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Reviews

Ramesh Chand. *Agricultural Development, Price Policy and Marketed Surplus in India.* Concept Publishing Company, New Delhi. 1991. pp. 128. Rs. 105.00.

The book is a revised version of the author's doctoral dissertation and as such it is organized in the traditional thesis style. An attempt has been made in this book to develop systems of output supply and factor demand equations for four major crops, namely, wheat, paddy, cotton and gram in Punjab. Marketed surplus and net farm income responses to factor and product prices are also estimated for wheat and paddy crops to analyse the effect of various price policies on them. The book is divided into seven chapters including an introductory chapter and a chapter on summary and conclusions. Chapter 2 contains a critical review of the relevant studies on output supply, factor demand and marketed surplus conducted upto early eighties. The methodology used in the study has been described in Chapter 3 which lacks mathematical rigor and clarity.

The main source of data for this study is the "Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops" of the Directorate of Economics and Statistics, Ministry of Agriculture. Profit function approach is used to develop the factor demand and output supply equations. Normalized quadratic profit function and the factor demand equations for human labour, fertilizer and bullock labour are estimated simultaneously using Zellner's (1962) seemingly unrelated regression equations (SURE) approach with and without linear restrictions of regression parameters across equations as implied by economic theory. Output supply functions for the crops are then estimated residually from the profit function and factor demand equations. Restricted estimates have been used to obtain the elasticities of factor demand and output supply with respect to input prices and fixed factors.

In case of wheat and paddy, analysis has been carried out for the three different zones of the state divided on the basis of soil type, agro-climatic conditions and cropping pattern. The zone-wise results are aggregated to arrive at the state level. However, no mention has been

made of the regions that constitute these three zones. For cotton and gram the analysis is carried out for the state as a whole due to inadequate number of observations for these crops at the state level. Chapter 5 presents the results of the study along with a discussion. The author has wasted his efforts in testing (p. 73) whether the data satisfy the linear restrictions imposed on the regression coefficients across equations and finally decides to use the restricted estimates for further analysis. In fact the coefficients are to satisfy these restrictions as these have been dictated by the theory and have to be explicitly imposed. The analysis brings out clearly even the simplest fact of the economic theory that the own price elasticities of demand for human labour, fertilizer and bullock labour are negative (Tables 5.8, 5.9 and 5.10) implying thereby that the use of these inputs decreases as their price increases, and vice-versa, provided the other things remain at the same level. The magnitude of these elasticities varies from crop to crop and from input to input. The effect of output price on the demand of variable inputs is either positive or is quite weak except for bullock labour in case of gram. The scale elasticities for all the crops are less than unity for human labour and bullock labour demand indicating diminishing effects on the employment of these factors. Besides, the scale elasticities for fertilizer ranged between 1.01 and 1.05 for wheat, paddy and cotton which imply that the demand for fertilizer is neutral to the fixed factors.

Response of marketed surplus of wheat to its price is found to be twice the output supply response while the paddy crop behaves like a commercial crop in so far as its marketed surplus response to factor and product price is concerned (Table 5.16). The study also reveals that the impact of factor and product price on net income is quite high as compared to their impact on marketed surplus and output supply (p. 90).

Policy analysis carried out by the author reveals that though pure inflation has no effect on input use and output level, it has somewhat positive effect on the marketed surplus of wheat and paddy through dominance of price effect on consumption. Similarly the other policy implications discussed by the author are interesting.

The problem of increasing costs and declining returns in the production of wheat, paddy and cotton has been highlighted by the author in chapter 7 as 'Post script'. Though some measures have been adopted at the state level in Punjab, yet this problem deserves more serious attention and efforts at the national level.

The title of the book is misleading as it attempts to analyse the demand for agricultural inputs and supply of major commodities and

marketed surplus for the state of Punjab only. Even the whole of the green revolution regions has not been covered. As such the book is limited in its scope and does not deal with agricultural development, price policy and marketed surplus for the country as a whole. Furthermore, the conclusion on p. 73 that the farmers are not the profit maximizer agents in the process of crop production, does not appear to be logically tenable especially in case of Punjab. In fact it needs deeper statistical analysis before arriving at such a conclusion. Besides, the book contains many printing errors, repetitions and omission of references cited in the text from the reference list.

The book, on the whole, is a welcome addition to the literature on agricultural price policy and marketed surplus. It is hoped that this book will prove useful not only to the scholars but also to the planners and policy makers.

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Brahm Swarup Ojha, Jasbir Singh and Jai Prakash Gupta. *Technological and Socioeconomic Changes in Agriculture.* Oxford and IBH Publishing Co. Pvt. Ltd. 1992. pp. 231. Rs. 350

Advancement in agriculture is an outcome of technological changes as a result of introduction of new varieties alongwith higher levels of chemical fertilizers and insecticides/pesticides use and mechanization and creation of assured sources of irrigation. Use of these inputs led to changes in crop-mix composition governed by economic superiority of a crop over others in specified areas. The technological advances proved to be a boon for areas with better resource endowments but did not help much the farmers of areas deprived of these resources. This resulted in intra-sectoral as well as inter-regional imbalances in economic development even in a geographically small state like Haryana. This is the central theme of this book covering a period of over ten years, i.e. 1975-76 to 1986-87, in relation to changes in agricultural scenario and its outcome on the economic front. In general, the term socio-economic is used very often in write-ups but social components get relatively less prominence and this book is no exception to this. This book is an outcome of the analysis of changes in agricultural situation in 1986-87 as compared to 1973-76 in terms of crop acreage changes, critical inputs like fertilizers, irrigation, high yielding varieties seeds use and its outcome on yields as obtained in different crop zones of Haryana.

This book starts with an introduction dealing with Indian Agriculture: An Aspatial Analysis, and then Haryana as a case study which includes objectives, hypothesis, approach, methodology, sampling design, survey period and schedule structure, organisation of the work and literature cited. The authors claim that this study will serve as a model for other states and agricultural scientists. They mention that they have adopted an integrated statistical-ecological-physiognomic approach in this iterative study. Here economic component could also have been added. The authors classified agriculture in Haryana in four cropping regions depending upon the types of crops grown and these are discussed in detail in the book.

After introduction chapter, the entire book is divided in five parts. Part I analyses the physical environmental parameters of agricultural importance. Social aspects influencing agriculture, such as cultural constraints of agricultural concern, are discussed in Part II. Operational aspects of agriculture, namely institutional, mechanical and biological inputs have been examined in Part III. Part IV describes the structural attributes of farming which includes functioning forms of agriculture-crop land occupancy and crop combinations. Analyses of environmental, cultural, operational, structural and productional attributes are spatially synthesised in Part V.

While discussing physical environmental parameters of agricultural importance, the authors have talked about terrain and at the end they have mentioned water erosion at the foot of the Siwaliks. They could have also discussed about air erosion while discussing southern Haryana in this regard. In water resources section the authors have mentioned that tubewells have been a key input in Haryana agricultural development: other parts of the country should note this fact. Here they could have cautioned about the impact of higher number of tubewells on ground water and its sustainability in long run. In the section on modernisation in agriculture, at one place (page 124) the authors have mentioned that the large sized holdings produce high yielding and high value crops which are less labour consuming but need more water and fertilizers. This is only possible with the strong back up of mechanization which the authors did not mention. Further they have mentioned that in the case of biochemical inputs, capital investment is not heavy. Definitely capital investment is heavier in the use of biochemical inputs in agriculture as compared to its non-use. In Part IV, in section I on cropping intensity, the authors have mentioned that the *kharif* area is not affected where there is either earlier cessation or long dry spells, and remains unaffected even in

the case of delayed monsoon because of the drought resistant and drought escaping nature of the primary *kharif* crops raised in dryland farming areas (page 150). This statement needs reconsideration. It is possible that it may be less affected but it cannot go unaffected even in the case of delayed monsoon.

The authors have concluded that because of the differences in resource endowments in different regions of Haryana, some regions have developed faster economically than others which has led to lopsided development of different regions in Haryana. It has created intra-sectoral imbalances in agriculture along with inter-regional and intra-regional disparities in agricultural economy in terms of agricultural performance and growth rates.

To overcome the problem of lopsided development of agriculture and to have a balanced growth the authors make some recommendations with major emphasis on development of irrigation infrastructure and its judicious use, soil and moisture conservation measures with the help of cover crop cultivation and mulch farming techniques, cropping structure adjustment with support price structure, mixed crop system alongwith organic farming and mechanisation of agriculture. In the section on development of irrigation infrastructure and judicious use the authors could have discussed water saving-water efficient use of irrigation systems like sprinkler and drip irrigation systems especially in southern Haryana where rainfall is less developed. Similarly, for this region, the authors could have talked of tremendous potential of livestock in raising the income of the people of this region and also to improve soil structure by use of organic manure although at places they have mentioned about milk production and need of good quality green fodder for maintaining healthy animals.

The book has as many as 65 figures and a large number of tables which make it easy for the reader to have a good grasp of material presented in the book. Barring a few printing mistakes the book is well written and it is readable. The information presented in the book is useful and it can be of help to the persons interested in knowing about the development of agriculture in Haryana. On the whole the book can be said to be a good outcome.

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J.S. Yadav. *Evaluation of Agricultural Extension : A Study of Haryana*.
Concept Publishing Company, New Delhi. 1992. pp. 207. Rs. 161.00.
Extension efforts directed towards agricultural development have a

long history of evolution in India. Beginning with the Grow More Food Campaign of 1947, various strategies and approaches have been adopted from time to time to promote agricultural development and increase food production. The Community Development Programme, the National Extension Service and the Panchayati Raj System failed to bring about the desired changes in agricultural production. The urgency to bring about improvements in food production was accentuated in the 1950's by the rapid increase in population coupled with food shortages. To remedy this situation, various strategies such as the Intensive Agricultural District Programme, the Intensive Agricultural Area Programme, High-Yielding Variety Programme, Integrated Rural Development Programme, Operational Research Projects, National Demonstrations and Lab-to-land Programme have been adopted since the 1960's.

These strategies met with varying degrees of success but, broadly speaking, they did not completely achieve the anticipated results. These conventional extension services suffered from organisational defects, bureaucratic red tape, poor management with the absence of a single direct line of administrative control and technical support, unsystematic plans and often unrealistic targets, failure of extension workers to make sufficient contacts, lack of adequate technical knowledge on the part of extension workers and wrong attitudes and behaviour of the extension workers which made them ineffective. Efforts to improve the functioning of the conventional extension services led to the development of the Training and Visit system of extension.

The Training and Visit system conceived by Daniel Benor was first introduced in India in 1974 with the assistance of the World Bank. The goal of the system was to develop a single modern professional service capable of giving farmers sound technical advice on their farming operations for maximising farm production. Professionalism, a single line of command, concentration of efforts, time bound work and a field and farm orientation are the major characteristics and features of the Training and Visit system. As such the system encompasses a clear definition of goals, work planning and monitoring. Since the system has been in operation now in India for almost two decades and has been adopted by almost all the states, it is imperative that the social and economic benefits accruing from the project as well as the financial viability of the project be assessed. The book under review is one such attempt.

The study has been conducted in Haryana which, according to the author, has been selected because of the rapid transformation of agricultural technology due to the far-sighted government policies, spread of

basic infrastructure, development of supporting institutions for input and credit supply and the progressive nature of the farmers. The Training and Visit system of extension was introduced in Haryana in 1978.

The aim of the study, briefly, is to examine the effectiveness of the Training and Visit system of extension in relation to the changes in attitudes of the farmers towards the level of their knowledge regarding improved technology, their attitude towards the Training and Visit system and the economic worthwhileness of the system. The book is divided into seven chapters. The first chapter deals with the general problems of agricultural development and the evolution of the Training and Visit system of extension. The second chapter deals with the operational features of the Training and Visit system, the agricultural extension system in Haryana, the basic concepts underlying the study and the objectives and scope of the study. Chapter three outlines the strategies adopted in Haryana to bring about significant developments in agriculture. The infrastructural developments and the extension strategies adopted in the state are described here. The theoretical and conceptual issues in project appraisal/evaluation are discussed in the fourth chapter. Chapter five, which is a description of the research methodology, describes the research design, sampling procedures, empirical measures and statistical methods employed in the study. The variables included in the study and the computation of weights and adoption scores have been discussed in detail. Chapter six, which deals with results and policy implications, discusses the adoption by farmers of improved cultivation practices, comparing the adoption levels of farmers across zones and crops, knowledge of farmers towards improved cultivation practices for the selected crops, attitudes of the farmers towards the Training and Visit system, benefit—cost analysis of selected crops and comparison of farm income of contact and non-contact farmers vis-a-vis socio-economic and other characters and financial appraisal of the Training and Visit system which has been done using discounted cash flow techniques. Chapter seven, the concluding chapter, summarises different chapters and draws policy conclusions from the results.

For the different zones of Haryana, as delineated in the study, the book provides valuable information, crop-wise, on the adoption levels of improved cultivation practices and differences in adoption between contact and non-contact farmers, knowledge of farmers with respect to improved practices, attitudes of farmers towards Training and Visit system, correlation between adoption levels and socio-economic status, knowledge of improved practices and socio-economic status and attitude

of farmers towards Training and Visit system and level of education, attitudes and so on. The benefit—cost ratios for different crops in different zones for contact and non-contact farmers and the cost of cultivation are also given. On the basis of the positive values of the discounting cash flow measures such as net present value, internal rate of return, pay back period and benefit—cost ratio obtained in the study, it is concluded that investments made in Haryana on the Training and Visit system have been quite worthwhile. On the whole the impact of the Training and Visit system on improving agricultural production in Haryana has been significant. Important policy implications have been drawn on the basis of the results obtained.

Since, by the author's own admission, the study was primarily conducted for his Ph.D. work, time and financial constraints restrict the sample size and the number of crops included in the study. Nevertheless, the book provides valuable information on the operation of the Training and Visit system and its benefits in Haryana. The study will be useful for other researchers contemplating similar evaluations, policy makers and extension workers and agencies. The book is a good attempt at evaluating an important extension and agricultural development strategy.

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