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BOOK REVIEWS

Aggregate Supply Response of Crops in a Developing Region, S. L. Bapna, Sultan Chand & Sons, New Delhi-2, 1980. Pp. xi+164. Rs. 45.00.

This book is a revised version of the author's doctoral thesis which was submitted to the Sardar Patel University, Vallabh Vidyanagar, Gujarat in 1976. The author has successfully tested the following hypotheses: (a) The aggregate supply elasticity of the total agricultural production is positive; (b) The aggregate supply elasticity in an agriculture under traditional technology is less than in an agriculture in transition from traditional to modern technology; and (c) The elasticity of supply of both aggregate area and yield is positive, but the supply elasticity of area is more than the elasticity of yield.

The scope of the study is restricted to Ajmer district of Rajasthan due to non-availability of reliable data below the district level. The study analyses aggregate supply response of all agricultural producers in the district under reference. It could have been made more useful by analysing the supply response of varying sizes of holdings. The period of study is 1956-57 to 1976-77. The period since 1966-67 when the High-Yielding Varieties Programme was introduced has been termed as a period of relatively modern technology whereas the period prior to that has been taken to be the period of traditional technology.

The author has measured the elasticity only for twelve selected field crops in the district under reference due to limitation of data on other farm enterprises. The crops included are jowar, bajra, maize, pulses, wheat, barley, gram, sesamum, groundnut, linseed, cotton and chillies. Since State or national levels of aggregations have many limitations and economic and non-economic factors very close to the agricultural producers are more relevant for them in their decision-making process, the author has chosen the district as the unit of study. It is true that the agricultural supply response for districts which differ in resource endowment, agro-economic conditions, etc., would be different as has been empirically examined in an earlier study on this subject.¹

The study provides reasonable evidence in support of the hypothesis that the aggregate supply elasticity of the total agricultural production is positive. However, the coefficient of supply elasticity obtained varied depending upon the specification of expected prices. The supply elasticity of aggregate production was estimated to be 0.29 as compared to 0.27 estimated for agriculture under traditional technology in the district. However, this difference is not statistically significant and needs to be tested on reasonably adequate series. The supply elasticity of aggregate area at 0.06 is very low. This is quite in contrast to higher and significant area supply response found

1. Madan Mohan Batra: Agricultural Production: Prices and Technology, Delhi School of Economics: Monograph in Economics No. 4, Allied Publishers Pvt. Ltd., New Delhi-2, 1978, See Chapter 10 on "Producers' Response under Different Agro-Economic Conditions (1952-53 to 1971-72)."

by many research investigators for individual crops. Further, the impact of technological change was more than that of price. This fact has been empirically discovered even in the case of individual crops.²

The book makes a significant contribution towards an understanding of the factors which explain the aggregate supply response of crops in a developing region. A number of important results have been thrown up by the seemingly limited canvas of the study. The study is important in respect of technological break-through in aggregate supply analysis and also notable in respect of significant policy implications brought out. However, since Ajmer is one of the three districts in Rajasthan, which has the lowest rainfall variability and also the extent of technological change in this district during the period of study is not very significant, it would be interesting and useful to attempt aggregate supply analyses in regions with higher rainfall variability and significant technological changes.

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Madan Mohan Batra

The Politics of Development: Sugar Co-operatives in Rural Maharashtra, B. S. Baviskar, Oxford University Press, Bombay, 1980. Pp. xi+241. Rs. 75.00.

This book is a rare scholarly work on political anthropology with an Indian rural background where politics and co-operatives go hand in hand shouting the slogan of 'democracy and development' and surrounded by followers like kinsmen, caste-men, factions and personal power. Though the situation appears to be quite unique in rural Maharashtra, the scene of this case study, where sugar co-operatives have made a significant headway, one need not hesitate to generalise at the all-India level, or even at global level, what the author says is exactly so. The difference is, sometimes politics walks in the direction of democracy, sometimes of development, many a time without aiming at either of them. The followers however always surround it.

A rare quality of this scholarly work is that it makes possible an enjoyable reading throughout. The author has employed the most useful method known as "participant observation" which is widely used by anthropologists of various kinds while observing qualitative aspects of complex social phenomena, and he has given an account of it at the end of the book. Language apart, he is also fortunate in not only belonging to the area of observation but also to an important social group of the area. The reader therefore believes that the story he tells contains many interesting and inner episodes which an outsider in an alien situation could not have uncovered. There is, however, methodologically at least, a danger of 'self-observation'

2. Batra, "Supply Response of a Subsistence Crop under Traditional and New Technologies", *Indian Economic Review*, Vol. XI (New Series), No. 2, October 1976.

where there are many pitfalls, especially those of pre-determined notions about the phenomenon leading to exaggeration of facts or hiding them. The reviewer however may assure the readers that in this case it is really not so and the author is honest to his academic sense; this being so because the reviewer as an alien has an intimate knowledge about the phenomenon observed though not with the individuals presented there, and he feels like giving his nod to each statement the author makes.

The scholarly aspect of the work is more thrilling. One should note (even the author has not brought this point to the fore) that the area of observation, historically, was the worst famine-affected and poverty-ridden and deaths caused by famine during the last century were not rare. Irrigation came in and the whole scene changed. The newly introduced sugarcane crop brought in prosperity to the immigrant Mali farmers who were mostly tenants and also to the Gujarati and Marwari *gur* dealers who exploited the situation; the local Maratha farmers however could not share the fruits of new prosperity until the sugar co-operatives entered the picture. With co-operatives came politics and each of them was mutually nurtured, the cumulative effect being the accelerated development. The co-operatives played the double role of king and king makers and got in return the political support for their activities. Bureaucracy which is alleged to be an universal curse for effective functioning of co-operatives was shown its place. Besides, the emerging politics was healthy and decent. Were there physical fights and murders in the name of politics? The author's narrative firmly says 'no'. The reviewer also does not have any knowledge of such ugly instances in the area.

There is however concentration of power and concentration of wealth widening the gap between the rich and the poor, the gap being due to uneven distribution of sugarcane area. The conditions of the landless and the marginal farmers are nevertheless better than what would have been in the absence of institutional change. It is not a mean achievement.

The reviewer had an opportunity of going through the comments made by Gail Omvedt and the author's reply to those comments in a widely circulated prestigious weekly. There is no need to poke one's nose further deep into this debate as the author has already given an appropriate reply. Suspicion may still prevail as to what price one should pay for democracy and development. Satisfactory answer may not come forth though one may finally tend to dwell on the conclusion that different political directions have different built-in deficiencies which are to be accommodated.

It is rather difficult to distinguish a single category of readership for this interesting and useful research work. It may attract a very wide readership—not only the wide ranges of social scientists but also the practical politicians, administrators and even the lay readers not belonging to any of these categories.

Growthless Inflation by Means of Stockless Money: A New Classical Treatise on Rising Prices, P. R. Brahmananda, Himalaya Publishing House, Bombay-4, 1980. Pp. xvi + 471. Rs. 95.00.

In this voluminous work, Brahmananda has attempted to diagnose a major ailment of the Indian economy, namely, inflation and to offer a prescription. The analysis is very much in line with the earlier contributions of the author. Much space could have been saved by avoiding to survey the standard theories and well-known consequences of inflation. This review does not contain any comment on the same.

The book is divided into six parts. In the first four parts, the nature of inflation is analysed, theories of inflation are surveyed and consequences and measures of control are examined. The fifth part attempts to examine the problem in an international setting. Concluding observations are presented in the last part of the book. Some justification for the choice of the interesting title of the book may be found in the following statements: "In the old theory, almost all money was backed by the stock of circulating capital. But today most of the money is *stockless*. Since the boat of money has broken loose from its moorings, the economy cannot but witness the emergence of the phenomenon of *growthless inflation*" (p. 125).

The author does not, of course, advocate the linking of money to official stocks of gold, silver or foreign exchange. He suggests: "It might be preferable to think in terms of an overall ceiling on monetary growth as a sure method of containing inflationary pressures rather than resorting primarily to restrictions on Government borrowing or on Government expenditures. Even here, some ceilings in the form of upper limit of ratios may be placed. These fiscal ceilings would be an additional safeguard to the monetary ceiling" (p. 306).

Brahmananda argues that there is a dichotomy between money and output. Empirical evidences are given to show that there is no link between monetary expansion and real growth of output. The policy conclusion is obviously that real growth cannot be accelerated by monetary expansion alone.

The author argues that the approach of the book comes directly into conflict with the standard Keynesian, Friedmanian and Patinkinian approaches. In all the above approaches the monetary sector and the real sector are integrated. In the Keynesian model, the integration is indirectly through the rate of interest, *i.e.*, through substitution effect. An increase in the quantity of money will result in a reduction in the rate of interest (to achieve a desired substitution in the asset portfolio) and a consequent rise in the level of investment, income and employment. In Friedmanian and Patinkinian models, the transmission mechanism is primarily through direct wealth effect. These effects provide links between the monetary sector and the real sector. Friedman would argue that in the long run monetary growth would not affect the real growth of the economy.

The author argues that there is no theoretical or empirical basis for the relationship between money and output either in the short run or in the long

run. On a theoretical plane, it is argued, following P. Sraffa, that commodities are produced and can be produced only by means of commodities. Money is homogeneised into a quantity and commodities too can be, under certain conditions, as Sraffa has shown. But money and commodities cannot be homogeneised under one set. This appears to be the theoretical basis for dichotomy between money and output. On the empirical plane, it is argued that money supply is found to be insignificantly related to output as a determinant. In the author's earlier studies, wage goods and capital stock were found to be statistically significant determinants of real income in India.

The author presents some results of regression exercises. The following are general comments on them.

(1) The specification of models, particularly forms of functional relationship are not explicitly given at many places. But it can be inferred that all of them must be in double-log form as the author treats the estimated coefficients as elasticities. It is not specified whether the first difference exercise is also in the double-log form. It would help the reader if specifications of models are given to evaluate and interpret the results.

(2) The author reports D-W statistic in all exercises, but does not comment on the presence or otherwise of autocorrelation except at a few places. He has probably left for the reader to perform these tests and to worry if there is this problem.

(3) The author uses the word parameter rather loosely even to mean variable (pp. 92 and 374).

(4) The estimated relationships between two or more variables are treated as long-term relationships. The estimated relations between the first differences of the same variables are treated as short-term relationships. This appears to be questionable. Sometimes first differences can be used as a device to deal with a number of econometric problems like multicollinearity, autocorrelation, etc.

(5) The author uses the phrases, "economically not significant, but statistically significant." One fails to understand as to why a statistical testing is done when it is not meaningful in economic theory.

On the whole, the book is a good contribution on the subject. The combination of inventorist and monetarist factors explains, according to the author, inflation phenomenon in India considering the impact of monetary and commodity hoarding. Hoarding can explain once for all the rise in prices of specific commodities. It cannot explain inflation which is a self-feeding process of continuously rising general price level. To be consistent with the new classical approach, inflation has to be explained only by monetary factors.

The author argues that New classical theory is the proper theoretical frame for analysing such problems. Recent developments following this approach are briefly noted in the concluding observations. These developments which are based on rational expectations hypothesis are not considered to be directly relevant to the Indian situation at present because "the pre-conditions for the formulation of the hypothesis do not exist" (p. 377).

It is delightful to read quotations from Shakespeare not only in the beginning of every chapter but also in the Appendix, Notes and References, Bibliography and Index !

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Anatomy of a Peasant Economy: A Rice Village in the Philippines, Yujiro Hayami in association with M. Kikuchi, P. F. Moya, L. M. Bambo and E. B. Marciano, The International Rice Research Institute, Los Banos, Laguna, Philippines, 1978. Pp. xi+149.

Though the vital role of rural sector in the economic development of a nation gained recognition, the knowledge of the peasant economy in its totality is quite insufficient for the effective design of rural development programmes. Information on mere input-output and cost-return relationships collected from farm management surveys may be appropriate for the piecemeal application of the theory of firm to the farm sector. But in view of the complex interactions among different economic activities within a household and within a village such data are inadequate to understand the rural economy. Typically, farm households make decisions on production, consumption and investment simultaneously, which call for day-to-day observation of their activities. Only such an approach can facilitate the evaluation of any development programme and throw light on the impact of such programmes on all facets of rural life, thereby helping the policy makers of rural development.

The principal object of the present study is to analyse the impact of new rice technology on rural economy. For that the authors have rightly chosen a village where 90 per cent of the cultivable land is diverted for the paddy crop and adopted the method of record keeping by the sample households so that the impact on all facets of rural life can be fully understood.

The authors adopted a system to document the economic activities of individual households and the village that consists of seven completely articulated accounts in an effort to quantify the impact of the rice technology on the economic activities of the sample village. The type of accounts designed for this study is as follows:

- (1) Current rice production account,
- (2) Current non-agricultural production account,
- (3) Current non-rice production account,
- (4) Income-expenditure account,
- (5) Fixed capital production account,
- (6) Capital financing account, and
- (7) Transactions account.

Private economic accounts for individual households in the village are aggregated into social accounts of the village economy after deducting transactions within the village from private accounts. The data requirement of this complex accounting system was met by making the sample households maintain the records of their daily activities in addition to the periodic surveys to assess the changes in fixed assets.

The book is divided into seven chapters. The problem and the methodology adopted are discussed in the first chapter followed by a detailed discussion on the profile of the village in the second chapter. The environmental and socio-economic characteristics of the village as well as the households are elaborately described based on the results of a bench-mark survey. In the third chapter, the authors have tried to identify the pattern of labour use within and outside the village and the nature of economic activities that absorb the village labour besides studying the pattern of family labour utilization. The flow of goods and services within the household is documented in terms of private income account in Chapter 4. Chapter 5 is devoted to the analysis of the asset position—both physical and financial—of the households with the help of balance sheets of the households. In Chapter 6 the data on individual households are aggregated into a system of social accounts of the village that enable documentation of income flows within the village and outside the village and corresponding changes in the village asset position. Finally, the findings are summarised and some tentative policy implications are drawn at the end.

The merit of the present study lies in so far as it undertakes the major task of record keeping by the respondents who were purposively selected for the purpose. This method helps to improve the quality and accuracy of the data. Besides, it provides reliable and sufficient data on complex agro-economic activities and the problems associated with the simultaneity of such activities can reasonably be mitigated. The economic activities of individual peasants are constrained by the village economic activities in toto, particularly in developing countries where most of the villages are self-contained and only limited transactions are channelled through the market. This *sine qua non* of peasant economy calls for integration of the analysis of individual households with that of the village as a whole. Otherwise the analysis will be incomplete. Apart from adopting such an approach, the authors collected data that are among the most comprehensive on the village economy that have yet been collected. And the data are consistent in terms of a system of economic accounts in a double-entry system.

However, the small sample size and period being only one year caution one against making any generalisations on the basis of the findings of the study and such an attempt will be hazardous. So is the case with the tentative policy implications drawn by the authors. Nevertheless, one must agree that the study represents an experiment in data collection and documentation for the analysis of village economy in its whole complexity. It clearly shows the possibility for systematic collection and documentation of data at the

village and household level by adopting the national accounting model.

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Essays on Technology, Employment and Institutions in Economic Development: Comparative Asian Experience, Shigeru Ishikawa, Economic Research Series No. 19, The Institute of Economic Research, Hitotsubashi University; Kinokuniya Company Ltd., Tokyo, Japan, 1981. Pp. xxii + 466. J. Yen 6,000.

The book has five chapters; four of them are extensive essays. Chapter 2 is a previously written article. They are reproduced here. Each one of these chapters can stand by itself as an independent contribution. The author, a renowned writer and a mature economist, has been working on related aspects of development problems over the years. The chapters originally written independently fall into a pattern of interconnected ideas, reflecting the author's thinking on the subject.

As the title suggests, the essays cover three aspects relating to technology, employment and institutions. The underlying theme common to all the three aspects pertains to labour employment in agriculture and outside. The discussion is dominated however by conditions of labour employment in agriculture. The author brings to bear on the subject the insight developed by him over the years based on his understanding of theory, digest of empirical studies and feel of operations of institutions. Robust common sense, a firm rock on which applied economics rests, is the author's main asset reflected here in his writings.

Three related issues examined by the author can be thus stated: (1) How does technology shift and how does such a shift affect labour absorption? (2) How does market economy enter agriculture and how do institutions built round land and labour change when market forces bring in their influence? Does the change affect labour absorption? (3) How is technology outside agriculture selected for adoption and what effect it has in siphoning labour out of agriculture? The last one of the three issues pertains to the problem of appropriate technology. It is important but its appropriate discussion will take us beyond the major concern about labour employment in agriculture.

Three terms need to be distinguished at the outset, *viz.*, (1) labour employment, (2) labour absorption and (3) labour involution. Employment refers to hiring of labour on wages. In strict economic sense self-employment could be designated as employment. To cover both, the term labour absorption is used by the author. Greetz used the term 'labour involution' discussing labour use in agriculture in Indonesia. The dividing line between absorption and involution would be thin, the latter would not take cognizance of return to labour even by implication. Ishikawa does categorise both labour and

peasant families as MSL and non-MSL, to mean minimum subsistence level families and others. Again among the latter, he visualises those above MSL, by implication suggesting below MSL families could not obtain for a length of time, since they cannot survive for long. In labour involution one can, at least, in an hypothetical case visualise a category of below-MSL families. An example cited by Ishikawa is relevant to illustrate the point. He observes a tradition obtaining in a rural society according to which all those who help (or join) in harvesting a crop get a share. More than the required number may join and may depress the share accruing to all individuals to the level below MSL. At the time when land was abundant and labour scarce, such social custom would ensure harvesting of all cropped lands. In a situation where land is scarce and labour abundant, the same custom would spell calamity to all by dampening the enterprise of labour to face uncertainty to search for employment outside the natural habitat. Ishikawa obviously refers to absorption and assumes that labour is pressed in productive use till the level of minimum subsistence is reached. Big farmers, landlords (managing their own farms), rentiers and middle peasants could be non-MSL families. He visualises that, with technological improvement, some labour families would become non-MSL families.

Regarding technological improvement, the author bases his observation on empirical studies relating to Japan and tries to project them for future of now developing economies in the context of Green Revolution. His data and findings would suggest the following: (1) Technological improvement is neutral and rapid in the initial stages of development. (2) The rate of change of technology declines over time, neutral improvement in technology slows down, but factor substitution rapidly increases.

These two developments imply faster absorption of labour in agriculture in the initial stages together with increased land and labour productivity. The supply of land being limited, the rental value and hence, the share of rent in land, may tend to rise faster but the real wage does not remain far behind. According to the author, the Green Revolution of the seventies typifies this phase. This phase may continue for a couple of decades or more. Slower neutral technological change with increased factor substitution thereafter would imply reassertion of working of the law of diminishing marginal product. If land substitution deepens as in Japan, labour absorption capacity may increase but not labour productivity in the same proportion. This is the time when non-agricultural development can provide an alternative to commercialised labour. The market-principle, as the author would like to label the phenomenon, would at this state begin to dominate.

The role of the institutions is described to be two-fold. MSL families prefer the community-principle as against the market-principle. In Japan the community-principle was used as a conduit for better resources investment and adoption of improved technology. Thus it could help the economic progress and when it gives way the society is on a higher economic plane, better equipped to benefit by market-principle operation. The community-principle helped Japan to bring in greater irrigation, to adopt the

use of improved seeds and spread both quickly to all sections of peasants. The author maintains that the community-principle would imply a hierarchical society. Landlords who managed their own lands adopted the improved technology. Thus non-MSL families created a climate for the adoption of new technology by MSL families. The community-principle was to the benefit of MSL and non-MSL families. Irrigation could not be introduced by MSL families individually. They came together for extending irrigation. Crop planning necessitated co-operation between MSL and non-MSL peasant and landlord families. Then followed the improved versions of traditional community institutions, minor co-operatives (4 or less farmers joining to dig a well), farm associations and integrated multi-level credit co-operative organization which helped to establish a link with the market outside. By contrast, the *jajmani* system operating in some parts of India would bring, according to the author, opposite results, *viz.*, development delinking the society from the market. The author gives various examples from the experience of other Asian countries like Malaysia, Indonesia, Philippines, China, etc. The burden of his analysis is that the onset of market-principle operation not accompanied by technological improvement and productivity increases would lead to open unemployment and perhaps to impoverishment. This is relevant to the current debate pertaining to the consequences of agricultural development in developing economies. Insistence on the structural change as a pre-requisite of development, though not based on the above logic, can claim to derive additional logical base.

The model developed by Ishikawa is attractive, it is internally consistent and when linked to the non-agricultural sector it becomes comprehensive. This is not sufficient to make it sufficiently general. The model of Ishikawa is based on seemingly rich and varied experience of Asian nations. But that itself restricts its general application. For instance, *jajmani* is not an institution common to all parts of India. The experience of Karnataka villages, described by Scarlett Epstein, is not shared by Punjab villages. Bihar, on the other hand,—as Kusum Nair depicts—experiences malicious operation of the community-principle blocking the inflow of new resources and new techniques. Feudalism never dies in some communities, it may change colour not content, it may become semi-feudalism. To be general the model should be able to cover the whole range of experiences—Punjab, Bihar and Karnataka, Philippines, Korea and Taiwan.

Models of induced technological change, meta-production function and transforming traditional agriculture prototypes ignore, or overlook or take for granted institutional changes. Ishikawa fills this gap. His attempt whets the appetite but does not satisfy it. The contribution to knowledge at any point of time is to be judged by the advancement it brings about. Finality in research is a worthwhile goal, but like an absolute ideal it is never reached. Despite the less general character of his model, the author has made in this book a notable contribution which would merit the attention of all scholars engaged in serious research.

Situation of Agriculture, Food and Nutrition in Rural India, Ali Mohammad, Concept Publishing Company, Delhi-35, 1978. Pp. xvi + 229. Rs. 50.00.

One of the basic objectives of agricultural development in India is to achieve food self-sufficiency and reduce totally the dependence on imports of foodgrains. However, self-sufficiency at the national level does not necessarily imply that it must be achieved at the State level or further at the district or village level. Insistence for its attainment at micro level would deprive the benefits of optimum regional planning of cropping pattern for the country as a whole. In reality, exploitation of such gains from optimum cropping pattern can be attained only in a situation of free market mechanism allowing a smooth movement of foodgrains from surplus regions mainly growing foodgrain crops to deficit regions producing mainly the commercial crops. But the evidence provided by several recent studies indicates wide inter-State differences in food intake levels which are found to be directly associated with per capita production of foodgrains within the region, especially in the rural areas. In other words, market mechanism cannot be relied upon to reduce interregional differences in food intakes and a policy of accelerated growth of foodgrain production in deficit areas needs to be adopted, apart, of course, from augmenting their supply also through public distribution scheme.

The book under review proceeds with the assumption of achievement of food self-sufficiency as the main objective of agricultural development and hence emphasizes reduction in regional imbalances in productivity per hectare. It studies several aspects of agricultural productivity, food availability and nutrition for rural Uttar Pradesh. In the first place, it concentrates on sources of variation in agricultural productivity, its differential growth over the period and the per capita foodgrain production in various parts of Uttar Pradesh. The analysis is based on secondary sources of data and it is further supplemented by intensive primary field investigation, including a dietary survey of all the households and of incidence of various diseases in selected sample villages.

The author attempts to explain the disparity in per capita production with reference to variations in yield levels arising out of variations in environmental factors and also the level of agricultural technology, variations in population growth leading to changes in the density of population and lastly variations in the cropping pattern. Both technological and non-technological, *i.e.*, environmental sources of differences in agricultural productivity are discussed at length to understand the interregional/inter-district variations in yield levels. Technological factors cover use of tractors, electric pumpsets and oil engines per thousand hectares, consumption of fertilizers per hectare, percentage of irrigated area and area under high-yielding varieties for different crops. Surprisingly, the consumption of fertilizers has been included under the level of mechanization (Figure 2.6 on p. 31 and Table 2.6 on p. 39). This part of the analysis, though quite substantive, relies heavily only on the maps indicating interregional differences. Tables giving districtwise indicators are also included to support the conclusions drawn. Changes in total production

of different crops were explained in terms of increases in area and productivity per hectare. Growth rates in population and foodgrains production were also worked out to verify whether the latter exceeds the former or vice versa. The maps showing surplus and deficit regions with respect to the availability of foodgrains were used to highlight the interregional disparity in per capita foodgrains production. However, in the absence of aggregated average indicators, average availability of foodgrains and extent of deficiency/surplus in per capita food production for different regions or geographical divisions of Uttar Pradesh, the analysis has failed to offer an integrated and clear view of the interregional differences. Mere districtwise figures, though indicative of the range of variations with respect to a particular characteristic, do not help in visualising clearly the relative position of different parts of Uttar Pradesh. This is the main limitation of the methodology adopted by the author.

The most important part of the work deals with the study of land utilization, pressure of population, nutritional standard of people and incidence of nutrition deficiency diseases in the selected sample villages. The data for this purpose were totally drawn from the author's detailed field investigation of seven villages from the central part of Uttar Pradesh. The analysis covers the cropping pattern, the state of agricultural productivity, consumption of food and the nutritional status of the village population. Besides, the data of dietary survey were further used to judge the extent of nutritional deficiency for different types of households, namely, well-off, medium and poor households. In other words, the collected data promise an ambitious analysis of food and nutritional situation in rural Uttar Pradesh. However, the actual analysis fails to fulfil these expectations. Both the characteristics of the sample and the statistical treatment of data are not quite satisfactory to justify sufficiently the generalisations and the conclusions drawn by the author. Firstly, the sample of villages is restricted only to the central part of the State and hence cannot be taken as representative of the whole State. Secondly, a comparative study of the averages of food intake of different types of households (namely, rich, medium and poor) is not only restricted to only one village but even the number of households picked up for comparison was again only one from each economic group. Hence any type of generalisation of the conclusions for the State as a whole with such a narrow base of information is quite hazardous and likely to be unreliable. This is not to under-estimate the usefulness of the analysis of village level data but to point out its basic limitations so as to interpret the resulting conclusions cautiously.

Nevertheless, the analysis of the village level data is quite elaborate and covers almost all the relevant aspects of the situation of agricultural productivity, food availability and nutrition. It describes the environmental constraints, production potentiality of the existing land base in the village, and also the level of nutrition as derived indirectly from the food balance sheet method and inferred directly from the 'weighment' method used in dietary survey: The analysis does reveal positive association, though indirectly, between the level of agricultural productivity and the per capita food intake. Besides, both the quantitative and qualitative nutritional deficiency is found to be higher

for 'poor' households, the category which represents 'deficit households'. However, the inference is based on the data for only one village and that too on the basis of only three households. Moreover, it is not exactly correct to compare per head nutrient consumption with standard requirement. Instead of per head consumption, consumption per adult unit should be compared with standard requirement to measure the nutritional deficiency.

Surprisingly, in the last chapter as well as in the chapter devoted to village level analysis, the author comes out with several conclusions which do not have any explicit empirical support from the analysis undertaken in the study. They are too general and probably only the hunches of the author. They may be based on the author's first hand knowledge about the prevailing conditions in rural Uttar Pradesh and on his observations and impressions formed during the intensive field enquiry and hence may be too obvious for him. However, quite a few of them have not been substantiated by convincing empirical evidence. The author has not even cared to summarise and compare the characteristics of the sample villages. There are several loosely worded statements referring to uneven adoption of technology and thereby to unequal sharing of benefits of new technology by different groups of farmers (pp. 211-214), to good quality lands with irrigation being occupied by the rich and medium farmers (p. 129) and so on, without providing any convincing factual basis for their justification.

Thus, although the book under review displays competent and mature understanding of agricultural and nutritional situation in rural Uttar Pradesh, the author unfortunately fails to convey it to the readers decisively. With slightly more ingenuous use of the data and of very simple but appropriate statistical treatment, he would have increased the validity of the conclusions and conveyed them to the reader more convincingly and efficiently.

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Rural Development and the Village: Perspectives for Planning for Development, V. M. Rao, Sterling Publishers Pvt. Ltd., New Delhi-29, 1980. Pp. x + 122. Rs. 45.00.

Moderately priced, we have yet another book on rural development and planning. But the main thrust of this book is on village development in the spatial sense. The author raises the main issue as to what is a viable rural community. In fact, he holds that cultivating 'community mindedness' is a *sine qua non* of village development. The clustered village approach that the author advances in this book is an important contribution to decentralised development in planning for rural areas.

The genesis of cluster approach lies in the author's own empirical work

done in Tumkur, a backward district of Karnataka State, initiated in November 1976 under the guidance of Professor V.K.R.V. Rao. Field work was done during April to June 1977. It covered 245 villages in Tumkur, a ten per cent sample of inhabited villages. The principal data base of the project consisted of village and household data for sample villages and villagewise population census (from 1941 to 1971) and agricultural census (1970) data for all villages in the district. A total of 30,000 household schedules were filled in for collecting information on the socio-economic status and life style as reflected in caste, occupation, ownership of land, housing, membership of and access to institutions, contacts outside village and indicators of health and education. Based on this material, papers relating to "Issues and Problems of Development of Tumkur" were discussed in a four-day workshop held in December 1978.

The book is divided into five chapters. Chapter 1—The Cluster Approach to Rural Analysis and Planning—describes the concept of cluster approach used in the study and points out its importance in both research and policy making. Chapter 2—Village Types and Characteristics—undertakes a comparative analysis of village characteristics by classifying the sample villages on the basis of demographic change, resource base, occupation structure and community composition. Chapter 3—The Distant Neighbours—is focused on within cluster variations in village characteristics. Eight selected clusters located in principal rural environments are taken up for observations. Chapter 4—Rural Amenities in Tumkur—takes into account several of the seven principal rural amenities, *viz.*, drinking water supply, primary school, road, electricity, post office, dispensary and weekly market. Finally, Chapter 5—Place of Village in Planning for Development—looks at the inadequacy of the conceptual base of the block level planning. This last chapter is an independent essay tagged on to the book.

There is no doubt that effective planning for rural development needs grouping of villages into clusters capable of serving as 'unit areas of development', as the author puts it. The basic hypothesis the author puts under test is as follows. "What seems to be required is a coming together of neighbouring villages to form larger and more integrated communities capable of shouldering the local level tasks and responsibilities of rural development." This brings us to the question of population threshold. The author proposes in this book to use an average 2000 + village (or cluster) as a norm. In this respect the data given by the author on 'Availability of Amenities in Rural Tumkur' (p. 98) are worth examination (see Table 1).

The average population of all the 245 sample villages comes to 607 (1971). Average population decadal growth rate during 1961-71 is at 3.2 per cent. This is larger than the growth rate at 2.2 per cent taken from 1941-71 signifying better development in the recent times. This contention is based on Kochai Mera's empirical research in respect of Japan which states that population distribution converges towards economic activities.

Table 1 would suggest that the most ubiquitous 'functions' at village level are (i) drinking water, (ii) primary school and (iii) electricity.

Table 1—Availability of Amenities in Rural Tumkur (Karnataka)
(Total No. of Villages: 245)

Amenities	Within the village	In adjoining village	In town within 5 km.	Total
Drinking Water	232	13	—	245
Primary School	156	87	—	243
Middle School	48	157	4	209
High School	13	62	21	96
Pucca Road	88	93	4	185
Electricity	111	100	—	211
Post Office	53	135	4	192
Post and Telegraph	4	17	24	45
Telephone	5	14	24	43
Dispensary	7	14	14	35
Primary Health Centre	5	42	21	68
Hospital	—	—	13	13
Weekly Market	3	38	25	66

The absence of primary credit society, *panchayat ghar*, and above all the retail tea shop is rather glaring, for, these too are most pervading village institutions. The author builds up his cluster approach to knit together villages within 5 km. that gives the last column total. If the author had taken separately different levels of functions (level 1, level 2, level 3, level 4), his findings would have been more meaningful. The range would vary with the higher or lower order of function; hence a uniform 5 km. radius for varying type of functions, e.g., a primary school and a hospital is inappropriate.

Rao pays a handsome tribute to the work developed on 'Growth Centres' saying that it was a 'helpful landmark'. This reviewer was responsible in initiating the pilot research project on growth centres in the Union Ministry of Agriculture and also in preparing a Manual for Block Level Planning (1977). However, in analysing the material, the author has failed to recognize and work out the population threshold, entry point and various levels of 'functions'. This shows that his acquaintance with W. W. Christaller's 'central place theory' is rather general and distant. Unfortunately, he has based his conclusions more on village data rather than on intensive household data: 30,000 households. An opportunity missed. This reviewer suggests that the author may still analyse this household level material further incorporating the distant matrix as observed in the behaviour of the households in their day-to-day activities, and contribute to a better understanding of Tumkur.

Based on village level data collected in 1971 Census, the cluster approach produces the following results. All 245 villages. The average population of 2000 + villages comes to 3024 with average cultivated area of 1,722 acres. In his attempt to understand the 'ailing' and 'healthy' villages, the author groups all his villages in eight different categories: (i) SD—small and decreasing (29); (ii) LD—large and decreasing (3); (iii) HSC—high scheduled caste (49); (iv) HF—high component of forests (10); (v) B—big villages population 2000 or more (8); (vi) LFG—large and fast growing (population 1000 or more) (3); (vii) HIR—high irrigation (23) and (viii) HNA—high non-agricultural workers (28). He contends that there is a suggestive relationship between

size of village and population change. But his big villages (2000 +) give an average growth rate of 4.1 per cent as against large and fast growing (1000 +) villages which give a growth rate of 12.9 per cent between 1961 and 1971. Population size should be examined in terms of economic base. For example, the percentage of total non-agricultural workers in big villages is 36 as against as high as 71 in respect of large and fast growing villages which possibly explains such a behaviour.

Rao has broken new grounds in focusing our attention to the spatial aspect of rural development. This is a highly professional exercise he has taken laboriously, intelligently and with a fervour. It is full of operational content. He has undoubtedly contributed to the current debate on the meaning of integrated rural development and the strategies needed to achieve it.

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Policy Planning for Agricultural Development, Susanta K. Ray, Ralph W. Cummings, Jr. and Robert W. Herdt, Tata McGraw-Hill Publishing Company Limited, New Delhi, 1979. Pp. xv + 237.

There are very few instances in the recent history of a country of India's size and handicaps sustaining over a long period of time a rate of growth in agriculture exceeding the rate of growth in population. This, in itself, makes a study of Indian agriculture and the forces shaping it a worthwhile exercise. Such a study assumes greater importance when it is realised that an upward trend in agricultural output had set in after more than fifty years of stagnation. Agricultural policies pursued by the State since the initiation of the planning were undoubtedly a major contributory factor.

Future demands on Indian agriculture are likely to be different, quantitatively and qualitatively. Also, the relative importance of the factors contributing to additional output may not be the same. In this context, a critical review of past performance, an assessment of future needs and an examination of the policy instruments designed to fulfil these needs are useful for policy makers as much as for others interested in the country's economic performance. The authors of the book under review have accomplished these tasks in a commendable way. They have discussed all the relevant aspects of agricultural development systematically. The book is well documented and the supportive statistical evidence marshalled with care and ingenuity.

The authors begin their analysis with a review of the performance of Indian agriculture till Independence and the policies pursued for development in this sector during the first half of the century. They are right in maintaining, as is Dr. S. R. Sen who has written an excellent Foreword to the volume, that the main thrust of agricultural policy during that period was to ward off instability (mainly caused by vagaries of nature), rather than ensure

growth in productivity. Major efforts undertaken in research, creation of infrastructure as well as the limited activities in agricultural extension were all directed to ensure this objective. The growing food crisis since the beginning of Second World War necessitated a rethinking on the basic policy thrusts, and resulted in programmes such as the 'Grow More Food Campaign'. These programmes were strengthened after Independence.

The post-Independence experience can be divided into two phases. In the first phase, *i.e.*, till mid-1960s, the major emphasis was on extension of the area under cultivation and under irrigation, and the use of modern inputs—mainly fertilizers—in areas of assured rainfall or dependable water supply. Since the mid-1960s major efforts have been concentrated on the spread of High-Yielding Varieties (HYV) in foodgrains, and also in a few commercial crops such as cotton. Both these thrusts had their desirable impact in augmenting production and profitability.

We are soon approaching the third phase of the post-Independence agricultural development period as the rate of extension of HYV in newer areas is slowing down and at the same time the rate of surplus generation in the existing HYV covered areas is decelerating. This is, therefore, an opportune time to review once again the strengths and weaknesses of the policy measures. This is what the authors have attempted.

The discussion in this book acquires added significance as the future tasks of agricultural development are spelt out in concrete terms. The authors draw three alternative scenarios for the future: an optimistic variant, a pessimistic variant and, a more realistic picture, or what the authors call 'medium metabolism'. The last is the preferred variant and comprises a set of realistic and achievable targets. Various aspects of policy such as, research and extension, supply of inputs, marketing of outputs, provision of credit, fixation of prices and subsidies as well as creation of an economic infrastructure are discussed in the background of these scenarios.

Any attempt to summarise this comprehensive discussion in a paragraph or two will be unfair to the authors. However, some of their conclusions can be highlighted.

The authors recognize the importance of well directed research which alone can generate a package of profitable technology. They have underlined the importance of adaptive research applicable to various regions and sub-regions of the country. In regard to the input policy, they have pointed out the large scope for augmenting the use of modern inputs, especially fertilizers. At the same time, they have emphasized on improving the quality of input use, in particular stressing the need for improvement in water management practices. They have posed relevant questions in the area of farm mechanization ranging from the contribution of a particular form of mechanization in increasing yields, in increasing cropping intensities, in decreasing waste, etc. As Indian agriculture is moving away from the traditional subsistence oriented agriculture to a largely cash oriented agriculture, they have pleaded for a second look at the marketing and credit structures. On the organizational side, they have advocated the idea of 'rural centering'. The concept, in the

words of the authors, involves "an integration of agricultural development with industrial and commercial activity through strategically located and comprehensively planned market towns."

As should be expected, greater attention has been focused on the price policy and on the instruments of food management. The authors have neatly summed up the goals of the price policy as follows: ".... a short run goal of stability in relative crop prices to create certainty; a medium run goal of stability in terms of trade for agriculture to encourage the spread of High Yielding Varieties and investment in agriculture; and a long run goal of gradual adjustments of all prices towards their equilibrium level, which in a modernised agriculture implies a turn in the terms of trade against agriculture."

In all the policy areas covered, the authors have taken a moderate, yet realistic stance, supporting their arguments with convincing logic. The basic assumption, however, on which their theses are based is that with the introduction of modern technology not only will the total output increase, but the unit cost of production will also come down. As a result, the loss due to lower real prices for agricultural produce is more than compensated by the higher per hectare output. If this assumption is accepted then most of the policy prescriptions given by the authors sound reasonable. However, on the issue of falling unit cost serious doubts are being raised on the basis of available data on the cost of production. It seems that, in real terms, the unit cost of production in major wheat and rice producing areas is rising. Admittedly, the data are perfunctory and their veracity questionable. In any case, there is no clearcut evidence of fall in the cost of production. If the unit cost is indeed rising it will have serious implications for policies in the areas of research, marketing of input and output, support and procurement prices, credit arrangements as well as in the rate and direction of investment in infrastructure creation.

There are compelling reasons to doubt the basic assumption of a fall in the unit cost of production. The well irrigated areas are more or less fully covered by HYV while the use of supplementary inputs also seems to have reached an optimal level, at least on the medium and the large farms in such areas. It is thus obvious that to continue the momentum of growth, concerted efforts should be made to extend income augmenting technologies to the bypassed regions and the poorer sections of progressive areas. While dwelling on these issues the analysis and prescriptions by the authors are too general, if not vague; partly because such an analysis demands, apart from a discussion of the appropriate technology and delivery systems, an in-depth examination of agrarian structure and relations.

Another aspect which needs deeper probe pertains to the backward and forward linkages of agriculture. One is tempted to ask questions such as, with a rather satisfactory growth in agriculture for over two decades, why has no major dent been made on rural poverty?; why is it not reflected in the major shift in occupational structure?; why has human capital formation in the rural areas remained so tardy? With the type of growth path which the country has

decided to adopt in the next phase of its development as spelled out in the latest Plan document, these questions will become more pressing. The success of agricultural policies will be judged, apart from their contribution to the overall rise in production, by the impact they make on bringing the poorer sections of agricultural producers in the orbit of growth and forge a strong nexus between the agricultural and non-agricultural sectors. Thus, this work will be of great significance in starting a more meaningful discussion on the emerging issues of agricultural strategy and policies.

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Zamindars, Mines and Peasants: Studies in the History of an Indian Coalfield and Its Rural Hinterland, Edited by Dietmar Rothermund and D. C. Wadhwa, Manohar Publications, New Delhi-2, 1978. Pp. xxi + 236. Rs. 60.00.

This is the first volume brought out as part of South Asia Interdisciplinary Regional Research Programme: Dhanbad Research Project Report under the general editorship of Dietmar Rothermund. This research project has plans to bring out its report in three volumes. The theme of the present volume is indicated in the sub-title: Studies in the History of an Indian Coalfield and Its Rural Hinterland. There are seven papers in this volume dealing mainly with the problem of agrarian legislation, control of land and labour and its impact on the development/under-development of the rural hinterland and the working of British managing agencies in controlling the coalfield. The editors of this volume—Rothermund and Wadhwa—have contributed five of the seven papers.

After a brief introduction about the nature and contents of this volume, Rothermund in his first paper provides insights into the coalfield economy. He has very succinctly traced the historical development of the coalfield economy in the project area (Dhanbad district). He has identified three determinants of the *Enclave Economy* of the study area and he calls them as three types of captivity. They are: the feudal structure which hindered the development of the region, the British managing agency system which was interested only in maximizing profits with minimum possible investment and the prevailing labour recruitment system. Rothermund quite convincingly brings out that these three types of captivity never allowed the coalfield hinterland to develop economically.

Writing on tenancy legislation of Chota Nagpur, Rothermund has highlighted the significance of Chota Nagpur Act of 1908. This Act was in fact an improvement over the Bengal Tenancy Act of 1885 and the Punjab Tenancy Act of 1887. Its importance lies on the emphasis it laid on the executive protection against eviction, determination of fair rent and prevention of the alienation of land to non-agriculturists. Rothermund's analysis of the emergence of this pioneering Act is succinct and penetrating.

Wadhwa has contributed three papers. In all the three papers, he has concentrated on the theme of zamindars and zamindaris at work in the study area. With the help of historical records he has attempted to highlight the most inefficient management of 'coal-bearing' and 'no coal-bearing' lands by zamindars who excelled each other by indulging in conspicuous consumption instead of developing and diversifying their agriculture. Wadhwa has made two case studies of zamindars—one having 'coal-bearing' land and the other having 'no coal-bearing' land—to show how miserably these zamindars managed their finances and landed themselves in an utterly disgraceful condition. Wadhwa relies largely on court records and detailed accounting maintained by Wards Department of the Board of Revenue of Bengal, Bihar and Orissa States. Though the material presented by Wadhwa in his later two papers is useful, it is too detailed to hold the interest of the reader at some places. However, his findings on the process of financial degeneration of zamindaris is quite interesting.

Detlef Schwerin's paper mainly concerns itself with explaining the factors which were responsible for the agricultural backwardness in Chota Nagpur region in 19th and early 20th centuries. The control of land and labour by the landlords through an exploitative system of *bakash* (a system in which land was at the absolute disposal of landlords, but cultivated either by servants of the landlord, by forced or bonded labour or by share-croppers) was the major factor hampering the overall agricultural productivity of the region. The prolonged legal and political battles between the tribal leaders like Sardar Larai and Bisra, on the one hand, and the colonial government, on the other, culminated in the enactment of the Chota Nagpur Act of 1908. Schwerin finds that the settlement operations in Chota Nagpur region did help in some degree to improve the agricultural situation in terms of overall rise in production per capita and the like.

Henner Papendieck has attempted to portray the activities of the British managing agents in the coalfields. Papendieck's detailed probing into the financial and other related matters of the managing agents throws light on different aspects of their dealings. The only limitation of data in Papendieck's analysis, which he himself has rightly pointed out, is that all transactions are in monetary terms and information in physical terms for items like quantities of coal raised, the number of working hours or days, the number of workers recruited, etc., would have helped greatly in understanding various aspects of coal mining industry in the area. The major problem in this regard was the non-availability of data in physical terms from the records of the managing agency companies. In spite of data limitations, Papendieck has done a commendable job in reconstructing "the transactions and operations reflected in their account books." His conclusions are quite interesting and valid in view of the legacy of parasitical features and functions of managing agents imbibed by the large financial groups over the period.

The papers included in this volume have certainly traced the origins of under-development of the coalfield district through the historical method. On the rural front, these papers have shown that the contemporary "quasi-

feudal system of the control of land and labour" did not allow agricultural productivity to grow. Squandering of money by zamindars and exploitative approach of the British colonial rule ruined the rural economy of the hinterland of coalfields. Many a time the peasants were not even assured of subsistence living and were driven to the level of coolies or bonded labourers or as unskilled labourers in coal mines. As Rothermund puts it at the end of the concluding chapter: "The field studies of the contemporary situation show that this negative heritage which has been outlined here in historical perspective still encumbers economic development. This negative heritage cannot be redeemed easily, it pervades the structure of contemporary social and economic life" (p. 227).

The issues discussed in this collection of papers have a bearing on several contemporary rural problems. Hence this volume should prove useful to both researchers and policy makers to get an insight into the nature of control of land and labour, on the one hand, and the nature and effects of colonial type of capital organization which played a crucial role in determining the development of coal mining industry in India. The glossary given at the end has an added use for the reader in understanding some of the local terms used. General get-up of the book is good, except for some slips in printing (p. 39). Considering the rising costs of production of such books, the price seems reasonable.

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