Murty, Faculty for Management in Agriculture and Co-operatives, Indian Institute of Management, Ahmedabad, 1969. Pp. 76+15 Exhibits. Rs. 5.00.

The main objectives of this study are to (i) find out the social, economic and agricultural facts of rural customer, (ii) determine the extent to which attitudes towards straight fertilizer affect the knowledge and use of multi-nutrient fertilizers, (iii) identify the opinion leaders with particular reference to fertilizer acceptance in the village community and (iv) prepare intensive case studies of two widely accepted opinion leaders to understand conditions of exerting influence in larger community with particular reference to multi-nutrient fertilizers. For the purpose of field study, village Chaklasi in the Kaira district of Central Gujarat was selected and the investigation was conducted in July-August, 1968. The study indicated that all the farmers who used multi-nutrient fertilizers were favourably inclined towards fertilizer. This favourable attitude towards fertilizer is expected to facilitate the switch over to a new fertilizer much faster. One of the important findings of this study is the existence side by side of two distinct styles of leadership in small localised social structure, catering to the need and pace for change. It is revealed that the rural customer relations and contacts with external agents and agencies were restricted. However, comparatively, both the opinion leaders had greater communication and participation in extra community programmes and contacts. The flow of influence and communication in regard to fertilizer use did not directly move without the intermediaries. The opinion leaders played a significant role in being the intermediaries for change. A major implication of these findings is that a certain set of attitudes/beliefs existed even among farmers who are favourably inclined towards fertilizer, retarding their pace in moving towards a higher plane/technology. The study suggests that there is enormous scope for improving and developing existing channels of formal communication for reaching and meaningfully communicating with different rural social segments.

Readings in Agricultural Development, Edited by A. M. Khusro, Allied Publishers Private Ltd., Bombay, 1968. Pp. xiii+620. Rs. 24.00.

This volume is intended to be a textbook for teachers and post-graduate students of agricultural development. It contains a selection of 30 published papers

contributed by more than 25 authors. It deals with the different facets of the inter-relationship between agricultural development and economic growth. The emphasis all along is on the strategy of agricultural development for a developing but not yet developed economy. The selections are grouped under five parts : (i) Products and Factors, (ii) Demand, Supply and Prices, (iii) Agrarian Reforms and Institutional Change, (iv) Labour and Employment and (v) Development Policy. In the Introduction contributed by the editor, an attempt is made to discover the areas of divergence between economic theory and Indian agricultural policy as regards the growth of agricultural output, pricing of food, investment in agriculture, cropping pattern, land reforms, and capital formation through labour. The first part contains ten readings, each dealing with the shifting fortunes of agriculture, a review of agricultural production and productivity during the Plan periods and some reflections on the future, agricultural growth and stagnation, the mainsprings of agricultural growth, returns to scale in Indian agriculture, production functions for Hyderabad farms, some policy issues relating to the New Agricultural Strategy, economic aspects of irrigation development in Northern India, reconsideration of the problem of providing credit to small cultivators and the role of budgeting and linear programming in farm management. The second part composed of six readings is devoted to an analysis of the ratio of inter-change between agricultural and manufactured goods in relation to capital formation in under-developed economies, farm supply response in India-Pakistan : a case study of the Punjab region, marketed surplus of foodgrains, the role of price mechanism in agricultural development, the price of food, and the relative prices and allocation of land and other inputs among competing crops. The subject matter of the third part which includes seven readings covers economic theory and agrarian reform, tenurial conditions and the package programme, the nature and magnitude of the problem of small farmers, fundamental considerations relating to co-operative farming, aspects of co-operation, reappraisal of community development programmes, and the implications of *Panchayati Raj*. The fourth part includes three papers on agricultural labour, an analysis of the nature and extent of under-employment among farmers in Bihar, and agricultural employment in a developing economy. The three papers in the last part deal with development policy relating to forestry and agriculture, planning for agricultural development, and economic policy for agricultural development.

The editor deserves warm praise for bringing together in this volume valuable research contributions scattered in different sources for the benefit of the advanced students and research workers in agricultural economics.

Agricultural Projections for 1975 and 1985—Europe, North America, Japan, Oceania, Organisation for Economic Co-operation and Development, Paris, France, 1968. Pp. 128. \$4.00.

This report seeks to give an indication of the supply-demand balance in major agricultural commodities in the OECD area and Oceania in 1975 and 1985 with the object of throwing light on the contribution which this area could make to the world food supply on the basis of specified assumptions of supply and demand trends and the factors affecting them. An important conclusion of this study is that agriculture in the OECD area has the potential to expand its output faster than the growth in requirements within the area. This potential is found in

greatly increased quantities of grain which could be available for export outside the OECD area. In addition, several of the European countries in the OECD region are likely to have surplus dairy produce for export. These increased availabilities can be achieved without any stimulus to output beyond those given by current policies. The overall rate of growth implied by the projections in the case of Europe other than Southern Europe is less than that which has been attained since the early 1950's. The countries of Southern Europe are expected to expand their agricultural output at a relatively fast rate. As regards the major foodstuffs covered in the study, the availability of rice for export in the OECD area and Oceania is projected to increase, coming almost entirely from the U.S.A. Net imports of sugar by the area are dependent on policies for domestic sugar production. Under present policies, most of the growth in sugar consumption seems likely to be taken up by production within the area, allowing for only small increases in imports from outside the area, and changes in policies could however significantly affect this result. As the projections for pigmeat, poultry meat and eggs assume that production will follow demand, it would mean that net trade between the OECD with Oceania and other regions would not be significant. According to the projections made in this study, the balance of trade in the OECD area with the rest of the world in the commodities covered would shift from a net import of about \$1.5 billion in 1961-63 to a net export of about \$2.2 billion in 1975 and about \$3.3 billion in 1985 (expressed in 1961-63 unit trade values). The increased exports are mainly accounted for by grains.

The advertisement is enclosed in a rectangular border. On the left side, there are four circular illustrations:

- Top-left: A person operating a hand-operated agricultural machine, possibly a thresher or mill.
- Top-right: A tractor with a front-end loader.
- Bottom-left: A large industrial machine, likely a sugar mill or similar processing equipment.
- Bottom-right: A collection of agricultural products including a large sack labeled 'स्वते' (Swate) and 'बी.यमो' (B. Yamo), a smaller box, and some produce.

 In the center, there is a circular logo of The Bank of Maharashtra, featuring a tree and the letters 'M B' inside a circle with text in Marathi and English around the perimeter.

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