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BOOK REVIEWS

Mechanization in Indian Agriculture—An Analytical Study Based on the Punjab, Bina Agarwal, Delhi School of Economics Monograph in Economics No. 6, Allied Publishers Private Limited, New Delhi-2, 1983. Pp. xvi+290. Rs. 120.00.

The book is, by and large, based on the work undertaken by the author during the period 1974-77 and presented to the University of Delhi as her doctoral dissertation. At the very outset, the researcher points out that whereas the previous studies on the subject concentrated on the examination of farm output and employment effects of mechanization on the total farm situation, the present investigation focuses on the operation-specific and crop-specific impact of mechanization on output and employment in the cultivation of HYV wheat, besides computing the aggregative effects on cropping intensity, annual output and annual employment on individual farm organizations. The HYV wheat enterprise was selected for this analysis being the main crop and its cultivation having attained the highest level of mechanization in the operational area of the study. The investigation makes use of the secondary data pertaining to the year 1971-72 collected by the Punjab Agricultural University under the "Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops" sponsored by the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India. These data were collected by the cost accounting method from 240 operational holdings located in 60 villages (20 clusters) of 20 tehsils scattered in three agro-climatic zones of the Punjab State selected through a three-stage random sampling technique with tehsil as the primary unit, a cluster of three villages as the secondary unit, and the operational holdings within the cluster as the third and final unit.

The findings of the inquiry bring out that in a number of plots, more than one technique is used for ploughing, sowing, irrigation and threshing operations in the cultivation of HYV wheat. While both tractors and bullocks are used for ploughing and sowing, irrigation is done with tubewells and canals and threshing is accomplished partly with bullocks and partly with power threshers. Among these operations, irrigation and threshing are the most mechanized. The hiring-in of tractors and threshers is a common practice. The zonal analysis indicates that whereas zone III is the least mechanized, zone I is more mechanized than zone II in ploughing, sowing and threshing but less so in irrigation.

The mechanization of ploughing and sowing operations with tractors and threshing with threshers reduces labour use and that of irrigation with tubewells increases labour use. A comparison of the low, medium and high labour hour categories of bullock-ploughing plots with corresponding categories of tractor-ploughing plots depicts a displacement of 44.6, 82.5 and 137.1 labour hours per hectare respectively. The mechanization of ploughing and sowing operations with tractors reduces family labour hours on farms equal to or less than 12 hectares and of permanent labour hours on farms over 12 hectares.

Tubewell irrigation increases the use of family labour on small farms and of permanent labour on large ones. Mechanized threshing brings about a reduction in family and casual labour time on small organizations and in family and permanent labour use on large farms. The combined effect of tractors and tubewells is reflected in the reduced employment of family labour and the extended use of permanent and casual labour on almost all farms. The addition of threshers further reduces family labour use and tends to neutralise the increase in the use of permanent and casual labour time. The reduction in labour use does not necessarily lead to the displacement of annual workers as they continue to be in demand to tide over the scarcity situation particularly during labour peak periods. The regression analysis indicates that on bullock plots, the inter-zonal differences (by way of cropping pattern and soil type) are the most important determinants of labour hours per hectare used for ploughing, besides the size of the plot which is negatively related to labour use. On tractor plots, the only significant variable is the quality of labour represented by the use of higher proportion of family labour to total labour. These plots engage less overall labour hours per hectare for ploughing and for ploughing and sowing as compared with the bullock plots.

The inter-plot variation in yield per hectare of HYV wheat is significantly explained by such variables as the expenditure on fertilizers and manure, inter-zonal differences (reflecting variations in soil-climate-crop complex), technique of irrigation and expenditure on seeds. The use of tractors for ploughing and sowing does not influence crop output. Irrigation with an independent plant like tubewell as compared with canal irrigation leads to higher productivity.

The examination of aggregative effect of mechanization shows that the tractor and tubewell use is positively associated with cropping intensity. The use of tubewells rather than canals is found to be more advantageous than the use of tractors in place of bullocks. The other significant explanatory variables influencing cropping intensity include cropped area irrigated and inter-zonal differences, apart from the size of the farm which has a negative relationship with the dependent variable. Again, tractor-owning farms have higher level of cropping intensity than the tractor-hiring farms. Those which depend exclusively on hired tractors have the same intensity of cropping as the bullock farms.

Gross yield, measured in terms of the value of output per hectare of gross cropped area, is not affected by the use of tractors (owned or hired) and tubewells instead of bullocks and canals respectively. The inter-farm gross yield variation is explained by variables like expenditure per gross hectare on fertilizers and manure, percentage of gross cropped area irrigated, and farm size. Of these, farm size has a negative relationship with the dependent variable. Again, whereas tubewell irrigation leads to a higher level of sown yield (value of output per hectare of net sown area), the use of tractors has a neutral effect. Besides, the expenditure on fertilizers and manure and percentage of gross cropped area irrigated have positive while farm size a negative relationship with sown yield.

The employment of tractors in place of bullocks for ploughing and sowing operations reduces labour hours per gross hectare and per sown hectare. The decrease in labour use is more marked on tractor-owning farms than on tractor-hiring farms. The reduction in labour use is recorded in spite of higher level of cropping intensity on tractor-owning farms as compared with tractor-hiring farms and bullock operated farms. Apart from tractors, the inter-farm variation in labour use is also explained by inter-zonal differences (based largely on cropping pattern) and farm size. The latter variable has a negative relation with labour use.

The author concludes that tractor use has a neutral effect on output, a positive effect on cropping intensity and a negative relationship with labour time. Tubewells contribute to yield, cropping intensity, labour time and generation of additional employment opportunities for casual workers for harvesting and threshing operations. The use of power threshers is not directly related with output but reduces labour time. Based on these inferences, a policy for the accelerated investment in pumpsets and tubewells for the attainment of higher levels of output and employment in agriculture has been recommended. While doing so, the researcher has made a mention of her awareness of the limitations of her investigation inasmuch as the findings are based on the secondary data which lack information on the horse power of the machine and the associated equipment for various farm operations. She is conscious of the fact that she has been able to study only the direct effect of mechanization on employment and that the conclusions arrived at are operation-specific, crop-specific and area-specific. It is felt that the quality of her research input would have substantially improved had it been possible for her to use data for more number of years and extend her analysis to cover other crops raised on sample farms or at least study HYV wheat in its sequence in crop rotations. Nevertheless, the publication is a record of painstaking work undertaken by the author and it is hoped that the students of farm mechanization would find it a useful document for reference.

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The Political Economy of Underdevelopment, Amiya Kumar Bagchi, Cambridge University Press, New York, U.S.A.; Published and distributed in India by Orient Longman, 1982. Pp. viii + 280. Rs. 120.00.

This book, brought out under the modern Cambridge Economic Series, aims to interpret to "the intelligent undergraduate and interested general reader" the problem of underdevelopment in what are today commonly referred to as third world countries. The author lays bare his theoretical perspectives at the very outset. After indicating that his analysis would not be confined to present day conventional economics, and disapproving of the

eclectic synthesis of neoclassical and classical economics in dealing with problems relating to economic development, he says: "In this book, I shall go back to the analysis of classical economists, including Marx, in a more whole-hearted fashion, because I would contend that actual historical change cannot be explained without bringing in conflicts between capitalists and workers, capitalists and landlords, capitalists of the ruling country and capitalists of the ruled nation and so on" (p. 3). This is spelled out in greater detail subsequently: "We shall argue . . . that contact with western European capitalism retarded the development of anything resembling capitalism in third world countries (p. 14)"; "Our argument will be that commercialization has been forced on many third world countries by using non-market coercion, and that the process of commercialization generally led to the removal of surpluses from third world countries" (p. 18). In the discussions in later chapters, particularly Chapters 6 and 7 it is made explicit that the internal aspects of the under-developed countries are analysed in terms of class categories.

The book covers a variety of issues all related to the central problem of under-development. Chapter 2 is an analysis of colonial exploitation which resulted in economic retardation in the colonised countries leading to the conclusion: "The typical paths of development in the past have *needed* some countries to *stay* retarded, transforming capital, providing cheap raw materials and markets for manufactures . . . acting as reservoirs of cheap labour and sometimes—but more rarely—functioning as easy new frontiers to be conquered through very private enterprise . . ." (p. 39, emphasis in the text). That this analysis is not a mere logical one, but is based on concrete historical cases is attempted to be established in Chapter 3 dealing with under-development in Latin America and Chapter 4 discussing the history of colonialism in Indonesia, India and China. Based on these historical accounts, the analysis continues in Chapter 5 showing how colonial intervention disrupted the natural balance that existed in the countries concerned before the imperialists came. Part of the analysis relating to the Indian experience is worth quoting: "When the European capitalists burst on the scene as conquerors, or as traders turned conquerors, the balance of the economy was upset. The Europeans appeared with a demand— either paid for in money, at least in the beginning, or extracted as tribute—for particular type of goods; it had to be met by changing the structure of production. The change in the structure of production could not be effected without upsetting the existing social relationships . . . When the structure of demand was forcefully changed, very often unemployment of labour or open underutilization of land or particular types of capital appeared. Thus, in the case of India in the nineteenth century, the fall in the demand for traditional handicraft products led to the massive displacement of labour previously engaged in such industries. There was no automatic redeployment of such labour in agriculture. For such redeployment to take place, there had to be adequate and compensating demand for the agricultural products and there was no mechanism to guarantee this" (pp. 113-114). This analysis at the production level is supplemented by the discussion of the monetary and fiscal mechanism that lent support to it, the pattern of foreign

trade related to it and the balance of payments situations arising from it. From that general survey the discussion moves on in Chapter 6 to the rural scene, land reforms and agrarian change. Chapter 7 devotes itself to the pattern of industrial development and the role of the State in it with the link between national and international bourgeoisie brought out. Chapter 8 is a very clear analysis of the population factor in development and under-development which also touches upon problems relating to human settlements. The concluding chapter is entitled "Planning for Capitalism in the Third World" which tries to establish that notwithstanding the by now familiar socialist rhetoric, planning in third world countries is planning for capitalism and that planning for capitalism can only reproduce the contradictions of capitalism.

In dealing with these wide variety of issues and problems relating to many countries, Bagchi draws upon his vast readings. The book bears the stamp of his scholarship. The bibliography lists over 500 writings, historical and contemporary and from practically all parts of the world. Most of these are specifically referred to in the text, sometimes as many as ten in a page. I have found these references useful as aids to further reading, but it may be that undergraduates and the interested general readers may find them rather overwhelming, and possibly even a hindrance to smooth reading as the references are built into the text.

I have some reservations about the adequacy of the theoretical frame that Bagchi has used. By making under-development in the present day 'third world' the result of changes that came about in the present day 'first world' in the past, he is conferring on that phenomenon a neat uniformity that it may not have. There is, of course, no doubt that western colonialism prior to, during and after the emergence of capitalism has had and continues to have a major role in the under-development and retardation of the countries that directly or indirectly experienced and experience that colonialism. But can this be thought of as the same wave moving with the same intensity and impinging upon the same kind of shores and producing the same kind of impact called 'retardation' everywhere? To be more specific, when and how did trade between countries (in which many of the present day third world countries were actively involved once upon a time) turn out to be colonialist trade? Did Portugal, Spain, Holland, Britain and France have the same kind of colonialism? What was the link between their colonialisms and the development of capitalism in their respective countries? When the present day third world countries experienced the impact of these external forces were they all in a state of 'natural balance', and if they were, were they of the same kind? If the answers to these questions are not substantially in affirmative, can there be a common explanation for the continuing economic retardation of these countries? On most of these questions our knowledge is still limited, but new factual evidence and new interpretations have been becoming available in recent years. The impact of these on the understanding of the problems of economic retardation in the third world countries is that generalised explanations relating to these countries may come to have less and less validity and

more detailed and specific studies relating to each one of the countries may lead to the discovery of a wide variety of patterns of retardation. I hold the view that there is a fundamental difference between an understanding of third world retardation as a global phenomenon resulting from capitalist colonialism and an attempt to see retardation in a particular country as a continuing historical phenomenon in which capitalist colonialism has a significant role. The former approach produces a political economy *for* third world countries (of which many competing versions have appeared in the past couple of decades) and the latter a political economy *of* a 'third world' country (of which we are yet to see a good account in recent years).

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Agricultural Credit for Small Farm Development: Policies and Practices, David D. Bathrick, Westview Special Studies in Social, Political, and Economic Development, Westview Press Inc., Boulder, Colorado, U.S.A., 1981. Pp. xviii+170. \$ 23.00. (Distributors: Bowker Publishing Company, Epping, Essex, England.)

The broad purpose of this book, as stated by the author, is to provide development professionals in lower income countries and representatives of donor agencies with a primer on the operation of small farm credit programmes. More specifically, the purpose is (1) to present an overview of the current ideas about agricultural credit and development; (2) describe the credit activities of donor agencies and the suggestions of those agencies for improving operational performance; (3) illustrate the limited appreciation for and knowledge of operational considerations; and (4) develop an operation case study from which specific lessons may be learnt. The author draws upon the documents of the World Bank, the FAO, AID, the IDB, and the Rockefeller Foundation for achieving the first three purposes. For achieving the last purpose he draws upon the Nicaragua case project and the documentation he gathered during his personal association with the project over a two-year period. The Nicaraguan project (INVIERNO) is chosen for "the innovative operational and management system developed, the high level of professionalism among its personnel, and its excellent focus (as identified by outside evaluators) on the rural poor."

The brief and succinct overview of the evolution of ideas contained in the first four chapters is a neat summary of the voluminous literature on credit and agricultural development. The traditional simplistic view that the provision of low interest credit alone is the key to the economic development of the small farm sector has been refuted. No one institutional system is the preferred model for extending credit. Agricultural credit should be viewed not in isolation but in relation to supporting services and the needs of improved technology. U.S. agricultural credit models based on individualised super-

vision approach cannot be replicated in developing countries. The overview summarises also the evolution of ideas on policy issues pertaining to (1) eligibility criteria and security requirements, (2) interest rates and the merits of interest subsidies, (3) repayment performance and (4) credit channels. A glaring omission in the overview is the inadequacy of attention to the inter-relationship between agrarian structure, on the one hand, and inadequacy of credit to the small farmers and the preferred model of the institutional system of credit, on the other.

The Nicaraguan case study is preceded by a short chapter outlining the need for a study of the programme operations in greater detail as a basis for developing new management systems to help facilitate integrated service delivery. The critical operational problems identified by the author pertain to management information systems, project evaluation systems, quality of supporting services, co-ordination of supporting services, loan approval considerations, loan repayment considerations, centralisation vis-a-vis decentralisation of organization, personnel matters, and management and personnel administration systems. The purpose of the Nicaraguan case is to illustrate how these operational problems in developing effective credit management systems for the small farmers are sought to be solved.

The INVIERNO (The Peasant Farmer's Development Institute) started in 1975 as part of the overall strategy of Growth with Equity, was intended to provide many integrated banking and non-banking development services related to credit, technical assistance, input supply, marketing, infrastructure, etc. The INVIERNO is an attempt to incorporate a delivery mechanism of diverse services with various entities to the rural poor all within organizational structure. This required a system to co-ordinate both externally with other agencies and within the institute itself from the central to regional and zonal offices to the isolated community. To meet the requirements of external co-ordination, the Board of the INVIERNO is represented by representatives of various ministries, peasant organizations and co-operatives. The INVIERNO has three-tiered structure, comprising central, regional and zonal offices. The book provides an illustration of (1) the many complex factors that were considered in providing basic integrated agricultural development services and (2) the innovative management personnel and operational systems developed by the INVIERNO to implement its broad mandate. As Dale Adams of the Ohio State University states in his introduction to the book, "readers will not find INVIERNO's attempts to integrate a number of development services with loans particularly new." What is novel is the extensive use of the computer for processing information about small farmer loans. The argument in support of this is the facility for rapid data processing capability. A further argument is that it allows the lending agency to do a better job of minimizing the political interference in its activities. Both these arguments need to be evaluated carefully with reference to a specific situation before resorting to extensive use of computers. A couple of points need to be made in closing this review. Firstly, management system including credit management systems need to be judged by the extent to which

they fulfil management objectives. The scope of this book is limited to operational aspects and there is little documentation on how the improved systems contributed to the fulfilment of management objectives. Secondly, it is naive to believe that an integrated credit programme benefiting the small farmer could be sustained in the context of agrarian structures which immiserise the rural masses. No wonder Somoza Government fell in the wake of revolutionary upsurge of peasants in Nicaragua in 1978-79, notwithstanding establishment of INVIERNO in 1975. It is an obvious weakness of this book that it failed to capture the conflict between the management objectives of INVIERNO and the agrarian structure in Nicaragua immediately before the downfall of Somoza Government.

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Green Revolution and the Small Peasant: A Study of Income Distribution among Punjab Cultivators, G. S. Bhalla and G. K. Chadha, Concept Publishing Company, New Delhi-15, 1983. Pp. xiii + 167. Rs. 40.00.

This book is based on a major field survey covering over 1,600 farmers in 180 villages of a single State. Massive input-output details of farm enterprise have been compiled and reasonably well analysed, both according to farm size (six groups) and three main agro-climatic regions of the Punjab, as also their farm and non-farm sources of income, broad composition of household expenditure, saving and investment disposition of the sample farmers during the reference year 1974-75. This would prove a valuable source material for many researchers in social sciences. It may be pointed out that 1974-75 was, rainfallwise, a bad year for better part of India, including Punjab which recorded 37 per cent below its normally low rainfall of the order of 600 mm. per year. This, however, need not disturb any user of the data in this book. For, the Punjab farmer practises farming practically under irrigated conditions; his irrigation sources (private tubewells and canals backed by massive reservoirs) are so dependable as to have insulated him totally against drought. In point of fact, there was no contraction in farm output during 1974-75, though the level attained was 5 per cent below its trend value.

The book consists of six chapters. Chapter 1 provides an overview of the development of the Punjab economy in general and its agricultural development in particular, with an occasional set-off against all-India performance. The growth rate of Punjab agriculture during the 'green revolution' period (about 8 per cent per annum), though decisively higher than that of the pre-HYV period (4.5 per cent per annum), is possibly more in the nature of a continuity in the long run growth than a revolutionary break occurring in a slow-growing farm economy. (Even when one confines oneself to wheat

crop only, a story of continuity in growth emerges: wheat yield rose by about 5 per cent per annum during 1965-77 period compared to 3 per cent rate observed in the pre-green revolution period 1950-1965.) The search for factors and forces behind agricultural upsurge during a period need not be confined to that period only. In this respect, the authors have done well to appraise the reader with what transpired in the pre-HYV phase, irrespective of the room for a difference of opinion on the factors behind the success story of the Punjab. Though the authors offer a wide-ranging sweep of the factors and their interplay, yet a discerning reader must show forbearance in case he does not share the authors' standpoint because this chapter is not an outcome of their field endeavour. For instance, this reviewer has reservation about two irrigation-related observations on p. 11 and p. 15, namely, (1) irrigation expansion in Punjab seems to have reached its saturation limits and (2) institutional finance played a vital role in the explosive growth of private tubewells. (Of the three main rivers of the State, the waters of the Ravi are marginally exploited as yet. Likewise, institutional finance has indeed played a leading role in the development of wells and tubewells in India but this does not hold good for Punjab.)

The sampling design and the organization of the field survey are briefly described in Chapter 2. The survey was linked with the 30th Round of the NSS on Livestock Enterprises conducted during July 1974 to June 1975. The onerous responsibility for field work was entrusted to the Economic and Statistical Organisation of the Punjab Government. Farm households were selected from six farm sizes, using a circular selection method that does not require weights for estimating overall mean values. This chapter also gives the salient parameters of the sample households. The authors attempt to reassure the reader about the reliability of the gathered data. If sample means of operated holdings and crop pattern tally with the corresponding State averages, it is a tribute to the field investigative organization. Respondents are least expected to err on area statistics; the question is of reliability of numbers pertaining to income, cost of cultivation, consumption expenditure, etc., where both genuine errors of memory recall and deliberate attempt to over-state/under-state things may be present. In these days of official pricing on the basis of cost of cultivation data, one has to be wary of field data, however refined may be the methods of gathering such data.

In Chapters 3 to 5 are presented the main survey results, along with valuable tables of data on crop output, yields, inputs, income, consumption, etc., according to six farm categories as well as three agro-climatic regions of the State. Since the authors have already published salient features of their empirical findings in research papers, the reviewer would offer only a few observations. The two leading crops of the green revolution, namely, wheat and rice, have been equally adopted among all farm classes. On the whole, there is some rise in the following parameters as farm size increases: (a) remunerativeness of crop pattern; (b) expenditure on bio-chemical inputs; (c) irrigation facility; (d) overall crop yield; and (e) farm business income.

This pattern is in contrast to the inverse pattern of the pre-HYV farming. If access to irrigation were somehow equalised among farmers, in Punjab at least the gradient effect of the farm size on the other parameters may disappear altogether. Furthermore, a weak inverse relationship may emerge if depreciation charge is also deducted from business income estimates of the authors because this cost rises with farm size. Anyway, the authors rightly conclude that the gains from the new farm technology have accrued in direct proportion to the size of holding. Here, a very pertinent question arises. Is this size-neutral result indicative of either a genuine equality in access to vital inputs of modern farming or, that small farmers do overcome their unequal access through superior supervision of their farm operations, or both? If income inequality is still high, it is mainly because of unequal ownership of land. Without land base being equalised, the authors do not see much prospect for eradication of poverty among the marginal and small peasants.

Chapter 5 is an econometric exploration in analysing household consumption according to farm size. Alternative specifications of the Engel functions have been estimated, yielding broadly comparable values of the expenditure elasticities for fourteen commodity groups. The low elasticity of the order of 0.2 for cereals is both a pointer to the Punjab peasant being well-fed and the importance of grain exports (to the rest of the country) in sustaining the cereal-led growth of Punjab agriculture: while cereal output grew at over 10 per cent per annum between 1965-66 and 1977-78, the corresponding rates for non-cereal crops were low (1 per cent for sugarcane; 0.2 per cent for oilseeds; —1 per cent for pulses); only cotton shows 4 per cent rate which is much below the pre-HYV rate of 7 per cent. In point of fact, the authors found that the cereal consumption level of Punjab peasants during 1974-75 was only 20 per cent below the maximum possible level (vide Table 5.17).

This is a painstaking work. It is a signal contribution to empirical literature on Punjab. It is bound to attract many scholars. The value of its data would rise as it becomes difficult to gather field data in the new climate of politics and deteriorating ethics.

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The Family Rice Bowl: Food and the Domestic Economy in China, Elisabeth Croll, Report No. 82.2, Food Systems Monograph, United Nations Research Institute for Social Development, Geneva, Switzerland, 1982. Pp. xvii + 372.

The book has emerged as a result of the research undertaken by the author in China to study food systems and society. Emphasis has been placed on studying how problems of food security was dealt and solved within China

after 1949. The book concentrates on food system at the household level and includes information based on results of systematic and in depth interviews carried out with Chinese families in two rural and two urban settings. The report deals comprehensively, in simple understandable, and elegant language, the evolution of Chinese food system and the policy issues facing the country today.

The book has seven chapters. The first chapter, "Introduction: Have You Eaten?" thoroughly analyses the factors affecting the food supply, food intake and food choice of households before 1949 and well reasons out the new national strategy planned for developing food resources to attain self-sufficiency in food supply and equitable distribution.

Chapter 2, on "The Porcelain Bowl: Food Consumption in Republican China", gives an account of the most distinctive features of the traditional family food bowl, its composition, regional differences, factors influencing the differences and food resources before 1949, as a background analysis, reasons for evolving new national food strategy. The new strategy aimed at not only to increase food supplies by extending the acreage under cultivation, to increase the yield per acre, and to widen the varieties of grains and non-staple foods available, but also to organize and maximize the use of labour, organic manure and to introduce improved technology. The government also introduced a major policy strategy to reorganize production, bringing a major change in the ownership of the means of production, under which the peasant household was no longer to be the chief unit of production but to be integrated into co-operative farm structure. Along with policies related to production, distribution procedures also got evolved and streamlined. Thus the State directly took nation-wide control of the production and distribution of several key foods both staple and non-staple. The government introduced a national system of rationing and also made arrangements for the accumulation of adequate reserves by communes and teams.

Chapter 3, on "Staple Foods: The Iron Rice Bowl?" examines in detail the effects of this nation-wide strategy on the production and distribution of supplies of staple foods to both urban and rural China, substantiating with facts and figures yearwise. Similarly, Chapters 4 and 5 on Non-staple foods give an account of production, distribution of non-staple supplies to rural households and urban marketing structure of non-staples.

Chapter 6, on "The Rice Bowl and the Family" is concerned with the demands that food policy generates, and make on the material and labour resources of the household. It gives data on pattern of cash expenditures on food items both in urban and rural China. While considering the labour resources, even domestic labour required for cooking and processing have been taken into consideration. This chapter is well illustrated with tables and graphs. The last chapter presents the main findings of the study.

There are two appendices at the end, one reports on an experiment where production, distribution and processing were done at the community level rather than by households; the other on research materials on which the study is based.

On the whole, the author has written an interesting book to well serve the social scientists, economists, anthropologists, nutritionists, agriculturists as also the planners and policy makers of the country. The experiments carried out in a country like China can serve as an example to other developing countries facing with similar problems of population explosion, droughts, etc., to tackle and build up strategies to solve food problems.

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Rural Development—Part I, Edited by C. K. Dalaya, R. R. Sahuraja and M. S. Gupte, College Development Council, University of Bombay, Bombay-32, 1982. Pp. xiv+427, Rs. 25.00.

“Rural Development” became the focal point of Indian planning since the First Five-Year Plan. Since then the major emphasis was on formulation and implementation of different projects and their evaluation by different academic institutions and/or organizations. Recently, the University of Bombay has introduced an optional innovative course of five papers in Rural Development to be taught at the undergraduate level in the faculties of Arts, Science and Commerce. The course has been devised to acquaint the students with varied aspects of rural development. The book under review is an edited collection of articles contributed by eminent teachers on different topics pertaining to Papers I and II. As such, the book contains seven sections.

D. G. Samant in his article, “Teaching of Rural Development in Colleges” emphasizes field work, practicals, frequent visits to villages and preferably long stay with the villagers. On the contrary, C. H. Shah in his article “An Approach to the Study of Rural Development” concerns himself with growth and social justice and feels micro level planning to be imperative. But for micro planning, local initiative often outside the State initiative becomes necessary. However, AMUL, BAIF (Bharatiya Agro-Industries Foundation) and many such organizations provide the model.

The second section deals with the sociological aspects of rural development and contains articles by A. R. Desai, R. R. Sahuraja and S. H. Deshpande. After presenting a brief history of the village, the criteria to classify village aggregates as advanced by eminent sociologists have been discussed by Desai. These are: firstly, the period of transition from man’s nomadic existence to settled village life, *viz.*, (i) the migratory agricultural villages where the people live in fixed abodes only for a few months; (ii) the semi-permanent agricultural villages where the population resides for a few years and then migrates; (iii) the permanent agricultural villages where the settled human aggregates live for generations. Secondly, as grouped (or nucleated) villages and dispersed villages. Thirdly, based on social differen-

tiation, stratification, mobility and land ownership. This includes six broad types, *viz.*, (i) peasant joint owner, (ii) peasant joint tenant, (iii) individual owners including tenants and labourers, (iv) individual farmer tenants, (v) employees of private landowner, and finally (vi) labourers and employees of the State. Similarly, rural and urban social world are distinguished based on differences in occupational, environmental, sizes of the communities, density of population, homogeneity and heterogeneity of the population, social mobility, direction of migration, social differentiation and stratification and differences in the system of social interaction.

The settlement pattern in the village deals with the spatial relations between one dwelling and another, *viz.*, nucleated and non-nucleated settlement. The Baluta system in Maharashtra and Jajmani in North India are basically the same. The basic principle behind the earnings of the Balutedar was his family consumption needs. Thus, the baluta system ensured that every family in the village had a share in the total produce of the village and when the village as a whole produced enough, each one's subsistence was assured. Therefore, life of the people is not exposed to risks of the market under this system but generally it fails to provide incentive for progress or even efficiency.

The third section includes two articles on aspects pertaining to rural administration. The first article contributed by D. M. Muley gives an elaborate account of Rural Development Administration, *viz.*, the Panchayati Raj institutions. After describing the pattern of Panchayati Raj and its present working, the author has explained how the Panchayati Raj institutions are merely agencies or limbs of the government. The second article contributed by P. M. Bandivadekar attempts to highlight the importance of 'leadership' in rural upliftment.

The fourth section attempts to sketch the significant role to be performed by the agents of change in complete transformation of backward rural regions into more developed ones. Education is looked upon as the most important agent of change and the first two articles of this section by A. R. Desai and S. N. Joshi respectively attempt to highlight the role of education, both formal and non-formal, as an agent for rural change. The next article contributed by S. Ramachandran attempts to trace the role of transport and communication in the process of rural development. Sumati R. Mudambi attempts to acquaint the reader with nutrition, health and hygiene, as undernourishment, malnutrition and unhygienic conditions are the basic issues in backward regions. The data presented in Table 5 (p. 182) do not indicate the year and source of information. Indira Ramamoorthy deals extensively with the areas of Community Development and the National Extension Service while Sahuraja has analysed the 'concept' of modernization and the 'areas' of modernization, with special reference to modernization in rural setting.

The fifth section pertains to the nature of organization for the use of local resources. S. Ramchandran deals with land use pattern and lists the factors that determine the regional variation in land use. To achieve maximum returns from every unit of land, she has suggested consolidation of holdings, co-operative farming, elimination of too large size holdings, changes in

cropping pattern, development of irrigation, dry farming technology and development of infrastructure like marketing, transport, etc. This reviewer does not consider co-operative farming as a measure for maximizing farm income while efficient use of existing resources both at existing and improved levels of technologies is also necessary. However, farmers in general are risk averters* rather than small farmers only.

C. K. Dalaya and S. H. Deshpande have thrown light on the need for rural credit and agencies supplying credit. But discussions on classification of credit, types, its role in agriculture and two-tier and three-tier co-operative credit structure would have enhanced the usefulness of the paper on agricultural credit. Besides, on p. 256 the data relating to borrowings from different agencies for 1971-72 could have also been given. As per the recommendation of the Sivaraman Committee, commercial banks also provide consumption credit which is contradicted in the statement given on p. 257. Besides, the District Rural Development Agency through the commercial banks also provides considerable help to the marginal and small farmers and landless labourers. In another article, Deshpande explains the undeveloped nature of and the imperfections in the labour market whereas Ramachandran classifies the different types of labour available in agriculture. Dalaya has thrown light on the nature of market structures, the problems in the areas of agricultural marketing, factors affecting marketing costs, the marketing malpractices and has analysed the role of regulated marketing organization, co-operative marketing societies as well as that of the State agency. As such, some more refinements are essential to this section including agricultural credit and marketing aspects.

Section six is devoted to production economics. S. D. Sawant discusses factor-product, factor-factor and product-product relationships. She also presents briefly the cost concepts and uncertainty in agriculture. As such, this section needs much more refinements. On p. 311 while discussing the factor-product relationship, the author separates the first stage from the second at the point of inflection on the total product (T.P.) curve. In fact, it is at the point where average product curve is maximum rather than marginal product curve (inflection point on T.P.). Tabular, algebraic and graphical presentation of these concepts would have enabled the students to understand better.

The last section deals with certain important aspects of soil management and farm accounts. Sahuraja in his paper has thrown light on different types of soil, soil erosion, fertility depletion and soil conservation and varied aspects associated with the nature and application of fertilizers and manures. The collection of soil sample, soil pH in order to find out the extent of acidity or alkalinity in soil as well as determination of available N, P and K has been discussed by S. S. Naik. Similarly, irrigation and cultural practices are discussed by M. S. Gupte while Gobar gas plant including economic and social

* For more details, see I. J. Singh, "Utility Approach to the Analysis of Risky Farm Decisions", *Indian Journal of Agricultural Economics*, Vol. XXXIV, No. 1, January-March 1979, pp. 68-78; U. K. Pandey and I. J. Singh, "Risk and Credit Management in Changing Agriculture", *Indian Co-operative Review*, Vol. 19, No. 1, October 1981, pp. 91-110.

benefits together with technical and socio-economic problems by Sahuraja. At the end S. G. Deshpande deals with farm accounts.

The book nowhere deals with the practical aspects of the course. Besides, questions for exercise and references are also missing at the end of each chapter. On the whole, the authors have made a good attempt to provide the literature on various aspects of rural development to the students in a capsule.

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Management in Rural Development, D. K. Desai, CMA Monograph No. 101, Indian Institute of Management, Ahmedabad-15; Oxford and IBH Publishing Co., New Delhi-28, 1983. Pp. xvi+141. Rs. 52.00.

The emphasis on Research in Rural Development for the weaker sections gained momentum after 1970 and since then a number of research institutions and social scientists have been engaged in conducting studies on poverty and unemployment. The debate was initially centred round the concept and definition of poverty, and scientists from various disciplines attempted to conceptualise poverty. During this period, the Government also realised that although at the macro level some progress had been achieved, the benefits have not reached the weaker sections. Some specific target group and area development programmes were launched, thus activating the avenues of research from conceptualisation to the merits and demerits of area planning and the evaluation of the various programmes launched for the upliftment of weaker sections.

Like many other institutions, the Centre for Management in agriculture (CMA), Indian Institute of Management, Ahmedabad also widened the scope of research to include the problems of rural development for rural poor instead of rural development *per se*. From 1971 onwards, therefore, a number of studies were conducted on the problems of measurement of poverty and assessment of the number of people below the poverty line. The book under review discusses the issues studied by the CMA under its various research projects and seminars on Management in Rural Development. The author is not content merely with reporting the studies only but has also freely aired his views on merits and limitations of the studies conducted.

The CMA organized two seminars and completed a number of studies on area planning and evaluation of various programmes of the Government. The Seminar on 'Rural Development for Weaker Sections' examined the problems, programmes and their policy implications for the weaker sections. The papers contributed by the participants covered a wide spectrum of the issues of the weaker sections. The group recommended specific programmes for improving the economic conditions of the weaker sections. The seminar on the problems faced in the programme of Small Farmers Development

Agencies (SPDAs) brought together academicians and bureaucrats. The papers highlighted some experiences and indicated that the SFDA's capacity to generate the required steam for small farmers was doubtful.

In addition to organizing these seminars, the CMA conducted a number of research studies. The studies on the Farmers Service Societies, Intensive Rural Employment Project, Management of Drought-Prone Area Programme were in the nature of evaluation of the programmes of Government. These studies highlighted the negligible impact of these schemes. The study on Area Planning: Precepts and Practices gives an insight into the academic literature on the logic and methodology of area planning. There are a number of other studies but this reviewer would pick up two, not because the others are not important, but these make significant contributions on the subject.

The study on Rural Development Administration under Democratic Decentralisation developed some very useful indicators for measuring the performance of the programmes for rural development. Interestingly, the study found that very few 'doing' tasks are performed by functionaries at the district level and below. It is easy to generalise this finding for other areas and no doubt this is the main reason for the limited impact of the programmes for rural development. One wonders in a situation like this, will we ever be able to implement successfully even the well conceived programmes.

The Dharampur project was undertaken as part of an action research programme for a period of five years and in this sense is different from other studies undertaken by the CMA and other institutions. As the author states: "For the first time a research institution had ventured to undertake a study with an action plan and attempted to motivate the Government agencies to implement the action plan after due modifications, if necessary." A well designed plan of action was prepared. The group involved in the study motivated the Government to implement the plan and the research group volunteered to associate itself with the implementing agency and to help it in monitoring the plan.

The CMA, therefore, has made a meaningful contribution in the field and although many institutions are conducting research studies on the subject, the task completed by the CMA is praiseworthy. The book also makes a lucid reading since it is full of views of the author with which there could be differences of opinion. The author argues that the rural development activities should be demand-based and not need-based. While it is true, to extend this logic and infer that all the programmes launched for rural poor have been totally ineffective due to this, is too far fetched. The programmes like the SFDA have been able to raise the standards of living of the target groups, though falling much short of expectations. What is most important, as brought out by some of the CMA studies too, is that the implementation of the programme, whether demand-based or need-based, should be improved drastically.

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Renewable Resources in the Pacific: Proceedings of the 12th Pacific Trade and Development Conference, held in Vancouver, Canada, 7-11 September 1981, Edited by H. E. English and Anthony Scott, International Development Research Centre, Ottawa, Canada, 1982. Pp. 293. \$ 15.00.

The contents of the book are organized and presented in five sections, namely, General Studies, Forestry Case Studies, Fisheries Case Studies, Renewable Substitutes for Fossil Fuels, and Policy Issues. Conference summary is presented in a separate chapter at the end of the book.

The General Studies section contains six papers and discussions thereon. The papers deal with various aspects of the forest and fisheries resources in the Pacific area. Anthony Scott's paper on forestry provides a comprehensive survey of factors affecting the utilization and management of forest products in international markets. The author raises a number of issues that are basic to the development of a forest economy and singles out the policy options that are available and spells out their effects. But curiously, he does not use any analytic models to come to grips with the questions of how to optimize the use or development of forests and their produce. Nor does he consider the social benefits of forestry such as fuel, fodder, shade, wind-break, etc., in his analysis. On the whole, however, the paper is very interesting and informative and makes the reader feel confident at the end about various technical and economic aspects of development of forest lands.

Parzival Copes' paper on ocean fish resources examines the consequences of a new international fisheries regime based on coastal state control of 200-mile fishing zone that came into effect in 1977. The author asserts that whereas the new legal zone has created opportunities for improved use and conservation of the ocean fish resources, much remains to be done in developing national management systems that are socio-economically rational and administratively effective. He further contends that the new zone has created new problems of boundary determination and transboundary stock management and argues for establishing an international management authority with some powers of sanction to bring an effective discipline to fishing on the remaining high seas. Like Scott, he also does not use any analytic models for dealing with the problems of optimization of ocean fish resources.

Biing-Hwan Lin *et al.* in their paper examine the effects of new exclusive economic zones, changes in exchange rates, higher fuel costs and changes in the price of alternative protein food on trade and investment in fisheries. Their country-by-country examination of fish trade in 15 Pacific area countries is informative. Their econometric models do not, however, attempt to identify the distortions and magnitude of their effects in the fishery market, nor is the effect of new fishing zones dealt with in the models.

K. L. Aird and W.A.J. Calow review the trends and issues in Pacific trade and development of forest products. They contend that four related factors, namely, oil price increases, increase in manufacturing costs, escalation of capital costs of minimum economic plant size and reduced availability of other sources of low cost timber, have primarily influenced the recent growth in

forest products trade and investment. These factors, in their opinion, call for further restructuring of forest product trade and investment by regulation of export of raw timber and by increased domestic processing of indigenous timber. The authors do not, however, examine the overall long-term demand outlook for forest products, the long-term supply of wood, and the most efficient utilization of wood.

Sueo Sekiguchi analyses thoroughly the principal renewable resources issues from the resource-poor countries' point of view. He indicates the special characteristics of renewable resources, the question of trade and location of processing facilities arising from those characteristics and the ensuing policy options. His analysis might have, however, been more illuminating if he had made a clearer distinction between the "mining" and "farming" phases of renewable resource exploitation.

Jan. J. Solecki presents a snap appraisal of the forests, oil, natural gas, and hydropower resources of the Eastern U.S.S.R. where 85 per cent of the nation's total fuel and energy resources are located. He asserts that, with changes in transportation, those resources are being exploited and expects the Soviet participation in the Pacific-rim markets to increase in the near future.

The section on Forest Case Studies contains four case studies and discussions thereon. Roger A. Sedjo describes the forest project flows within the Pacific basin, discusses the transition from old-growth to plantation forests and summarises the results of another study that examines the comparative economic potential of plantations in several locations within the Pacific basin. David R. Darr presents a critical review of timberlands in the Pacific northwest area and concludes that because of its large inventory of high quality old-growth timber, the area has been in a unique position to respond to demand for timber in Japan during the past two decades. A.T. Birowo in his paper describes the forestry resource base, production pattern, and export economy in Indonesia, assesses the implications of trade on forestry development, and discusses investment prospects in forestry. Francis K. Chan examines the experience of Malaysia in tree-crop cultivation before and after the formation of the Federation of Malaysia in 1963.

There are six case studies and discussions thereon presented in the Fisheries Case Studies section. R. L. Stokes examines the economic future of Alaska groundfish under extended jurisdiction and discusses possible alternative management schemes for the development of a groundfish industry in Alaska. David G. Moloney briefly traces the history of Canadian regulation of Pacific fisheries and stresses the importance of government recognizing the crucial links—biological, economic, and international—if they are to improve the management of their fish stocks. David J. Doulman in his paper addresses some of the trade and development constraints associated with an orderly and rational expansion of Skipjack Tuna fishery of the central and western Pacific ocean. His description and analysis of the fishery is both informative and thought provoking. Teruji Sakiyama presents a critical review of the South China Sea fisheries from a statistical point of view. His paper mainly deals with the fish catch and its economic and physical aspects. C. C. Wallace

evaluates the role of joint ventures and foreign fleets in the Squid fishery in New Zealand and concludes that the foreign fleet's operations contribute more in direct benefits than do joint ventures but the comparison is extremely sensitive to the institutional framework that governs the operations. Kamphol Adulavidhaya and Thanwa Jitsanguan present a specific case study analysing the social cost-benefit ratios for coastal shrimp cultivation by Thailand. They suggest that coastal shrimp farming be promoted through appropriate policies.

The section on Renewable Substitutes for Fossil Fuels contains three papers, each followed by a discussion. Ben Smith and Hugh Saddler examine, using a theoretical framework, the substitution of non-exhaustible resources for fossil fuels. The HoeSung Lee and Jee Dong Kim paper complements the Smith and Saddler paper to some extent by focusing on the prospects of the development of renewable energy resources in an energy poor country—South Korea. The Li Guong-on and Luo Yuanzheng paper contains a pragmatic assessment of the current energy situation in the People's Republic of China and indicates the path of the expected future developments.

The last section of the book is devoted to the discussion of various policy issues in the use and management of renewable resources in the Pacific area. There are three papers, each followed by a discussion, presented in this section. K. Takeuchi analyses cost data for plywood production at various locations, policy measures affecting locations of these industries and discusses policy options for log-producing developing countries. Gordon R. Munro examines the prospects of co-operative fisheries arrangements between Pacific coastal states and distant-water nations. The Ross Garnaut paper blends basic economic theory about resource rent with an exposition of the principles of fiscal analysis and fiscal structure application to the collection of such rents.

To sum up, the book contains a lot of valuable information about the availability, trade, and development of forests, fisheries, and renewable energy resources in the Pacific area. Resource economists, policy makers, planners, and other persons and agencies interested in those resources would find the book very handy and useful. Those of the interested readers who do not have sufficient time for reading the book or any of the papers from cover to cover may benefit by having a cursory look at the extracts that precede the papers and the discussions that follow the papers.

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Serving Small Farmers: A Study of the Small Farmers' Service Co-operative Society, Bidadi, V. R. Gaikwad and D. S. Parmar, CMA Monograph No. 94, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad-15, 1983. Pp. xi+176.

This book which is a study of one Farmers' Service Co-operative Society (FSS) in Karnataka, has been introduced as "a meticulous case study." And meticulous it is with 79 pages, out of the 163 pages of text, devoted to a detailed

analysis of the establishment and development of the Farmers' Service Society at Bidadi in Bangalore district. Added to this, is an appendix which lists the minutes of the meetings of the Board of Directors of the FSS from September 1976 to April 1978. The study relates to the formative years of the Society which was established in 1973.

In the introductory chapter, the authors have provided an overview of the peasant economy in India, tracing the efforts made at various stages to institutionalise rural credit through the multi-agency approach. After referring to the findings and suggestions of some of the Committees which have looked into the rural credit scene, the coverage and performance of credit agencies are examined (pp. 14 to 23). However, the analysis is confined only to the co-operative credit agencies and no mention of other credit agencies is made. Secondly, the data compiled are a little outdated as they relate to 1976-77. As the book was published in 1983, possibly some more recent data could have been used. Nevertheless, some very interesting inferences are drawn and a few pertinent questions have been raised. Some of the revelations raise genuine doubts about the efficiency of the whole co-operative credit system. The most disheartening is about the defaults. Out of the 21 million borrowers of the primary agricultural co-operative societies (PACSSs), 11 million borrowers are defaulters. Secondly, of the 45 million members of PACSSs, the non-borrowers are over 60 per cent. The effective coverage of the members therefore is of a very small magnitude. Thirdly, about 45 per cent of the PACSSs are not able to generate profits. Fourthly, the non-institutional sector accounts for 65 per cent of the borrowings of the farmers. Fifthly, overdues are as high as 43 per cent of the total outstanding credit. After over six decades of experimentation with the refinements of the co-operative credit structure, we obtain a dismal picture of an ineffective system. The Datey Committee which has examined the co-operative system has categorically stated that overdues have been the bane of co-operative societies. The commercial banks which have entered the rural credit scene in recent years are also facing this problem in an increasing measure.

The authors have raised many important questions though they have not attempted to answer them. One of them is: "Is it possible that if a certain default rate is inherent in Indian agriculture, the institutions have to bear it as a social loss?" Taking this question further, it is asked: "Can default be considered as marginal social cost to keep the peasant producing necessary agricultural commodities?" (p. 24). Considering the inevitability of yield uncertainty in Indian agriculture, there is no doubt about the need for institutionalising the loss incurred by the farmers. However, the modalities of this arrangement have to be given considerable thought, specially because of the organizational and financial implications. The credit agencies—co-operative or commercial—alone cannot bear the burden of this 'social cost'. A highly subsidised crop insurance scheme is perhaps the only ideal solution. There is also a need to examine in detail the growing default ratio which baffles the co-operatives as well as banks. Crop failure, though a major factor, does not fully explain the causes for default. The wilful default is the villain of the

piece and it is this which is increasing along with the increase in credit disbursements. The supportive steps of the credit agencies like the rescheduling of repayments, or interest rate reduction have very little impact on this ratio. It is desirable to have a national level debate on this issue.

In the second chapter, the recommendations made by the National Commission on Agriculture (NCA) relating to the formation of FSS are profusely quoted. The uniqueness of the FSS, asserted the NCA, "lies in the total responsibility it assumes for agro-rural development and the requirements for the operations of all its members, including small and marginal farmers and local artisans." Thus, besides extending medium and long-term loans, the FSS would supply inputs and services at reasonable prices so that credit gets converted into inputs. As the FSS has to cater to the needs of artisans and entrepreneurs of rural industries, it is not expected to restrict itself to land-based activities.

In Chapter 3, the details of the establishment of the Farmers' Service Society at Bidadi, its objectives, area of operation, the constitution of the Board of Directors, membership and coverage are furnished in the first part. As many as 16 objectives are listed in the bye-laws of the Society. Almost all the possible activities, which are necessary for the development of the rural economy and also to help the small and marginal farmers and agricultural labourers have been included within the purview of the FSS. About the Board of Directors, it is said that the first Board of Directors was nominated by the Registrar of Co-operative Societies in consultation with the financing bank. Initially, the term of the Board was for three years from 1973 to 1976. It was again extended by the Registrar till December 1980. Regarding the participation of the directors in the Board meetings, it is said that the Government officials nominated to the Board have been less serious about attending the meetings than those nominated under 'selected' category (p. 51). An analysis of the minutes of the meetings of the Board of Directors during the first 18 months reveals that many of the decisions are in the nature of requests either to the State Government or to the sponsoring bank for financial or non-financial support (p. 52). Analysing the minutes further, the authors find fault with the society for not having any short-term or medium-term plans before it. It would be perhaps too much to expect the FSS to formulate a medium-term plan within the first two years of its operation and specially when its jurisdiction was drastically reduced during this period by the State Government. It may be added here that perhaps none of the branches of the commercial banks also has a medium-term plan and all that they have is annual performance budget exercise.

The performance of the FSS during the period 1973 to 1978 is then examined in greater detail using the relevant data. During the first five years of its existence, the FSS has lent a total amount of Rs. 36.65 lakhs as short-term loan. This is certainly not a small achievement when compared with the performance of any rural branch of either the regional rural bank or the commercial bank in the early stages of branch expansion. In a footnote, it is mentioned that in its area of operation, the FSS is not the only financial insti-

tution extending credit to farmers but also there are branches of other commercial banks and co-operative societies extending credit facilities (p. 66.)

The recovery performance of the FSS, however, has been deteriorating consistently with the increase in the total advances made. The recovery percentage has declined from 73 in the first year to 23 in the fifth year. The authors have not gone deep into this disturbing factor but have quoted an official statement of 1979 which states that "Due to erratic rainfall for the past two years, the recovery performance of the society has been none too satisfactory" (p. 63.) Hiring of tractors to farmers is one of the functions handled by the FSS which has resulted in considerable losses. This is an interesting observation. The small and marginal farmers who cannot afford to have tractors have to hire them for their farm operations. And if the tractor hiring business turns out to be uneconomical to the FSS, then it raises a basic question as to who else would be able to provide this service at a moderate price. The cause for the loss has been attributed to the high taxation and heavy repairs, quoting again an undisclosed official statement (p. 69). The summary of the profit and loss accounts for the five years reveals that the society has been incurring losses during all the years except in 1974-75. It may be noted here that even after making a trading business of over Rs. 40 lakhs, the society could not generate enough surplus to wipe out the losses incurred.

It is quite interesting to note that despite its financial losses, the FSS has been able to implement certain innovative programmes in its area of operation. The joint collaborative farming in two villages and the propagation of high-yielding variety programme within the area of a lift-irrigation scheme and also demonstration programme for the improved variety of groundnut are the important innovations introduced by the FSS. The details of these programmes are furnished in Chapter 4.

The chronological growth of block demonstration experiment in one of the villages makes an interesting reading. After conducting the bench-mark survey of the village, night meetings were held at the village school premises to educate the farmers about the need for adopting the high-yielding variety and the package of inputs. The experiment was very successful as it was possible for the pooled land of 15.20 acres to be cultivated as a single unit instead of 35 separate units. Inputs were provided by the FSS when needed and it was also possible for the society to recover its loan immediately after the harvest. It is somewhat fascinating to note that the collaborative farming experiment could succeed even though the land distribution among the participants was skewed and that they belonged to different communities. The success of this programme can be judged from the increase in the average yield which went up from 1,110 kg. to 2,000 kg. Correspondingly, there has been an increase in the per acre income of the participant farmers. The authors have concluded that the collaboration for an economic, production-oriented programme would be effective if the knowledge is transferred to the group as a whole and not to one or two persons, so that the individual member would continue his economic operations in future without depending upon other members, if necessary (p. 129).

In the final chapter, on reflections and recommendations, the authors have listed some of the areas, which should be considered for the successful functioning of the FSS. They have pleaded that the FSS must explore all possible opportunities to improve the economic conditions and the quality of life of its members, besides undertaking its routine functions. It is suggested that the society has to make efforts in the area of occupational mobility and for promotion of better cultural life. Though these are indeed very laudable ideals, it will be perhaps too much to expect from this single institution to bring about these changes. Even in the case of some other societies, which have achieved much better financial results, their contribution in this direction has been very little. The authors have also emphasized the need for paying attention to planning, both short-term and medium-term. It is a moot point whether the directors of the FSS would be able to contribute to the planning process. Similarly, it will be somewhat difficult to expect the Managing Director to prepare any operationally useful plan unless he is supported by the technically qualified personnel. Perhaps the financing bank in collaboration with the district administration can prepare such a plan based on the District Credit Plan prepared by the Lead Bank. This is no doubt a very important area and some thinking has to be done on the modalities of preparing the plan for the FSS. It would be desirable that the individual farm plans and also plans for non-agricultural families have to be prepared at the village level.

The authors have rightly suggested that the FSS must strengthen its organization as the present organization cannot cope up with the additional functions which the FSS has to undertake. Professionalisation of the staff of the FSS is an imperative need in the process of making the FSS effective. The suggestion for the creation of a cadre of FSS Managers is very appropriate. However, the cost angle cannot be assumed away in this process. The State Government has to bear the cost of training and providing the services of technical personnel.

While summing up, they have suggested that the proper perspective must be developed at the national level for improving the effectiveness of the FSS, taking into consideration the huge administrative and managerial cost of the programmes. They have been emphatic in stressing two pre-requisites for the success of any rural development programme aiming at the target group of marginal farmers and agricultural labourers. Firstly, the programmes must be capable of increasing the net income of the rural people. Secondly, an agency for risk coverage has to be set up to generate a sense of confidence among the farmers for optimum investments.

A passing reference may be made to a minor flaw in the presentation of the time-series data in a narrative form. For example, "The average amount of loan increased from Rs. 427 in 1973 to Rs. 813 in 1974, Rs. 1,349 in 1975 Rs. 1,676 in 1976, and Rs. 2,147 in 1977, *i.e.*, in the ratio of 1:2:3:4:5" (p. 60). This type of narration is repeated in the book quite a few times (pp. 62, 63, 68, 69, 86, 87 and 124). A simple tabular presentation would have been more effective.

On the whole, the book is a very valuable addition to the study of one of the rural development agencies. Practically, very few studies have been made so far in such a detailed manner about the FSS. For those, like the reviewer, who have faith in the FSS as an effective tool of rural development, this book provides convincing proof and also enough food for thought. More of such studies are needed to improve our knowledge about the functioning of FSS sponsored by the co-operatives and commercial banks in different States where the co-operative systems and the economic conditions are different.

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Government Interventions in Foodgrain Markets: Procurement and Public Distribution of Foodgrains in India, P. S. George, CMA Monograph No. 100, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad-15, 1983. Pp. xii + 240.

Forced by either political or genuine income distributional considerations, governments in many developing countries intervene in order to segregate the foodgrain market into a concessional market and a commercial market. The need to provide cheap food for the poor, and to ensure remunerative prices to the producers led to complex systems of forced deliveries and consumer food subsidies. The book under review aims to "analyse the experience of public distribution system of foodgrains in India, particularly the procurement and distribution operations, and their impact on various elements of the system" (p. 6).

To begin with, the author reviews the trends in agricultural production and consumption (Chapter 2), followed by trends in procurement (Chapter 3). The treatment in both the chapters is descriptive with extensive quotations from the Reports of the Foodgrain Policy Committees. Fairly critical reviews of India's food policy for the more recent period are now available elsewhere.

The rest of the book deals with food distribution at the all-India level (Chapter 4), followed by two case studies of Kerala (Chapter 5) and Gujarat (Chapter 6). The all-India level discussion is focussed on seasonal and regional variations in offtake, and their relationship with wholesale and issue prices. The author finds the offtake of ration of wheat to be positively correlated with the difference between the open market price and the issue (ration) price. Since the same hypothesis could not be established for rice, the author infers that supply factors may have influenced rice offtake more than demand factors.

The best part of the book is the one that deals with the case study of Kerala, which is regarded as a 'model' State from the viewpoint of public distribution system (PDS). The author estimates separately equations

for procurement and for ration offtake for rice and wheat. To the extent the quantities produced, procured and issued through PDS and the relevant prices and stocks constitute an interdependent system, the author's estimates of coefficients based on single equation approach suffer from simultaneity bias. The author then attempts to estimate the impact of rationing on consumption levels of low income groups, distribution of the gains to producers and consumers, and the overall effects on income distribution. Before one accepts these findings, the author's methodology (quoted below) needs careful scrutiny: "In the absence of a complete demand inter-relationship matrix for each income group, the impact of rationing on the consumption levels of rice for each group of consumers was determined on the basis of their actual expenditure on rice. For this purpose, it was assumed that the consumers followed a decision process in which the total expenditure on rice was first determined and then the quantities were adjusted according to price changes" (p. 136). The assumption of "fixed expenditure for rice" was adopted essentially to counter the basic difficulty posed by the absence of demand functions under totally free market regime for different income classes. Yet this assumption renders the measurement of the true impact of rationing difficult because it rules out food budget adjustments in response to price changes. Furthermore, such an assumption may be valid if either there are no quantity restrictions on the amount bought in the ration market, or that the rations supplied fully meet the demands of households. Table 5.13 on p. 134 shows that both these assumptions are wrong, and that the rationed food is in fact being supplemented by purchases from the free market, in which case the PDS has only an income effect, and no substitution effect. The effect of rationing, as the author rightly points out, is similar to an increase in realised income. But the rise in realised income following rationing would cause the demand schedule to shift rightwards. Thus, conceptually, the demand schedules before and after rationing must be different, and there are no reasons to believe that the food expenditure by households would remain the same in both the situations.

An exactly analogous problem arises while estimating the losses/gains to the producers. The farm level prices when a levy scheme is in operation are used for estimating the loss in farm income (Table 5.26, p. 163). An accurate estimate of the loss in farm income would require comparison of the situation when levy is in force with the (hypothetical) situation of free market prices without levies.

I recognize the empirical difficulties in tracing the hypothetical demand schedules but the author should have at least clarified the theoretical issues and cautioned the unwary reader about the limitations of his own approach.

In view of the above, the author's main finding that "when rationing is removed, its combined effects on the producers and consumers in the state under both the situations mentioned here will lead to *overall loss*." (p. 144; emphasis added by me) needs to be interpreted with caution. In other words, according to this study, when one moves from a free market situation

to an intervention situation, *everybody* gains and there are no efficiency (welfare) losses whatsoever. This finding runs counter to the basic neoclassical postulate, *viz.*, social economic efficiency measured as the sum of producer and consumer surpluses must decrease with government intervention.¹

Despite these problems in measurement and interpretation, the author's case study of Kerala is extremely interesting and contains useful discussion of various issues pertaining to Kerala's rationing. No one would disagree with the author's finding that Kerala substantially benefited from rationing, and that it resulted in redistribution of income in favour of the poor in that State. However, the operations of procurement, distribution and pricing have a macro dimension touching upon the welfare of the poor producers and consumers in States other than Kerala.² For instance, the levy-cum-procurement scheme in the so-called surplus State of Andhra Pradesh, which supplied large quantities of rice for the PDS, led to sharp rise in free market prices faced by the very poor tribal populations in the chronically deficit districts of the same State.³ One wonders whether the much-publicised success story of the PDS in Kerala is at the expense of the very poor in other States.

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Water Use Efficiency in Agriculture, S. Giriappa, Institute for Social and Economic Change, Bangalore; Oxford & IBH Publishing Co., New Delhi-1, 1983. Pp. xii+99. Rs. 35.00.

The book is the outcome of the field study in the Bhavanisagar Command Area in Tamil Nadu with the support of the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India. It is divided into five chapters: Water Environment, Water Resources Availability and Use, Water Use in a Command Area, Water Use Efficiency at the Micro Level, and Water and Development.

Large irrigation systems are very complex. They are public systems intended for supplying a vital input over large geographical areas with varying soil conditions. The users of this input are numerous and dispersed over the command area and taking their own decisions regarding crops grown. They have different resource endowments. Their objectives are quite different from that of the authority which operates the system.

1. For an illustration of this proposition in the context of Indian foodgrain market intervention, see Y. Hayami, K. Subbarao and K. Otsuka, "Efficiency and Equity in the Producer Levy of India", *American Journal of Agricultural Economics*, Vol. 64, No. 4, November 1982.

2. For this reason, Davis cautions that subsidies with a substantial macro-economic impact precludes the standard partial equilibrium analysis. (J. M. Davis, "The Fiscal Role of Food Subsidy Programs", *IMF Staff Papers*, Vol. XXIV, No. 1, March 1977.) For a general equilibrium analysis of food subsidies, see A. de Janvry and K. Subbarao, "Agricultural Price Policy and Income Distribution in India", Giannini Foundation of Agricultural Economics, University of California, Berkeley, California, U.S.A., 1983 (mimeo.).

3. See K. Subbarao, "What is a 'Surplus' State? Public Distribution of Rice in Andhra Pradesh", *Artha Vijnana*, Vol. XXII, No. 1, March 1980.

Efficiency of water use is an important aspect in the management of irrigation systems. The book under review attempts to address this question. Addressing this question requires the coverage of engineering, agricultural, economic and social aspects. Proper measurements are needed as to the extent of water supplied at various points of the system, water requirements of the crops and the disparities in water availability at various portions of the system. Further, efficiencies must be formulated in the context of the objectives of the irrigation system. If the system is intended to irrigate, say, X ha. of land in season A, and ends up irrigating $\frac{X}{3}$ ha. of land covered with a high water consuming crop, it would be wrong to call it efficient on the ground that water supplied at the field was only 10 per cent above the requirements of the crops.

The questions to ask would be: Did the system supply the designated discharges at every outlet as envisaged? How does the quantum of water supplied at the outlet compare with what was planned? Given the supply at the outlet, how much reached the fields, and how much went down the drain? Did this water reach all the areas intended to be irrigated? Or was it all taken up by the head-enders? These are difficult questions to answer. We do not have the required data. All the same, an attempt should at least be made in this direction. To that extent Giriappa has contributed.

However, there seems to be lack of clarity regarding both technical and economic issues. The following excerpt from the book is an example of this. "If there is any loss in conveyance, application and distribution of water, it should occur mainly in paddy fields, which necessitates proper consolidation and bunding of the fields. In short, proper application and use of water in the low duty crops, seems to be a major factor to improve the rate of efficiency. For most of the other crops, inefficiency may not occur in the actual use but more by water losses in the process of application" (p. 43).

I would hesitate to recommend the book to students who have just started working in the subject.

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Tribal Unrest and Forestry Management in Bihar, Ranjit Gupta, Prava Banerji and Amar Guleria, CMA Monograph No. 98, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, 1981. Pp. ix+89. Rs. 75.00.

The volume under review is sleek but very rich in content. The central concern of the study is an understanding of the impact of decentralisation of Minor Forest Produce (MFP) trade on the tribals of Bihar. The MFP produce comprises bamboo, *kendu* (bidi) leaves and *mahua*, *kusum*, *karanj* and sal seeds. The MFP contributes about 35 per cent of the State's revenue from forest. The State of Bihar took these products under its control during

1973-78. The following questions have been formulated by the authors of this volume about MFP trade take-over:

- (i) Why did the tribals react so violently to the State take-over of MFP trade when apparently it was intended to benefit them?
- (ii) If State take-over of MFP trade in Gujarat, Madhya Pradesh and Maharashtra did not lead to any tribal uprising, why did it happen in Bihar?
- (iii) Did it happen because of inadequate preparations or weaknesses in the apparatus entrusted with the work?
- (iv) Or, is forestry management in Bihar, inherently more difficult, demanding not merely management of forest resources but, more importantly, management of social, political, and human relations?
- (v) What are these relations?
- (vi) What is the problem, its nature, and genesis?

These questions are formulated for having an understanding of the nature and causes of unrest in recent years among the tribals of Bihar. Naturally, the authors of this volume argue that the dominant causality is economic (MFP trade take-over) rather than political and ideological. The present study covers seven districts of Chhota Nagpur division and the Santhal Parganas district. However, two more districts have been added, one to Chhota Nagpur and another to Santhal Parganas after the completion of this study. The book provides the details about various tribes, namely, Santhal, Oraon, Munda and Ho. The other tribes, namely, Kharia, Pabaria, Kurwa, Khullu, Bija, Birhor, Gond, Mahbali and Asur are not numerically preponderant and politically influential. Santhal, Oraon, Munda, and Ho constitute about 80 per cent of the total tribal population of the State.

Forest officials and forest contractors, the affected tribals and the revenue and development officials involved in MFP trade take-over were interviewed. The incident of firing in 1978 at Simdega was also studied. The study reveals that MFP trade take-over affected the institution. Most social issues are discussed and settled at hats. Besides the tribals, the merchants were also critical of the MFP trade take-over and of the way it was handled by the forest department. However, forest officials did not criticise the step. It is observed that the tribals criticised the conversion of forest wealth into industrial products, hence rejected a commercial civilisation. Forests provided a collective life to the tribals, and this was being denied to them by taking away food, firewood, fodder and housing which they received from forests. Forest department is considered by the Adivasis as their enemy number one.

In Chapter 5 on "The Growth and Direction of Tribal Unrest", the authors have given a resume of the tribal revolts over the past 300 years in the Chhota Nagpur division and the Santhal Parganas district. They accept the hypothesis—"from ethnicity to regionalism" as advanced by K. S. Singh. The account of events of tribal unrest is quite sketchy and it has several loose

ends. Agrarian issues have not been specially focussed as central to the tribal uprisings. After Birsa's two uprisings between 1895-1900 there was a lull for about 15 years. Birsa's movements covered all aspects of the Adivasis. These uprisings were against Hindu Zamindars, Bengal moneylenders and the British Raj. These aimed at restoration of the autonomy of the Adivasis and their control over the forests. They emphasized on restoration of aboriginality and reforms among the tribals. Religious, ritualistic, political and some popular means were used in these movements by Birsa Munda.

Tribal movements today owe their origin to the reform movement started in the second decade of the present century under the banner of *Unnati Samaj*. Its major aim was to lift the Adivasis from the traditional bonds of their religion, culture and customs. In 1938 the *Unnati Samaj* was replaced by *Adivasi Mahasabha* which converted itself into Jharkhand party in 1950. Since the early seventies there have been at least four different Jharkhand parties in Bihar alone. The leaders of these parties today have their followers mainly among the tribes to which they belong. The demand for a separate State of Jharkhand is common to all these parties. All of them accept that they are exploited by outsiders (*dikkus*) who are mainly people from north Bihar. However, these parties and their leaders have not been able to come together so far to fight for a common cause and against their common *dikkus*.

The book under review provides an excellent overview of the relationship between tribal economy, State intervention and unrest. A specific issue, namely, MFP trade take-over has been studied in depth, and its consequences have been highlighted. However, the role of tribal leadership has not been adequately analysed. The positive aspects of MFP trade take-over have also not received proper attention from the authors. Despite these minor points, the book would prove to be a very useful addition to our understanding of the recent situations and factors of unrest among the tribes of Bihar.

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Agricultural and Rural Development in Indonesia, Edited by Gary E. Hansen, Westview Special Studies in Social, Political, and Economic Development, Westview Press, Inc., Boulder, Colorado, U.S.A., 1981. Pp. xiv+312. \$ 28.00. (Distributors: Bowker Publishing Company, Epping, Essex, England.)

Over three thousand islands distributed along the equator across three thousand miles is an enigmatic conglomeration to be conceived as unified national economy. But that is Indonesia. Its economy, however, is concentrated in four central islands of Kalimantan, Sulawesi, Sumatra and Java, which together account for nearly 70 per cent of the country's land area. Even among these four islands, Java is central to Indonesia's agricultural

economy, which with only 6 per cent of the total land area accounts for 75 per cent of the country's total crop production and from 80 to 90 per cent of crops like sweet potatoes, cassava, soyabeans and all of its sugar production. While 70 per cent of Java's land area is cultivated, the percentage of cultivated area for the other islands forms 4 to 6 per cent. It is this concentration of economic activities and population on the island of Java that makes a study of Indonesia's rural and/or agricultural problem mainly a study in Java. This is well reflected in this publication.

The publication under review is a collection of essays grouped under eight headings, *viz.*, Policy Dimensions, Green Revolution, Employment and Income Distribution, Village Dynamics, Rural Institutions, Migration, Household Economy and Resource Management. Examining the policy dimensions, C. Peter Timmer points out that the urban-biased industrialisation strategy did not generate adequate linkages with the rural sector and that the under-capitalised agricultural sector does not enjoy favourable terms of trade with the industrial sector, resulting in widening rural-urban disparity. Touching on the small farmer sector it is shown that the primary motive of public policy has been to regulate trade and market factors in such a way as to depress the price of rice for shielding the urban consumers from the effects of inflation. Timmer concluded that the policy was a self-defeating process of government intervention as the agricultural production did not look up.

The second essay under this heading deals with a more complex policy issue, namely, agricultural taxation. The author (Anne Booth) indicates that the incidence of taxation was uneven and that the collection was ineffective in some islands where land records were not adequate. The author makes a case for the exemption of marginal land holdings from tax.

Green revolution is the subject-matter of two essays that follow, each presenting the results of studies of the green revolution in two villages. Green revolution, known as Bimas Programme, continues to be an active component of the government's current development programme, mostly centred in Java, Sumatra and Sulawesi islands. In spite of numerous problems in implementation, the programme brings to the small farm sector substantial flow of resources and contributes much to the increase in rice production according to the authors, Dibyo Prabowo and Sajogyo. However, there was wide variation in results at the farm and village levels in rates of production, yield level, net income generated and the general range of economic benefits engendered by the introduction of the new rice technology. The first essay examined two villages where introduction of HYV was distinguished by low response while the second essay by Paul Deuster is based on the experiences in two villages in another region, showing different results. Many weak links in the implementation of HYV have been brought out by these essays.

The next two essays deal with issues involving employment and income distribution. Roger Montgomery's paper examines the employment absorption capacities of the major sub-sectors of Java's rural economy. He believes that paddy production holds out the greatest promise for increasing employment but emphasizes the importance of irrigation and water management to

increase the cropping intensity and the total area under cultivation. The second essay under this section by Dwight King and Peter Weldon concerns more directly with the problem of income distribution in Java during the 1960s and 1970s, the objective being to identify the changes in the relative and absolute levels of living and welfare in the rural and urban areas. There were indications that the urban sector fared well while the rural elite remained where they were and the lowest 20-40 per cent of rural population suffered a decline in their levels of living.

Under the section "Village Dynamics", two essays are presented; the first by Benjamin White deals with "Population, Involution, and Employment in Rural Java" and the other by William L. Collier is on "Agricultural Evolution in Java". The latter paper discusses rural institutions. Agricultural co-operatives, rural banks, and a number of other organizational set-ups were introduced in Java, but the success of these organizations were not particularly impressive and very often local elites gained dominant control over the resources of such institutions. The conclusion of this essay also tends to show that for equity basic structural reform is essential.

This section is followed by two papers on migration. The rural-urban migration which is a very common phenomenon in developing countries is the subject-matter of the first paper and it is pointed out that this phenomenon in Indonesia is not so conspicuous as in the other developing countries. More in line with the characteristics of the distribution of the present population in Indonesia, the second paper discusses the problems of transmigration. Such resettlement programmes needed considerable research involving land use patterns because of the varying eco-systems and other factors in the different islands. Water and pest control are essential for resettlement areas. More difficult in the process of resettlement is the organizational and management inputs necessary for maintaining the viability of new settlement communities.

Then comes a set of two essays on household economy, one on "Garden Use and Household Economy in Java" and the other on "Nutrition and the Household Economy". These essays examine the basic characteristics of the household production and consumption for low income families in rural Java. The first paper brings out the importance of household garden as a major source of income and of food for households with not much land. The intensity of the garden cultivation is generally higher in the case of low income households than that of the relatively well-off households. The problem is one of increasing productivity of the garden. The second paper dwells upon the problem of resource use in low income households from the consumption-side of the equation with focus on variations in food intake and nutritional requirements.

The last section of the publication contained two papers dealing with resource management: the first focusing attention on the problems of management of fishery resources and the second on proper management of forestry, both being important activities from the point of view of employment.

Thus the publication covers a wide spectrum of the rural and agricultural development in Indonesia, though much area still remains to be touched. It

is very satisfying that the collections included are in-depth studies on the topics selected and this provides deep analyses on the facets covered. The present publication makes a useful addition to the growing literature of rural development in the Asian countries and would be good reading material for students of development problems of populous dynamic developing countries.

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The Private Marketing Entrepreneur and Rural Development: Case Studies and Commentary, Edited by Malcolm Harper and Richard Kavura, FAO Agricultural Services Bulletin 51, Food and Agriculture Organization of the United Nations, Rome, Italy, 1982. Pp. iv+115.

This publication presents case studies from 13 countries and demonstrates the catalytic role which private enterprise can play in the marketing of produce in developing countries without any additional cost to the public exchequer. It describes the case histories of business people who are often ignored and even hated because they are regarded as superfluous middlemen. But these are the people who are enterprising, innovative and dynamic and organize various marketing operations on efficient lines. In spite of the difficult conditions under which they often have to operate, they have made significant progress in recent years by opening new marketing channels and extending existing ones in response to the rapid increase in the demand for food in the urban areas.

The case of Ashok Patil's (India) grape business shows how a long established farming family took the initiative to overcome marketing problems posed by poor transport, inadequate storage facilities and the lack of well organized markets. This not only improved his own family's well-being but provided a market for a large number of other farmers in the region as well. It is highlighted that the role of agricultural middleman involves not only selling the produce but also working closely with the producers in order to ensure supplies of produce at the right time and of the right quality. Rustom Keki's (India) strawberry business illustrates how an entrepreneurial food processor and distributor is forced to become involved with the farmers in his own interest. He has offered financial assistance and protected their supplies against unpredictable price fluctuations. This improves and stabilises farmers' incomes.

The example of Mary Jane (Dominica) shows how one motivated individual with a minimum of encouragement and support provided a market for several farmers, employment for herself and one other person and could even contribute to her country's export earnings. Kallu's (Sierra Leone) market garden business shows how somebody with a secure income from elsewhere can innovate in ways that are far beyond the resources of full time farmers and traders. Wimalajeewa's (Sri Lanka) fruit and vegetable commission business case study shows how a simple system based mainly on good faith

can provide an economical service to small scale farmers whose farms are located at a considerable distance away from the market place.

La Milpa (Mexico) provides a wide variety of services to farmers and to consumers who are themselves located over wide area. The diversity of operations of this enterprise would be a major management challenge to many far larger firms, the effective management of so far-flung and diverse an enterprise depends not on formal procedures and centralised control but on trust, competence and rapid decision-making on the spot which depend on the personal philosophy of the entrepreneur. Soex Horticultural Export Enterprise (Senegal) consisting of 15 private marketing enterprises represents an example of making a substantial contribution to rural development, with a minimum of outside assistance. Government officials participate in the annual price setting agreement between the producers and the traders and they can presumably play a mediating role between the two opposing interests. This is a good example of a positive official function, which is far more effective than actual participation in cultivation or marketing.

The "Corner Shop" Enterprise (Kenya) is an interesting example of a private organization which is working closely with the government department and the co-operative sector and is as a result able to serve both its suppliers and its customers effectively. The company shares many of the features of private entrepreneurial organizations which enable them to provide an efficient service at no cost to the public purse.

Karim Machiwala's case study (India) demonstrates many of the features which are commonly associated with entrepreneurial success. His contacts in fish business were built up over a period of nearly forty years. The business flourished because of the continuance of traditions of hard work and honesty. It has, therefore, been aptly observed that it is hard to imagine any government marketing organization or State-sponsored co-operative enjoying the same loyalty from its suppliers as has been developed through the steady long-term growth of this family enterprise.

Enebor, the rice miller (Nigeria) is an interesting example of a government-sponsored farmer's crusade whose objective was to encourage people to return to the land. The study shows that the entrepreneur started with farming and progressed into processing and marketing of crops grown by other farmers. Mafandala (Zaire) is an example which illustrates how transport and administrative costs can be effectively minimized by providing two-way services—delivering supplies of goods needed by the farmers and collecting crops from them. Again Don Jaime Lopez (Ecuador) provides full range of services commonly regarded as valuable for small scale farmers, such as input supply, subsistence credit, technical advice and marketing, but all at no cost either to the producers or to the state.

Haji Mansur's rice mill (Indonesia) provides an interesting example of a private business which was set up and operated successfully some years ago, before the government had made any attempt to regulate marketing. Credit for this success goes to entrepreneurs who reconciled to the changing situation

and the government for recognizing the essential role which could be played by the private sector.

Chitale's Dairy (India) shows how a single family has been able to build up a large marketing enterprise in direct competition with State and co-operative enterprise. The enterprise does not only purchase milk from farmers, it provides veterinary services, fodder supplies and loan guarantees. These services are normally provided by the government at substantial cost which is met by taxation. However, this private enterprise manages to provide these services and at the same time procure milk from 6,000 farmers, supply it to over 10,000 households and make a profit out of its operations. This demonstrates how private enterprise can serve the national interest in ways which are less expensive and more effective than the public sector can achieve.

Krishak Agro Service Centre (India) is a success story of a young I.T.I. educated entrepreneur (Ram) who set up an input supply business in direct competition with co-operatives and a well established private trader. As a result of Ram's efforts, the number of privately owned tractors in the area has tripled and his own hire service was well used. He is providing effective extension service as a result of his marketing operation which fills a gap in the official agricultural extension service.

These case studies provide useful insight for research workers and policy makers for tackling various problems regarding input and output marketing. The role of the entrepreneur is crucial in rural development. The governments can play a synergic role in creating an environment which is conducive to the establishment and growth of private business. The entrepreneurs of the sort identified in the publication are motivated by the desire to excel in achievements and thus can conquer new horizons in providing services to the small farmers. The tendency to establish new government institutions to solve every emerging problem needs to be critically examined as it might breed inefficiency and involve excessive costs and substantial burden on the public exchequer.

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Asian Village Economy at the Crossroads: An Economic Approach to Institutional Change, Yujiro Hayami and Masao Kikuchi, University of Tokyo Press, Tokyo, Japan, 1981. Pp. xxii+275. Yen 4000.

This is an interesting book dealing with the problem of rural poverty, income distribution and agrarian unrest that has occupied so much of intellectual energy and practical effort in the last few decades. When the problem is viewed in isolation, as it is generally done, the solution appears simple: there should be land reforms and assets distribution to give the poor a production base. What the authors have done is to put it first in its proper pers-

pective: the inexorable rise in population pressure on limited land resources, a pressure that has not abated, and is not likely to abate in the near future. Viewed in that dynamic perspective of relentless pressure of population on a resource that is getting increasingly scarcer, the usual solutions do appear to be trivial and perhaps worse, for they seem to intensify the problem they are supposed to solve. Much of the book is based on the field work done in Southeast Asia (a postscript discusses the agrarian problems of India), though generalisations are meant to apply to all Asian villages.

Let me summarise the main points. Basically, the Asian village economies resemble the Ricardian world: rapid rate of growth of population; ever-increasing pressure on limited land resources forces expansion of cultivation to more marginal land and application of more labour per unit of cropped area, resulting in declining marginal returns to labour (and as a corollary, increasing marginal returns to land), declining real wages and higher food prices. The only difference, according to the authors, is that the technology has not remained constant. The authors see a remarkable progress in the development of irrigation systems and seed-fertilizer technology, which however, has failed to counteract the decline in return to labour. If this trend continues then, argue the authors, Asian developing economies will move towards a truly Ricardian stagnation; these countries are already at the crossroads. Which direction will they move to: polarization or stratification? If they move towards the first, class conflicts will intensify in rural areas discouraging investment in agriculture and jeopardizing efforts to reduce population pressure on land. If they move towards stratification, there will be increasing class differentiation within the traditional village communities with people tied to each other in multi-stranded personalised relations and having some claims to output.

The authors observe that peasant stratification rather than polarization has been the more dominant form of agrarian change in Southeast Asia. Wherever the villages have a close and tight social structure and wherever the resulting gains to the community have appeared to be greater than the cost, the village institutions have changed over time in response to resource scarcity through a process of cumulative adjustments. The village social structure, the authors hypothesize, becomes tighter as the scarcity of non-labour resources increases; and the tighter the village social structure the greater is the ability of the institutions to enforce stratification. In the Philippines the change-over from *tilyadora* to the *hunusan* system of rice harvesting, and the rapid diffusion of a contractual output-sharing arrangement called *gama* are examples of how the village institutions changed and the communities chose a specific system to minimize transaction/enforcement costs. Villages with close structures have moved toward the creation of intermediate landlordism and sub-tenancy and thus have attempted to distribute a part of the increasing returns to land. The change form *bawon* to *ceblokan* system of rice harvesting in Indonesian villages also indicate the way agrarian institutions change towards stratification. Though this kind of stratification is common, instances of polarization in loosely structured villages are not lacking. So far as India is concerned,

the authors are not very hopeful that the Southeast Asian approach to stratification would work, given the social structure of the Indian villages.

The authors' field work show that greater poverty and inequality would result if technological progress is insufficient to overcome the decreasing return to labour caused by the increasing pressure of population on land. They find that the evidence does not support the presumption that modern technology results in inequalities or in polarization of agrarian communities.

There are two points that I want to raise. The first is a minor one and it is related to the assumption implicit in the authors' approach: that the technological change that has occurred in Asian agriculture is an all-pervasive one. The fact is that it is not; it is a limited change, limited mostly to land under irrigation. Had it been equally applicable to unirrigated agriculture, the decline in returns to labour perhaps might not have been so severe. Even so, the basic problem arising from population growth would have remained unsolved. The second point is more important: the authors have confined their attention to the agricultural sector alone to find a solution to the problem of declining labour returns in agriculture. They have marshalled enough evidence to show convincingly that this problem cannot be solved within the frontiers of agriculture even with modern land-augmenting, labour-saving technology. In itself this is valuable, but not enough. It is time to turn attention to the failure of the non-farm sector to absorb surplus labour from the rural areas. The fact is that unless non-farm growth is accelerated, the problem of rural poverty and employment cannot be solved by any innovative measures within the rural areas. The authors give the impression that non-farm growth is somewhat a mysterious phenomenon and that till it occurs village economies have to rely on technical progress to counteract declining real wages in agriculture. I do not find this very helpful. I counted only two references to non-farm growth and/or off-farm employment opportunities in the whole book. Pity, because the sooner we turned to probe into the causes of failure of non-farm growth, the sooner it might be possible to take effective steps that would reduce rural poverty and counteract declining farm labour income.

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Food for One Billion: China's Agriculture Since 1949, Robert C. Hsu, Westview Special Studies on China and East Asia, Westview Press, Boulder, Colorado, U.S.A., 1982. Pp. xvi+156. \$ 12.00 (Distributors: Bowker Publishing Company, Epping, Essex, England.)

The book under review contains a brief and readable factual account of agricultural growth in China since the establishment of the present regime there in 1949. The first two chapters deal with the natural environment and the growth of Chinese agriculture over the historical period. Chapters 3 to 6

form the core of the study followed by the concluding chapter which seeks to place the Chinese performance in the comparative Asian setting and to outline the future problems and prospects.

The Chinese agricultural development has been, in recent years, a theme of considerable interest to researchers in India and there are probably few who are not familiar with the Chinese achievements in the fields of food production and distribution and restructuring of peasant farms into communes. Given this familiarity with the broad facts of Chinese agriculture, it would seem best to use this review to enumerate the major policy and strategy issues now receiving the policy makers' attention in China.

First, the task of working out a pragmatic balance between centralisation of control and decentralisation of decisions to give more to producers still appears to figure prominently in the agenda of the party leadership. The following observations, quoted by the author, come from the proceedings of the 1979 meeting of the Central Committee of the Chinese Communist Party. Describing the agricultural growth in the previous thirty years as sluggish, the Committee attributes it to "the absence of a stable social and political environment; adoption of some policies and measures which were unfavourable to arousing the peasant's enthusiasm for production . . . ; and inefficient implementation of the principle of all-round development of farming, forestry, animal husbandry, side-line production and fishery." According to the author, dependence of policies on "the views and personalities of the few top party leaders in power" and sudden changes in leadership make for unstable policy milieu and, at the level of implementation, there is the problem of arbitrary interference by local party cadres lacking scientific and technical knowledge.

Second, while China has overcome the problem of mass hunger, situations of rural surplus labour and poverty appear to continue to prevail on a sizable scale. The author mentions that in late 1981 "rural surplus labour amounted to as much as 30 per cent of the rural labour force in some areas." He also refers to an official review conducted in 1981 which found that while a peasant needs an annual income of 120 yuan to subsist, "about one-third of the production teams in the country are above that level, making a per capita income of 120-1000 yuan per year. Another third can reach that subsistence level if they work hard. The final third of the production teams have an average annual per capita income of less than 60 yuan, and they must rely on side-line occupations, on government relief or on frugality to make ends meet."

Third, the author cites several instances to suggest that the Chinese policies, despite the framework of centralised planning, have not eliminated the problems connected with the judicious use of natural resources such as deforestation, siltage of rivers leading to floods, excessive grazing and use of groundwater resources beyond the point ensuring stability of water table. The author appears to attribute these problems to the nature of Chinese economic system but they are easily recognizable as the problems typical of most developing economies of today.

Finally, the crop yields in China have still to catch up with the Japanese and Korean yields in its neighbourhood. The leadership now in command assigns a high priority to the objective of increase in crop yields though, according to the author, the technological strategies being used for this purpose have some incompatible elements like emphasis on wrong type of farm mechanization.

This reviewer is left with an impression that there is much in the Chinese experience which could be of relevance to the Indian strategy and policies for rural development. This would seem to be particularly true of areas like participatory local level planning, mobilization of labour for construction of rural assets, promotion of rural industries and development of appropriate technologies. It would be good indeed if we go beyond the present phase of broad and macro level comparisons of India and China to look into the details of Chinese achievements and failures in these areas.

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Consequences of Small-Farm Mechanization, International Rice Research Institute and Agricultural Development Council, Los Banos, Laguna, Philippines, 1983. Pp. vi + 184.

What are the effects of mechanization on farm yields, cropping intensity, cropping patterns and labour use? This question has been central to the debate on agricultural mechanization in Asia which gathered force a decade and a half ago. It is also the main issue to which most of the papers in this volume address themselves. Fourteen of the 15 papers in the book are country-specific, relating to six countries in South and Southeast Asia, *viz.*, Bangladesh, Pakistan, Nepal, Philippines, Thailand and Indonesia, while one concerns with mechanization in Asian rice production in general.

In terms of the technical implications of mechanization, the papers (most of which are based on primary data) contain no surprise findings: they essentially reaffirm the conclusions which emerged from earlier analytical reviews of literature for South Asia, such as that by Binswanger.¹ Tractors, for example, in both the South and Southeast Asian studies in the volume, are noted to have a neutral or, at best, a slight positive impact on cropping intensity, over and above the effect attributable to irrigation; also they have no positive effects on yields, little impact on cropping patterns and a negative effect on total labour time used on the farm. Tubewells, by contrast, are found to have a significant positive effect on cropping intensity in the two papers that have examined this aspect; and the mechanization of post-harvest operations is unambiguously found to be labour-displacing in all the four papers where this effect has been quantified.

1. Hans P. Binswanger: *The Economics of Tractors in South Asia: An Analytical Review*, Agricultural Development Council, New York and International Crops Research Institute for the Semi-Arid Tropics, Hyderabad, 1978.

While the studies in the book help widen the country-coverage and also update the existing mechanization literature on these aspects, at the same time, a lack of uniformity in the effects covered limits the possibility of cross-regional comparisons. Hence, one of the potential advantages of bringing together such papers from several countries in one volume is not fully realised. For instance, in the case of tractors/tillers the yield effects are measured only in the studies for Philippines and Indonesia, the cropping pattern effects are limited to Bangladesh and Philippines, and the employment effects are available only for the latter two countries and for Indonesia. Again, Pakistan's is the only study on mechanization in wheat cultivation, the rest being essentially focused on rice.

Methodologically, the papers are limited in their scope in two main respects. First, the effects of mechanization (in any form) have been measured at an aggregate level in most papers. For instance, vis-a-vis the labour use implications, in only one study is there a disaggregation by operations, in two by family and hired labour categories, in one by permanent and casually hired labour and in two by gender. In none is there a (disaggregated) classification for each type of labour. Such a disaggregation is important because the wider socio-economic implications of mechanization depend crucially on the class and gender of those affected. Similarly, confining the analysis to labour time effects alone (as most studies do) without the additional consideration of the numbers of labourers affected is a limitation.

Second, none of the studies separates the tractor/power tiller effects by ownership and hire of the machine, despite the widespread prevalence of custom-hiring observed in several studies. Such a separation would have helped (a) to bring out the relative advantages of ownership over hire in terms of the owner's ability to perform the operations on time and to base cropping decisions on the surety that the machine would be available; and (b) to avoid any bias which would be in-built in the measurements of effects if owners are compared to non-owners of whom some are also 'users' through hiring in.

The points of special interest in this volume lie in those studies which, in one way or other, help to bring out the distributional implications of mechanization. One such study is that on the labour use consequences of mechanizing post-harvest rice processing in Bangladesh. In particular, this paper provides much-needed additional information on the effects of rice mills on female employment. It is noted, on the basis of the sample survey, that of the total labour used for post-harvest paddy processing under traditional techniques, 86 per cent is female and 25 per cent is hired (a dual classification by gender and family/hired is not given). The introduction of huller mills is found to displace both family and hired labour. Also, in areas where the mills have been set up, the average money and real wage rates are found to have declined both for those female huskers who are hired by farmers on a casual basis and for those working on a longer-term contract of three months or more. Hence, while the introduction of mills are seen to have benefited women of the better-off households by saving them drudgery, it has left the

women of poor households, who are dependent on this work for their livelihood, much worse off than before.

Again, in the context of Pakistan (as also noted in a study undertaken several years ago by J. P. McInerney and G. F. Donaldson), tractors are found to have led to tenant eviction and the concentration of operated area in fewer hands. Interestingly, even the relatively small (for the region) farms of 8.5 ha. in size have evicted tenants and rented in additional land for self-cultivation. In one case, the owner of as small a plot as 0.5 ha. expelled his sole tenant and rented in another 6 ha. This not only highlights the profitability of self-cultivation even for small farmers in the region, but also suggests the availability, at least initially, of outside sources of finance (perhaps through foreign remittances) for inputs and rent. A Bangladesh paper too mentions that tenant eviction has followed mechanization but does not establish a causal connection. It is a pity that none of the other country studies has examined this aspect.

Some distributional implications of mechanization are also touched upon (but not quantified) in the one general paper on mechanization in Asia found in the volume. In this paper it is argued that if mechanization increases food output it would benefit all classes of consumers through lower foodgrain prices; while in the absence of output increases, and with labour displacement, there could be adverse distributional consequences. However, in this context, it is important to note that even where there are output gains these would not necessarily pass on to the poor through lower prices, in a context where (as in India) there is a strong upward pull in government-fixed procurement prices (which also affect trends in market prices)—a pull exercised by the larger farmers, whose position has been consolidated economically and politically with the new technology (including mechanization). Also, where mechanization is accompanied by a decline in money wages, as among the rice hullers in Bangladesh, even a fall in food prices may not guarantee that the poor gain in net terms.

The gains which the farmers themselves expect from mechanizing is brought out in two papers on Indonesia and one on Bangladesh. Direct interviews with farmers reveal that most of them purchase or hire-in tractors to ensure more timely, better quality and cheaper land preparation; few give potentially higher yields as the reason for tractor purchase. In Bangladesh, animal shortage and problems in animal management are mentioned as important reasons as well. Interestingly, prestige, which is observed to be one of the reasons for tractor purchase in India, also emerges, even if indirectly, as a factor in some studies in this volume. For instance, Indonesian tractor operators (who are usually the sons or relatives of owners) mention that tractor driving confers prestige and 'style' on them. And in Pakistan the sons of farm owners are noted to demand tractor purchase as a pre-condition for their staying on the farm. None of those interviewed mentions a labour management or supervision constraint or high labour costs as motivating factors in adoption. Also striking is the importance of custom-hiring-out in making the purchase of machines profitable for the small farmers. The absence of such opportunities

and inadequacies of repair and maintenance services are in fact mentioned by many non-adopting farmers as being major deterrents to machine purchase.

On the whole, this book principally provides evidence which corroborates the conclusions that emerge from a critical examination of previous mechanization studies. But, with one or two exceptions, the papers in the volume do not address to any new and emergent issues. Among such issues would be the long-term effects of mechanization on the agrarian structure, such as on tenancy and land ownership patterns; the possible association of mechanization with changes in labour contract arrangements as, for instance, with the spread of the *sagod* system of labour-tying in the Philippines, or the *kedokan* system in Indonesia and the gender-specific implications of particular forms of mechanization. In other words, it is perhaps time that farm mechanization studies cease to concentrate on aggregative quantifications of the output-employment effects and move more consciously towards an examination of the socio-political implications.

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Foodgrain Marketing System in India: Its Structure and Performance, G. S. Kainth, Associated Publishing House, New Delhi-5, 1982. Pp. xv+124. Rs. 70.00.

In this book the author mostly discusses various aspects and issues relating to marketing of wheat and paddy in Punjab. To that extent, it could well be asserted that the title of this volume is somewhat misleading.

Agricultural markets and their functioning is no doubt a pertinent area for study. For, prices which the farmers receive and the prices that the consumers pay, to a large extent, depend on the efficient functioning of the agricultural markets. Therefore, the book is a welcome addition to this area.

The book is divided into eight chapters including the conclusions. In Chapter II, the author lists the markets included, describes various data sources and provides a brief description of the statistical techniques employed in the study. Actually, it would have been better if the author had provided this information in each of the relevant chapters. In some places, there is no clear indication on the time period of analysis and on the type of regression analysis employed (cross-section or time-series). The various researchers in this field would have benefited if the primary data used in the study had been listed at the end of the book to facilitate further research.

Due to the advent of new technology, the surplus of wheat and paddy brought to the market has increased over time. There has also been a significant change in the arrival pattern of these crops. The peak period for marketing of wheat has shifted from May-June to April-May and for paddy from November to October-November (Chapter III). Various factors could be attributed to this development. Important ones are increased mechanization of harvest operations, fear of rains and high cost of storage.

The study also shows that there exists a positive relationship between the farm size and the quantity marketed as a percentage of total output for both wheat and paddy. The farmers with small farms retained relatively a larger proportion of the total output. Understandably, this class of farmers also sold more immediately during the post-harvest period. More importantly, small farmers also contributed to the marketed surplus of wheat and paddy (Chapter IV).

The regression results presented in Chapter IV suggest that for wheat as well as paddy, the marketed surplus is positively related with the level of production. The value of this elasticity for both types of foodgrains was found to be unity or above depending on the farm size. This indicates that as production increases the quantum of marketed surplus also rises. However, it needs to be mentioned that coefficients displayed in Tables 4.6 and 4.7 do not match with those in Table 4.8 despite the author's assertion that these elasticities "were obtained directly from log linear function" (p. 37).

In the subsequent chapter, the behaviour of prices of foodgrains is studied. It is suggested that because the seasonal index is less than average from April to October, farmers should try to sell wheat in the months other than these. Similarly, the seasonal price index of paddy is highest in the month of September, implying that it is the best period to market paddy.

It is only in Chapter VI that the author really addresses himself to the problem that is of great relevance: whether markets in question are efficient inter-temporally and/or spatially. According to the author, "The marketing system will be said to be integrated if for the same variety of agricultural produce, the coefficient of correlation of prices between the markets is unity" and in such a market "... the price of a product will be responsive to price changes in another market..." (p. 56). In the next page, he states that "The accuracy and the speed with which prices *react* and *adjust*... can be taken as an indication of the degree of market integration..." (emphasis added). In spite of this, the author goes on to use correlation coefficient to study whether markets are spatially integrated. Such a methodology is inadequate. This is because "a correlation coefficient only tests for the association between price series, whereas prices in markets *related by trade* should be inter-dependant."¹ To test for independence or unilateral dependence or causation requires the use of appropriate tests which are generally discussed under the heading "Granger Causality." Such a methodology has been employed by Gupta and Mueller.

In any case, the results presented by the author are not at all convincing given the fact that correlation coefficients are mostly below unity and in some cases substantially less than unity. Such results do not warrant the conclusion that "the markets of Punjab could be described as efficient and well integrated" (p. 63).

Based on the data provided, it would be too much to accept the author's conclusion that markets in the sample are also efficient inter-temporally. The

1. Sanjeev Gupta and Rolf A. E. Mueller, "Analyzing the Pricing Efficiency in Spatial Markets: Concept and Application", *European Review of Agricultural Economics*, Vol. 9, No. 3, 1982, p. 301.

author provides no information on storage costs and even then he arrives at this conclusion. As a matter of fact, another methodology is available to study this aspect which overcomes the potential data problems.² This type of analysis is essentially based on price movements and makes use of Fama's³ definition of efficient markets where prices 'fully reflect' the available information.

In Chapter VII, the author discusses the procurement policy and its impact on producers and traders. He estimates that the elasticity of procurement with respect to output is 1.47 and 1.15 for wheat and paddy respectively. And the elasticity of procurement with respect to procurement price is 1.098 and 2.829 respectively. Generally, the farmers received higher prices for the output as a result of procurement policy. In the aggregate, the traders were also no worse off as far as their profits were concerned.

Above all, the subject-matter of the book is important. However, the econometric analysis in parts is weak and there is scope for improvement in presentation.

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Introduction to Econometrics: Principles and Applications, G. M. K. Madnani,
Second Edition, Oxford & IBH Publishing Co., New Delhi-1, 1983.
Pp. xii + 412. Rs. 45.00.

This textbook is a revised and enlarged second edition of the book first published in 1980. The book is divided into two parts. Part I develops on some aspects of statistical theory which are basic to the understanding of econometric theory developed in Part II of the book. However, this reviewer's feeling is that the chapter on Matrix Algebra should have been retained rather than assuming that the reader has sufficient knowledge of it. This assumption does not look plausible especially for the students of economics who are the main clients of this subject. Its necessity is demonstrated by the fact that the author has used extensively the application of matrix algebra to demonstrate various problems associated with the subject in later chapters.

Part II deals with econometric principles wherein three chapters have been exclusively devoted to the discussion of regression analysis. It takes into consideration various applied problems associated with regression analysis ranging from selection of the regression model to the estimation of parameters and testing of hypothesis involving these parameters. On the whole, all this

2. Discussed in Sanjeev Gupta and Rolf A. E. Mueller, "Inter-temporal Pricing Efficiency in Agricultural Markets: The Case of Slaughter Hogs in West Germany", *European Review of Agricultural Economics*, Vol. 9, No. 1, 1982, pp. 25-40.

3. E. F. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Work", *Journal of Finance*, Vol. 25, 1970, pp. 383-417.

has been accomplished very well using very simple language although at times this was at the cost of some mathematical rigour.

A chapter on regression analysis and analysis of variance has been developed and a comparison between the two methods of analysis has been brought out with the help of numerical examples. This chapter is followed in a systematic manner and in a logical order by a chapter on the consequences of violation of the basic assumptions underlying the linear regression model. However, the order of discussion in the chapter should have been reversed which would follow the order of the assumptions discussed earlier in Chapter V (p. 94).

The problems of single equation models have been discussed thoroughly with practical applications followed by a chapter on Instrumental Variables, etc. Simultaneous equation problem, the problem of identification and the estimation techniques of simultaneous equation model have been thoroughly discussed.

The author has given a good treatment to the subject which is needed for students of economics having very little background of mathematics. This has been achieved by presenting the mathematical logic in a simple language which is well developed and is supported by empirical examples which is no longer dreadful for students. The author has introduced some practical assignments for the students to undertake, which is a useful addition and provides a good exercise to the student.

On going through the book, this reviewer found that the author should have put in some more efforts while illustrating certain facts through graphs. For example, on p. 96, three dimension figure has not been depicted well. On p. 231, the distribution of Durbin-Watson 'd' statistics is indicated as a rectangular distribution. At other places, *e.g.*, while discussing the assumptions of linear regression model, one is left guessing what it means to add "particular period" with each assumption. The Gauss-Markove's theorem on p. 105, should have been stated before explaining what it meant in a simple language. A typographical error on p. 114 occurs, it is not "sample observation" but "sample variation" of Y. Similar typographical mistakes are found at various places in the text.

On the whole, the book provides a good introductory treatment to the subject-matter of econometrics with practical applications to make this difficult subject easy to grasp.

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Management in Co-operative Rice Mills, D. P. Mathur and V. K. Gupta, CMA Monograph No. 99, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad-15, 1982. Pp. xi+129.

The book is the result of a study undertaken by the authors at the instance of National Co-operative Development Corporation (NCDC). The poor

performance of the co-operative rice mills financed by NCDC prompted them to sponsor such a study.

The book is divided into seven chapters including the summary and conclusions. While the first chapter gives a brief introduction to the study, the second deals with the infrastructural aspects of rice milling industry in Madhya Pradesh. The third chapter presents the structural aspects of rice milling industry. The operational aspects of the co-operative rice mills are dealt with in the next chapter. Chapter 5 presents the costs and returns to the co-operative rice mills based on the information obtained. Chapter 6 measures the comparative use of capital in rice mills through some ratios and break-even volume. The last chapter presents the summary and conclusions thereon.

The introduction tries to justify the study by spelling out the poor performance of co-operative rice mills which account for less than one per cent of the rice mill population in the country. The poor performance is mostly viewed from the angle of capacity utilization only at this stage. The objectives of the study were to examine the constraints faced by the co-operative rice mills in terms of procurement, processing, marketing, finance, inventory and State policies and to suggest measures to overcome these constraints.

The chapter on infrastructural aspects deals with the availability of raw material (paddy) only. The authors' definition of infrastructure facilities is limited only to raw material availability. The basis of estimation of marketable surplus and marketed surplus is not clear to the extent that whether it is based on a survey or any assumptions or based on the Andhra Pradesh survey quoted in the text. The authors again feel that the arrivals at regulated markets alone constitute marketed surplus. At some stage, the authors even mention that direct sale by farmers to rice millers is not part of the marketing system, which is a difficult proposition to accept.

The structural aspects deal with the growth of rice mills, technology, spatial dispersal and ownership pattern. The installed capacity of rice mills has been compared with marketable and marketed surplus of paddy to arrive at the availability of raw material to the mills. There are only two factual items of data, *viz.*, production of paddy and number of rice mills. The rest of the calculations is mostly based on assumptions.

The operational aspects first deal with the performance of rice mills' location from the regulated market. This has not yielded any significant result. It is also stated that the location of co-operative rice mills followed the pattern of location of private sector rice mills. The analysis of the characteristics of personnel managing and employed by rice mills is very sketchy. The pattern of procurement of paddy revealed that the mills under the administrative control of Primary Co-operative Marketing Societies (PCMS) were better than those under Madhya Pradesh State Co-operative Marketing Federation (MCMF). Only one-third of the procurement of paddy by the mills was directly from the farmers while the rest was from regulated markets. The utilization of installed capacity has been analysed thoroughly from the point of view of administrative control, technology and levels of operation.

Similar analysis has been made with regard to out-turn also. As expected, the modern technology gave a higher out-turn than traditional technology, but there is still scope for improving the out-turn of rice and by-products.

The analysis of costs and returns is very elaborate. The costs have been properly classified as cost of paddy, procurement costs, fixed costs, variable costs, marketing costs, etc. The cost of milling a quintal of paddy is worked out in two ways—with and without depreciation. Comparing the costs and returns, it is observed that the profits are very meagre if depreciation is not taken into account and if depreciation is also taken into account, huge losses will be the result. It is surprising to note that the processing costs varied very widely between the mills managed by PCMS and MCMF, given the same technology and volume of operation. This needs explanation and it would have been better if the authors had investigated into this aspect a little more deeply. The authors opined that there is a case for revision of procurement price of rice at mill point as levy (60 per cent of production). This may enable the mills to better their profitability position. There is also lack of demand for rice in the open market as evidenced by huge carry-over stocks.

The break-even volume has been worked out in the chapter on comparative use of capital. Based on this, it is suggested that the mills must aim at reducing the variable costs, bring down fixed costs and also increase the per quintal contribution towards fixed costs by quality control measures. An analysis of the balance-sheets of rice mills has been presented and certain inferences have been drawn. The next section is on working capital requirements taking into account the cash outflow and inflow. From this it appears that the mills would require credit throughout the year as they would show a positive net cash flow during one month only in a year.

The recommendations include that the procurement of paddy must be from members to a major extent which would reduce procurement costs. The price for paddy must be fixed by working backwards from the price of rice. These suggestions seem to ignore the role played by market forces. The training needs of rice mill managers in financial aspects has been highlighted, which is really necessary especially in co-operatives. A marketing set-up at the State level is suggested for proper marketing of rice and by-products. An organization structure has also been suggested for managing and running a rice mill, keeping the cost of such organization within limits. It is also suggested that NCDC may maintain a management pool for manning the rice mills, if necessary.

The book could have been made more useful by attempting to compare the private sector rice mills with the co-operative rice mills. This would have brought about the good and bad points in both the systems so that an ideal system could have been evolved combining the good points of both. The utility of the book appears to be very limited inasmuch as it covers a microscopic segment of the population of rice mills. The book also needs editing.

Measuring the Condition of India's Poor: The Physical Quality of Life Index. Morris David Morris and Michelle B. McAlpin, Promilla & Co., Publishers, New Delhi-17, 1982. Pp. ix+100. Rs. 80.00.

Poverty, like unemployment, religion, language, and politics, is a big industry in India in which thousands are profitably engaged in their espousal, promotion and resolution. The number engaged in these, especially on poverty and deprivation and related aspects, is on the rise in view of the fact that an overwhelming majority of Indians are poor and about half the population is in dire poverty being below the poverty line. A fall-out of this is seen in the mushrooming growth in the economic literature on poverty, quality of life, unemployment, hunger and various other aspects of depravity. The book under review is one such addition to the growing literature on poverty.

There is no unified indicator which can correctly measure poverty, standard of living or quality of life. In the absence of such an indicator, per capita GNP has come to be accepted as the best proxy for such a measure. Of course, deficiencies in GNP indicators are well-known, as it does not throw light on as to what it is made up of, how it is distributed and how it is utilized. But because of its simplicity as well as its ready availability, per capita GNP is the most commonly acceptable measure of welfare. Moreover, GNP estimates are made year after year, which helps in inter-temporal comparison. But, as the authors have rightly put, "whether measuring total or per capita output, the GNP does not tell us much about the quality of life results achieved. Nor can it be expected to do so, since for a *variety of reasons*, there is no *automatic* relationship between any particular level or rate of growth of GNP and improvement in life expectancy, death rates, infant mortality or literacy (p.3)" (italics supplied). The authors then go on to cite the views of the World Bank and many eminent economists (Abramovitz, Chenery, Kuznets, etc.) to support the view that per capita GNP is not a good indicator of quality of life (pp.3-6) as well as over a hundred other indicators. The authors contend that welfare indicators should satisfy six criteria which they list (pp. 7-10). Finally, they conclude that indicators reflecting infant mortality, life expectancy (at age one) and basic literacy meet the six criteria and a composite index based on these would be a good indicator of quality of life.

Unfortunately, the three indicators employed by the authors in arriving at the physical quality of life index (PQLI) are even more unsatisfactory. Infant mortality and life expectancy, for example, can be improved rather dramatically in a poor country like India, in a very short time by improvements in basic public health measures like vaccination against small-pox, cholera, tuberculosis, etc, and some personal hygiene. But once a certain level is reached, as it has presently, further improvements are slow or difficult. So is also literacy. Moreover, the three indicators do not fall, they either stay put or rise gradually, irrespective of the performance of the economy and the ups and downs in per capita incomes. In the last 32 years of planning in India, for instance, the real per capita decreased in 11 years. In some of

these years, the decline has been brought about by drought and famine. How does PQLI show such phenomenon? PQLI, thus, is even more unsatisfactory compared to per capita GNP. It may also be pointed out that the three criteria (infant mortality, life expectancy and literacy) selected by the authors to construct PQLI are based on decennial census and a few surveys and therefore, cannot represent with accuracy the inter-census years.

With this basic weakness, the authors have constructed by assigning weights to the three indicators, PQLI for India, Indian States, and other countries for comparison.

The book has many other drawbacks, which even a cursory reading will show. There are also a number of loose statements [*e.g.*, the regressing technique is costly and time-consuming (p.23)]. There is not much to commend the book.

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State Intervention in Cotton, Madhoo Pavaskar, Popular Prakashan Pvt. Ltd., Bombay-34, 1981. Pp xv+94. Rs. 30.00.

This booklet examines the problem of State intervention in cotton marketing. It describes the nature and depth of State intervention, analyses its impact, diagnoses the malady and recommends the remedy to restore the health to the Indian cotton economy.

It has been argued that although State intervention in cotton marketing is not a new phenomenon, the nature and depth of this intervention has undergone a sea-change in recent years. The Cotton Corporation of India which was set up mainly as a canalising agency for the import of foreign cotton was also entrusted with the task of purchase, sale and equitable distribution of domestic cotton to protect the interests of the cotton growers. The New Textile Policy enjoined it with the added responsibility of building and operating buffer stocks and to purchase cotton for the mills operating both in the private as well as the public sector.

The cotton monopoly procurement scheme launched by the Maharashtra government through the Maharashtra State Co-operative Marketing Federation posed a more serious challenge to the free market character of the cotton economy. Further, with the recent decision to entrust cotton exports to mainly the State agencies and co-operatives, the private sector would no longer figure prominently on India's cotton export map. So, the author bemoans that "While the 1960s saw the merciless liquidation of the futures market in cotton, the 1970s witnessed a slow strangulation of the private trade in ready cotton. While nobody need shed tears for the private cotton trade, the major casualty of these two brutal assaults by the Government has been, unfortunately, the competition in cotton marketing" (p. 16).

The impact of State intervention has been examined through its effect on the producers and consumers of cotton and on price behaviour. It has been indicated that the index numbers of cotton prices have ruled lower than those of not only the all commodities group but also the primary articles group during the last nine cotton seasons from 1971-72 to 1979-80. However, it is pertinent to point out that while the author is talking about the parity of cotton prices with primary articles or all commodities at the all-India level, he is forgetting that he is analysing the impact of State intervention through monopoly procurement for Maharashtra, which contributes a very small proportion to the national production. Further, it can be argued that cotton prices depend also on production of cotton, its imports and exports and policy concerning substitutes like synthetic fibres.

Further, the State intervention in the cotton market has also disappointingly failed to impart an element of stability to the seasonal prices of cotton. So the cotton growers have lost all the way through these years despite the heroic State intervention to safeguard their interests. The study has also shown that the farmer's share in the consumer's rupee has actually declined from what it was before State intervention. However, the consumers of cloth did not benefit from the losses suffered by the growers as reflected in the rising prices of cotton yarn and cloth in the wake of State intervention.

The study has rightly argued that the poor performance of the State agencies was due to the lack of understanding on the part of the authorities that commodity marketing is essentially an economic function creating time and possession utilities and therefore involves costs, which no society—capitalist, fascist, socialist or communist—can avoid. It has been rightly argued that the elimination of middlemen does not result in the elimination of either the marketing services, or the marketing costs.

The study has shown that with the reduction in competition, following the introduction of the monopoly procurement scheme in Maharashtra and the imposition of credit curbs on the private cotton trade all over India, the marketing efficiency inevitably deteriorated. This is due to the fact that lack of competition necessarily breeds complacency and waste and also because the cost of marketing tends to be generally higher for the bureaucratic public sector agencies, with their slow and complex decision-making processes and work-to-time schedule rules, than the private trade aiming solely at profit maximization. However, the marketing costs of State agencies have tended to increase because they have been carrying large stocks over long periods, as a result of which their interest and other bank costs have sometimes been quite high. These large carry-over stocks depressed cotton prices to the detriment of the growers.

The study has also highlighted that the progress on the cotton production front is traceable to the development and adoption of new hybrid high-yielding cotton seeds. It has been argued that like the green revolution in foodgrains, the white revolution in cotton has also been confined to restricted areas and a few farmers. So, it has been observed that State intervention in cotton development and marketing has only widened the income disparities. But it

would be pertinent to observe that a break-through in cotton technology has pushed up the production frontiers just as the green revolution resulted in a shift in the production function. It is rather unfair to blame new technologies for the inequalities in income distribution. Another factor responsible for denial of fair and remunerative prices to the cotton growers is stated to be the Reserve Bank of India's policy of selective credit controls which are discriminatory to private trade.

The private trade has been virtually starving due to high margin requirements, and stringent controls in the form of ceilings and higher interest rates. But it would be worthwhile to point out that the private trade is expected to operate mainly with the funds generated by them from private sources. Further, with the share of the superior long staple cotton rising steadily, the product-mix of the textile industry also tilted slowly in favour of the more expensive cloth for the rich and elite. And with easy availability of cheaper cotton, the industry verily never had it so good in recent years. Their processing and profit margins improved. The sick mills have revived and the textile industry, at long last, came out of the woods. But neither the cotton grower nor the consumer of cloth could partake in this prosperity, thanks to the State intervention in cotton marketing, which impaired the competitive efficiency of the market—so vital to bring forth the necessary distributive justice.

The author states that in the new cotton policy of post-Independence era, we observe all the sad features of the Government's economic policy—its pathetic lack of faith in perfect competition, its discriminatory credit policy which hampers production and affects orderly marketing, its incoherent and haphazard import/export strategies and above all, its socialistic pattern which provides the bureaucratic institutional support to the few favoured vested interests, leading to further disparities in income and growth. So the author sets out the hard choices between socialism and capitalism when he observes that "Either the authorities must traverse the difficult socialist path, involving a total take-over of the production and distribution apparatus in both the cotton and textile sectors, or it should change its gears and follow the comparatively easy road to free and perfect competition." Since the socialist path presupposes a change in the entire socio-political system which neither the ruling party, nor its leading political opponents are prepared to accept at present, the author fervently pleads for a set of new policies which would encourage perfect competition in cotton marketing and discard all those which tend to stifle competition. This implies (a) abolition of monopoly procurement scheme to generate competition between government, co-operative and private agencies, (b) flexible credit controls linked to relative prices structure, (c) revival of futures trading to stabilise the level of prices and (d) scarping of government monopoly over export of cotton.

The book concludes with a plea for a National Cotton Policy Committee whose purview would extend to all aspects of the cotton economy—production, distribution, buffer stocks, imports and exports. The committee would also streamline and update the existing cotton statistics, establish a data bank and act as an agency for quick and reliable crop forecasting.

On the whole, this book represents a good attempt to expose the inefficiency and inadequacy of the public sector agencies in coming to grips with the problems involved in cotton marketing. In the process, it highlights that the growth of public sector agencies need not always be viewed as a step towards socialism. Socialism involves ownership and control, not so much over the channels of distribution as over the means of production, which determine ultimately the resource allocation patterns and the income distribution flows. This book would undoubtedly prove particularly useful to the administrators, planners, policy makers and the students of economics in general.

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Employment, Income and the Mobilisation of Local Resources in Three Thai Villages, Pasuk Phongpaichit et al., Asian Employment Programme, Asian Regional Team for Employment Promotion (ARTEP), International Labour Organisation, Bangkok, Thailand, 1982. Pp. 138. \$ 5.00.

The post-war literature on the theory of economic development threw up many strategies of development for increasing the standard of living of the people of developing countries by generating employment opportunities. One of the prominent strategies which was advanced by Ragnar Nurkse and later by W. Arthur Lewis was increasing capital formation by utilizing surplus labour which was under-employed in agriculture by transferring it to the non-agricultural sector. The model was an extension of the classical theory which hinted that abundant labour could be utilized as a source of capital formation in the non-agricultural sector. This was implicit even in the Mahalanobis model which became the basis for the Second Five Year Plan where rapid growth of large scale industries was expected to absorb the growing labour force in the long run. But by 1970s the development experience of many developing countries revealed the stark reality that the growth of industrial sector particularly through heavy industries strategy did not result in the absorption of the growing labour force in agriculture in the respective countries. Therefore, in the late 1970s it was realised that ways and means should be found to absorb the surplus labour in agriculture itself. This opinion was accepted by the International Labour Organisation (ILO) which initiated studies to find out ways and means of creating more employment opportunities in the agricultural sector in Asia. In this programme some country studies were sponsored relating to Bangladesh, India, Thailand, etc. The present study was one such sponsored by the Asian Employment Programme of ILO.

The Fifth Five Year Plan of Thailand adopted a strategy of local planning to reduce poverty in the backward areas and inequality in the advanced areas. In the light of this strategy, the present study was sponsored to find out the extent of under-employment and poverty in rural Thailand and suggest ways

and means of mobilizing local resources so as to expand employment, raise income of the under-employed and under-rewarded by more efficient or intensive use of the resources found at the local level. Local resources are interpreted in a broader sense to include not merely investment funds but also human and natural resources. This study has adopted the approach of an earlier study made by Khan *et al.*¹ which was done with reference to Bangladesh. The present study is based on a detailed socio-economic survey of three villages which were chosen in Thailand, each representing the distinguishing economic diversity of the regions of the country. One village, Baan Rai, was chosen from the advanced prosperous central region, the second village, Wer, was chosen from the less fertile and more scarcely populated north-east region, and the third village, Mae Kue, was chosen from the river valley area with dense population. From each village a cluster of adjacent hamlets, 400 to 450 households, were selected. The cluster of hamlets were chosen to capture the major characteristics of the whole *Tambon*. The data were collected in two stages. In the first stage complete census enumeration of households was done. In the second stage, households were stratified and proportional samples were drawn for detailed analysis. However, detailed household data were collected in "One shot" sample survey. Based on these census as well as sample data and information, the economic situation with particular reference to actual levels of employment and income of the three villages is presented in the study.

The study attempts to estimate the potential level of employment and income which can be achieved in the absence of any institutional and organizational limitations. Then the actual levels of employment and income in the selected villages are estimated and a comparison of the actual with the potential is attempted. Though the study declares that the factors which prevented the potential being realised would be identified, it has remained only as a claim.

It is found from the data that "In all the three villages, the numbers reported as unemployed and looking for work are very low indeed" (p. 17). This is arrived by taking 283 days of employment as the full employment level at the rate of eight man-hour day. The volume of employment is not associated with the size of the holdings in all the three villages. In one village, Baan Rai, it increases with the size of holdings upto two largest size classes; in another village, Mae Kue, it decreases with the size of holdings. Consequently, the authors are forced to guess the possible reasons and they do it thus:

"In sum, the data on employment in the three villages suggest three very different patterns of employment determination, Mae Kue is dominated by the high pressure of population on land which has pushed the majority of the village into off-farm work and required those with the poorest access to land to work very hard to survive. In Wer, the comparatively poor resource endowment means that people generally cannot find an adequate volume of employment, though access to land does convey some significant advantages. Fi-

1. A. R. Khan *et al.*: Employment, Income and the Mobilisation of Local Resources—A Study of Two Bangladesh Villages, ARTEP, Bangkok, 1981.

nally, in Baan Rai the development of intensive agriculture has meant a general improvement of employment opportunities; while larger landholdings do provide substantially larger amounts of employment to the operating families, there is also good demand for employment in agricultural wage labouring and in activities off the farm so that in the end access to employment is in no way dominated by access to land. Indeed it would appear that people in Baan Rai can more or less get the level of work which they desire" (p. 30).

In all the three villages land still seems to be a major source of employment. This is so even if we take into account farm as well as off-farm work. The wage rates vary between these villages. They are higher in Baan Rai by 1.6 times that in Wer and 1.2 times that in Mae Kue. The wage rates are higher for men than for women only during some seasons and for some operations. Cropping intensity is, by and large, inversely related with the size of holdings though it does not show any clear-cut pattern in Mae Kue and Baan Rai. The productivity of land varies between these villages. In terms of paddy yield, it is highest in Mae Kue, and lowest in Wer. The data obtained do not reveal any discernible pattern of relationship between farm size and productivity of land. The study tries to find some pattern in input use in agriculture. But the data do not throw up any discernible pattern either by size of holdings or by regional characteristics of selected villages. The reason for this is the method used for collecting data. It is now accepted that reliable data on input use cannot be collected through one shot survey. This caution seems to have been ignored by the authors. The data could have been regrouped by having small number of class intervals to obtain some meaningful pattern. This is not attempted.

The study discovers that "In all of the villages the number of wholly unemployed persons is very small, but among those employed the average number of person days worked per year falls below the predefined norm. In Baan Rai and Mae Kue, this shortfall is not great (15 and 13 per cent respectively) particularly in comparison with figures from other villages [from other countries] surveyed using a similar methodology In Wer, however, only 63 per cent of potential labour resources are currently utilised. . . . As a starting point this comparison suggests that while in Wer the generation of more employment possibilities must loom large in the discussion of future plans, in the other villages the productivity of labour may gain more in importance" (p. 91).

The study suggests increased cropping intensity, livestock rearing, trade, transport and other services and capital and social infrastructure construction activities for absorbing the surplus labour. However, Wer would still remain an under-employed village. Therefore, temporary outmigration is considered as inevitable for giving jobs and raising income for the under-employed in Wer.

In regard to income distribution, in Baan Rai 11 per cent of the agricultural households were landless and 16 per cent were full tenants. Thus 27 per cent of the households did not own any land. The Gini coefficient of ownership holdings was .61. In Mae Kue, the landless constituted 10 per cent but tenants constituted 25 per cent thus making the assetless 35 per cent. The Gini ratio of land holdings was .65. But in Wer, the landless constitute only

4 per cent and assetless 11 per cent. But still the Gini ratio of land holdings was .60. About 60 per cent of the households in Baan Rai, 29 per cent in Wer and 9 per cent in Mae Kue were in debt. However, the authors report that there was some under-reporting of indebtedness in Mae Kue.

The level of average household income was more or less similar in Wer and Mae Kue but almost twice in Baan Rai. This is explained by high irrigation, high cropping intensity and commercialisation of agriculture. Obviously, the income inequality was tolerably low with .32 and .35 values of Gini coefficients in Wer and Mae Kue respectively whereas it was very high in Baan Rai, .54. The authors defend this inequality in the following way:

“Compared to the other villages, Baan Rai has a badly skewed pattern of income and asset distribution, and the signs are that the position is getting worse rather than better. In terms of straight income, the landless and the smallholders of Baan Rai at present are slightly better-off than their equivalents in Mae Kue or Wer. Most of the wealth which makes Baan Rai seem two to three times as well-off as the other two villages is concentrated in a narrow stratum which commands large amounts of land and other assets. Moreover, the pattern of land transfer, and the tenancy market, appear to be leading to greater concentration of control over land, while smallholders who find it difficult to cope with rising input costs, increased risks, and a relatively under-privileged position vis-a-vis their larger neighbours in certain factor markets, are slipping into the ranks of the landless.

These developments are objectionable primarily on grounds of equity, but there are also considerations of efficiency involved” (p. 97).

The last sentence cuts the justification for this study from under its own feet.

We know from several other studies that unemployment is not a serious problem in Thailand as compared to India and Bangladesh. Though inequality is evident, it is not based on social hierarchies but related to land ownership and productivity. Even so, it is surprising that this study which attempts to suggest ways and means of absorbing surplus in agriculture defends inequality of income as a necessary condition for efficiency in production.

The study has remained a narrative of village economic life in Thailand. It does not throw up any new insights into the understanding of socio-economic structure of villages. Nor does it suggest any new strategy for rural development. Probably the economic compulsions of Thailand as revealed by this study do not require such strategy. The net result is, we have another study to list.

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Marketing Channels and Price Spread in Cotton, C. G. Ranade, R. B. Singh and K. H. Rao, CMA Monograph No. 83, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, 1982. Pp. ix+94.

Co-operative marketing in cotton began in India as early as around 1917. Disappointingly, even 67 years after its inception, hardly 10 per cent of the

kapas production in the country outside Maharashtra is sold 'voluntarily' by farmers through co-operatives. Worse still, only one State, namely, Gujarat, alone accounts for almost half of the total sales through co-operatives. Despite the active government support and patronage, cotton growers in all other States have virtually neglected the co-operatives. And in Gujarat too, the growth of the co-operative movement in cotton seems to have come to a grinding halt in recent years. Cotton pooled by the co-operative societies in Gujarat declined steadily from 5.32 lakh bales in 1974-75 to just about 54,000 bales in 1978-79, despite the fact that the cotton production in the State increased from 14.55 lakh bales to 21.01 lakh bales over this period. Perturbed by such a sorry plight of the cotton co-operatives, the Union Ministry of Agriculture and Irrigation sponsored in 1977-78 a study on co-operative and private cotton marketing channels in cotton with a view to assessing their comparative efficiency. The book under review by Ranade *et al.* is the outcome of this study.

For the purpose of the study, the authors have selected two districts of Gujarat—Surendranagar and Sabarkantha. Surendranagar district was selected for private trade channels, while Sabarkantha was chosen for co-operative channels. A sample of 20 farmers was drawn from each of the four selected villages of Limbdi taluka in Surendranagar district. The village traders, wholesalers and processing units (ginning factories), to whom farmers sell their kapas were also interviewed. Price spread, marketing costs and margins of each intermediary, as also the producer's share were drawn on the basis of such a survey. For the co-operative channels, a similar exercise was undertaken with respect to the ginning and pressing societies of Idar and Khedbrahma talukas in Sabarkantha district to ascertain the producer's net share and marketing and processing costs incurred by the societies.

The results of the study, according to the authors, showed that "the share of farmers in the price of lint and seed is higher in co-operative marketing than that in the private channel. The share of small farmers was in the range of 72 to 82 per cent in the private channel, while in the co-operatives it was as high as 92 per cent in the price of lint and seeds." The authors therefore conclude: "Indeed co-operative marketing is beneficial to all groups of farmers."

Unfortunately, even if the statistical results of the study were true, the conclusion seems dubious, as the methodology adopted for estimating the results is far from sound and not uniform for private and co-operative channels. Instead of comparing the marketing efficiency of competing channels operating in the same area, the authors mostly rely on comparing the efficiency of the private trade channels in Surendranagar district with that of the co-operatives in Sabarkantha district. Such a comparison is obviously improper for more than one reason. The first and foremost among these is that the selection of Surendranagar district for private trade channels is unfair. This relatively backward district of Gujarat does not have any well organized regulated

* In Maharashtra, the farmers are compulsorily required to sell all their kapas output to the State Co-operative Marketing Federation under the statutory Monopoly Purchase Scheme introduced in the State.

market like those in other parts of the country, where the farmers bring their kapas and sell directly in open auctions. Surprisingly, the only regulated market in the district, considered in the study, was one where not the farmers but the traders from one of the selected villages sell their kapas. Small wonder, the share of the cotton farmers from that village in the final sale price of lint and seed was even lower than those of farmers from other villages selling their kapas either in the unregulated market or to the ginning factory.

Secondly, the two cotton varieties, namely V-797 and CO2, grown in Surendranagar district are inferior in quality to the H-4 variety grown in Sabarkantha. The price of the latter is much higher than the prices of the former. Most of the marketing costs are, however, fixed costs (like ginning and pressing charges, transport tariffs, market fees, etc.) which vary with the weight of the produce and not its price. Hence, the share of the marketing and processing costs in the final sale prices of lint and seed tends to be lower for superior varieties of cotton fetching higher prices than for inferior varieties. In other words, the producer's share in the final sale prices of lint and seed varies in almost direct proportion to the quality of kapas. Not surprisingly, the share of cotton growers in Sabarkantha was higher than that of growers in Surendranagar district.

Thirdly, Ahmedabad, which is the major cotton consuming centre in Gujarat and the terminal market for most of the cotton produced in the State, is closer to Sabarkantha than Surendranagar district. This necessarily implies higher transport cost and much larger risk to the traders in Surendranagar district than to the co-operatives in Sabarkantha. This fact probably explains the higher margin of wholesalers in Surendranagar district.

It is clear that the differences in marketing efficiency as amongst the different producing areas need not necessarily be attributed to the differences in the respective marketing channels functioning in those areas. The marketing efficiency may vary significantly among producing areas not so much due to the differences in the operating efficiency of their marketing channels as because of varietal differences, transport distances, storage requirements and facilities, and risk factors. Unfortunately, not only have the authors not examined any of these factors and analysed their implications on marketing efficiency, but even failed to take their due cognizance in assessing price spreads and marketing margins.

True, the authors have made a limited comparison between the co-operative and the private trade channels in Sabarkantha district. In this case, the producer's share through the private trade channels varies between 80 to 88 per cent, compared to 72 to 80 per cent for most of the farmers in Surendranagar district. The authors have, however, not indicated the size of the sample of farmers selected for estimating the price spread in the private trade channel at Sabarkantha. If the sample were small, as it seems, the results may not be statistically significant and valid, and may well be even underestimates.

There is also likely to be some difference between the time of sale through the private trade channels and that through the co-operatives. The co-

operatives invariably pool kapas of their members and pay the final price at the end of the season, although some advance is paid at the time of delivery of kapas by the farmer. The private trade, on the other hand, pays the price either immediately on sale by the farmer or, at times, partly even before harvesting. Therefore, a lower price received through the private trade channel cannot be compared straightway with the higher price received through the co-operative society, without making a due allowance for the loss of interest on the delayed payment received through the marketing co-operative.

Clearly, in view of these and several other methodological and analytical limitations, it is rather difficult to accept the results of the study at their face value, and even more difficult to draw any meaningful conclusion from them on the relative efficiency of the co-operative channel vis-a-vis the private trade channel in the marketing of cotton in Gujarat, as the authors have attempted to do. Nevertheless, the study is a welcome addition to the meagre research literature on marketing margins and price spreads in agricultural commodities, and discloses, albeit unwittingly, many methodological difficulties and pitfalls in any such exercise, which sadly, however, Ranade *et al.* have failed to avoid.

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Innovations in Banking: The Indian Experience, C. Rangarajan, Oxford and IBH Publishing Co., New Delhi-1, 1982. Pp. xv+174. Rs. 75.00.

The growth of banking in India since nationalisation of banks in 1969 has been a subject of great interest both within the country and outside. It is quite in the fitness of things that one of the major research projects of the Development Economics Department of World Bank relating to the Behaviour of Commercial Banks decided to undertake the country study on India and this study undertaken by Rangarajan in 1977 as a consultant to the World Bank gives us a very competent analysis of significant changes that have occurred in Indian banking. Inasmuch as this study formed a part of the world-wide series on commercial banking, its publication had to be timed with the release of other studies and this has caused some delay but the author has utilized this occasion by incorporating, wherever necessary, more recent data. The study thus extends upto 1979, though most of its canvas covers period upto 1976.

The author has concentrated on evaluation of the performance of commercial banks on two main planks, *i.e.*, deposit mobilization and purveyance of credit. He calls any steps that lead to better performance of these two tasks as "Innovations in Banking". Elaborating upon Tobin's views that the financial intermediaries like banks raise the lendable resources within the society and at the same time accommodate borrowers at lower rates of interest and on easier terms than if they have to borrow directly from the lenders,

the author adds a new dimension of social objectives that these financial intermediaries are called upon to fulfil in the context of developing economies and the steps that lead to better performance towards realisation of these objectives that are deemed as innovations.

The foremost and the most spectacular aspect in this connection has been the spread of banking which has resulted in decline in population per branch office from 65,000 in 1964 to 21,000 in 1979 and would be 17,000 by 1984-85. The author has studied the impact of branch expansion on overall deposit-income ratio, share of new offices in incremental deposits, growth of deposits per branch for different population categories, *i.e.*, rural, semi-urban, urban, metropolitan branches, factors that affect the growth of deposits, changes in asset preferences of depositors on account of easy access to bank offices, sensitivity to interest rates and competition from non-banking corporate sector to bank deposits, contribution of a variety of new schemes introduced by banks for mobilization of larger deposits, etc. The deposit-income ratio which increased from 12 to 14 per cent between 1957-58 to 1968-69 rose from 16 per cent to 22 per cent within six years beginning from 1969-70. The overall deposits have grown seven-fold within a decade since nationalisation from Rs. 4,665 crores at the end of June 1969 to Rs. 31,225 crores by the end of December, 1979. The contribution of new offices to total incremental deposits was to the extent of 44.5 per cent during the first decade of nationalisation, being 75.3 per cent in the case of rural offices. Considering that 52 per cent of the new offices were opened in rural centres, the contribution from rural branches may be considered to be relatively small. However, the potential for increase at these offices was high as rural new offices reached optimum deposit mobilization after about six years. As at the end of 1979, the deposits collected at rural centres constituted 11.5 per cent of the total deposits, whereas they constituted only 3 per cent in June 1969. Though recent data on asset preferences of rural households are not available, the author infers on the basis of All-India Debt and Investment Survey of Reserve Bank of India carried out for 1971 and other related studies that the importance of bank deposits seems to be increasing among the financial assets held by the rural households. However, there is no marked change in the ratio of financial assets to physical assets held by them. In the case of all households, the ratio of bank deposits to total financial assets has definitely shown an increase. Deposit holders are sensitive to relative changes in the rates of interest as is reflected from the maturity composition of all kinds of fixed deposits, the proportion of which has been increasing significantly in the total deposits among all population centres. The author also observes that the degree of substitution between commercial bank deposits and other financial assets is quite weak. Though there is some amount of interest sensitivity on the part of deposit holders, the deposits mobilized by non-banking companies do partly find their way into the banking system through current accounts as transaction balances.

These are all important observations made on in-depth analysis and in a well-knit theoretical frame. From this study the researchers would get an

impetus to take up further research on the basis of micro level data and analysis so as to impart direct bearing on some policy formulations. To cite one such observation on the basis of bankwise data, the author finds that a rural branch takes, on an average, about six years to utilize the potential to mobilize deposits to the maximum extent. The dynamics of deposit mobilization by a rural branch would be better understood if an insight is obtained as to who are the depositors at rural branches, what is the impact of credit on creation of potential for deposits in different occupation groups in the rural areas, what is the credit-deposit ratio among different occupation groups in rural areas, what can be considered as the command area of a rural branch of a commercial bank or a Regional Rural Bank, keeping in view their administrative set-up, etc. The Branch licensing policy of the Reserve Bank of India is based on some broad norms. Notwithstanding this, it would be agreed that the regional disparities still persist with thin spread on one hand and bulges on the other. More rationale to the Branch expansion policy can be imparted so as to make the impact of this important banking innovation more effective and equitable.

On the credit front, the Banking System has taken a major step to chart a new course and bring about reallocation of credit in favour of the hitherto neglected sector and sections which constitute priority from the view-point of social objectives. To be specific, the term "Priority Sectors" is taken to include credit granted to agriculture, small-scale industries and small business. New direction is now given for 'priority within priority sector', meaning thereby flow of credit to weaker sections within these sectors. On the eve of nationalisation of the commercial banks, the total credit outstanding against the priority sectors constituted 14 per cent of the total bank credit, *i.e.*, Rs. 505 crores. As on March 1979, credit outstanding to the priority sector was Rs. 5,390 crores constituting 29.4 per cent of the total outstanding bank credit and is expected to reach 40 per cent by March 1985.

Within the priority sector, the growth of credit to agriculture by commercial banks has been phenomenal. The share of scheduled commercial banks in the total institutional finance, provided for agriculture and allied activities had increased to 35.6 per cent as on June 1979 and has further gone up to 38 per cent by June 1981. What is pertinent to note is the fact that the share of commercial banks in the total finance for medium and long-term credit has risen to 40 per cent. While rural branch expansion has been the main factor responsible for the increased share in credit to agriculture, the author has observed that rural branches are not the only source of credit to agriculture. Of the total credit made available to agriculture, 22 per cent came from rural bank offices, 30 per cent from semi-urban offices, 26 per cent from urban offices and 21 per cent from metropolitan centres. Fifty per cent of indirect finance to agriculture came from metropolitan centres. Another important observation of the author is that only 35 per cent of the credit granted by rural branches went to agriculture. Rural offices have provided an equal proportion of credit to industry.

In spite of the tremendous increase in the volume of credit to the agricultural sector, both in the number of accounts and in the amount outstanding, regional variations in the availability of credit, especially for short-term purposes persist. While endorsing the Dantwala Committee's observation that commercial banks had essentially supplied additional finance in the same areas where co-operatives were serving well, the author's analysis reveals that commercial bank credit has played a complementary role in terms of distribution of credit between short-term and long-term in these States. Nearly one-third of the total short-term credit of commercial banks has gone to borrowers with holdings of 2.5 acres as against 10 to 12 per cent from the co-operatives. But in regard to long-term credit commercial banks account for a larger share of the advances to big land holders as nearly 38 per cent of the total term finance extended is for the purchase of tractors and agricultural machinery.

The author has elaborated upon various new strategies adopted by the commercial banks such as Lead Bank Scheme, preparation of District Credit Plans, area approach, village adoption, etc., for increasing the flow of credit to the priority sectors.

It would be interesting to understand the impact of increased credit flow at concessional rates of interest and with significant liberalisation in procedures and methods on capital formation in these hitherto neglected sectors. We have very little information and data on the extent and composition of capital formation in the non-agricultural priority sectors. For agriculture, some bench-mark estimates are available from studies undertaken by the Reserve Bank of India, Central Statistical Organisation, National Council of Applied Economic Research as also by some individuals. All these studies unmistakably bring out that the overwhelming bulk of fixed investment in the agricultural and for that matter in the total rural sector has been out of own savings of the households. During the late seventies, with the concerted efforts of financing institutions, the borrowing component of investment in the rural areas might have gone up. With increasing institutionalisation of rural savings and steadily increasing preferences for financial assets among the rural households, especially those belonging to asset groups of Rs. 15,000 and above, as brought out by the author, and the overall credit-deposit ratio of rural branches of commercial banks being such as to result in net flow of funds out of rural areas, the whole process of capital formation in the rural sector seems to be undergoing a basic change. Which section of rural households is sustaining the higher rate of capital investment that is suggested by CSO data for the late seventies and early eighties? Has the increasing preference for financial assets among the households belonging to asset groups of Rs. 15,000 and above resulted in drying up the non-institutional channels of financial assistance in the rural areas to sections which needed supplementary external resources but could not fulfil the eligibility norms of financial institutions and therefore, could not avail of institutional finance? Has the increasing coverage of financial institutions and their dilution of erstwhile eligibility norms in recent period been wide enough to satiate such demands? If not, what is happening to this section of rural households? Or are their physical and

financial assets accumulated in the past being drawn upon and/or liquidated? It is high time that the Reserve Bank of India undertakes the fourth round of Rural Debt and Investment Survey suitably amending it to capture the forces that have started making the otherwise traditional rural scenario quite turbulent in the seventies and eighties.

The systematic and analytical exposition of various aspects of problems arising in relation to deposit mobilization in the rural areas and provision of credit to the priority sector, especially to the agricultural and rural sector by the author provides an important frame for the researchers for further probe and a challenge to Bankers for furthering the process of innovativeness ushered in the banking sector consequent to nationalisation of scheduled commercial banks in India.

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Dry Farming Technology in India: A Study of Its Profitability in Selected Areas, P. Rangaswamy, Studies in Economic Development and Planning No. 30, Institute of Economic Growth, Delhi; Agricole Publishing Academy, New Delhi-17, 1982. Pp. xviii+212. Rs. 125.00.

Efforts have been underway to develop appropriate dry farming technologies at All India Co-ordinated Research Project for Dryland Agriculture (AICRPDA) since 1970. The book under review is a contribution in the area of economic evaluation of dry farming technologies that emanated from AICRPDA's early efforts. Based on the author's Ph.D. dissertation, it focuses mainly on the relative profitability of the new dry farming technologies vis-a-vis the traditional practices in areas of Kovilpatti in Tamil Nadu and Ibrahimpatnam (Hyderabad)—two of the 24 project sites of AICRPDA. Besides, the study also includes analyses of risk and returns associated with fertilizer use and factor-using biases of these technologies. The new technologies evaluated broadly include high-yielding varieties, use of fertilizer, plant protection measures, and improved methods of tillage, sowing, intercultivation, weed control and fertilizer application.

The book has nine chapters with a concluding section in each of them. The first chapter introduces the problem, specifies the objectives and points out the limitations of the study. The significance of technological change in economic growth is also explained by reviewing literature that covers both theoretical issues and empirical results. The second chapter presents agro-economic profiles of the selected areas and provides background for the subsequent analysis in terms of details on land classification, soils, rainfall and cropping pattern. The author finds a unique opportunity to compare and contrast the two very different and still representative dry farming areas. Kovilpatti has red soils with mainly *rabi* crops and receives rain predominantly

from the north-east monsoon. While Hyderabad has black clay soils and gets most of its rain from the south-west monsoon and hence crops there are raised mainly in *khari*. At each site, the author finds one important cash crop (cotton at Kovilpatti and castor at Hyderabad) and one dominant coarse grain cereal (bajra at Kovilpatti and jowar at Hyderabad).

The next three chapters present analyses of the profitability of the new technologies using data from experiments carried out at research stations, demonstrations conducted on farmers' fields, and the author's own survey at Kovilpatti respectively. While the main analytical techniques are partial budgeting and multiple regression with emphasis on dummy variables, 't' statistics is also used.

Particularly interesting are the results of cotton response to fertilizer during different years. Cotton yield does not respond to fertilizer in bad year but does respond during good and average years, suggesting different profit maximizing doses. This gives a clear message for selective recommendation of fertilizer use considering other crucial factors. Another important finding is that the dry farming practices are profitable for commercial crops, *viz.*, cotton and castor but not for the coarse cereals such as bajra and jowar. The performance of the new variety of jowar is observed to be consistently inferior than that of traditional variety both at the local and improved levels of other inputs. This result deserved a specific emphasis particularly in deriving implication for research to realise the already available genetic potential through the use of complementary inputs.

While the author gets modest superiority of the new dry-farming technology over the traditional technology, the superior performance of new technology is quite distinct in the irrigated crops which the author attributes to the higher levels of bio-chemical inputs and their positive interaction with irrigation. The author points out unfavorable input-output price ratio as an important production constraint for the coarse cereals and emphasizes the need to evolve a low cost technology particularly for bajra.

The results from the whole-farm production function analysis show that the marginal value products (MVPs) of modern inputs are much higher compared to their marginal costs while the MVPs and marginal costs are close in the case of traditional inputs. These results are interpreted by the author as under-investment by the farmers in modern inputs. But this interpretation may only be valid in short run disequilibrium.

Some of the limitations of these analyses are, however, worth mentioning to help judge the scope of the book. Since the study is based on data from only two dry farming areas and the dry farming technologies are location specific, the results can not be generalised without making many qualifications. The results from experimental data can hardly be considered to be directly applicable to farm situations in view of differences in the management by scientists and farmers. The new dry farming technology is still in a formative stage, therefore, it may be too early to pass a judgement on the viability of the new technology.

The book contains a chapter on analysis of rainfall-yield relationship for bajra, which though appears to be out of focus, provides very valuable infor-

mation. The seventh chapter forms the centre piece of the book wherein the analysis of return and risk associated with the fertilizer application to cotton is presented. A choice-theoretic model under risk is used which considers both the degree of risk as reflected in expected return-standard deviation frontier and the attitude of the farmers toward risk as measured by Binswanger in terms of partial risk aversion coefficient. The chapter demonstrates very effectively the methodology for decision-making analysis under risk. However, the results have serious limitations. Firstly, as pointed out by the author, the data used are only for three years while E-V analysis would need data for longer period sufficient to reflect the presence or otherwise of normal distribution underlying the parameters. Secondly, the response function, which is established on the basis of experimental data, may be different than that faced by the farmers under their level of management and other inputs. Therefore, figures on investment gaps based on such a response function may not be realistic under the farmers' conditions.

An analysis of the factor-saving biases of the new technologies, based on the neo-classical theory of functional income distribution is given in the eighth chapter. The new technologies are essentially land-saving in nature with also saving-biases with respect to bullock and human labour while they show factor-using bias with regard to bio-chemical inputs. Since the author used cross-sectional data and constant prices which do not allow the reflection of equilibrium prices, the figures on factor share changes are likely to be over-estimates.

The author emphasizes the need for research in areas such as moisture conservation and moisture use efficiency, crop diversification and intercropping, and evolving yield stabilising and low cost technologies. Besides, extensions of credit and irrigation facilities are suggested as important policies. This 212-page book could have been reduced to only half of its present size had the author worked more on the language and also avoided monotonous discussion which he presents by reproducing the table figures in the text. The author deserves compliments for providing a comprehensive review of the past studies. The book, as hoped, will prove to be useful to agricultural scientists and economists.

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Panchayats and Rural Development, D. V. Raghava Rao, Institute for Social and Economic Change, Bangalore; Ashish Publishing House, New Delhi-27, 1980. Pp. xi+96. Rs. 35.00.

Tumkur project, a study on rural development, located in the Tumkur district of Karnataka, was initiated in November 1976 under the guidance of

Professor V.K.R.V. Rao of the Institute for Social and Economic Change. Along with the preliminary papers, based on secondary and village questionnaire data of the project, a series of eight theme-oriented studies entitled "Studies in Integrated Rural Development" under the general editorship of Professor Rao were planned.

The work under review, one of the theme-oriented studies, seeks to focus attention on the village panchayats with special reference to the power structure in them and so the largest chapter, "Caste, Class and Power" is devoted to it. Committee members and chairmen of 172 panchayats constitute the leadership for this analysis. The total number of panchayat committee members in the sample villages is nowhere mentioned. Instead of commenting that there were 316 women members in the 172 sample panchayats giving a ratio of 1.84 per panchayat as against a statutory requirement of not less than 2 seats for women in a panchayat, the author could have explained that the remaining 28 seats were vacant owing to different reasons.

Studies relating to factionalism, caste, etc., and M. N. Srinivas' concept of dominant caste have been referred to. According to the author, the broad picture that emerges is that the social groups, namely, peasants and Lingayats are numerically or economically dominant in the district. 'Peasants' and 'Traders' included in the caste/religious groups in the tables are not spelt out. The reference to Vokkaligas as peasants (p. 22) probably implies they are identical. Vokkaligas and Lingayats figure in any discussion of the power structure in Karnataka and to explicitly mention Lingayats but refer to Vokkaligas merely as peasants may not be appropriate. Further, one is not sure whether 'traders' represent a single caste or a conglomeration of castes like, say, the Scheduled Castes. The author finds that the upper classes among the locally dominant groups generally having good educational standards capture power in panchayats and that the power structure in the panchayat still favours the old age groups.

This was the position in 1977. To those who are interested in knowing whether the position had been more or less the same after the advent of Panchayati Raj or whether there had been shifts as a result of the elections to the panchayats held at different times, the work does not provide an answer as questions on this aspect do not seem to have been canvassed, though it should have been done in view of its importance to understand social change, the purpose for which the Institute was established.

Those who look for an extended analysis of the role of panchayats in rural development in view of the title of the book would be disappointed as the work is concerned primarily with leadership and secondarily with the examination of the resources of the panchayats in general. The patterns of income and expenditure only are presented. Even here, there appear to be some gaps. For example, what constitutes the expenditure, say, on 'public security' which accounts for 16 to 18 per cent of the total expenditure and the second or third largest item of expenditure of some of the panchayats, has not been spelt out.

Panchayats in the class of 3,000+ population were found to have higher per capita incomes, less proportion of expenditure on general administration and high proportion on works and civic amenities and education and higher proportion of surplus income compared to the panchayats in the lower classes, *viz.*, below 2,000 and 2,000-3,000 population (p. 72). More evidence is necessary to adduce that they could cater better to agricultural development programmes like acquisition of sprayers/dusters and adult education programmes.

The chapter on "Viable Panchayats" intends to buttress the thinking of Professor V.K.R.V. Rao on the need for a 'minimal unit area' and the concept of Mandal panchayat referred to by the Asoka Mehta Committee report. The author feels that the present size of the panchayats in Karnataka does not make them economically viable units though he has not at any place defined or elucidated the criteria of viability. He suggests a viable unit comprising of about 4,000 population spread over about six villages. A larger village panchayat could be economically better off than a smaller one, but it would be difficult to argue from this that five or six small non-viable villages—having altogether a population of, say, about 4,000, but scattered and probably miles apart from each other—by being brought together as one panchayat would be viable and on comparable terms with a compact village panchayat of a population of 4,000. The author could have gone ahead and explained how this would happen. For example, would it mean less expenditure and/or more income? If so, on what account and to what extent? Would it result in improving the standards of services rendered to the people? Would the appointment of, say, a panchayat secretary with a separate pay scale, etc., for each of these units, instead of depending upon the village accountant-cum-secretary, lead to better collection of taxes—current and arrears? If so, what would be the financial implications on this account? These questions, all administrative in nature, are intended only to emphasize the need to think in detail of the pros and cons of the existing and alternate arrangements.

Some other comments may be in order. It is mentioned on p. 12 that the Karnataka system differs from the one suggested by the Balvantrai Mehta Committee report which had recommended the establishment of a panchayat samithi at the block level. In Karnataka, a Development Board at the taluka level serves the purpose for which the panchayat samithi was intended. The author could have explained why this was so. A pamphlet "Community Development at A Glance" issued by the Ministry of Community Development and Co-operation, Government of India, in 1962 shows that only in Gujarat, Maharashtra, Mysore and Uttar Pradesh, the number of blocks into which some districts were delimited contained fractions. For example, in Karnataka, Bangalore, Chitradurg and Mandya, districts were delimited into $19\frac{1}{2}$, $12\frac{1}{4}$ and $10\frac{1}{4}$ blocks. Tumkur, delimited into 17 blocks, had at that time $8\frac{1}{2}$ blocks in the stage I. Probably what had happened was that in these States, the block was only a theoretical construct and not a physical unit. A taluk which had, say, $1\frac{1}{4}$ times the norms set for a block might have been considered equivalent to $1\frac{1}{4}$ blocks for the purpose of allotment of funds and staff. That is, they did not go in for a separate developmental unit as

was the case, say, in Andhra Pradesh and other States but made use of the taluk, the revenue unit for development purposes also.

It is good that the Institute for Social and Economic Change, Bangalore has undertaken, though incidentally, this study useful to the students of social change and Panchayati Raj as studies devoted to an analysis of the nature of leadership and resources of Panchayati Raj institutions in the country in general and in Karnataka is particular are not many. The critical comments in the previous paragraphs are intended only to emphasize one point. Important aspects like longitudinal analysis of leadership, mobilization of local resources for local development, decision-making process and performance by the Taluk Development Boards of functions entrusted to them need to be studied in depth and it would be worthwhile if the Institute, located in the State capital itself, can evince more interest in undertaking such comprehensive studies of Panchayati Raj in Karnataka.

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Area Planning: Precepts and Practices, Shreekant Sambrani and K. R. Pichholiya, CMA Monograph No. 90, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad-15, 1983. Pp. vii + 107. Rs. 55.00.

The concept of area planning finds a place in all our national plan documents beginning from the First Five Year Plan. But no serious attempts were made in translating this concept into reality. The increasing interest in area planning or decentralised planning in recent years is due to (a) disillusionment with the results of centralised planning of 1950s and 1960s, (b) implicit requirement in growth with equity policies of 1970s of new ways of managing economic and social development programmes and (c) growing realisation among policy makers during 1980s that as societies become more complex and as the governments' spheres of activity expand, it becomes increasingly difficult to plan and administer all development activities effectively from the Centre. Slowly the State Governments have started accepting the concept and operationalising the same. Most of them are in the transition phase. Judged in this context, this book can be considered as an excellent addition to the existing literature on the subject.

The authors rightly avoid giving 'the approach' to area planning since that will be contrary to the very concept itself. Hence, they have attempted to examine the concepts and processes, agencies and instruments of area planning and their interdependence and identify the lacunae in the practices by studying some of the area plans formulated for different areas by different agencies.

There is unanimity as regards the basic premises of area planning. The objective of regional planning no doubt is to minimize regional disparities. For achieving this, the planner should have clear knowledge about the abun-

dance of resources and they should be put to efficient use. Area planning is not only concerned about the resource potential of an area in relation to that of other areas but also with the collectivity of these resources. The literature on district planning includes all these objectives and in addition, it calls for closer involvement of people for whom plans are meant. While these objectives are laudable, their pursuit may conflict with the basic objective of efficient use of resources. The authors drive to an important point that mere participation of people in the decision-making process is not the end in itself unless it leads to a movement towards some commonly shared goal of better utilization of available resources collectively. This has remained only on paper. No concrete efforts have been made to organize various interest groups in the rural areas.

The chapter on "Experiences of Area Planning in India" is a lucid summary of the evolution of the concept in our Plans. After presenting the different forms of area planning in different plans, the authors come to the conclusion that there is no conceptual advancement right from 1951. The experience in operationalising the concept is also no better, they conclude, after examining some of the area specific programmes like DPAP in Anantapur district of Andhra Pradesh, the Musahri Project in Bihar, growth centre approach to Talala block and planning for Panchmahals in Gujarat State. A critical examination of these plans, in terms of data requirements, plan formulation, integration of various programmes, funding flexibility, peoples' participation, collective approach to the efficient use of available resources, etc., forms the basis of the last chapter. The Panchmahals' experience reveals the hard fact that even the meticulously conceived area planning approach is not a panacea for the development of most backward areas. After all, the development process is time consuming and a painful process.

The crux of the book is presented in the last chapter. The discussion in the earlier chapters revealed the fact that the planners having sworn by the concept of area planning did not attempt seriously in operationalising the same. While analysing the factors affecting the operationalisation of area-planning, they highlight the rigidity of administrators, lack of autonomy to the local level, lack of higher level of skills for plan formulation at the local level, absence of local level revenues, etc. This does not mean that area planning is going to be a myth in our country. On the contrary, the concept can be made to work by building up required processes, agencies and instruments. Given the political will, these are easy to achieve. The main question is—whether do we have the 'political will'? This point is not highlighted in its proper perspective though a passing reference has been made.

In operationalising the area planning approach, the unit of planning is important. Though the definition of area as defined by regional scientists is more attractive, the authors rightly plead for considering the district as the unit of planning. The district being the unit of civil administration, the co-ordination of different activities is much easier than the units carved on the basis of homogeneity. Blocks become too small a unit and many development departments may not be represented thereby affecting the co-ordination.

But within the district, the planners must attempt sub-regionalisation based on critical factors like land, water, minerals or topography.

The availability of reliable and required data is another important factor in area planning. In many States, district income is not computed. Some States like Karnataka are attempting to collect not only talukwise (blockwise) plan statistics but are presenting them in a more meaningful way for drawing inferences. This is a continuous process and must be taken up by all States.

The purpose for which area planning can be undertaken is: (1) new resources like irrigation is made available in the area, (2) an area may have specific problem of recurring droughts and (3) for the overall development of the area. The authors argue that area planning is more meaningful in the case of the first two than in the third instance. However, there are no areas without specific problems. The planner's ingenuity lies in identifying them. Even in the case of overall development, area planning is meaningful to the extent that many locational decisions are to be taken based on certain norms.

The need for collective approach rather than individual approach has been emphasized. Such an approach requires organization of interest groups. Political leadership may not do this job wholeheartedly. Instances are not lacking when Zilla Parishads' Presidents became more powerful than ministers, the powers of Zilla Parishads were reduced considerably. Voluntary organizations can play a useful part in organizing people. The involvement of administration is also most important. It is doubtful whether the present bureaucracy is well suited to take up this task of development administration. Probably there is urgent need for building up a cadre of development administrators by suitably identifying them. Commitment to the rural poor rather than commitment to rules should be the basis in selecting development administrators.

Delineation of planning areas between different tiers, basis of distribution of plan funds, financial and administrative powers between different tiers are some of the issues which are not highlighted in the book. However, the book has pinpointed the real issues involved in operationalising the area planning approach. It will certainly lead to better understanding of the concepts and processes, agencies and instruments and point out the lacunae in the practices of area planning approach and therefore of great interest to planners, policy makers and scholars interested in this field.

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Land Market: Theory and Practice in Rural India, Baldev Singh, Agricole Publishing Academy, New Delhi-17, 1982. Pp. xii+140. Rs. 70.00.

The author is to be congratulated for selecting an important subject for his investigation and one that has been little researched on. Conventional

wisdom believes that the land market in India is virtually non-existent but little actual empirical work is available to support this view. The author provides varied evidence of land transactions from published sources such as the Reserve Bank of India Debt and Investment Surveys, a few village surveys by others and his own surveys. However, he finds an annual rate of "one per cent or more of the land of a region, on an average, gets traded" (p.6) each year. It is not clear that the evidence is enough to conclude as he does that the land market is "thus found to be an active market in rural India" (p. 7).

Each chapter of the book is essentially centred around the data in a table which is used to support hypotheses suggested at the start of the chapter. While the data are likely to be useful for others working in this area, various alternative hypotheses may be preferred. Perhaps a greater amount of data—either in the body of the text or in appendices—may have improved the study's usefulness. The econometric work in later chapters is not the strongest aspect of the study, in fact in Chapter 7, the model estimation is essentially flawed.

The text has underlying allusions to Marxism and Marxian terminology which often appears a little forced and unsubstantiated. On the whole, the major problem with this study is that it spreads itself too thin across too many subjects. This reviewer, for one, looks forward to more work by the author concentrated on specific aspects of the land market—an important area which this book does very well initiate.

Econometric Project
C/o International Computers
Indian Manufacture Ltd.,
New Delhi

Prannoy Roy

Economics of Development and Planning (with special reference to India), M. L. Taneja and L. R. Sharma, Shoban Lal Nagin Chand & Co., Jalandhar City, 1982. Pp. vi+812. Rs. 45.00.

Growth economics has emerged as a crucial area of economic theory in recent years. No wonder there has come up a spate of literature on the subject. In view of the seminal contributions made by several economists in this area, there is a conspicuous need for some textbooks dealing with the subject in its theoretical and empirical aspects. This book purports to fill this gap as it makes an attempt to provide a comprehensive view of the subject which is of vital significance to the developing countries.

The book is divided into six parts. Part I deals with the nature of economic development, its meaning and measurement. It also discusses the basic characteristics of under-developed economies in contradistinction to developed economies. The role of economic and non-economic causes in under-development has been pinpointed. The pre-requisites and determinants of economic development have been highlighted.

Part II is devoted to a discussion of the theories of economic growth. These include the Classical theory, Marxian theory, Schumpeter's theory,

Keynesian theory. It also sets forth the Harrod-Domar's, Mrs. Robinson's, Meade's, Solow's and Kaldor's models. Part III deals with the theories of economic development and discusses the views of Rostow, Lewis, Hagen, Myint, Myrdal, Prebisch-Singer, Nurkse, Hirschman and Leibenstein on the process of economic development.

Part IV discusses the domestic measures for economic development. These include the role of savings, marketable surplus, population, technology, monetary and fiscal policy in economic development. This part also incorporates discussion on inflation, price policy and income distribution.

Part V is devoted to international measures for economic development. The role of foreign capital, particularly the Multinational Corporations has been discussed. This is followed by a discussion on public foreign investment. The role of foreign trade in economic development has been highlighted. Commercial policy has also been analysed.

The last part deals extensively with different facets of development planning. This part discusses the nature and goals of development planning and price mechanism, shadow prices, planning models, investment criteria, choice of techniques, project evaluation, input-output analysis, instruments and strategy of planning and agricultural and industrial development under the Plans in India. It also contains a short note on the Sixth Five Year Plan.

This book is a useful, compact and comprehensive synthesis of the material readily available in some standard foreign textbooks written by Meir and Baldwin, Higgins, Kindleberger, Lewis, Kurihara, Myrdal, Myint, Nurkse, Hirschman, Leibenstein and Todaro. This teaching material has been supplemented by literature concerning development and planning in India. However, there is much scope for reorganizing the contents of Parts IV to VI. In fact, the authors should have done well to provide brief introduction to each of the six parts indicating how the different topics under each part link up together. This would have provided the much needed coherence which is the hall-mark of any work of quality. Further, the book quotes several authorities in the text material. However, when one refers to the list of references at the end of each chapter, these references turn out to be different from those mentioned in the text. Besides, there are numerous typographical errors in this book.

Another shortcoming of this book is the lack of bibliography at the end. But keeping in mind that this is the first edition of the book published by a less known publishing firm, it can be expected that the authors would be able to make necessary improvements in the next edition.

On the whole, the authors have done a good job of providing a condensed version of the huge literature on development and planning for the students majoring for honours and postgraduate degrees of Indian universities and also for the candidates preparing for various competitive examinations.

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