

The spectre of eugenics should surely haunt us still.

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**Restoring the Abundance: Regeneration of Indian Agriculture to Ensure Food for All in Plenty.** Jitendra Bajaj and M. D. Srinivas. Indian Institute of Advanced Study, Rashtrapati Nivas, Shimla 171 005. 2001. 48 pp. Price not mentioned.

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This is a very readable book, which traces the history of Indian agriculture during the past few centuries and offers a prescription for the future. The first chapter gives a glimpse of the glory of Indian agriculture in the past, as evidenced by the very high productivity of the soil. For example, the then British administrators reported an yield of 13 tonnes of paddy per hectare in the Coimbatore area of Tamil Nadu.

In the second chapter, the authors point out that productivity declined continuously until the end of the British rule. The worst affected area was 'the heartland of India – the great Indo-Gangetic plains', which according to the authors witnessed unprecedented destruction. In 1903, the nationalist scholar, Romesh Dutt stressed that while priority was given by the British Government to railways, irrigation was neglected. This was also the view of Sir Arthur Cotton, who bemoaned the neglect of irrigation and navigable canals.

Quoting Angus Maddison, the authors point out that during the colonial period the Punjab and Sind alone received attention from the point of view of bringing land under irrigation. Consequently, these two states produced large quanti-

ties of wheat and cotton, both for export and domestic consumption. Neglect of agriculture and particularly irrigation, led to both famines and declining per capita GDP until 1947. In the post-independence period, progress has been uneven in relation to both crops and regions. Also, a large proportion of the Indian population still remains malnourished. Productivity is still low per units of land and water. Though we have an impressive livestock wealth in quantitative terms, their productivity is very low largely due to lack of feed and fodder. The authors stress, 'our people and animals have been living at an average level of consumption that would be unacceptable anywhere else in the world'. Wherever agriculture has progressed, as in Punjab, Haryana and western Uttar Pradesh, both rural and urban poverty has declined.

In the last chapter, the authors present their vision and prescription for the regeneration of Indian agriculture. Criticizing the targets set in the vision document of the 88th Session of the Indian Science Congress held at the Indian Agricultural Research Institute, New Delhi in January 2001 the authors feel that we must produce at least 400 million tonnes of food grains by 2015. This will call for a growth rate of 4.7% per year and an average productivity of 3.2 tonnes per hectare. This can be achieved by restoring the traditionally high production and productivity of the Indo-Gangetic plain. The authors conclude that the regeneration of the Indian economy can be accomplished even within a decade 'through the bounty of Ganga'.

The diagnosis of the importance of the Ganga and Gangetic plains to India's food security is in my view, correct. In a paper by S. K. Sinha and me (*Curr. Sci.*, 1979, **48**, 425–429), we had given an estimate of the absolute maximum food production potential in India, including the Gangetic Plain. Since the book has a sub-title which includes the goal 'Food for All', it is important to point out that inadequate purchasing power rather than inadequate availability of food in the market, is the major cause of endemic protein-calorie undernutrition and hidden

hunger (caused by micronutrient deficiencies) today. Agriculture in India is not just a food-producing enterprise. It is the very backbone of our livelihood and ecological security systems. Therefore, it is not enough if we produce more food in the Gangetic plain. It is important that agricultural regeneration, which includes crop and animal husbandry, fisheries and forestry and agro-forestry, takes place in every part of the country. This is vital for poverty eradication and household food security. With increasing urbanization, there is a clear shift towards diversification of food habits.

The draft of the Tenth Five-Year Plan stresses that to achieve a 4% growth rate in agriculture, there will be need for a 8% growth rate in horticulture, animal husbandry (large and small ruminants and poultry) and inland and marine fisheries. The famine of food at the household level can be conquered only by fighting the dearth of jobs or sustainable livelihood opportunities, in both rural and urban areas. This will call for increased investment in minor irrigation, greater attention to post-harvest technology and a small farm-management revolution through conferring on small-scale producers, the advantages of scale both at the production and post-harvest phases of farming. Indian agriculture, which used to be described as a gamble in the monsoon, is now becoming a gamble in the market. The attention should shift from just the factors of production to the producer. There is need for proactive advice to farmers on land use based on potential demand for both home consumption and exports. More than 50% of the population of the Gangetic Plain, identified by the authors for priority attention, is below the age of 20. Youth in this area will be attracted to farming only if agriculture becomes economically rewarding and intellectually stimulating.

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