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## BOOK REVIEWS

*Agricultural Supply Response: A Survey of the Econometric Evidence*, Hossein Askari and John Thomas Cummings, Praeger Publishers, Inc., New York, U.S.A., 1976. Pp. xvii + 444. \$ 32.50.

The fundamental and the most important contribution of this survey work lies in its analytical summarisation of the methodologies adopted and in the systematic review of the results obtained in several empirical investigations, based on Nerlovian model or its modified versions, on supply responsiveness of farm products. The study is divided into ten chapters. The first one is introductory in nature, emphasizing the urgent need to meet the long run food problem by increasing agricultural production, in view of an impending food crisis that would be facing the under-developed economies of the world. The authors further argue that in order to guide the policy-makers in under-developed countries it is essential to have an appropriate judgment regarding price responsiveness of farming communities, based on collection and synthesis of available empirical evidence in this field. However, without directly undertaking the review of the studies, the authors proceed to describe in the second chapter, the policies adopted by the governments in several developing economies. They enumerate in this context: (i) the land-control policies, (ii) the market management policies, (iii) the rural infrastructure policies and (iv) the scientific research policies. The discussion, though important by itself, does not fit well into the main theme of the work and thus proves to be an unnecessary digression.

The reader is then introduced to Nerlovian supply response model in Chapter 3. Chapter 4 takes up some of the conceptual problems associated with Nerlove's model and also discusses the empirical aspects relating to the specification of certain crucial variables in the model and the problems of its estimation. Chapters 5 to 9 are devoted to analytical description of the econometric models and summarisation of the results obtained regarding supply response of (i) annual crops covering cereals and basic food crops, (ii) commercial crops mainly vegetables, oilseeds, fibre crops, and tobacco, (iii) perennial crops excluding sugar, (iv) sugar and (v) livestock-related products. These five chapters thus offer a wide coverage of important works based directly or indirectly on the Nerlovian supply response model. In this respect the present study is unique in offering, in a single piece of work, an excellent overview of the empirical evidence on supply responsiveness of different farming communities in the world. The authors provide details regarding the models used for estimation, list up the underlying assumptions and explain the choice and specification of variables. The five chapters mentioned above are thus interspersed with the statistical tables, reproducing the values of structural parameters such as area adjustment coefficients, price expectation coefficients, short run and long run price elasticities for different crops and periods and in some instances the original regression results. The studies reviewed refer to different time periods and regions in India, Pakistan, Bangladesh, Philip-

pinus, Indonesia, Java-Madura, Malaysia, Thailand, New Zealand, Hungary, a number of Middle East countries, United States, United Kingdom, France and several African countries.

Perennial crops and livestock products need special type of formulation of supply response models due to their typical characteristics of production. Obviously, the studies relating to them are separately commented in Chapters 7 and 9. They cover the countries such as Ghana, Uganda, Brazil, Jamaica, Kenya, Nigeria, Liberia, Indonesia, Malaya and Tanzania for perennial crops and United States, United Kingdom and Australia for livestock products. Chapter 8 is specially devoted to 'sugar' and discusses the supply response studies carried out for different regions in India, except the one which is for Philippines.

The second major contribution of the study lies in its presentation of inter-country and inter-crop regression analysis of non-price institutional, social and other factors responsible for explaining the observed differences in the degree of price responsiveness. It is true that none of the earlier studies attempted such a cross-country exercise covering a large number of supply response estimates. However, a similar exercise, though obviously based on a limited number of observations for Thailand and India, was attempted separately in two studies to explain the inter-regional differences in observed short run and long run supply elasticities with the help of institutional and non-institutional factors.<sup>1</sup>

The regression evidence is mostly compatible with the authors' hypotheses such as negative association of supply response parameters with the degree of price and yield related risks and positive association with availability of irrigation facilities, cultivators' family income, rural male literacy, etc. However, the findings of such an exercise are likely to be only indicative in character and one should not emphasize too much the magnitudes of coefficients of different factors obtained in regressions. The degree of inter-country heterogeneity, even for a single crop, with respect to the nature of soil-climatic conditions, extent of subsistence farming and several other institutional characteristics, share of domestic and international market in total production of the crop, its relative dominance in the cropping pattern, level and character of technology of its production, etc., is so alarmingly high that it is hazardous to use the magnitudes of regression coefficients to estimate the supply response parameter indirectly. This is not to under-estimate the importance of the regression exercise undertaken in this work but only to emphasize the tentative character and thereby the limited use of the results obtained.

It is rather surprising to find that the authors have neglected the important issue of a distinction between an elasticity of an individual crop and that of an aggregate production. Inadequacy of the use of acreage variable as a proxy for production is more prominent in the context of aggregate pro-

1. (i) J. R. Behrman: *Supply Response in Underdeveloped Agriculture: A Case Study of Four Major Annual Crops in Thailand, 1937-1963*, North Holland, Amsterdam, 1968, Table VIII-4, p. 298.

(ii) S. D. Sawant: *Supply Behaviour in Agriculture: An Econometric Analysis*, a Ph.D. Dissertation submitted to the University of Bombay in February 1975 and later on published in 1978, Himalaya Publishing House, Bombay.

duction and also for a major crop, claiming dominant share in the cropping pattern of the region. The possibilities of responding to price incentives by changes in the area under crop are severely limited in this situation, provided of course the index of cropping intensity is sufficiently flexible which is rarely so. It is possibly because of this reason that the authors later on find that the variable 'cultivated area in crop' is negatively associated or not significantly associated with supply response parameters in many instances (refer Tables 10.11 and 10.12). In a land-scarce economy increases in aggregate production or in the production of a major crop are expected to come through changes in the intensive use of land and in the use of yield increasing inputs and techniques. As far as a minor crop is concerned, the farmer's price responsiveness is likely to be reflected in his acreage allotment decisions; but even that does not rule out totally the possibility of the response of productivity per hectare through changes in the use of labour, fertilizers and also through the decision of allotting more fertile land to a profitable crop.<sup>2</sup>

Finally, it should be mentioned that the present work, being the first major survey work, fulfils the long-awaited need of providing a systematic and analytical summary of accumulated empirical evidence relating to agricultural supply response studies and hence it would greatly benefit the research workers and the students.

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*Employment and Technology Choice in Asian Agriculture*, William H. Bartsch, International Labour Organisation, Geneva, Switzerland; Praeger Publishers, Inc., New York, U.S.A., 1977. Pp. xx + 125.

The purpose of the present volume is to provide policy-makers with a better understanding of the employment implications of choice of technology made available by the seed and fertilizer revolution in wheat and rice and various mechanization options which have become available in Asia (primarily South Asia). The analytical framework of the study is best explained with reference to Table 1. It distinguishes between *technologies* "defined as the application of knowledge involving the use of combinations of material inputs of a biological-chemical nature and with particular cultural practices associated with such inputs" and *techniques* which relate "to the methods of delivery of these inputs to and implementation of these practices in association with different sources of power (human, animal, mechanical) and corresponding equipment". In short technologies are what is normally called biological innovations while techniques are mechanical innovations although

2. This is a general comment, and not particularly referred to 'perennial crops' in which case short run acreage response, as accepted by the authors, is obviously a very poor proxy for production response.

TABLE 1—LABOUR INPUT PER HECTARE AND PER UNIT OF OUTPUT (WHEAT) FOR SYNTHETIC TECHNOLOGY TECHNIQUES COMBINATIONS TECHNOLOGIES  
(CHEMICAL-BIOLOGICAL-HYDRAULIC)

	Traditional unirrigated local varieties	Improved irrigated improved varieties	Modern (HYV) irrigated HYV
<i>Techniques</i> (power sources)			
<i>Traditional</i> Bullock power, <i>desi</i> implements	433 (100)	1154 (93)	1464 (71)
<i>Intermediate</i> Bullock power, improved imple- ments, tubewell, threshers	180 (42)	429 (35)	541 (26)
<i>Mechanized</i> Tractor power, tubewell, tresher	96 (22)	248 (20)	329 (16)

increased yield  
increased labour per hectare  
decreased labour per unit of output

— Constant yields  
— reduced labour  
per hectare  
implies  
— reduced labour  
per unit of  
output

*Diagonal direction*

— increased yield  
— reduced labour per hectare  
— sharply reduced labour/output

Figures are labour requirements (man hours) per hectare of cropped area of wheat.  
Figures in brackets are indices of labour requirements per unit of output.

Source: Bartsch, Tables 2.17 and 2.19.

Bartsch's terminology while unusual, is more precise. Bartsch distinguishes three levels of technologies/techniques giving him nine different cells. This is done for wheat and rice separately. These levels, described in Table 1, are *synthetic combinations* of various components of technology and techniques and lead to nine *synthetic* cells which are *technologically* feasible. Clearly, increasing the level of technology raises yields and—for a given technique—labour input per hectare. But because yield rises faster than labour input, labour per unit of output drops (see figure 1 for all three levels of technique). Since the synthetic techniques are defined in such a manner that each level can technically achieve the same yield, raising the technique level leaves yield constant. Therefore it reduces labour per hectare and labour per unit of output at the same rate at any given technology level. Combining technologies and techniques and moving diagonally, levels of yield increase but the labour requirement per hectare *and* per unit of output falls.

While labour per unit of output must fall as a necessity, labour per hectare could rise or fall. That it falls in all cases discussed by Bartsch indicates that mechanized techniques have a higher *potential* for labour displacement than the potential of labour absorption of biological technologies, and this is an important conclusion of the book.

The framework also has an advantage that it describes clearly the huge range of *technically feasible* labour inputs in South Asian agriculture. Economically, of course we will in any field investigation observe only a few of the technically feasible combinations. The primary weakness of Bartsch's book is that it does not address the issue of how economic and institutional forces will lead to one rather than the other combination being chosen and observable and why, across regions or time, the choices differ.

That all combinations in their pure form cannot be observed has as a consequence that data such as those in Table 1 need to be synthesized out of a large number of micro studies. This is done in two useful parts of the book. The 38-page Appendix A painstakingly assembles labour input coefficients for virtually every operation from field preparation to threshing and for a number of different techniques which can be used to perform any given operation. Researchers working with programming and input-output frameworks will find this a good source. And the first part of Chapter 2 is a summary of early studies of the labour impact of the seed-fertilizer-water technologies. It is based on an early paper by Bartsch (1973) circulated as a preliminary ILO report when as yet little was known on this topic.

The study also draws one's attention to the fact that one should not limit one's attention to labour per hectare considerations. As pointed out in the conclusion, given the fact that all forms of technical change tend to reduce labour input per unit of output, the ultimate constraint to labour absorption—even if the best technological choice has been made—is the level of final demand. If demand for foodgrains is inelastic the foodgrains sector has a limited capacity of employment generation which may be reduced rather than increased even by biological-chemical innovations.

The limitations of the insights which can be gained from a technical description of labour absorption possibilities in wheat and rice production are well recognized by the author and should not deter the potential reader of this volume.

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*Land Alienation and Restoration in Tribal Communities in India*, Edited by S. N. Dubey and Ratna Murdia, Himalaya Publishing House, Bombay-54, 1977. Pp. viii + 216. Rs. 35.00.

The problem of land alienation among tribals has persisted since pre-Independence days. Although concerted and planned efforts have been made for the uplift of Scheduled Tribes with particular emphasis on land reforms to prevent land alienation, the situation in this regard has not changed significantly since Independence. This is the broad conclusion that emerges from the book under review which contains papers read in a unique Seminar on Land Alienation and Restoration in Tribal Areas held in June 1976 at the Tata Institute of Social Sciences, Bombay.

Altogether there are fifteen papers critically analysing the problem of land alienation and restoration in the States of Andhra Pradesh, Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, West Bengal, Orissa and Bihar which together account for over 85 per cent of the tribal population in the country. There are two papers each on Andhra Pradesh, Orissa and Bihar and three on Maharashtra but one each on Gujarat, Rajasthan, Madhya Pradesh and West Bengal. Two papers discuss the subject on an all-India level. While there is no paper on Assam which has as many tribal people as Andhra Pradesh, Madhya Pradesh which has the highest concentration of Scheduled Tribes in the country could have received greater attention than it has. It must be acknowledged, however, that the contributors have shown deep insight into the subject in dealing with the complicated issues involved. The merit of the book also lies in the fact that the authors are responsible officers such as Collectors, Deputy Commissioners, Deputy Secretaries, Project Officers, etc., who are directly connected with the administration of land legislation and tribal welfare schemes.

The contributors have traced the problem of land alienation to several factors, the most important among them being indebtedness. A tribal's very poor economic condition together with his ignorance, illiteracy, his utter honesty and sense of moral obligation to repay his debt are fully taken advantage of by the moneylenders who with their eye on his land, lure him into



borrowing. An overwhelming majority of tribals in different States, it is reported, depend on agriculture for their livelihood. The average size of his land holding is comparatively small. To these may be added his cultural environment which makes him spend money extravagantly on various rituals, ceremonies and social functions and of course drinking, all of which impel him to borrow. He also borrows to repay his debts as also to purchase inputs. Thus the bulk of his borrowings are for consumption purposes. The usurious moneylenders, traders and shopkeepers exploited the defenceless tribal by lending him money for the asking but at an exorbitant rate of interest ultimately depriving him of his only productive asset, the land. This is the refrain of most papers.

Not all contributors, however, have been able to provide data on the extent of indebtedness of the tribals. However, S. N. Dubey and Ratna Murdia quote figures based on a sample survey carried out in Nasik, Dhule and Thana districts of Maharashtra in 1973-74. According to this survey, out of 64 selected *Adivasis* who had transferred their land to the non-tribals, over 56 per cent were indebted. About 77 per cent of those indebted borrowed upto Rs. 500, the borrowings of the rest ranging between Rs. 500 and Rs. 2,000 and in some cases exceeding Rs. 2,000. Over two-thirds of the borrowers had mortgaged their land. Another study quoted by S. L. Dubey showed that in Banaskantha, Surat, Baroda and Panchmahal districts of Gujarat 42 per cent of the tribals who had mortgaged their lands had borrowed to meet household expenses, 20 per cent to pay debts to co-operatives and banks, 9 per cent to repay old dues and medical expenses, 7.4 per cent to cover social expenses and 4.4 per cent to meet educational expenses. Only 6 per cent took loans for productive purposes. In a Bihar village, according to I. N. Thakur, 36 out of 56 *Adivasi* families had an average debt of Rs. 2,000. These studies provide some idea of the nature and magnitude of the problem of indebtedness among the tribals. Perhaps a systematic survey of tribal indebtedness on an all-India basis could yield very useful information for policy formulation for the welfare of the tribal communities.

This brings us to the central theme of the book, namely, land alienation, its extent and measures to prevent alienation and restore land to the tribals. The treatment is quite elaborate. None of the contributors has been in a position to furnish adequate data on the extent of land alienation in their area. Some fragmentary information is available here and there. But there are enough indications to show to the reader that land transfers, particularly illegal land transfers have been on a very large scale. S.K. Kaul, the Deputy Commissioner for Scheduled Castes and Scheduled Tribes quotes his Commissioner's Report for 1973-74, according to which 9,000 cases of non-tribal occupation were reported in the Agency area of Andhra Pradesh; 25,000 in Bihar tribal belt, 2,700 in Dhule district of Maharashtra and so on. But as pointed out in the paper on Madhya Pradesh, the data from official records do not present a true picture in this regard as most land transfers have been illegal. Quoting a study of Jagdalpur tehsil of Bastar district, the author says that invalid transfers of land from the *Adivasis* to the non-*Adivasis* con-

stituted 95 per cent of the total land alienation in the tehsil. Other contributors also hold a similar view on the subject. The problem, therefore, is one of prevention of such illegal transfers and where these are detected action on restoration of these lands to tribals becomes important.

A detailed discussion on legislative measures to prevent land alienation follows. The preventive enactments made since Independence restrict or prohibit transfer of land from a tribal to a non-tribal except with the permission of the Collector or other competent authority. The Madhya Pradesh Land Revenue Code, 1959, for instance, prohibits land transfer from a tribal to a non-tribal, except with the prior permission of the Collector. A similar provision is made in the Orissa Land Reforms Act, 1960, Bihar Scheduled Areas Regulation, 1969, Maharashtra Land Revenue Code, 1966 and in other State enactments. It is reported that in several cases the Collector's permission could be obtained without much difficulty. In Madhya Pradesh, for instance, the authors stated that the Collectors had granted permission to more than 50 per cent of the applicants, for reasons not known. In the absence of strict directives to the Collector about the granting of permission only in genuine (to be defined) cases, there is every likelihood of that permission being granted in a routine manner. The guidelines in this regard should also stipulate that the reasons for granting or otherwise of such permission should be given in writing. Another loophole of the legislation was the application of restrictive provisions on land alienation to the Scheduled or notified areas only as was the case in Andhra Pradesh and Maharashtra, leaving the tribals unprotected in the non-Scheduled areas.

On the question of restoration of lands to the tribals the contributors have reported little progress. The enactments provide a specified period within which the tribals should apply for restoration of their land which has illegally been transferred. This period was reported to be 2 years in Maharashtra and 12 years in Andhra Pradesh. That means the aggrieved party cannot apply after the expiry of the stipulated period. In some States the Collector is not empowered to take up cases *suo moto*. One of the obstacles to restoration of lands to the tribals is reported to be the filing of writ petitions by the non-tribals against their eviction. Even where orders have been passed for restoring land to the tribals, the non-tribals have succeeded in bullying the tribals into non-acceptance of such land for cultivation.

Since June 1975, however, most States have passed amending or new measures to plug these loopholes and provided penal clauses for contravention of provisions which include imprisonment and fine. The limitation period is extended to 30 years and provision has been made in States like Andhra Pradesh, Bihar and Maharashtra to take up *suo moto* cases for restoration of alienated land to the tribals. Further, in some States like Orissa the decisions of the competent authority are not challengeable in a court of law. It would be interesting to know the progress made in the implementation of the new and additional measures. However, all the contributors are agreed that despite these measures land alienation from the tribals to the non-tribals has continued.

Detection of illegal transfers is a major problem. Circumvention of legal provision by the moneylenders, traders, etc., has been made into a fine art as it were. Benami transfers abound. Transfers are in the form of lease and mortgage. There are *de facto* transfers on the basis of oral agreements. Even forcible possession is reported sometimes. Instances of collusive title suits or declaratory suits are also resorted to. The non-tribals' ingenious ways have led them to transfer the tribal lands in the name of a fictitious tribal servant or of a tribal woman with whom the non-tribal has entered into a marriage or concubinage. One of the major shortcomings of land administration in the tribal areas is reported to be incorrect, incomplete and out of date land records. This calls for urgent action for completing and bringing upto-date the land records.

Thus the progress made, as reported by various authors here, in achieving the objective through protective land legislation against alienation and restoration of lands to the tribals strongly suggests the need for a much more positive and comprehensive approach to the problem. While it is necessary to make the legislative provisions much more stringent than they are and leave no scope for loopholes, a continuous watch has to be kept on the land situation in the tribal areas. At the same time the question has to be looked at from the point of view of the life of the tribal as a whole. To start with, if indebtedness is the root cause of the tribal's current malaise the solution lies not only in protecting him against land alienation, controlling and regulating moneylending or providing relief from indebtedness. It has been suggested by many authors here and the reviewer would like to emphasize the same that the tribal can be got out of the clutches of the moneylender if a suitable institutional source of credit with scope for flexibility and oriented towards meeting the typical requirements of the tribal is provided. Although co-operatives, the banks and now the regional rural banks are operating in the rural areas, these have not reached the tribal in adequate measure. Perhaps the scope and operation of the regional rural banks as also co-operatives could be expanded to cover most of the needs of the tribals including consumption. The existing procedures may have to be simplified and a climate created for the tribal not only to have the freedom to borrow for consumption purposes but also to assure him that the credit is available to him at reasonably lower rate of interest. And to insure the risks that these institutions may have to face the question of providing some kind of guarantee should be explored.

The long-term solution, however, lies in a planned approach for the development of the tribal areas. The new scheme for intensive tribal development through Tribal Sub-Plans should be vigorously pursued. In the long run, perhaps a change in the socio-economic structure which would provide ample opportunities to the tribals for education, health, employment and enterprise, can bring the tribals into the mainstream of national life. In this task voluntary agencies can contribute a great deal in creating an awareness among the tribals. Those interested in the welfare of this weaker sections of the society would find a wealth of information in this book on what is being done through land administration. More than that it provides a

vivid picture of the process of pauperisation that goes on in the tribal communities.

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*Pilot Intensive Rural Employment Project in Trithala Block of Kerala: An Evaluation,* C. Gopinath, G. C. M. Asan and V. Mukunda Das, CMA Monograph No. 74. Pp. xxi + 155.

*Pilot Intensive Rural Employment Project in Trithala Block of Kerala: Social Cost-Benefit Analysis of Selected Works,* C. Gopinath, V. Mukunda Das and G. C. M. Asan, CMA Monograph No. 75. Pp. ix + 84; Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, 1978. Rs. 10.00 each.

Ever since the provision of employment has been emphasized as one of the major policy instruments for giving concrete expression to the equity objective, employment-oriented development strategy has gathered momentum in India. In this context, formulation and implementation of employment plans at the block level has gained importance as a facet of multi-level regional planning. This shift of emphasis from macro to micro approach in employment planning has given rise to some interesting methodological issues. What is (are) the operationally feasible method(s) of delineating the block? How are we to identify the 'target groups' requiring employment? What are the operationally feasible methods of estimating the number of man-days of employment required by each one of these 'target groups'? What employment-oriented project-mix is appropriate for the block? How could we arrive at the employment intensities of different projects? What is the relative importance of employment intensity and benefit-cost ratio of different projects in deciding the "worth" of a project for the block in question? What institutional innovations are required for implementing the employment plans at the block level? Some of these issues are examined in these two monographs under review with data from Trithala block of Kerala on Pilot Intensive Rural Employment Project (PIREP).

In broad terms, the first Monograph is focused on assessing the socio-economic impact of PIREP. The first three chapters are concerned with the statement of the problem, methodology and the description of the study region. There are seven basic issues evaluated in this monograph. First, one of the important aspects of employment planning is to estimate the total number of man-days of employment required for ensuring full employment for different manpower categories. For this purpose, time, willingness, income and productivity criteria are generally proposed. The unemployment survey (Chapter IV) conducted as a part of the PIREP has used time criterion, whereas the registration procedure adopted is a proxy for willing-

ness criterion. The authors appear to be right in arguing that the employment opportunities may have to be rationed in favour of the most under-privileged using reliable economic indicators. However, it would be difficult to ignore the difficulties involved in operationalising this proposal. Second, the choice of employment-oriented projects and their implementation form another facet of employment programme. The main basis for selecting projects (Chapter V) was the "urgent need" as ascertained at the Panchayat level, but not the area development plan. This, as pointed out by this study, would obviously defeat the objective of creating productive and durable assets with high value of employment multiplier. This would call for formulation of Full Employment Block Plans.\* The institution of Beneficiary Committees and the convener system could be expected to adopt some "unfair" practices while implementing these projects, but evolution of proper institutional framework for this purpose is still far off. Third, deriving the estimates of project phase, post-project phase and linkage employment effects of different work projects, and evolution of comparable employment indices for determining the employment intensity of different projects would form a crucial aspect. Apart from providing some information (Chapter VI) on material-labour components of different projects, the ratios of the unskilled to the skilled labour and on indirect employment effects, the study group has drawn blank on these methodological issues. In fact it is fair to state that the present state of research "art" in these areas is almost inadequate. Fourth, reliable empirical frame on the labour force characteristics and job-preference structure of workers could provide a practical basis for the choice of work projects. The study team's observations (Chapter VIII) on the worker's attitude towards wage incentive system of employment, mobility and training are worth noting. Fifth, the study team has evaluated (Chapter IX) the impact of employment project on the wage level. The study concludes (p. 99) "there was no specific impact of PIREP on the local wages of unskilled workers.... There was some impact of PIREP on the wages of the skilled". This raises a very fundamental question on the nature of the supply elasticity of unskilled labour in the rural areas. Sixth, formation of human capital through the provision of training is definitely an important aspect of any employment project. Failures in the areas of proper identification of skill requirement gap and the evolution of institutional framework for training workers in these skills could be termed as the greatest shortcomings of all of our employment-generation projects. Seventh, the study team's observations on the lack of effective co-ordination between official and non-official institutions in the implementation of PIREP are to confirm the general feeling that we are 'good' in planning but a "failure" in implementation.

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\* The Government of Karnataka has initiated some attempts in this direction. For example, see: (a) Hiremath, S.C., Bisaliah, S. and Hiremath, K.C., "A Full Employment Plan for Basavakalyan Taluk, Bidar District", U.A.S., Bangalore, 1978. (b) Hiremath, G.K., Bisaliah, S. and Hiremath, K.C., "A Full Employment Plan for Bhalki Taluk, Bidar District", U.A.S., Bangalore, 1978. (c) Lokamanya, D.S., Bisaliah, S. and Hiremath, K.C., "A Full Employment Plan for Badami Taluk, Bijapur District", U.A.S., Bangalore, 1978. (d) Rathod, S.G., Bisaliah, S. and Hiremath, K.C., "A Full Employment Plan for Muddebihal Taluk, Bijapur District", U.A.S., Bangalore, 1978.

The study team has attempted to evolve a model for rural employment. The team has rightly emphasized the two-fold task of generating employment and raising productivity. The area development plan is the right framework with due regard for resource inventory, product-mix, project-mix, technology-mix and institutional set-up.

The second monograph under review is concerned with an ex post social cost-benefit analysis of rural road works, minor irrigation works, and housing for Harijans. Tangible benefits are evaluated through the traditional methods of net present value, benefit cost ratio and internal rate of return. Restrictive assumptions regarding the expected life, salvage value, discount rate and valuation of costs and benefits are inevitable in the use of these methods. The present study has its abundant share in this regard. The novelty of the study lies in the use of dimensional analysis for evaluating the intangible benefits of the projects in question. To arrive at the social multiplier benefits, consideration of intangible benefits is perhaps pertinent in our context. The study rightly argues that housing projects for the Harijans should not be considered from a purely economic point of view, but should also be considered as social investments for uplifting the weaker sections of the community. Based on the low benefit-cost ratio, one tends to argue that housing projects for Harijans are not worth the investment expenditure. But given the considerable amount of intangible benefits, one is convinced to approve of this line of investment expenditure. One important lesson from this analysis is that in implementing rural development projects, the long neglected intangible benefits will have to be considered and weighed properly in project selection. In this context a pertinent question could be raised for a future line of research in the area of employment planning and its implementation. That is, what relative weightage should be assigned for employment-intensity and benefit-cost ratio in the choice of development projects. If there is a trade-off between these two, what criterion should be used for resolving it.

Some of the shortcomings of these two monographs pointed out in this review are not in any way meant to discount the importance of these works, but to bring out the problems confronting the researchers in the area of micro level employment studies.

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*Credit for Small Farmers in Developing Countries*, Donald Gordon, prepared for the U.S. Agency for International Development by the National Planning Association, Westview Press, Inc., Boulder, Colorado, U.S.A., 1976. Pp. xi + 286.

The objective of planning for rural development is not only to develop rural areas spatially but also to improve the socio-economic lot of the weaker

sections of rural population. The socio-economic lot of these sections cannot be improved if their interests are not protected while planning the process of rural development in a developing economy like India which has an inegalitarian structure of ownership of land and other income-earning assets. But the question is : How can it be done in such an inegalitarian society ?

An answer to this question firstly depends on the identification of the weaker sections of the population. In an agriculture-preponderant economy the landless agricultural labourers, marginal and small farmers are generally identified as 'the target groups' which should receive a higher order of priority in the strategy of planning for rural development. It is suggested that the landless agricultural labourers should be provided with suitable employment opportunities for generating income of a sustained character; and the marginal and small farmers should be converted into viable units of production in the economy.

The book under review deals with the problems of small farmer development vis-a-vis the financing of rural credit by the U.S. Agency for International Development (*i.e.*, USAID) relating to a number of the Third World countries. The book is a product of the 1972/73 'Spring Review' of the U.S. Agency for International Development. It is divided into five parts—introduction, role of credit, financial institutions and policies, related institutions and policies and strategies.

The first part of this book has presented the USAID experience with farm credit programmes relating to the Third World countries and has analysed the importance of small farmer credit in rural development. The Agency experience has been a mixed one about the performance of such programmes in different countries of the world. The difficulties encountered in the operation of these programmes are also discussed in this part of the book.

The purpose of farm credit programmes is to make the small farmers viable and profitable units of production and so the programmes are envisaged to be linked with farm production. The criterion adopted by the Spring Review to identify the small farmer is focused on "the farmers' total resources and the profitability of their operations without reference to acreage". Hence, the typology of small farmers, as shown in the book, includes those as smaller farmers who could have "the potential for establishing profitable operations if greater access to technology, inputs and markets at fair prices were possible" or "who could attain profitability, given access to technology, inputs and markets but only when provided with special incentives". It is possible to suspect that, in the Indian context, this criterion may turn out to be too broad and inclusive to focus the programmes on small holders of land.

The second part has taken into account the factors (such as introduction of new technology, profitability, favourable financial management and modernization of small farmers for overcoming cultural and social factors in farm credit) which condition the successful operation of farm credit programmes. The purpose of analysing these factors is to show how credit should develop the small farmers by making technology accessible to them and modernization of the tradition-bound farmers. This is the same approach of

development as T. W. Schultz has brought out in his book "Transforming Traditional Agriculture".

The third part of the book has thrown light on the dualistic structure of rural capital market which is composed of formal and informal markets. The formal capital market is not easily accessible to small farmers but to large ones. And so the small farmers depend on the informal part of rural capital market which is usually under the monopolistic control of moneylenders specially in Afro-Asian countries. Hence the formal capital market should be accessible to them by formulating a suitable lending policy, by introducing banking practices through reforms and by plugging the loopholes in banking operations so that there may not be defaults in loan repayment. The lending policy should be such that the rate of interest to be charged should at least cover operational costs of banking; and it may not lead to negative effects on savings. Banking practices should be made broad-based but possible reforms in the practices of credit institutions should be explored "in order to reduce the cost of small farmer lending and make such credit more accessible to small farmers". Such reforms should also minimize the cases of default so far as loan payments are concerned. All this refers to the question of making formal capital market a successful business operation in the rural areas.

The fourth part of the book has discussed "three major institutional and policy areas outside of the financial institutions" (as dealt with in the preceding part) which have an important bearing on small farmer credit. These areas are related to marketing, farmers' organization and technical services. "Concerning marketing, the timely supply of agricultural inputs, and the extent to which farmers can sell their products at rewarding prices are both crucial to the determination of farmers incomes and thus to the success of credit programmes". And so a marketing infrastructure should be developed for the extension of input and product products. It also emphasizes the role of small farmers' organization in the successful operation of farm credits for small farmer development. This organization should be based on the principle of co-operation and so the small farmers' marketing societies should be organized on the basis of homogeneity and social cohesion principle. According to this principle, the members of a credit group should have relatively equal land holdings and similar land tenure status and should belong to one caste, creed and religion. The criterion of homogeneity and social cohesion is suggested for group solidarity for protecting the interests of small farmers from those of large farmers. But the feasibility of maintaining this criterion in a country like India is bleak because of various obvious reasons. Emphasis is also laid on the organization of technical services for educating the farmers with new technological knowledge and practices suitable for increasing farm production. The organization of such services through co-operatives will help the agricultural extension agent to win the confidence of small farmers by reducing the number of contact points between him and them.

Finally, the author has spelled out two strategies for the successful operation of farm credit programme in developing countries—extensive and in-



tensive. The objective of the extensive strategy is to cover a maximum number of small farmers in minimum time. But defaults and financial losses should be prevented from occurring for "the establishment of a credit operation that could reach all farmers in any regular, enduring way". All this is drawn from the discussion contained in Part III of the book.

The intensive strategy aims at improving the welfare of small farmers equal to the dimension of credit programmes extensively launched for small farmer development. This is possible by realising the production and equity goals of credit programmes. "Beginning with the former, some of the main features of an intensive approach to production would be an emphasis on technological improvements". This implies that credit programmes should be productivity-gearred and so all policy measures and efforts should be directed accordingly.

The equity goal of the strategy assumes that the involvement of small farmers in the credit programme and the resultant production increases of their farm operations will bring about equity in a country. How far it will bring about this success is subject to further investigation. The Indian experience of the development operations of this type does not present an optimistic experience in the field of such operations. The author has also discussed the issue of subsidised credit programme which is also needed for poor farmers. But the procedure suggested seems to be involved and complex.

The analytical framework of this book appears to be based on the Harvard Agro-Business School of Thought which aims at making small farmers as an enterprise by linking farm credit system to the product and input markets. Hence, the approach of USAID credit programmes for small farmer development is market-centred and productivity-gearred in operation.

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*Mobilization of Resources through Agricultural Taxation in Uttar Pradesh*, Rishi Kumar Govil, Oriental Publishers and Distributors, Allahabad-2, 1977. Pp. vii + 216. Rs. 30.00.

The problem of mobilization of resources from the agricultural sector for the purpose of planned economic development has been debated ever since the planning era ushered in the country. The hypothesis of under-taxation of the agricultural sector has been argued out more than once with facts and figures. Reports of the official committees and several other research studies have come out with different methods to tax the agricultural sector. The main argument for such extra doses of agricultural taxation are: (a) inter-sectoral equity, (b) resource needs to finance developmental activity, (c) blocking the avenues for black money, (d) the principle of fairness that the sector which receives benefits of development should contribute to the resource efforts for development, etc.

But the actual policies followed in this respect bear a sharp contrast to the profound theorizing and loud professing of the past several years. Land taxation is abolished in some States; the exemption limits in the case of taxation of agricultural incomes in most of the States are so high that agricultural income-tax is reduced simply to a paper tiger; the recommendations of the official committees in this respect are accepted in an extremely diluted and distorted form; instead of introducing additional measures for mobilization of rural surpluses, further measures are introduced to help the rich farmers. On a close observation of these contrasts one tends to become more and more introspective. One tends to ask to oneself the questions of the sort—Are the studies recommending additional agricultural taxation completely blind to the current political and social environment so that their recommendations are most often ignored by the policy-makers? Or, is the stronghold of the vested interests so perfect as to thwart any attempt to shake its supremacy in the field of policy formulation and implementation? If introduction of fiscal measures looks ineffective like a petty punch of the Lilliputians to the Giant Gulliver, then what fundamental and far-reaching changes are to be introduced in the socio-economic and political system if the country has to move towards the accepted goals of development with social justice?

It should be admitted that some of the research studies in this field exhibit an inadequate understanding of the socio-economic and political frame. Hence, their recommendations hardly fit into the system. This problem of non-relevance of the conclusions arises partly because either the all-India data are indiscreetly used to arrive at the conclusions while there are abounding inter-regional and inter-State differences in the frame, or, because some State and regional data are used to arrive at generalisations for the country as a whole.

While the book under review should be commended as an attempt to study the regional peculiarities of the State of Uttar Pradesh and then to recommend methods of agricultural taxation, it suffers from the same limitation because the generalisations for the State as a whole are derived on the basis of a detailed empirical investigation of only one district of the State, *viz.*, Allahabad.

The State of Uttar Pradesh poses special problems to the planners because of its vast area, backwardness and predominant agricultural sector. It is significant that Plan allocations have risen much faster in the case of Uttar Pradesh than in the case of other States (Table 1.2 on p. 11). Central assistance has also grown much faster in the case of Uttar Pradesh than in the case of other States. It should, however, be noted that the growth in the States' Plan outlay should depend significantly on the own-resource mobilization. It is in this context that Govil's study of mobilization of resources through agricultural taxation in Uttar Pradesh assumes a great significance. The author suggests that land taxation should be treated as a surer and productive source of revenue mobilization. He recommends that the land tax should be broad based, and progressive and it should be related to potential productivity rather than actual productivity. The suggestion bears

some similarities with the recommendation of the Raj Committee, the main difference seems to be in respect of the division of the revenue district into fewer assessment circles than that advocated by the Raj Committee.

While the suggestion to relate tax burden to potential productivity is interesting, it is not clear how best one can arrive at a clear understanding of potential productivity. It is also not clear why agricultural income-tax has not found favour with the author, though the agricultural income-tax and the suggested land revenue system can certainly coexist.

The study is divided into eleven chapters. Full of facts and figures regarding the agricultural taxation of Uttar Pradesh, the study is fairly informative, though one may not fully agree with the analysis and conclusions reached by the author in several places. Since the author's suggestion for progressive land revenue system is made without disturbing the existing institutional framework, it is quite likely that the recommended tax also meets the same fate as the measures suggested in the past by other committees and researchers.

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*Sociological Analysis of the Working of Small Farmers Development Agency*, Mumtaz Ali Khan, Indian Institute of Advanced Study, Simla-5, 1978. Pp. xi+175. Rs. 32.00.

This book is an evaluation of Small Farmers Development Agency (SFDA) in Bangalore district. The SFDA was introduced in 1971. The field study was conducted during November 1975 to April 1976, well after the gestation period was over. Three taluks, viz., Bangalore North, Channapatna and Kanakapura were chosen for in-depth study. The main field study was confined to nine villages from Bangalore North taluk. Forty beneficiaries of the SFDA and 100 others, non-participating farmers, were the respondents. Besides, 15 village level workers and bank managers were also contacted. Interview schedule and group discussions were the instruments employed.

The broad objectives of the study were (a) to assess the gaps between the actual number of farmers and the number identified, also the number identified and the number benefited, (b) to find out the sociological factors which favour the beneficiaries, (c) to critically examine the role of change agents and institutions in the implementation of the programme and (d) to suggest suitable recommendations for making the programme effective.

The material in the book deals broadly with two parts : Bangalore district and Bangalore taluk. Chapter 1 explains the methodology of the study. Chapter 2 explains the SFDA scheme as it pertains to Bangalore district. Chapter 3 deals with the behavioural aspects of change agents and programmes. Chapter 4 refers to change targets. Chapter 5 sums up the conclusions and recommendations.

Though this is a research study proper, there is an overlay of information relating to Bangalore district as a whole and of secondary sources. The profile of 140 respondents, and in the main of the 40 beneficiaries of SFDA remains confounded. A mature researcher would not have detracted from the information collected through primary sources, in this case the beneficiaries of the programme. Hence the treatment of the subject matter becomes shifting and the focus blurred.

It appears that the SFDA programmes were confined largely to medium-term bank loans. There is a gap of 40 per cent between the actual number of small farmers and the number identified. The blame should squarely rest on the SFDA machinery. During the 'Emergency', the percentage of identified cases were quite high. There was, furthermore, a gap of 48 per cent between the number identified and the number enrolled as members of co-operatives. Between taluks, the percentage enrolled ranged from 18 per cent in Bangalore South to 76 per cent in Matgadi taluk in Bangalore district. This surely is a failure of co-operative extension officers. The VLW, the "maid of all government departments" is incapacitated from functioning in the right direction. The project officer can do very little in the system of loose and alienated controls over different functionaries working for the Agency. This perhaps is too broad a generalisation, for, we have noticed triumphant success of the project officers elsewhere even under a similar administrative machinery. Communication system is totally ineffective and inefficient. Thirty per cent of farmers had no access to any means of communication. Village assemblies are not effectively utilized. Looking to its successful deployment in Rajasthan in connection with the *Antyodaya* Programme, we feel that the village assembly, not the village panchayat, is the most powerful communication system in our rural India. Next is VLW who contributed 50 per cent in spreading awareness, newspapers only 5 per cent, radio 10 per cent. There is no proper mechanism for feed back, *i.e.*, for assessing the grievances of the people. Dry land small farmers are lost sight of. Community wells and subsidiary schemes like poultry, piggyery are virtually neglected, though these have strong economic feasibility. There is unequal distribution of benefits among the different caste groups, the scheduled castes, newly emerging owners of land, are neglected. Conventional co-operative societies are yet elitist in their modus operandi. The SFDA agency has no staff of its own. The author recommends that a list be displayed at a prominent place in the village giving the names of the applicants and the names of the beneficiaries selected. The author pleads for a separate 'Department of Small/Marginal Farmers and Agricultural Labourers' forgetting that the SFDA is an experimental plan scheme and not a non-plan one. Once it is turned into non-plan, the States would lose interest and hesitate providing finances in their budgets. This suggestion is, therefore, not practical. For a sociological analysis, the author has tried various 'plates' putting three or four alternative opinions to seek answers from the respondents on 'agree' or 'not agree'. The applicability of this instrument to illiterate audience providing subconsciously leading answers through interpretation of the plates

is questionable. It serves well to a literate audience in a mail questionnaire method. There are a few proof reading mistakes such as 'diarying' in place dairying, etc.

An important point in the evaluation of SFDA should be an analysis of different programmes under it and the delivery of the public services to the beneficiaries. Also, whether the SFDA has been effective in terms of 'rate of return' such as loan: income ratio and which one of the various programmes should be extended? The author does not touch these aspects.

The book gives an impression of hurriedly collected data. The data collected for different levels are not neatly presented. Some of the conclusions arrived by the author corroborate the conclusions reached by other scholars on the subject.

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*Behaviour of Oilseeds Prices*, The Economic Scene Special Report, Madhoo Pavaskar, Tata Economic Consultancy Services, Bombay, 1978. Pp. vii + 69.

This study analyses the behaviour of edible oil prices and identifies the basic underlying factors, natural or man-made, which cause wide swings in prices. An attempt has also been made to suggest an alternative distribution system for edible oil, in which both the private and public sectors can play their rightful roles.

Chapter 1 of the study deals with the objectives and approach of the study and summarises the findings. Chapter 2 analyses the secular trends in the prices of oilseeds and oilseed products and identifies the factors influencing the trends. Chapter 3 examines the seasonal variations in the prices of groundnut and groundnut products (groundnut oil and groundnut cake) and estimates the return from storing groundnut and groundnut oil. The final chapter outlines a broad scheme for public distribution of edible oils.

The data of edible oil prices and other explanatory variables in the regression model relates to the period 1961 to 1976. The author states: "The multiple regression analysis...revealed that neither the fall in per capita availability of edible oils nor the increase in the real income and population explains, even fractionally, the upward trend in the wholesale prices of edible oils. The analysis clearly disclosed that the major explanation for the sharp rising trend in edible oil prices was the mounting pressure of demand resulting from the growth in money income" (p. 5). This conclusion is based on the log-linear single equation model given on p. 21. Incidentally, equation (i) on p. 21 should read as follows instead of what is printed:

$$Y = -1.366 - 0.972x_2 + 1.105x_3 + 0.403x_4$$

(2.32)\*\* (7.47)\* (0.386)

where  $Y$  = edible oil wholesale price index,  
 $x_2$  = per capita availability of edible oils including vanaspati,  
 $x_3$  = all commodities wholesale price index,  
 $x_4$  = per capita income at 1960-61 prices,  
 $x_5$  = annual average money supply with the public (excluding time deposit).

It can be seen from this equation that per capita availability of edible oils is a significant variable in explaining the changes in the wholesale price index of edible oils. Thus the conclusion on p. 5 cannot be drawn from the equation. Furthermore, the analysis suffers from the limitations of single equation models as against simultaneous equation models.

The analysis of seasonal price variations revealed that these were not really out of tune with the fluctuations in market arrivals. Further, groundnut and groundnut oil markets perform their distribution function as efficiently (or, as inefficiently) as the markets in rice, cotton, and jowar, given their respective patterns of market arrivals. Despite this, price rise in edible oils determined by demand-supply conditions does not bring any consolation to the weaker sections of society. The study, therefore, stresses the need for an effective public distribution system in edible oils. It also suggests that the authorities should utilize the services of private trade and trade bodies for procurement, storage, and transport operations more economically. In the absence of any satisfactory past experience and/or proper logistics worked out by this study, this suggestion will remain a wishful thinking.

The readability of the study is constrained because of several printing errors in estimated equations and text (e.g.,  $R_s^2$  and  $-R^2$ , p. 67) and confusion about one tail and two tail tests of significance. Some statements like the one given below are simply erroneous: "As a general rule of thumb a DW value of around 2 indicates absence of autocorrelation" (p. 68).

Despite the various shortcomings, the study deserves attention because it deals with an important topic of behaviour of edible oil prices and provokes one to think through various alternatives to take steps on the supply side on the one hand and protect the consumers against large seasonal variations on the other. In this sense, the study should be of interest to the policy-makers and researchers dealing with the policy on oilseeds and edible oils.

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*Agricultural Development of India : Policy and Problems*, Edited by C. H. Shah,  
 Orient Longman Ltd., Bombay, 1979. Pp. xviii + 688. Rs. 95.00.

This book is an important contribution to the literature on agricultural development in India. Anyone interested in a comprehensive perspective

on changes in Indian agriculture during the quarter century since Independence will be grateful to Professor Shah and his collaborators for a valuable introduction to both the objective conditions of Indian agriculture and the main currents of economic thought on Indian agricultural development.

The book is divided into six sections dealing with (1) Planning and Policy Problems, (2) Food Marketing and Prices, (3) Production Modes and Institutions, (4) Resources for Production, (5) Technological Change, Extension and Innovation, and (6) Role of Agriculture—Looking Ahead. The book includes contributions by several foreign students of Indian agricultural development such as John W. Mellor, Theodore W. Schultz and George Blyn as well as leading Indian scholars and practitioners.

Among the more exciting chapters are Professor Dantwala's spirited evaluation and defense of Indian agricultural planning and development and Professor Schultz' challenges to the inefficiency imposed by parochial market and trade policies. The arguments over policy and programmes should be weighed in terms of performance. While India has not made significant progress in solving its problems of income distribution or its problems of malnutrition it can hardly be faulted on its performance in expanding agricultural production. George Blyn insists that "to have doubled agricultural production in a mere 25 years of nationhood in a land of low per capita income and advanced population density . . . is surely a remarkable accomplishment" (p. 582). This accomplishment was dramatic both in terms of historical and contemporary standards. During the previous half century output had increased by less than 50 per cent and per capita food production had actually declined. Nor can India's performance in production be faulted in comparison to China, which achieved a roughly comparable rate of increase, or in comparison with United States where production expanded only half as fast as in India between 1950 and 1975.

Among the other very useful papers are Raj Krishna's analytical exposition of the problem of measuring under- and unemployment; L. S. Venkataramanan's review of foodgrain price response and price policy; and G. Parthasarathy's review of issues in land reform and agrarian structure. The papers on the agricultural labour market by V. S. Vyas, on education and agricultural growth by D. P. Chaudhri, and on dry farming technology by N. S. Jodha suggest important areas for additional research. A few chapters add little to the value of the collection. The article by D. T. Lakdawala on direct taxation in agriculture fails to clarify the confusion that surrounds this issue. The article by Krishna Bharadwaj on technical relations in agriculture is an elementary lecture in production economics. The paper by Tarlok Singh leaves one with an impression that agricultural planning occurred in a policy vacuum.

Since Independence India has been a testing ground for most of the development enthusiasms and ideologies that have washed against the obstacles to agricultural and rural development. Some of these tests have consisted of little more than verbal battles or the statistical probing of Indian experience to test or confirm the biases of ideologues or the hypotheses of scholars. India

has also been a prolific source for the testing of development models in pilot projects and national programmes. Some perspective on the ebb and flow of development thought in India can be obtained by comparing the contents of this 1978 volume with two earlier compilations: (a) *Selected Readings: Indian Journal of Agricultural Economics, 1940-1964* (Bombay, Indian Society of Agricultural Economics, 1965), and (b) *Silver Jubilee Number: Indian Journal of Agricultural Economics*, Vol. 19, Nos. 3 & 4, July-December, 1964. A tabulation of the content of the three volumes is presented here:

<i>Content</i>	<i>Agricultural Development</i>	<i>Silver Jubilee</i>	<i>Selected Readings</i>
Planning and Policy .. .. .	4	—	1
Development Theory .. .. .	1	3	1
Performance and Productivity .. .. .	1	3	5
Production Economic and Inputs .. .. .	5	6	4
Prices and Markets .. .. .	3	3	1
Institutions .. .. .	4	6	4
Income Distribution and Employment	4	1	1
Other .. .. .	3	—	—
Total .. .. .	25	22	17

It may not be too unreasonable to take the distribution of articles in *Selected Readings* as indicating the issues that dominated the thinking of Indian agricultural economists in the 1940's and 1950's; the distribution in the *Silver Jubilee* issue as reflecting the concerns in the early 1960's; and the distribution in *Agricultural Development* as a reflection of the concerns of the mid and late 1970's.

If this interpretation is correct it is clear that a concern with performance, production and institutional issues dominated the earlier period. By the early 1960's concern with prices and markets had emerged more strongly. By the late 1970's issues of planning and policy, including food policy, and of income distribution and employment received increased attention. A more detailed examination indicates several issues that have almost dropped out of sight in more recent discussion—the role of cattle in Indian agriculture, the response of marketable surplus to price, the question of productivity by size of farm and the role of group farming and co-operatives. The inter-relationship between technical change and income distribution is a major new theme. Surprisingly the issue of food aid does not receive major attention in any of the three issues.



Another surprise is the limited attention given to broad issues of development theory and policy. The criticism is frequently heard that Indian economic thought has tended to the esoteric and the abstract. Examination of the content of these three volumes leads to a conclusion that Indian agricultural economists have tended to have a strong problem orientation and a focus on the specific and the concrete. If any criticism can be made of the three collections it is that there appears to be a deficiency in thought with respect to the broad strategic issues of agricultural policy and agricultural development. A major challenge to the second generation of Indian agricultural economists is to pick up and extend the mantle that continues to rest very heavily on the shoulders of Professor Dantwala. For example, a rigorous quantitative analysis of the efficiency and productivity effects of the zone pricing system on production should have been available a decade ago rather than being left to acrimonious dialogue.

On the broader issues of the relationship between development policy and development thought there is greater excuse for the limitations observed in both the older and the more recent literature. Advances in development theory have been hard to come by during the last decade. The limitations of the classical and neo-classical two-sector models are hardly released by extending them to "n" sectors or opening them to trade. The importance of increased concern by economists with income distribution and with employment and nutrition problems of the weaker sectors evidenced in *Agricultural Development* can hardly be exaggerated. Nor can the limitations of the theoretical system into which the new observations must be fed over-emphasized. The resistance of these problems to policy intervention is notorious. Neither our theory nor our empirical evidence is as yet sufficiently advanced to tell us how much of what appears to be a conflict between distribution and growth is due to inequality of physical and cultural endowments and how much is due to imperfections in the operation of economic and political markets. Nor do we seem to be able to effectively join issues on whether technical change is the most powerful factor available to society in eliminating the trade-off between distributing and growth, or whether it is the primary source of the trade-off.

The complexity of the Indian economy, and the intellectual vigour of the economics profession in India, suggests that we should continue to look to Indian experience and thought for answers to many of the more perplexing issues in the field of agricultural and economic development.

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