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BOOK REVIEWS

India's Green Revolution : Economic Gains and Political Costs, Francine R. Frankel, Princeton University Press, Princeton, New Jersey, Oxford University Press, Bombay, 1971. Pp. xii+236. Rs. 50.00.

Green Revolution and the Weaker Sections, G. Parthasarathy, Thacker & Co. Ltd., Bombay, 1971. Pp. viii+45. Rs. 6.00.

The one dismal aspect of the process of economic development is that by and large, it benefits those who are already on the higher rungs of the economic ladder, to the dismay of those who are down below. India's Green Revolution is an opposite example of such inegalitarian impact of economic development. The two books under review forcefully bring out this fact. The question is: how can such an unhealthy side effect be prevented, or if the mischief has already been done, how can it be remedied? It is here that the two authors differ. Being a foreigner, and also perhaps a political scientist, who recognizes the limits of democratic action, Frankel's solution is on the same old lines; lower ceilings on land ownership and more effectively implemented; removal of exploitative conditions under which the tenants and sharecroppers work; a more massive development programme in minor and medium irrigation designed specifically to help small farmers; siphoning off large farm incomes through tax on agricultural incomes and wealth; effective implementation of minimum wage laws for agricultural labour, etc. But she is also aware that: "All of these measures are, of course, well known to the Indian Government. All of them have been actively considered. Almost all have been tried. Yet, most of them have so far failed." Where then is the hope of their success hereafter? Mrs. Gandhi's impressive electoral victory. "Given the broad mandate for peaceful reform now enjoyed by the New Congress party, there is still the possibility originally cherished by India's planners that the multiple economic and social aims of development can be achieved through the democratic structure." For Parthasarathy such "Welfare capitalism" would be of no avail. As he sees in that "a logical alternative to the problem of weaker sections of India is socialisation of ownership. It could solve the problems of (1) conflict between productive forces and production relationships, (read *Das Kapital* if you do not understand what this means); (2) integration of agriculture with external economy; and (3) the conflict between growing organic composition of capital and employment (say it again)." But the rub is: "the conditions for socialisation of ownership are *not yet* mature." (emphasis added.) As a State official told Frankel: India is still "at the very beginning of trouble."

Apart from the divergence in regard to the nature of the solutions, both books present an impressive array of factual data, though the briefer book by Parthasarathy (45 pages) is more combative: witness the title of Chapter V "Cooperation, the God that Failed." Frankel's study extends to five IADP

Districts: Ludhiana, West Godavari, Thanjavur, Palghat and Burdwan. For a visiting scholar to have marshalled such detailed information about the diverse situation pertaining to land tenure, class structure, size of holdings, cropping patterns, production, wage rates, etc., is truly remarkable, though there could be reservations regarding the interpretation of some of the statistical data. For example, both, Parthasarathy and Frankel use the NSS data to estimate the magnitude of the surplus obtainable from imposition of ceiling. Such calculations are misleading, mainly because the NSS data do not take into account differences in the quality of land. To derive an estimate of surplus, a more elaborate exercise such as the one by Dandekar and Rath in their 'Poverty in India' would be necessary. Frankel would have been well advised to drop the reference to the 'backlog' of unemployment, as the final version of the Fourth Five-Year Plan has done. She is perhaps unaware of the scheme for Marginal Farmers and Landless Labourers, otherwise she would not have complained that "the definition of small farmer under SFDA explicitly removes the submarginal cultivators from the scope of the Agency's jurisdiction." Finally, the author should have avoided the superficial reference to "the traditional religious ethic of sacrifice and renouncing all attachment to the fruits of action."

Whether the Green Revolution is a dramatic event in India's agriculture or not may be matter of controversy, but the manner in which Parthasarathy introduces the subject with a semantic exercise has indeed a dramatic quality. No one to the best of my knowledge has even remotely suggested that the new technology has led to a "dramatic change of the productive forces as well as production relationship within agriculture," and that is precisely why no one has characterised it as *agrarian* revolution. One can understand a committed elite getting upset at the unauthorized appropriation of the term Revolution by mere technocrats and others less enlightened, but would not Parthasarathy forgive them for the precaution they have taken by attributing a non-revolutionary colour to it. It would be indeed a folly to ignore the social cost of economic gains, but the social and political cost of agricultural stagnation would have been no less dangerous.

M. L. DANTWALA

Tenancy Abolition and Emerging Pattern in Gujarat, Report of the Research Project sponsored by the Research Programmes Committee, Planning Commission, Government of India, M. B. Desai, M. S. University, Baroda, 1971. Pp. 194 + xii. Rs. 20.00.

In India reform of tenancy was one of the policy measures adopted by the Government even before independence. But the action was slow and ineffective. Spate in reforms was witnessed after independence. Various

legislative measures were conceived and implemented, the progress began with protections of the tenants from eviction, control of rent, and voluntary sale of leased land to the tenants, it culminated into the compulsory sale of the land to the tiller, a measure considered to be the most progressive. This measure was adopted by the then Bombay State (Gujarat and Maharashtra) in 1957 by amending the existing tenancy law. The compensation to be paid to the landowner was to be fixed on the basis of a prescribed formula. It is worth noting that the legislation included in its provisions a ceiling on cultivated holding. The law had thus two major planks put side by side reinforcing each other in such a way that if implemented properly no holder could become an owner and a cultivator of large area of land irrespective of whether his status prior to implementation of legislation was one of owner or a tenant. The goal of the legislation was to spread widely the possession of land and to link up ownership of land with its cultivation. Evaluation of such a progressive measure is therefore important. The present study is one such attempt.

The study has a fairly wide coverage, it covers 10 districts of the Gujarat State for obtaining a broad picture and 65 villages to permit a deeper probe into the problem. Villages have been suitably grouped into six homogeneous regions based on soil, climatic and socio-economic conditions. The regions ranged from highly progressive—with irrigation and cultivation of fruit crops dominating, to most backward areas with unirrigated coarse cereals and tribal population dominating. The study handles vast amount of information collected by the State in the process of implementation of the legislation from 1957 to 1964. Over one million tenancy cases were recorded in 1957. By 1964, 8.9 lakh cases were decided. Deeper probe covered cases recorded in 65 villages selected for the study which were 7,953, out of them 6,426 cases were decided by 1964.

A few important observations emerge from the study. As already observed, between 1957 and 1964 over 85 per cent of cases were decided. This is no doubt a notable achievement considering the magnitude of the task involved and the complicated nature of tenancy relationship. However, the cases that remained undecided were probably harder nuts to crack; they involved about one-fourth of the area. Further the success of the implementation needs also to be judged by the extent of land transferred to tenants. Viewed thus the achievement was modest, out of 10.5 lakh cases in only 3.95 lakh cases tenants purchased land, the land transferred was less than 12 lakh acres compared to the total of 25 lakh acres involved in decided cases, and 32 lakh acres involved in all tenancy cases.

The three different factors that prevented tenants from becoming owners were: (i) denial of existence of tenancy relation, (ii) refusal by tenants to purchase land, and (iii) failure of tenants to turn up in the court. Existence of tenancy relation can be denied if it can be shown that the transaction was

one of mortgage and not lease of land or the entry in record was incorrect or if the two parties to the lease transaction were relatives, in the latter case transaction is not for material consideration. Probably all the three factors barring a few cases of exceptions would seem to be different forms of one common influence—indirect pressure of the landowner on tenants. Whatever form was found convenient was used to prevent ownership of land being passed over to the tenant. It is claimed that in many instances hard bargain was struck with the tenant before he was dissuaded from exercising his right.

According to the data, the largest contributory factor was 'denial of existence of tenancy' which accounted for 3.14 lakh cases involving 7.1 lakh acres. Additional one lakh of tenants either refused to purchase or failed to turn up in the court and about as many had leased lands which were exempted from the implementation of the law. Both the categories covered nearly 3 lakh acres of land each or nearly as much as one-half of the land, ownership of which was passed on to the tenants. In other words, nearly double the number of tenants were denied their right as were made owners by the law. Since the average leased in area per tenant was smaller in the case of those who were denied tenancy right than those who gained ownership of leased land, the sufferers were mainly the small farmers.

Further the detailed analysis of the data showed that the tenants in backward regions got a relatively better deal than those in the progressive regions, the transfer of ownership of leased land was to a greater extent in the former than in the latter. In irrigated areas tenants got ownership of one-third to one-half of the leased land, in backward regions they got ownership of over one-half to four-fifth of the leased land. Does this constitute a surprise? Probably not. In spite of the fact that in the backward region there was predominance of tribal population, the extent of tenancy on the eve of the enactment of the Tillers' Day Amendment of the Tenancy Law, was more widespread in the progressive regions than in the backward regions. In the regions where land was more fertile and where irrigation facilities obtained more widely, the landowners hired services of tenants to help them in farm operations to a greater extent and there the owners had direct interest in ownership and cultivation of land and therefore they contested the claim of the tenants more ruthlessly and succeeded in denying the benefits of the land to the latter.

Further, on the basis of the intensive study of 65 villages, the author shows that the land, the ownership of which was not transferred to tenants, was not retained by the landowners to the fullest extent. As much as one-third of this area went over to others—may be through sale or mortgage, one-seventh was with the erstwhile tenants who continued to be off-the-record tenants. The erstwhile landowners retained only 40 per cent of the land lost by tenants. Thus, though the law aimed at virtual freezing of the market, the data suggest probably restriction and not freezing of the market more

so in the progressive regions. Did economic factors that led to emergence of tenancy in the past assert even after the law banning tenancy? Probably the law reduced their influence, but could not eliminate it completely.

The above results are interesting. The author's analytical efforts are amply rewarded as these results lead to two vital questions which can be pursued further by research scholars. The questions are :

- (1) Is tenancy a sign of weak or deteriorating economy ?
- (2) Do reforms benefit them most, to whom they are intended to benefit ?

Both these questions are to be examined in the setting of underdeveloped economies. Answers to these questions are vital for policy makers and to scholars. The theory of determination of rent and working of the lease market is under re-examination. The policy measures are also recently evaluated by scholars and Government committees. The present study would be a good addition to the growing literature on the subject.

The author has not examined the implementation of the provisions regarding the ceiling contained in the tenancy legislation. Were these provisions inoperative or ineffective ?

C. H. SHAH

Market Structure, Conduct and Foodgrain Pricing Efficiency : An Indian Case Study, A. Stewart Holmes, MSS Educational Publishing Company, Inc., New York, U.S.A., 1971. Pp. 123.

Holmes' work is one of the several studies on efficiency of agricultural marketing that were conducted in India in the 'sixties.¹ During this time the major policy issue centred around the desirability and optimality of the government intervention in grain trade. Various issues needed to be clarified

1. Leon Hirsh: *Marketing in an Underdeveloped Economy*: The North Indian Sugar Industry, Englewood Cliffs, New Jersey, Prentice Hall, 1961. A. P. Kulkarni: *The Behavior of Prices of Groundnut Pads in Some Regulated Markets in Maharashtra*, unpublished Ph. D. dissertation, University of Poona, 1962. Zaibun Jasdandwalla: *Marketing Efficiency in Indian Agriculture*, Allied Publishers, Bombay, 1966. Ralph W. Cummings, Jr.: *The Structure and Functioning of the Indian Wheat Market with special reference to Khanna, Punjab, 1956-57 through 1963-64*, unpublished Ph. D. dissertation, Michigan State University, 1965, also published as *Pricing Efficiency in the Indian Wheat Market*, Impex India, Delhi, 1967. Uma. J. Lele: *Efficiency of Jowar Marketing: A Study of Regulated Markets in Western India*, unpublished Ph. D. dissertation, Cornell University, 1965, also published in John W. Mellor, *et al*, *Developing Rural India: Plan and Practice*, Cornell University Press, Ithaca, New York, 1968. Also, Uma Lele: *Working of Grain Markets in Selected States, India, 1955-56 to 1964-65*, Occasional Paper No. 12, Cornell University, Ithaca, N. Y., 1968. Uma J. Lele: *Food Grain Marketing in India: Private Performance and Public Policy*, Cornell University, Ithaca, N. Y., 1971.

and answered. Under the private trading system are the regional and seasonal price disparities high? If so, are these a result of the exploitative and monopolistic nature of the grain trade or do these result from factors beyond the control of the grain trade? Is government intervention necessary, so as to reduce price distortions? What should be the nature of the government intervention?

Almost all the studies aimed at providing answers to the first two questions. These answers have a strong bearing upon the desirability and the nature of the government intervention, although this latter must also depend on several factors in addition to simply the question of efficiency of private trade.²

The considerations that enter into intervention must obviously be different in periods of shortages and in those of surpluses. In the former, the emphasis is understandably on an equitable distribution of the marketable surplus, if necessary, at the cost of efficiency. In the latter, market efficiency must be a vehicle for a more optimal allocation of resources.

Holmes' study makes a valuable addition to the impressive statistical documentation provided collectively by these various studies, for making these complex decisions. It complements the other studies because of its emphasis on pricing efficiency at the village level. This is where major gaps have existed in our knowledge, since most other studies focussed on pricing efficiency in wholesale markets at the primary, secondary and terminal level.³

Holmes conducted a case study of Pura Khagen village in Karchana tehsil, located six miles from Allahabad. He also surveyed the remaining markets in the tehsil so as to obtain a perspective on the degree of competitiveness in the area. By its very nature, the Holmes' study is somewhat more descriptive when compared with other studies. It is also confined to a shorter period of one year, *i.e.*, 1967-68.

Holmes' findings corroborate those of the previous studies. It emphasizes that the markets operate efficiently within the confines in which they perform. An improvement in the operational efficiency of the system calls for improvements in the market institutions and the physical infra-structure on which the existing system depends.

Credit provides an excellent example of the inadequacy of the existing financial institutions. It has a far-reaching effect on the market efficiency. It affects entry into trade which is otherwise relatively easy in Pura Khagen village market. Neither caste, nor government policies such as licensing,

2. See Uma J. Lele: Food Grain Marketing in India, *ibid.*, for a detailed discussion of issues and policies.

3. Z. Jasdanwalla, *op. cit.*, is an exception to this. It dealt with efficiency at the village level.

constitutes a barrier to entry. For these reasons, the number of traders is not small relative to the volume transacted. Although credit mainly determines the size of the operations of traders, the share of various traders in the volume transacted in this village is not greatly dissimilar so as to prevent competition.

Credit also influences the prices received by villagers. The cultivator's choice of the village trader is influenced by who makes consumption loans during the off season, although cash payment for the produce and price paid are other considerations. This role of consumption credit on competitiveness of the grain trade is a result both of the low levels of incomes of majority of the cultivators, and of lack of alternative credit agencies. Even within these constraints, however, there seems to be competition among traders in the money lending pursuit.

The pressing need for cash for payment of loans and taxes in the post-harvest period prevents most cultivators from stocking their produce until the off season. It is well known that the seasonal price fluctuations are often very erratic. A cultivator may, therefore, not choose to speculate in the off season. The existing paucity of credit facilities, however, denies him the choice to make this decision for himself.

Despite the role of the credit, prices paid in the village market by and large reflect the prices prevailing in the nearby markets. Villagers are highly price conscious and try to obtain information about the prices prevailing in the nearby larger markets. However, if they receive a price in the village lower than what would be warranted by transport and/or storage costs, this is again mainly due to poor transport and/or procurement facilities. Given the small size of their surplus and given the lack of adequate facilities for transporting this small surplus, the price difference is often not worth the extra trouble and expense of taking the produce to the wholesale market. The villagers consequently market most of their produce in the village market.

Holmes, therefore, recommends a more vigorous effort by the co-operative societies to reach the cultivator with credit, market information and a collection system for procuring grain. The most crucial of his recommendations consists of credit advances on stocks. The importance of such credit could not be overrated. This will provide the cash to cultivators which is so badly needed in the post-harvest season. It will thus increase their holding power, allowing them to stock for a possible higher price for the produce later in the season. Further, it will generally reduce the small cultivator's dependence on the private trader for consumption credit.

The success of the co-operatives in providing an effective alternative channel of marketing requires that there be an efficient and well managed co-operative system that combines commercial orientation of the private

trader with zealously of a public body. Unfortunately, at present, most co-operative societies lack both these elements at the village level.

On the basis of evidence such as Holmes', a careful evaluation needs to be made of the various alternative private, public and co-operative credit and marketing channels which could be introduced at the village level with a view to maximize the pricing efficiency of the trading sector. A pragmatic approach may require that the various channels not be considered as alternatives but complementary so as to foster competition and to accelerate modernization of the market system.

UMA J. LELE

Agricultural Price Stabilization in India, B. V. Jha, Shot Publications, Calcutta, 1971. Pp. xv + 312. Rs. 39.00.

Much has been written about the nature, extent and causes of instability of agricultural prices in India. Much has also been written and discussed about the policy measures that the government should undertake to reduce instability of agricultural prices. Yet the debate on what should be the appropriate price policy for agriculture still continues. The book under review—the outcome of a research work—attempts to grapple with the problems of agricultural prices and pleads for forward price system as antidote to instability of agriculture prices in India.

The study is organized into 9 chapters. Chapter 1 sets out the problem and hypothesis of the study. Chapters 2 to 5 analyse the movements of agricultural prices during the three Plan periods from 1951-52 to 1965-66. The nature and extent of price instability of a few selected commodities, viz., rice, wheat, cotton, jute and sugarcane are explained in relation to factors underlying their respective demand and supply. An attempt is also made by the author to assess the impact of instability of food and raw material prices on the agricultural sector, inter-sectoral terms of trade and on farmer's terms of trade. Chapters 6 to 9 deal with the objectives and meaning of price stabilization, various approaches to price stabilization in India, features of forward prices and supporting measures for price stabilization.

The chief interest of the book lies in the scheme of forward prices recommended by the author as basic approach to price stabilization in India. The essential features of this price policy are as follows: The government will fix the minimum prices at which it would procure the produce from the farmers. The minimum prices will be announced much in advance of the sowing season to enable the farmers to allocate their resources efficiently. To avoid consumers being exploited by traders the government would enter the market as a seller through fair price shops. The maximum price (consumer price) would be preferably 5 per cent above the minimum price (pro-

ducer price) and would never exceed the minimum price by 15 per cent. The government would enter the market as a buyer and seller through buffer stock operation of foodgrains in order to regulate market prices. Thus, the interests of both the consumers and producers are sought to be protected through the enforcement of minimum and maximum prices.

Two implications arising out of this price policy if implemented need careful examination. The first implication arises out of the size of the stock that the government will have to maintain in order to make its market operation programme effective. As is known, the impact on market prices of government operation in foodgrains will depend on the size of stocks it holds. If the sale of foodgrains by the government through fair price shops is to have the desired impact on prices, it should command a much larger share of the market than in the past. Expansion of government activities in foodgrain trading will necessarily involve diversion of large resources to this sector. The management—financial and administrative—of operating stocks of foodgrains and other agricultural commodities adequate enough to regulate market prices will impose a serious strain on its resources and administrative machinery.

Secondly, it is clear that the author expects the selling prices not to exceed 5 per cent or at the most 15 per cent of the minimum prices offered to the producer. On the face of it, a 5 per cent margin cannot be more than sufficient to cover just the storage cost. If the experience of the public sector agency entrusted with this work is any guide, even the 15 per cent margin—the maximum permitted by the author—cannot cover a multiplicity of marketing charges fully. At this rate the government will have to work out large amounts as subsidy each year if it desires to continue in foodgrain business. Evidently, these margins recommended by the author are not based on any realistic assessment of marketing cost.

The author is critical about the agricultural price policy pursued by the government. He holds that the price stabilization in India is primarily aimed at providing relief to consumers without due regard to its allocative efficiency in agriculture. The result, according to him, is that the minimum prices are fixed much below the market prices causing divergence between the minimum prices and market prices. Such divergence, it is argued, affects production and results in low market arrivals. What is implied in this line of thinking is the presumption that higher producer prices generate higher production and larger marketable surplus. The protagonists of higher producer prices seem to over state the benefits of higher agricultural prices to producers and understate their impact on consumers. Little do they realise that if producer prices are raised farmers are also affected by the resultant higher foodgrain prices. It is not recognized that a varying portion of foodgrain requirements of farmers are met from the market and hence all do not stand to gain evenly from higher producer prices of foodgrains. The

beneficiaries of higher producer prices are chiefly the big holders who command a sizable marketable surplus and not the millions of small farmers who have little to spare for sale and have to depend for bulk of their requirements of foodgrains on the market.

Those who pin their faith on prices to bring about the desired changes in production may do well to recognize the limitations of price factor in agricultural production. Though some studies have revealed that production is responsive to price, the conclusions are based on acreage-price relationship and not on production-price relationship. The factors which debilitate the impact of prices on production in agriculture are the vagaries of weather, uncertainty about yield, imperfect factor market, limited resources of a large number of farmers, etc. Today the factors which impede higher agricultural production are not prices but they are regressive tenurial arrangement, credit restrictions, high costs of inputs, lack of irrigation and such structural imperfections in the marketing of agricultural commodities as the absence of good roads linking villages with markets, lack of cheap and quick transport system, inadequate storage facilities in the producing areas, etc. No forward prices however high they may be can serve the interests of producers without removing these bottlenecks.

These limitations notwithstanding, forward prices may go a long way in reducing uncertainty in prices and ensuring reasonable return to producers. But the task of fixing forward prices each year for a number of agricultural commodities is beset with a host of difficulties. Since such prices will have to be fixed much in advance of the season, the agency entrusted with this work must have the competence to forecast the demand-supply situation accurately. If the forward prices fail to reflect the demand and supply conditions correctly, the objectives of forward prices may not be realised fully. One can list up a number of criteria as done by the author as basis for determining forward prices but the real task of fixing prices fair both to producers and consumers before the supply is known is a complex one. And therein lies the major shortcoming of the forward price system.

S. A. SHETTY

Population and Food Supply in India, S. S. Madalgi, Lalvani Publishing House, Bombay, 1970. Pp. x+160. Rs. 22.00.

The food supply situation in India according to the study is generally analysed only in terms of 'national per capita availability.' The concept is alright for formulating a programme of food imports from abroad. This, however, is incapable of handling new situations emerging under dynamic conditions. Similarly there is a need to know the present levels of food consumption of different sections of the population in the rural/urban sectors.

The author then emphasizes that what is needed is at least a broad idea of the magnitude of demand in the two sectors and prospective trend in them. Unless these are known the most important instrument of food management, namely, procurement will have to be planned on ad-hoc basis. The book under review attempts to fill the gap in the present analytical framework, and aims at suggesting a technique of analysis of foodgrains' supply-demand situation on sectoral basis. [pp.(v) and (vi).]

The study has been projected in this background and has been divided into 11 Chapters. The first Chapter deals with agriculture and industry: sectoral balance. It has been pointed out that the industrialization process in the developing economies has to operate against heavy odds. A steady rate of economic development without inflation is possible only if food prices are stabilized. In Chapter two, the author tries to examine the relative magnitudes of various factors like (a) trends in population, (b) urbanization, and (c) per capita income, which influence demand for foodgrains. Having examined these three aspects (with projections up to 1976), the author scrutinises the quantitative consumption data as thrown out by the 15th round of the NSS covering the period 1959-60. The total quantity of foodgrains consumed during 1959-60 according to the National Sample Survey data amounted to 91.65 million tonnes as against 70.4 million tonnes available according to the food balance-sheet (p. 11). The author assumes that there was some over estimation in the NSS estimates and is most likely to be confined to high expenditure classes. He, therefore, scaled down the consumption levels of expenditure classes from Rs. 18-21 and above in proportion to their magnitude of divergence from the nutritional standard of 1,800 calories. The total quantity thus scaled down calculates to about 14.5 million tonnes. This assumption to reduce consumption like this is arbitrary particularly when there is already a strong view that production in the last year (1959-60) was underestimated.

With 1959-60 as base year, he builds up rural and urban demand series for foodgrains for the period 1950-51 to 1967-68, on the assumptions that (1) there are no marked differences in the per capita income of the rural and urban sectors, and (2) the assumed value of income elasticity of demand at 0.6 for rural areas and 0.3 for urban areas remained stable over the three Plan periods ending 1965-66 (p.16).

There seems to be an obvious fallacy in the two assumptions made above. Firstly, every available information goes to prove that urban per capita incomes in the country are much higher than those of the rural ones. Even otherwise if income elasticity of demand is assumed to be 0.6 for rural areas and 0.3 for urban areas, the implied meaning behind this assumption is that the urban per capita incomes should be much higher than those of the rural ones. Again, although it is mentioned that the elasticities given are those in terms of value, for purposes of calculation and construction of the demand table, they have

been used as quantity elasticities. This is also bound to vitiate the results appreciably because all-India quantity elasticities for foodgrains as calculated from the various rounds of the NSS do not exceed 0.4 under any of the rounds of the NSS.

Having examined the magnitude of the demand for foodgrains separately for rural and urban population, the author determines the gap between its production and supply in Chapter three. Using the total production data as given by the Directorate of Economics and Statistics, the author finds that the supply gap varies from year to year and is estimated to be the highest at 23 to 24 per cent of the calculated demand during the period 1965-66 and 1966-67. When changes in the Government stocks and net imports are taken into consideration, many of the negative signs change into positive ones indicating a surplus supply which was the highest at 3.0 million tonnes during 1958-59 and a deficit of 10.7 million tonnes during 1966-67 (p. 23). The author concludes that with 1959-60 as base, rural demand for foodgrains showed an increase at an average rate of about 4 per cent per annum during the quinquennium 1960-61 to 1964-65 as against the growth rate of production of only 3.4 per cent. The gap of 0.6 per cent or 0.3 million tonnes per annum represents the diversion of production which should have come to urban areas under the relationship existing in 1959-60 for rural consumption. This leads him to the conclusion that the major solution of food supplies to urban areas lies not so much in extracting the entire quantity from rural areas, as in increasing production at a higher rate. The average production growth rate is lower than the requirement to the extent of 0.6 per cent per annum during 1959-60 to 1964-65, and has already resulted in a net additional deficit of about 1.7 million tonnes in supplies to urban areas; if this trend is to be reversed, growth rate in production according to the author will have to be much higher in the next few years.

The calculations made obviously refer to the data in the table in p. 23. With 1959-60 as base, estimated rural demand—58.1 million tonnes goes up to 68.8 million tonnes during 1964-65—, gross production figures for the corresponding period are 76.7 and 89 million tonnes. This gives an annual growth rate of 3.45 per cent simple and 3.28 per cent compound as against 4 per cent as given in the study for rural demand. Corresponding figures for production work out to 2.28 per cent simple and 2.07 per cent compound as against 3.4 per cent in the study. Table 3.4 (p. 23) under which supply gap has been calculated quotes wrong data with regard to gross production for a number of years. Similarly net import figure for the year 1967-68 is actually 5.7 and not 6.5 million tonnes as given. The figures as quoted in the text are also quite often different from those given in the tables. With wrong assumptions and wrong calculations, one would fail to understand what one can prove or disprove?

Chapters four and five have reviewed the present position with regard to inter State trade in foodgrains and Government operations in foodgrains from the beginning of the First Five-Year Plan. There are again quite a few mis-statements as follows:

1. Foodgrains Policy Committee is mentioned to be under the Chairmanship of Professor D. R. Gadgil while the Chairman was Shri B. Venkatappiah.*
2. Movement of rice from Andhra Pradesh to Maharashtra (p. 47) may have been only on State Government account. Actually during 1963-64, rice movement was not permitted from Andhra (Southern zone) to Maharashtra (Western rice zone).
3. Although the larger rice zones started breaking up in early 1964, single State zones for rice were constituted only in November, 1964 and not in March, 1964. Wheat zones were formed in March, 1964 (p. 48).
4. The author mentions that acute rice scarcity during 1965-66 and 1966-67 was due largely to the creation of single State zones. The primary reason, however, was the severe famine and drought conditions in Uttar Pradesh, Madhya Pradesh, Rajasthan, Gujarat and Bihar.

An attempt is made in Chapter six to find out foodgrains consumption levels not only of rural and urban sectors but also of various classes of the rural population. For formulating an estimate of the undernourished and starved population in each State, the author compared the calculated consumption levels for the 12 NSS expenditure classes as the nutritional norm. The emerging results indicate that about 70 per cent of the population in Kerala suffers from 50 to 74 per cent of deficiency and practically whole of the population in that State is undernourished. In Gujarat also nearly 79 per cent of the population is shown as undernourished. The only State where people are assumed to be well fed is Punjab where the proportion of undernourished is only 1.4 per cent.

In Chapter seven, the foodgrains demand projections for the year 1970-71 and 1973-74 have been made. For this, the author has divided the distribution of personal disposable income of households in rural and urban areas over the 12 expenditure classes for the years 1959-60 and 1960-61 taken together. Here again the estimates of per capita annual income in 1970-71 and 1973-74 have been worked out on the following assumptions (p. 79).

1. Rural and urban distribution of population over the various expenditure classes and of personal disposable income in 1970-71 and 1975-76 would be the same as those estimated for the years 1959-60 and 1960-61,

* This refers to Chapter eleven (p. 141).

2. Personal disposable income would be about 97 per cent of national income as was observed during the period 1963-64 to 1965-66.

3. The rural sector would account for broadly 69.5 per cent of total personal disposable income as borne out by the estimates available for 1960-61 to 1962-63.

Keeping in view the rapid urbanization process which the author has already accepted, the assumptions made above seem to be unrealistic. One cannot believe that the rural and urban distribution of population during 1970-71 and 1973-74 would remain the same as in 1959-60 and 1960-61. Similarly the personal disposable income of various expenditure classes in both rural and urban areas cannot be the same as the one estimated in 1959-60 and 1960-61.

After calculating the total demand for foodgrains at 133 million tonnes for 1973-74, Chapter eight examines both extensive and intensive methods of cultivation so as to form an idea about the production potentialities of foodgrains in the country to become self sufficient. It has been said that the expectation of additional production of foodgrains from extensive cultivation is only marginal and therefore the only course left is to increase per hectare yields. There is, however, an important lacuna here. This relates to the possibilities of increasing the cropped area due to multiple cropping as a result of the introduction of short duration varieties and much faster as well as surer irrigation facilities provided.

Since fertilizers are the most important input in agricultural production, an attempt has been made in Chapter nine to work out the total demand for them. Calculations have been made only with regard to nitrogen for foodgrains as well as commercial crops. The emerging picture indicates a demand of 4.4 million tonnes of nitrogen by 1973-74 which is higher than the Fourth Plan target of 3.2 million tonnes. It is already known that we may be nowhere near achievement of the Fourth Plan target. But to think of a higher target and its achievement, in any case, will perhaps be a futile exercise. The 1970-71 target of 3.1 million tonnes as calculated by the author is already more than two and a half times of what could actually be distributed in the country during the year. The methodology adopted for making these calculations is in itself quite doubtful.

According to the author, if self-sufficiency in foodgrains is to be attained by 1973-74, its rate of growth should be at 6 per cent compound with the base year 1967-68. Even if we take into consideration the performance of the Indian agriculture during the period 1967-68 to 1970-71, the growth rate in the production of foodgrains works out to only 4.97 per cent per annum. It is quite doubtful if the postulated rate of 6 per cent with reference to the base period 1967-68 could ever be achieved or is even needed.

Having studied the demand and supply situation and the possibilities of balancing demand with supply, the author goes on to its final problem

relating to foodgrains distribution policy. The undernourished population is so large according to him that it is beyond the realm of possibility to supply them with foodgrains at highly subsidised rates. At the most what can be done immediately is to ensure that the prices of foodgrains do not rise to unprecedented levels so as to depress the real value of the present income of the undernourished population. He emphasizes that the need of the hour is to prepare a National Foodgrains Budget and treat the food production in the country as a common pool with supplies to be drawn from it on some rational basis involving equality of sacrifice in case of overall deficit and equal enjoyment in the case of excess availability. With regard to the distribution of foodgrains, his solution lies in an arrangement according to which (1) cities with a population of 1 lakh and above are supplied by the Central Government out of the surplus of different States; (2) all towns with a population of 20 thousand to one lakh are supplied by the State Governments on a statutory basis; and finally (3) smaller towns supplied on an informal basis depending on the emergence of shortages. On the whole, about one-half of the population in these towns will have to be supplied with foodgrains on a continual basis.

The author had started with a very laudable objective of suggesting a new technique of analysis of foodgrains supply-demand situation on sectoral basis. He also attempted to measure the actual foodgrains consumption levels of different sections of the population with a view to providing the policy maker with some materials for working rational foodgrains distribution arrangement. Having reviewed the work in detail, what we find is that on the supply side rural-urban demand has been calculated entirely on a wrong premise. The actual consumption levels worked by him from the National Sample Survey data for each of the expenditure class is nothing new and ultimately the solution given for preparing a National Food Budget is all the more stale. The idea of supplying rations to 50 per cent of the urban population on a continual basis seems to be completely out of tune in the context of present easy food position when public distribution is dwindling and is not at all of any liking even to the consumer.

The author in the concluding sentence says that we should not feel complacent with the good crops of 1967-68 and 1968-69 because the need for the foodgrains budget is as urgent as it was in years of scarcity. The real position, however, is that actual procurement of wheat in the Punjab during the last two seasons has exceeded the additional production over the previous years and the country is faced with the problems of a surplus economy particularly with regard to wheat. As is expected, once we have a breakthrough in the production of rice, the so-called problem of shortages will be a part of the history. We have today maximum stocks in the Central and State Government godowns and post-harvest problems like those of marketing, transportation and storage, etc., are of primary importance.

A Study on Multi-Nutrient Fertilizer Market (A Pilot Study in Guntur District, A.P.), A. G. K. Murty and D. K. Desai, Faculty for Management in Agriculture and Co-operatives, Indian Institute of Management, Ahmedabad, 1970. Pp. xi+70. Rs. 7.00.

This pilot study undertaken by the Indian Institute of Management, Ahmedabad attempts to focus attention on an important aspect of fertilizer use. Alongwith the increase in the overall consumption of fertilizers, the pattern of use of fertilizers gets changed. The first phase of this change is from straight fertilizers to multi-nutrient fertilizers used in the form of complex fertilizers or fertilizer mixtures. Confining to Guntur district in Andhra Pradesh, the study has examined the problems of acceptance at farmers' level when this change takes place. The specific objectives of the study were:

- (i) Identifying the characteristics of multi-nutrient fertilizer (MNF) users and non-users.
- (ii) Providing an estimate of demand for MNF in the district as a whole.
- (iii) Understanding the problems of marketing of MNF in the district.

Adopting a multi-stage stratified random sampling design, 98 users and 62 non-users in all were selected from 8 villages spread over 4 blocks of the district. After providing background details of the selected district, blocks and villages, the study presents an analysis of the characteristics of users and non-users and the use of multi-nutrient fertilizers by the selected farmers. Characteristics like average size of farm, educational level, years of farming experience, tenancy conditions, irrigation facility and cropping pattern have been analysed. An important conclusion drawn was that while paddy and cash crops like tobacco induced the farmers to be early adoptors of MNF, the cultivators of inferior cereals like jowar, bajra and small millets lagged behind in adoption of MNF. It has thus identified that one of the major influencing factors in the use of the multi-nutrient fertilizers is the crops grown. One would normally expect that irrigation is another major determinant; but the study reveals that "lack of irrigation does not prevent a farmer using multi-nutrient fertilizers." It needs, however, to be mentioned that the analysis made of the relationship between irrigation facility and the extent of use of multi-nutrient fertilizers has been rather general.

In respect of the pattern of use of multi-nutrient fertilizers there was no significant difference in the use as between different size groups of farmers. But as between areas that grow paddy and tobacco on the one hand and inferior cereals and millets on the other, there was a significant difference in the level of use. Further, according to the cropwise analysis, in the case of paddy, MNF users had applied larger plant nutrient on the crop than straight

fertilizer users and the average application of N was near the recommended doses, while that of P was much below the recommended doses. In the case of tobacco majority of the farmers applied lower quantum of P and there was a heavy bias towards N, a good number of farmers applying more N than the recommended dose. The farmers were thus accustomed to unbalanced fertilization. Apart from identifying this and certain other aspects like the growth in the level of use of fertilizers over a period indicating an improvement in the intensity of use of fertilizers, no attempt seems to have been made in the study to pin point some of the factors that contributed or inhibited the use of MNF. For instance, the fact that the entire area under tobacco in the selected blocks was under the use of MNF may be attributed to the availability of a special tobacco mixture supplied by the tobacco purchasing companies. Also, the availability of paddy mixtures would have induced farmers to use them regularly. For other crops, perhaps, no such mixtures were available. It is not known whether the farmers using MNF had derived any price advantage than those using straight fertilizers. In other words, has the price of fertilizer any role to play in promoting the use of MNF as compared to straight fertilizers? Further, in view of the reported prevalence of adulteration in fertilizer mixtures in certain areas, was there any possibility of consumer resistance to the use of fertilizer mixtures? The fact that the rate of application of P was much below the recommended doses for paddy and tobacco, needs an explanation. The general factors like availability position, price situation, technical constraints if any, could have been discussed at least broadly to enable the reader to get an idea as to why farmers used lower doses of P.

The chapter on demand estimates provides some interesting exercise. Using the average rate of application of N per cropped acre on the basis of the village and block means, an estimate of total demand for the district has been provided for two points of time 1967-68 and 1972-73, based on which the volume of business in fertilizers has been worked out. While the total volume of business is estimated to move up from Rs. 60 million in 1967-68 to Rs. 83 million in 1972-73, that of MNF is to increase at a faster rate from Rs. 24 million to Rs. 62 million during the same period.

In the context of the estimate of a larger volume of business in MNF the study has analysed the marketing problems. As the use of MNF is governed by the cropping pattern of different areas, marketers of MNF have to adopt the strategy of market segmentation on the basis of varying cropping patterns. An important aspect of distribution of fertilizers in the district was the emergence of private dealers as the main suppliers. But, the dealers both at the wholesale and at the retail levels functioned as mere suppliers without undertaking any promotional activity. Apart from the Government, it was only the national level manufacturers who did some promotional work like demonstration campaign. In the interest of augmenting fertilizer business and in the context of the need for educating the farmers to adopt

balanced fertilization practices, what is required is an extension-oriented sales programme. The private dealers, particularly at the retail level who come into direct contact with the farmers, have therefore, to develop themselves into promoters from their present status of mere suppliers of fertilizer.

A. P. KURIAN

Cotton and Tobacco in Andhra Pradesh: Production and Marketing, National Council of Applied Economic Research, New Delhi, 1971. Pp. x+156. Rs. 20.00.

With self-sufficiency in foodgrain production in sight, there is need for increasing attention to the problems of production and marketing of commercial crops. It is in this context that depth studies of individual commodities could be fruitful. Published data relating to cotton yields in Andhra Pradesh show that production is lower compared to the all-India average. The fact that cotton is grown under rain-fed conditions in Andhra Pradesh does not provide a complete explanation of the low yields since Gujarat which also produces cotton under rain-fed conditions has much better yields. One expects this study to throw into bold relief the crucial variables accounting for low yields. But what comes out of this is a review of known facts, impressionistic description of cultivation practices, and a further suggestion that 'a thorough agronomic study be undertaken to examine whether any change in the cultivation practice would aid the improvement of cotton yields in Andhra Pradesh.'

In respect of tobacco production, one of the major problems is the need to speed up the shift of cultivation of flue-cured virginia tobacco from black soils to light soils of Nellore, Khammam, East and West Godavari and Krishna districts with higher yield potential and better quality. But adjustment problems at farm level got scant attention in the study.

The study relates area changes to price changes in respect of both cotton and tobacco for the period 1955-56 to 1966-67 and concludes that supply response is not sensitive. These results are at variance with findings of studies in other parts of the country by well known scholars and deserve a more rigorous analytical base.

The observations of the study on marketing of the two commercial crops are of both theoretical and of practical interest. In recent years some scholars based on empirical data, have disputed the presence of any perceptible monopsonistic or oligopsonistic exploitation by traders in agricultural markets. This study, however, finds monopsonistic and oligopsonistic pressures in tobacco market in Andhra Pradesh. A quantitative evaluation would be more useful.

The tobacco market, particularly for the flue-cured virginia, an export crop, is characterized by a high degree of month to month and year to year fluctuations, and wide degree of variations in prices received between different grades with unsettling effects on production. A few buyers dominate the market and take undue advantage of the grower's lack of knowledge of different grades. The study suggests that a Tobacco Board or a Tobacco Development Corporation might be set-up to help the tobacco growers in Andhra Pradesh.

G. PARTHASARATHY

Agrarian Change and Economic Consequences : Land Tenures in Kerala, 1850-1960,
T. C. Varghese, Allied Publishers Pvt. Ltd., Bombay, 1970. Pp. xiii + 275.
Rs. 24.00.

The book under review is a Doctoral dissertation submitted to the Delhi University. In this study the author examines the social and economic implications of the tenurial changes that took place in Kerala during the period 1850-1960. The study is further fortified with the results of field survey conducted in 1957-58. Altogether there are 12 chapters of which six deal with certain important changes that took place in the land tenures of Travancore, Cochin and Malabar. The net result of the changes during the period was that by the end of 19th century Travancore changed over into a region of peasant proprietors, Cochin developed into a tract of peasant proprietors-cum-absentee landlords and Malabar into almost an absentee landlord tract. According to the author, the difference in the tenurial evolution had effects on the economic developments in the three regions. Where security of tenure was guaranteed, there was a spurt of enterprise among the present proprietors. Secondly, the availability of arable land free from tenurial hindrances in Travancore further accentuated the relative advantage in that region. Thirdly, the creation of substantial credit on the security of land provided incentives for economic development.

Going into the details one finds that in the second chapter dealing with the evolution of society and land tenures in Kerala up to the middle of the 19th century, the author brings out some interesting points. He says that the aryanisation of Kerala did not result in the rigid caste system as in other parts of the country under the Vedic Brahmins. On the other hand it led to the creation of non-partible matrilineal Joint Family System among the Nayers. Another consequence of aryanisation of Kerala was the influence of the Brahmins on the local chieftains who were brought under their control. The net result was the emergence of an effective form of feudal land relationship. There was a radical change in the position of the traditional cultivating families called *Karayalars* who held more or less the proprietary rights on the land they cultivated. They were actually converted into inferior holders

under the chieftains. By spreading the myth that land was presented to them by lord Persuram the Brahmins acquired lands for themselves often through temples. But being prohibited from cultivating the land by caste restrictions, they had to depend upon other persons for cultivation and this led to creation of various types of tenures in the region. *Kanom* tenure for example is said to imply holding the land by the cultivators as a token of allegiance or respect. *Kanom* tenure was held mostly by Nayars and Nambiaris and the actual cultivation was done by other lower classes like Muslims, Christians, Ezhavas or Theeyas under the various tenurial arrangements.

Another event of importance was the conquest of Malabar by Mysore. Though the Mysorean occupation was shortlived, it created definite changes in the land relationship in that area. Firstly, for the first time a land settlement was introduced in Kerala. Secondly, while settling with the cultivators, the government came into direct relationship with the actual cultivators overlooking the superior classes. In this process Muslims were preferred. It is believed that what came to be later known as *Janmom* rights was emphasized during the period that followed a Mysorean occupation to differentiate the original right in the property held by superior classes from that created by the Mysorean settlement.

The British conquest that followed introduced definite changes in the land relationship in Malabar. The Brahmin landlords were recognized as the fullfledged owners of the land and the actual cultivators were treated as tenants of varying types.

Travancore had a land relationship which was unaffected by foreign conquests or occupation. The situation in Cochin was slightly different. The land system there was considerably influenced by the above mentioned events, resulting in a state of affairs which was intermediary between that in Malabar and in Travancore.

Chapter 4 dealing with the developments in the second half of the 19th century traces land settlement effected by the British in Malabar and the tenurial changes in Travancore and Cochin States. During this period cultivation expanded in all the regions. In Travancore ownership was offered to cultivators who reclaim waste lands, and this accounted for the relatively more rapid expansion of agriculture in Travancore.

Chapter 5 examined tenure patterns in the three regions of Kerala in the beginning of the twentieth century. The revenue settlement in Malabar resulted in simplifying the tenurial arrangements. In fact, there were only two kinds of arrangements, namely, *Janmom* land and government land, the latter was very limited. In Travancore, the government directly controlled more than 80 per cent of the cultivated land and almost the whole of arable land and uncultivable waste, and there were a number of arrangements under

which the government land was cultivated by peasants. In Cochin, the situation was between these two. The government land was less than half of the cultivated land and there was a complex land tenure even after the settlements.

Chapter 6 deals with the social and economic developments affecting land relationship in the first half of the twentieth century. One of the important points noted is the break-up of the joint families. This happens first in the case of the lower classes like the Ezhavas. The limited landed wealth compelled the lower class to take up other occupation and by the beginning of the century substantial proportion of the inferior communities shifted to elementary family units. But among the superior classes this change was not easy due to the restrictions on the transfer of family landed property. But the process of land transfers in Travancore received a momentum and in the year 1907-1908 about Rs. 19 lakhs worth of property changed hands from the Nayers of Travancore, according to one authority. A notable feature was that the transfer of land took place in favour of inferior communities like Christians, Muslims, Ezhavas, etc. The break up of joint families among the Nayers was a result of this land transfers. The individual members of the family began demanding partition of the family in order to safeguard the landed property and this was further assisted by the Nayar Regulation, 1925, of Travancore. During this period, there was considerable economic penetration of the region by foreigners especially for establishing plantations. Opening up of the region due to commercial crops had an economic impact which led to the expansion of other economic activities also. In this process again it was the inferior communities like the Christians that took advantage. There was also an expansion of economic activity in the coastal region of Travancore in the shape of reclamation *Kayal* lands for cultivation. There also the Christian community helped by the banking institutions created by them, played a leading part.

Chapter 7 deals with the land tenure legislation in Kerala in three phases, *viz.*, prior to independence, 1947 to 1956, and after 1956. The latest measure reviewed in the book is the Kerala Land Reforms Act 1963. A survey of the legislation in Kerala during the present century reveals that Malabar and Cochin achieved much more than Travancore in this subject. In the absence of effective legislative measures land tenures in Travancore remained considerably complicated. In striking contrast the tenure in Malabar was less complex and tenanted land was the predominant category.

The rest of the book is based on the findings of a field survey. The data collected reveal the distribution of land holdings according to the tenures and shows that Travancore had the maximum number of tenures and Malabar the least. Cochin's position was in between. Owner cultivators predominated (56 per cent) in Travancore and tenant cultivators in Malabar (75 per cent). In Cochin tenant cultivators formed 50 per cent of the total sample households. It is shown that 57 per cent of the owned holdings in

the State was below 1 acre and only 2 per cent above 25 acres. Of the cultivated holdings, 45.5 per cent of the holdings were below 1 acre and only 1.6 per cent above 25 acres. Agricultural production, according to the survey, varied from Rs. 268 per acre in Malabar to Rs. 279 in Travancore for wet land and Rs. 133 and Rs. 170 respectively for dry land. The rate of rent on wet land was higher in Cochin than that in Travancore where land is leased-in on *Verum-pattom* from the Government. Wet land leased-in on crop-share showed tremendous variations between Travancore and Cochin. The rate per acre of wet land being Rs. 45 in Travancore and Rs. 113.05 in Cochin. The study also goes into some social and economic characteristics of the households and this makes very interesting reading.

The author examines land transfers in Kerala during the first half of the century and presents some interesting observations in Chapter 11. In the concluding remarks, the author says "The size of holdings in all the three regions of Kerala has now become very small. In view of the fact that the scope for extending cultivation is absolutely limited in the State (except in some areas of Malabar which are being taken possession of by enterprising cultivators from Travancore), intensive utilization of land is the only alternative left for increasing agricultural production." To achieve this he feels that the remaining tenurial impediment should be removed.

The study showed that the entrepreneurs when freed of certain constraints break away from the rural pattern of living and take to progressive economic activities but to establish that tenurial impediments actually acted as a constraint one has to go a little beyond what the author has done. The problem is that it is not possible directly to take the three regions as cases of progressive and backward tenurial set-ups. It would appear that Travancore had the best opportunity for economic progress but this cannot be attributed to favourable tenurial conditions alone because this area had also the advantage of better transport system, better education and a progressive community. However, the author has dealt with some of the basic issues that catches the attention of students of land reform and socio-economic development. The book is introduced to the readers by K. N. Raj with an excellent foreword.

P. T. GEORGE