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BOOK REVIEWS

An Economic Analysis of the Indian Tea Industry and Public Policy, M. Halayya, Research Publication Series 14, Karnatak University Press, Dharwar, 1972. Pp. v + 245 + xxi. Rs. 25.00. (Calico : Rs. 30.00).

Literature on India's tea industry has been disproportionately scanty compared with its importance and any addition to the rather meagre stock of such literature should be welcome. In several ways, however, Halayya's recent volume would leave the discerning economist, statistician and policy-maker disappointed. It is a compendium of some facts and figures gathered and analysed in a rather general and desultory manner which hardly leads to an improvement of one's critical understanding of the real problems and policy issues concerning the tea industry of the country.

Chapter 1 of the book deals with the importance of the tea industry in India's economy along oft-repeated lines. Some of the statements in the chapter (including one misplaced quotation from Gunnar Myrdal's *Asian Drama*) are, however, confusing, *e.g.*, "The tea industry offers ample scope for the expansion of the fertilizer industry" or that "The tea industry has been augmenting the food supply of the country to some extent" (directly). "This is particularly important because the country is facing food scarcity quite often." (p. 15.) Chapter 2 seeks to trace out the growth and problems of the Indian tea industry. In this connection, the industry's problems that the author meticulously distinguishes are (*i*) a low rate of growth of production, (*ii*) declining trend in exports, (*iii*) instability of prices and (*iv*) declining profitability without realising that these are evidently not mutually exclusive. An integrated approach to these problems should have been more logical and revealing.

The cost of replanting per hectare (p. 40) in the mid-fifties as discussed by the author is meaningless now and some recent estimates should have been presented. The average replanting cost has been cited as Rs. 10,000 per hectare (p. 42) but its empirical basis is not known and moreover, such an average is misleading in that it conceals the very major regional disparities. Then, the period for which the annual growth rates in production for India and the world cited on p. 41 are applicable is not indicated. Also, presentation of some of the concrete research findings of the Tocklai Experiment Station could have helped in ascertaining the economic life of tea bushes. And does the author imply that all lands left uncultivated in tea estates are essential for viable expansion of the estates? Finally, it should have been noted that instability of prices (in the sense of very short-term fluctuations) has never been a major problem of the tea industry. What basically perturbs the industry is a secular decline in the real prices of tea.

Halayya's analysis of the important issue concerning the economic size of tea estates which is posed at the outset of Chapter 3 is totally unrewarding. It is a blind recapitulation of some earlier discussions often bordering on plagiarism. While analysing concentration of ownership, of course, he adduces some purposeful information. In discussing the problems of the small growers the author has not sought clearly to assess the role of small estates vis-a-vis the plantations. Particularly questionable is his conclusion that "in all probability, tea will tend to become more and more a small grower crop, eventually the representative size becoming more or less the same as peasant holding in other crops." (p. 84.)

In Chapter 4 dealing with the employment and labour policy one comes across such trite observation as the following: "Effective enforcement of anti-inflationary measures to arrest the continuous rise in price level is an urgent necessity if the Indian economy in general and the tea economy in particular is not to go out of gear." (p. 104.) The tangible implications of the author's treatment of the industry's labour problems for public policy leave one guessing.

Chapter 5 deals with the taxation of the tea industry throughout which the author assiduously tries to build up his thesis that the industry is over-taxed to a socially unjustifiable extent without even attempting any inter-industry comparison of tax incidence. Also, conspicuous by its absence is a critical analysis of the zonal system of excise duties and the quantitative and qualitative impact of excise duty reliefs on production and exports. His presentation smacking of the general, unsophisticated pleadings of some of the industry's spokesmen has not helped in establishing his case for fiscal reliefs on sound economic basis.

In Chapter 6, Halayya sets out with an amazingly superfluous statement that "Cost of production is of particular significance to the tea industry. So also is its selling price." (p. 140.) Then he adduces some sketchy and inconclusive data on costs of production taken from secondary sources, although in the preface to the volume he claims to have made direct contacts with the industry. And an empirical analysis of the likely effects of various forms of technological progress or innovations on labour costs has been totally eschewed.

Instances of such shortcomings which severely detract from tne merits of the volume could be multiplied. However, in fairness to the author the present reviewer concedes that he has a lucid, albeit rather naive, style of presentation. There is not much ambiguity in Halayya's ways of stating things—he avoids using wooly jargons which mar many an economic treatise. That is to say, his views are almost always clearly expressed; whether the critical reader approbes or esteems these is a different matter.

GOUTAM K. SARKAR

Essentials of Farm Financial Management, S. S. Johl and C. V. Moore, Today and Tomorrow's Printers and Publishers, New Delhi, 1970. Pp. x + 152. Rs. 10.00.

The rate of growth of economy is necessarily limited by the availability of resources. It is, therefore, essential to ensure a judicious and efficient use of resources, particularly capital, which is in acute short supply in developing countries. In the field of agriculture, so long as the flow of resources was limited, one could, perhaps, afford—though not justifiably—to lend on the basis of security alone, ignoring the basic principles of credit management. But, in view of the recent spurt in the demand for and the supply of resources for agricultural development, adherence to security-oriented lending is a wasteful luxury which one can ill-afford. If not security, what then should be the criteria for lending to agriculture? The book under review attempts to answer this question.

The book is divided into two parts. Part 1 is a mere description of the structure and operations of the main source of farm finance in India. The discussion, however, is so elementary—in fact, perfunctory—that it is doubtful whether it will in any way enrich our "understanding of the role and functioning of the major agencies which are the source of loanable funds to the cultivator," or enable any student of farm credit "to initiate research in this field." Moreover, as there is hardly any discussion of how the system functions, it will hardly enable the student to "probe into the causes of malfunctions in the system." Besides, there are also quite a few factual inaccuracies. Thus, for instance, it is implied that (*i*) under the crop loan system, the cultivator is expected "to repay the loan from the proceeds of the crop for which inputs are used" (p. 12) or (*ii*) the medium-term loans are repaid in a "series of instalments spread over a maximum period ranging from 2 to 3 years." (p. 12.)

Part 2 of the book is concerned with the financing of farm business and laying down the essentials of farm financial management. The authors have done well to emphasize the 3 tests of soundness of credit or the 3 'R's as they have put it—namely, returns from the investment, repaying capacity and risk-bearing ability—which should govern the decision of the borrowers to borrow, of the extension agencies to recommend and of the lending agency to advance a loan. Every loan must satisfy the following three criteria before it is requested, recommended or advanced.

1. Additional returns from the use of the borrowed money should be sufficient to cover the additional cost of funds so acquired.

2. The borrower should have adequate repaying capacity to repay the loan when it falls due.

3. The borrower should have sufficient risk-bearing ability to meet the effects of the probable financial losses.

The various aspects of the problems have been clarified with the help of easy-to-understand examples. The treatment, however, is not always rational; the concepts are also not always very clear. Thus, while on the first test of soundness of credit, namely, whether the additional return will cover the additional cost, the discussion revolves round maximization of returns to the fixed resources (including the borrowed capital resources). But the two are not necessarily the same. Additional returns from the use of borrowed money may be sufficient to cover additional costs without maximizing return to fixed farm resources. On the other hand, returns may be maximized and yet additional return may not be sufficient to cover the additional cost. Further, the statement that "a loan may be productive but still it may not generate sufficient income to make it possible to repay the loans as it falls due" (p. 72) makes one wonder about the very concept of productivity and productive investment. Similarly, the Maximum Credit Limit (MCL) has been confused with the surplus repaying capacity. (pp. 77 and 78.) The MCL is a function of, but not the same as, the surplus; the MCL is so fixed that the annual repayment liability does not exceed the annual repaying capacity.

One important limitation of the book is that while enunciating the essentials of farm financial management it has not discussed the concepts of farm income, farm costs and consumption expenditure—what items should be included and why. Similarly, on the question of prices to be used in working out the various estimates, all that is stated is that "the product prices are adjusted for price trends." (p. 74.) How the product prices are to be adjusted and how prices are to be projected are not discussed.

The authors have also made some sweeping generalizations without pausing to consider the implications. Thus, it is stated that "technically all such consumption needs that have higher marginal value for satisfaction to the family, compared to the MVP of production credit, should be included in the loans to be advanced" and "that all credit needs of the farm family must be viewed as an integrated whole." (p. 69.) There is nothing new in this suggestion. But how is the marginal value for satisfaction of consumption needs to the family to be calculated and who is to judge whether it is higher or lower than the MVP of production credit?

It is also not clear to whom the book is addressed. Is it meant for a layman, a cultivator, an extension worker or an agricultural economist? If it is meant for professional economists, the treatment is too elementary and, at times, superficial. If, however, it is meant for a layman, the discussion has been unnecessarily made technical by the use of such jargons as the MVP of capital, present value of future returns (discounting process), operators' and family labour, interest on investment, and diminishing return, without explaining any of these terms.

AHMED RAZA

Intensive Agriculture and Modern Inputs: Prospects of Small Farmers—A Study in West Godavari District Waheeduddin Khan and R. N. Tripathy, National Institute of Community Development, Hyderabad-30 (A.P.), 1972. Pp. viii + 124. Rs. 16.00.

Efforts directed, in the recent years, towards the promotion of intensive production practices with modern inputs, especially on the small farms which constitute 52 per cent of the total rural households accounting for 19 per cent of the total cropped area in the country have given a new bent to our agricultural development strategies evolved with respect to the new farm technology. It is in this context that the problem of identifying the various socio-economic, agronomic and technological factors which either help or hinder the farmers in the adoption of intensive farming practices in the various regions becomes extremely pertinent; and, hence, the significance of the present work under review. The authors conducted their studies in the two agro-climatic zones of the delta, with alluvial soils and canal irrigated farms, and the uplands, with poor quality soils and rain-fed farms, of the IADP district of West Godavari in Andhra Pradesh. The book contains ten chapters and five annexures with fourteen statistical tables.

The objectives and methodology of the study are outlined in the first two chapters. With the primary objective of enquiring into the reasons for differences in the farmers' responsive behaviour to intensive agricultural practices, the study also examines and suggests improvement measures; the by-products of the main objectives being employment and productivity patterns. A multi-staged random sampling procedure was adopted to select ten villages and 274 farms; and data were collected by survey methods for the *kharif* season of 1969 and *rabi* of 1970. Chapters 3 and are 4 devoted to the description of the sample farmers' structure, assets, debts and borrowings. The delta area exhibits greater skewness in its land distribution than in the uplands; the former has also better assured irrigation and soil fertility conditions. In the upland, the authors find bigger farms with a higher percentage of irrigated land area due primarily to their own sources of irrigation constructed by own and institutionally borrowed credit. The two regions further differ with respect to tenurial system, though in both the problem of fragmentation of holdings is equally serious. In regard to the structure of assets, the study reveals inter-regional differences in the district. Despite the fact that the co-operatives account for 60.1 per cent to 73.4 per cent, while the commercial banks for 8.2 per cent to 11.8 per cent, of the total borrowings of the sample farms, 81.1 per cent to 90.9 per cent of the borrowings of the marginal farms (below 2.50 acres) come from the moneylenders. A detailed survey of the pattern of cropping and crop intensity in the two areas by different size-groups (Chapter 5) showed that the delta farmers because of better soil and irrigation conditions put more area under high-yielding and improved paddy and grow less number of crops than their counterparts in the uplands where emphasis is, as it should be, on rain-fed crops, tobacco and tree crops being more important.

Cropping intensity in the two regions differ considerably—the delta farms practising much higher intensity (of 177.2 per cent) than the upland farms (of 88.1 per cent) due primarily to their differences in land development, soil conditions and irrigation. Besides these, the differences in regard to the economic resources position (in fact, the constraints) of the farmers in the two regions could also have been responsible for the differences in their crop intensities; this aspect is not, however, emphasized by the authors in this context. With respect to the adoption of package of practices and modern inputs on farms (Chapter 6), the number of delta farmers 'ever adopting the complete package' was about 73 per cent as compared to only 25.5 per cent of the upland farmers—the adoption in the highest size-groups being complete in the delta, though this trend was not the same in the uplands. And, the "most shocking reason for non-adoption is the failure of the extension services to provide information to the farmer." (p. 52.) Putting almost the entire burden on the extension services is rather incredible! There might have been other equally, if not more, important deterrents which the authors seem to have overlooked in this context though they mention these (such as farmers' limited resource situations, p. 73) elsewhere. Similarly, their statement that there is no package of practices developed for tobacco (p. 53), an important commercial crop in the uplands, does not appear to be true. The Central Tobacco Research Institute, Rajahmundhry and other developmental agencies working in this field would certainly raise their eyebrows while reading it.

A comprehensive analysis of inputs and costs and returns structure supported by detailed statistical tables is made in Chapters 7 and 8. The data presented in the chapters show, like many other findings reported by other research workers, that (*a*) costs per acre have a declining tendency with increase in the size of land holdings; (*b*) labour use has a high degree of correlation with crop intensity; (*c*) the relative share of family labour declines with increasing land holdings; and (*d*) the bullock labour declines with increase in size class. The authors' findings with respect to gross revenue (GR) and farm business income (FBI) vis-a-vis farm size are at variance with those of other Indian research scholars in that the former (*i.e.*, both the GR and FBI) do not, in the present case, show a declining trend with increasing farm size; though in the case of net revenue (NR) the authors' findings are in agreement with them, *i.e.*, it (NR) shows an increasing tendency with increase in farm size. Differences in GR, FBI and NR are ascribed to differences in crop pattern and intensity of farming.

A small chapter (9) is devoted to production function analysis; and with the help of the widely used Cobb-Douglas production functions, an attempt has been made to measure efficiency in resource allocation. With the gross value of total product (Y) as the dependent variable, the estimating model includes land (X_1), human labour (X_2), bullock labour (X_3), fixed capital (X_4), and working capital (X_5) as the explanatory variables. The authors' statement that their production functions are free from the problem of multicollinearity because the values of 'r' (in the case of independent variables) are smaller than those of 'R' in all the cases is really a doubtful proposition (there is no mention of the values of 'r'). The inference drawn by the authors seems to be rather stretched out of context.

The discussion on the elasticity of output, marginal value products (MVP) and factor costs provides interesting insight into the pattern of resource efficiency in the delta and the upland zones. The delta production functions reveal increasing returns, while the upland production functions, constant returns, to scale. The MVP of land and labour has been found to be higher than the other inputs, bullock labour having consistently negative, though non-significant, coefficient values. The fixed capital has negative MVP in the delta, while positive in the upland, though its coefficient is non-significant in both the cases. In the case of the delta, the working capital too shows non-significant impact; whereas in the uplands it has a significant bearing on production as revealed by its regression coefficient. However, during the course of their discussion, the authors have confused between regression coefficient and elasticity of output. For instance, it is said (p. 89, second para) that "the elasticity of output to human labour inputs is consistently high and significant. In other words, *a unit increase* in human labour input . . . adds more to gross output . . . ." Similarly, their discussion of MVP of farm inputs as well as production elasticities between the *two seasons* does not provide any relevant inference, especially when one considers the possibilities or desirabilities of resource transfer. There is hardly any competition, for example, between the *kharif* and the *rabi* crops as such with reference to land and/or labour. The *rabi* land in the delta is said to be yielding higher MVP than the *kharif* land; then, should we infer (if at all any inference can be drawn !) that this being so the *khatrif* land should be shifted to *rabi* land ? Inter-crop as also inter-group comparisons of resource efficiency and production elasticities in the two regions could have definitely provided much more useful bases for economic interpretation of the functional analysis that has been attempted in the present study. Similarly, tests of significance between the regression coefficients estimated for the different crops/farm sizes could have been run to examine the real difference(s) in the resource use between the crops and/or the farm sizes.

Conclusions and the suggestive inferences of the present study, as presented in the last chapter, provide useful, though usual, guidelines for policy-making at the level of the government or of the credit and extension agencies in the context of agricultural modernization. In the mono-culture delta zone with two paddy crops where the overall response of the farmers has been quite good, the two-fold problems of water-logging in the low areas and in others water rationing continue to be serious. The farmers' differential response to new technology is accountable to lack of information, high costs and elements of risks; to get over the risk problem, demonstrations are thought to be a possible remedy. In the case of the dry farming upland region, the major problems emanate from lack of moisture, low soil fertility conditions together with the prevailing fragmentation and scattering of land holdings. The problem of income instability has been responsible for diversified cropping pattern. However, the greatest villain of peace in this zone is said to be the extension agencies which have failed to approach and help the farmers adopt the package of inputs and agronomic practices. Then follows the suggestions : provision of irrigation facilities; augmenting cash resources by giving both short-term and long-term loans to especially the small farmers; assured supply of HYV of seeds and fertilizers; strengthening of extension agencies; making available improved farm inputs; consolidation of land holdings to allow for well-sinking, contour-bunding, levelling; and development and spread of dry farming techniques, etc. The authors emphasize the role of co-operatives and commercial banks and suggest exploration of guarantees and group schemes in the backward areas especially. In the end, stress has also been laid on the need for preparing individual farm plans—one would really feel sad that, particularly in the IADP district(s), despite the intensive training in farm management imparted to the extension workers, such farm (and, one may say, also village) plans are conspicuously absent resulting in the adoption of 'guess-work' in regard to the estimates of either input requirements or output performance ! It is high time that necessary remedial measures are taken up now on the lines suggested by the authors; and the reviewer sincerely wishes that the various agencies and institutions involved in the process of agricultural development in the country rise up to the occasion and take full advantage of the findings of this and similar other studies.

R. D. SINGH

Growth and Instability in Indian Agriculture, S. R. Sen, Firma K. L. Mukhopadhyay, Calcutta-12, 1971. Pp. 121. Rs. 15.00.

The volume under review is a collection of nine essays and lectures and deal with a variety of Indian agricultural and demographic problems. Though these were prepared for different occasions, at different times, they have a ring of authenticity which makes them not merely valid today but of compelling interest and significance to all those who are involved in the somewhat unpredictable nature of Indian agricultural problems. The first essay in the collection entitled 'Growth and Instability in Indian Agricultue' was delivered at the Twentieth Annual Conference of the Indian Society of Agricultural Statistics in 1967 and some of the observations have a certain prophetic quality in regard to the analysis which the author modestly terms as being of a casual nature. Marshalling statistical evidence Sen states "those who tend to denigrate India's agricultural efforts during the last 15 years have only to look at the chart (series 2) to see the contrast between the previous period and this 15-year period, in spite of the fact that the latter ended with the worst drought in 40 years. But the most disturbing fact was that the instability tended to increase with the rate of growth while the peak points reached rose at the rate of 2.76 per cent per annum ... trough points increased by 2.20 per cent per annum ... It is not enough for us merely to plan for increasing the rate of growth of food production, as we have done over the last 15 years, it is equally important for us to plan for the minimisation of the instability that often accompanies such growth ...."

Sen suggests that with the unprecedented facilities for analysis, which modern electronic computers offer it is possible to subject all the data, regarding rainfall, run of dry days, crop conditions and crop output that are available for different regions and districts of the country, for the last 90 years or so to an imaginative programme of co-operative research by statisticians, meteorologists and agronomists which may throw some light on this question and avoid or at least minimize the risk of uncertainty in agricultural production.

The chapter "Droughts in India—Certain Dimensional Considerations" was delivered as an address in May, 1969 and seems very relevant in view of our recent experience of a severe drought in some parts of the country. Of the 36 million hectares irrigated upto 1968-69, 25.1 million hectares were irrigated from surface water resources and 10.9 million hectares from groundwater resources. Unfortunately, the point is inescapable that the areas which are more susceptible to drought, have often relatively poor irrigation sources and hence are more vulnerable. Sen estimates that even after all possible irrigation sources are exploited to the full, the maximum area that can be irrigated is about 82 million hectares, about one-half of which will be heavily depending on monsoon and therefore not fully assured of irrigation. Thus, as much as 112 million hectares of cultivatable area will continue to depend fully and 40 million hectares partly on rainfall even in the distant future.

Sen suggests that in the arid and semi-arid areas, it would be necessary to consider not merely the cropping pattern but the basic agricultural pattern itself and recommends that it may be better not to go in for foodgrains at all in the areas but to develop grass lands and animal husbandry and plantation of trees which need relatively less water per unit of output, or withstand the adverse effects of droughts and give a more stable income to farmers and increase the scope of secondary and tertiary employment.

All through his speeches and writings, Sen highlights that our knowledge in a number of areas is very scanty and there is urgent need for intensive research of an inter-disciplinary nature for the discovery of new knowledge and development methods regarding drought resistance, drought prevention, varieties and cropping sequences, irrigation and moisture observation.

Sen is also involved and concerned with the application of demographic data for development planning. He underlines the need for compilation of reliable data regarding the current status of human resources in terms of quantity and quality. He suggests that data regarding certain backward sections—scheduled castes and scheduled tribes—need to be collected separately and in greater detail if special programmes for their benefits have to be included in the plan. Special surveys may have to be organized to collect detailed supplementary data needed for the above programmes for the development of certain regions or urban complexes and aspects of education and social services. An interesting appendix to the work is a note on census tables available for planning in India and research in the demographic aspect of agricultural development.

Sen's work is an admirable exercise in the precise and lucid presentation of complex programmes which otherwise require tomes and weighty documents to present them. The book is thoroughly enjoyable and the publishers need to be complimented for "Inducing the Author" to collect his speeches and writings in this highly readable volume under review.

M. N. Upadhyay