

dividual humans. For this protracted notion of war against radiation hazards, this book's contribution to the literature on low-level radiation is a welcome addition. For those who seek a critical analysis of monitoring as a tool for politically cooling-out agitated residents and citizens, this is not the text to peruse. But it could serve as a useful reference source for the wider debate about disinformation techniques employed by the nuclear industry and its supporters.

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## Hunger and Myth of Plenty

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*Empty Stomachs and Packed Godowns: Aspects of the Food System in India* by Bharat Dogra; published by Bharat Dogra, D-7 Raksha Kunj, Paschim Vihar, New Delhi 110 063; 1987, pp VIII + 126, Rs 50.

THE stock of foodgrains in India has increased from 11.7 million tonnes in 1980 to 29.2 million tonnes in 1985. However, this huge stock of foodgrains is not an indication of plenty. Rather, it is one of the symptoms of lack of purchasing power of the poverty stricken millions who suffer from hunger and malnutrition. Bharat Dogra, a free lance journalist, presents a radical outline of the food problem in India.

More than 70 per cent of rural households lack the means to avail of even the least-cost balanced diet as recommended by the Indian Council of Medical Research (ICMR), which is the bare minimum ration. According to the author, the landless labourers and peasants operating upto one hectare of land, who constitute 47 per cent of the rural agricultural population, experience hunger and malnutrition in the most acute form. In several villages where land is infertile and in highly drought-prone areas, peasants operating more than one hectare of land also suffer from acute hunger and malnutrition. The single most important cause of hunger and malnutrition is inequality which deprives a majority of the population of access to resources which can be employed to produce food or yield an income for purchasing food.

Is India self-reliant in food? Self-reliance in food is defined as the ability to produce adequate quantities of all the food items which are part of the diet of our people and are an important source of nutrition for them. The ICMR has worked out the per capita requirements of basic foods for different age groups doing different types of work. This is multiplied by the total number of people in these age groups doing different types of work and summed up to get the requirements of basic foods at the national level in India.

Domestic production falls short of requirements in cereals, pulses, milk and oils and fats. Large quantities of edible oils and dairy products are imported. Besides large quantities of inputs used in the production of food like fertilisers and pesticides are imported. Thus India is not self-reliant in food which is contrary to what is being claimed in official quarters.

On the other hand, agribusiness promotes a massive wastage of food. In its ruthless search for profits, it ignores and hinders the basic task of making nutritious food

available to a majority of the people. For instance, the loss of nutritious ingredients in the course of milling of rice and hydrogenation of edible oils.

A few regions produce a surplus of foodgrains (e.g., Punjab and Haryana) while others remain deficient (e.g., Bihar, Madhya Pradesh, Orissa and West Bengal). Similarly some crops have performed reasonably well (e.g., wheat) while production of some others have relatively stagnated (millets and pulses). The per capita availability of millets (jowar, bajra, ragi etc), the food of the poor, has been declining. The production of pulses (chana, urd, mung, kulthi, masur etc), the poor persons protein, has stagnated. The biggest failure of the green revolution is the failure of high yielding varieties (HYVs) of rice. HYVs have failed to give the promised and much publicised higher yields despite the application of high amounts of fertiliser and irrigation water. The main reason for this failure is the high pest and disease susceptibility of the new HYVs relative to the resistance to disease and pests of the older varieties.

There is an interesting chapter on the long term adverse environmental effects of the green revolution development strategy in Punjab. The growth of legume crops (e.g., grams) in rotation with cereal crops and inter-cropping practices used to be beneficial for maintaining the fertility of the land. However, during the green revolution period, the area under pulses went down from 13.4 per cent of the total area under crops in 1966-67 to 3 per cent in 1982-83 and the area under oil seeds has gone down from 6.2 per cent of the total area under crops in 1966-67 to 2.6 per cent in 1982-83. There has been a greater reliance on chemical fertilisers for maintaining the fertility of the soil relative to the use of crop-rotations, inter-cropping practices and dung. This tendency to rely more on chemical fertilisers for maintaining the fertility of the soil relative to other better and cheaper methods has been criticised by ecologists and other specialists. Thus Francis Moor Lappe and Joseph Collins write in their classic, *Food First* that "The more one relies on chemical fertilisers instead of manure, compost, crop rotation and green manure, the more the organic matter declines, the less able plants are to absorb inorganic nitrogen in chemical fertilisers. This helps to ex-

plain why US agriculture, according to biologist Barry Commoner, now uses about five times as much fertilisers it did in 1947 to produce the same amount of crop". In fact, the Punjab State Planning Board in a perspective plan for agriculture (1980-2000) notes that the heavy reliance on wheat-rice rotation has "upset the ecological balance of the state and the agro-ecosystem has become fragile".

In a country where purchasing power is concentrated in the hands of a small proportion of the population while the masses lack purchasing power, the rich spend extravagantly on expensive food while the poor cannot even purchase essential foodgrains. The consumption of barley, used by the poor either as flour for making 'chapatis' or as parched grains to make 'sattu', has been declining. Instead barley is being diverted into the preparation of malt for producing beer, whisky, candy etc. The organisation of the milk trade has changed significantly in many areas. In earlier days when marketing of milk was not so extensive, a lot of milk used to be converted to ghee at the village level. A nutritious by-product called 'chiaach' obtained in the process was consumed by the poor. Now, with extensive marketing facilities for fresh milk, lesser ghee is produced within the village and consequently the poor are deprived of 'chiaach'. Thus, the poor are deprived of a significant share of milk-related proteins while chocolates and ice-creams are produced for the metropolitan market.

The export of rice, is clearly an undesirable trend. The existence of a 'surplus' stock is no reason for exporting especially when millions of hungry and malnourished people are deprived of adequate amounts of this staple food. Instead largescale employment generating programmes like soil and water conservation and afforestation could be launched.

India is the fourth largest exporter of tobacco. Tobacco not only takes up land that can be used to grow food crops but it also destroys the fertility of the soil. Export of fish and fish preparations has increased from 33,000 tonnes in 1970-71 to 90,000 tonnes in 1984-85. Capital and technology has been imported for deep sea fishing to step up exports, bypassing the protein needs of the poor local people.

The author outlines the elements of a solution, towards satisfying the nutrition needs of the people which include the implementation of radical land re-distribution, special attention to forest conservation, and a reevaluation of traditional farming practices. These measures will face formidable opposition from the ruling classes. Thus they can succeed only as part of a wider struggle for social, economic and political emancipation of the oppressed.

The book is a competent, radical overview of the food system in India. The author however focusses on the problems of hunger and malnutrition in rural India, but the urban situation has not been dealt with adequately.

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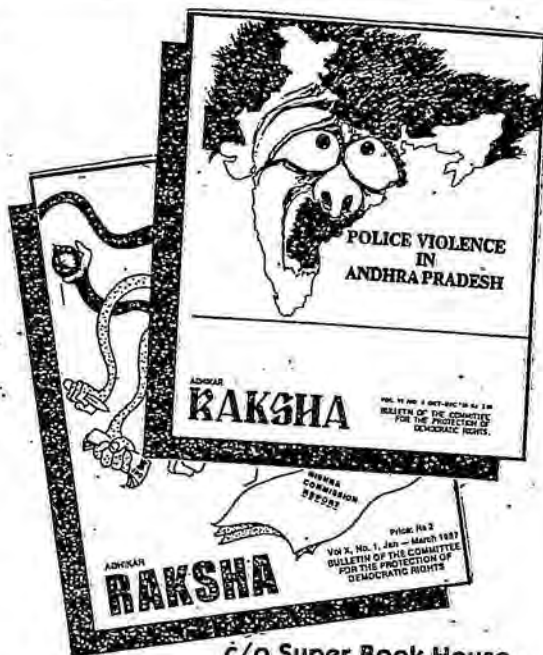
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