
Agricultural Strategy in India: Green Revolution

(A Historical Perspective)

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ABSTRACT

This article tries to study the agricultural policies of India since independence. The features and the impact of first green revolution was studied critically with its weaknesses. In case of second green revolution, the problems of farm mechanization with its problems and prospects were highlighted. Food security and food policies of India since independence till recent times were studied. The impact of National Food Security Mission (NFSM) under eleventh plan was studied. Finally, the scenario of Indian Agriculture was studied in the light of era of economic liberalisation and advent of WTO.

INTRODUCTION

NEW AGRICULTURAL STRATEGY OR GREEN EVOLUTION

The New Agricultural Strategy was adopted in India during the Third Plan i.e., during 1960. As suggested by the team of experts of the Ford Foundations in its reports "India's crisis of food and steps to meet it" in 1959, the government decided to shift the strategy followed in agricultural sector of the country. Thus, the traditional practices are gradually being replaced by modern technology and agricultural practices. Accordingly, in 1960, from 7 states 7 districts were selected and the government introduced a pilot project known as Intensive Area Development Programme (IADP) into those 7 districts for introducing intensive effort for raising agricultural production and productivity though the introduction of modern inputs like fertilisers, credit, marketing facilities, etc. later on this project was extended to remaining states and 1 district from each state was selected for intensive development. In 1965, 144 districts were selected for intensive cultivation and the programme was renamed as Intensive Agricultural Areas Programme (IAAP).

In Kharif season, in 1966, India adopted High Yielding Varieties Programme (HYVP) for the first time. This programme was adopted as a package programme as the very success of the programme depends upon adequate irrigation facilities, application of fertilisers, high yielding varieties of seeds, pesticides, insecticides, etc. this new strategy is also known as modern agricultural technology or green revolution.

In the initial stage, HYVP along with IAAP was implemented in 18.9 million hectares of area which was gradually enlarged to 75.0 million hectares in 1995-96 which accounted to early 43% of the total net sown area of the country. As the new HYV seeds require shorter duration to grow thus it paved the way for the introduction of multiple cropping i.e. to have two or even three crops throughout the year.

Features of Green Revolution

- **Revolutionary:** The Green Revolution is considered to be revolutionary in character as it based on new technology, new ideas, new application of inputs like HYV seeds, fertilisers, irrigation water, pesticides, etc. As all these were brought suddenly and spread quickly to attain dramatic results thus it is termed as revolution in green revolution.
- **HYV Seeds:** The most important strategy followed in green revolution is the application of high yielding (HYV) seeds. These HYV seeds are of shorter stature and mature in a shorter period of time and are useful where sufficient and assured water supply is available, and requires 4 to 10 times more of fertilisers than that of traditional variety.
- **Confined to Wheat revolution:** Green Revolution is mostly confined to wheat crop neglecting the other crops. Presently 90% of lands engaged in wheat cultivation are benefitted from this new agricultural strategy. Most of the HYV seeds are related to wheat crop and major portion of chemical fertilisers are also used in wheat cultivation. Therefore green revolution can be considered as wheat revolution.
- **Narrow Spread:** the area covered through green revolution was initially very narrow as it was very much confined to Punjab, Haryana and western Uttar Pradesh. It is only in the recent years that coverage is gradually being extended to other states like West Bengal, Assam, Kerala and other southern states.

Impact of Green Revolution

- **Increase in agricultural production:** Due to the introduction of New Agricultural Strategy the volume of agricultural production and productivity has increased manifold. Total production of food grains in India increased from 81.0 million tonnes during the third plan to 257.4 million tonnes in 2011-12. This has been possible due to the introduction of Special Foodgrains Production Programme (SFPP) and the Special Rice Production Programme (SRPP).
- **Increasing employment opportunities:** Green Revolution has led to considerable expansion of agricultural employment. Due to the introduction of multiple cropping, job opportunities in rural areas has also expanded as the demand for hired workers required for farm activities increased simultaneously.
- **Strengthening the forward and backward linkages:** Although traditional linkages between agriculture and industry were existing a long back, but green revolution has strengthened the linkages. Modernisation of agriculture and development of agro-based industries has strengthened both forward and backward linkages between agriculture and the industry.
- **Increase in regional disparity:** Introduction of new technology in agriculture has widened the regional disparities as only some regions well-endowed with resources and irrigation potential have benefitted most from the introduction of modern technology.
- **Inter-personal inequalities:** Green revolution has created some impact on inter-personal inequalities.

- **No response from small and marginal farmers:** Small and marginal farmers were not able to adopt the new strategy due to poor financial condition and poor creditworthiness.
- **Market Oriented:** Introduction of the new technology has transformed the farmers market oriented. Indian farmers now mostly depend on market for getting the inputs as well as for selling their output, and also depend on institutional credit available in the market to meet cost of adoption of new technology.
- **Unwanted Social Consequences:** Green revolution has also paved the way for certain unwanted social consequences. Increased mechanisation of farm has resulted in huge number of accidents which maimed more than 10,000 farm labourers in India till 1985. But surprisingly no provision for workmen compensation has been yet made in India.

Progress in Food Grain Production

ITEM	In million tonnes		
	1960-61	1980-81	2011-12
RICE	35	54	104.3
WHEAT	11	36	93.3
• TOTAL CEREALS	69	119	240.2
• TOTAL PULSES	13	11	17.2
• TOTAL FOOD GRAINS	82	130	257.4

Production of Cash Crops in India

ITEM	1960-61	1970-71	1980-81	2011-12
SUGARCANE (m. tonnes)	110	126	134	357.7
COTTON (m. bales)	6	5	7	35.2
JUTE & MESTA (m. bales)	4	6	8	11.6
OILSEEDS (m. tonnes)	7	10	9	30.0

Weaknesses of the Strategy

- Adoption of new agricultural strategy through IADP and HYVP led to the growth of capitalist farming in Indian agriculture as the adoption of these programmes were very much restricted among the big farmers, necessitating a heavy amount of investment.
- The new agricultural strategy failed to recognise the need for institutional reforms in Indian agriculture.
- Green revolution widened the disparity in income among the rural population.
- New agricultural strategy along with increased mechanisation of agriculture created a problem of labour displacement.
- Green revolution widened the inter-personal disparities in farm production and income.
- Green revolution has led to some undesirable social consequences arising from incapacitation due to accidents and acute poisoning from the use of pesticides.

SECOND GREEN REVOLUTION IN INDIA

Considering limitations of the first green revolution in India, the government is now planning to introduce ‘Second Green Revolution’ in the country with the objective of attaining food and nutritional security of people which at the same time augmenting farm incomes and employment through this new approach.

The government is of the view that with more advances in science and technology in areas such as biotechnology coming from private sector, it was important to ensure availability of these products to the poor farmers.

The success of the second green revolution would depend largely on the strategies which would make it sustainable and make the green revolution really green.

Bringing Green Revolution to Eastern India

In order to bring green revolution to the eastern region of the country, the budget 2010-11 made provision with allocation of Rs 400 crore. The programme mainly intends to address the constraints limiting the productivity of ‘rice based cropping systems’ in Eastern India. Rs 1000 crore was allocated during 2012-13. Again praising the success of bringing the green revolution to Eastern India and the success of Assam, Bihar, Chhattisgarh and west Bengal in raising the rice production, the budget 2013-14 proposed an allocation of Rs 1000 crore as incentive fund to boost agricultural output.

FARM MECHANIZATION

Mechanization of farm indicates the use of machines for conducting agricultural operations replacing the traditional methods which involve human and animal labour. Thus, mechanization is a process of replacing biological sources of energy involving animal and human labour to

mechanized sources of energy which includes various machines like tractors, threshers, harvesters, pump sets, etc. In a mechanized farm, ploughing is done by tractor, sowing and applying fertilizer by the drill, reaping the threshing by the combined harvest thresher etc. Thus mechanization of agriculture involves in the use of different machineries in farming operation right from ploughing to marketing of produce.

BENEFITS OF FARM MECHANISATION

Mechanization of farm has provided following benefits to the agricultural sector:

1. Mechanization of farms has led to increase in the volume of agricultural production. In developed countries like U.S.A, farm mechanization has resulted in increase in agricultural production and productivity.
2. Mechanization increases the labour productivity as the same output can be raised by the lesser number of labourers.
3. Application of farm machines has relieved the agricultural labourers much of the heavy work like land reclamation, ploughing , digging and carrying of soil.
4. Large scale farming has become possible due to mechanization of agriculture which has reduced the cost of production.
5. Mechanization can solve the labour bottlenecks faced by the farm during the peak period.
6. Mechanization made the intensive cultivation successful and helped the farmers to follow multiple cropping in a suitable manner.
7. Mechanization increases the income of farmers and can transform the traditional agriculture into commercial agriculture leading to the introduction of capitalist farming.
8. Mechanization of agriculture helps to derive an increased volume of economic surplus which not only induces the farmers to develop their agricultural farm but also help towards industrial development and infra-structural development in a country.

CASE AGAINST FARM MECHANISATION

1. Mechanization of farms can reduce the scope of agricultural employment and these may be termed inconsistent in a labour- surplus economy like India.
2. Due to existence of huge number of small and marginal farms in underdeveloped countries like India, mechanization of farm is not possible under the present set up.
3. Lack of trained personnel can also stand in the path of mechanization like India.
4. Rapidly rising price of oil is also creating lot of hurdles in the path of mechanization in deficient country like India.
5. Mechanization of agriculture in India has increased the degree of regional disparities in the level of income and also raised interpersonal inequality of income.
6. Mechanized farm will render a huge number of existing cattle population surplus unnecessary.

FOOD PROBLEM, FOOD SECURITY AND FOOD POLICY IN INDIA

India has been facing food crisis since long period. During Second World War India experienced a severe food crisis leading to a phenomenal increase in the prices of food grains. Again, in 1943, Bengal faced a serious famine where nearly 3.5 million people died out of starvation. In order to meet the situations, the rationing system was introduced and about 45 million people were covered by this rationing system. But due to corrupt and inefficient administrative structure, the entire system failed leading to a widespread hoarding and speculation of food grains causing huge suffering of millions of people of the country.

The partition of India in 1947 again aggravated the food crisis as after partition the country received about 82 percent of the population but had to manage with nearly 45 percent of the total cultivated area under cereals and with 69 percent of the irrigated area. The country had to forego the surplus area of West Punjab and Sind. Thus, while the separation of Burma aggravated the situation and forced the country to import rice, the partition of the country again forced the country to import wheat from foreign countries.

Food Problem and Food Policy in India since Independence

India had to face a serious food crisis at the time of Independence. To meet the deficiency in the supply of food grains in the short run, the Government made the following provisions:

- (a) Extension of the rationing system to cover both urban and rural areas;
- (b) Import of food grains to make easy the situation;
- (c) Introduction of subsidy for the distribution of imported food grains as it was expensive as compared to indigenously produced food grains.

To meet the situation, the First Five Year Plan accorded highest priority to agriculture. During the First Plan period, the country experienced a series of good harvests leading to an improvement in the food supply situation, curtailment of imports and a consequent fall in the prices of food grains by 23 percent.

Soon after, the Second Plan again experienced a serious food crisis especially in 1958-59, in various parts of the country due to drought, floods and cyclone. To meet the crisis the Government entered into an agreement in 1956 with U.S.A. to import 3.1 million tones of wheat and 0.19 million tones of rice for the next three years. This agreement was known as Public Law-480 (PL.480) Agreement, 1956 which the government utilized to reduce and stabilize the prices of foodgrains in the country. This marked the beginning of the present public distribution system (PDS) which was introduced to distribute cheap imported food grains through the network of "fair price shops" at a price which was far below the prevailing market price.

Integrated Food Policy, 1966

This policy was introduced to prepare and implement a National Food Budget involving a national plan of supply and distribution of food grains through (a) procurement of food grains, (b) control of inter-state movement, (c) a public distribution system and (d) building a buffer stock for different years.

Impact of New Agricultural Strategy

In the mean time, the Government adopted new agricultural strategy during the Fourth Plan and set a target of 129 million tones of foodgrains at the last year(1973-74) of the Plan. After 1968 the government gradually reduced the volume of imports of food grains from nearly 8.7 million tones in 1967 to 0.5 million tones in 1972. But the Government raised its procurement of food grains since 1972 and put the public distribution system on a permanent basis.

The new agricultural strategy, popularly known as green revolution was also continued during the Fifth and Sixth Plan. At the end of Fifth Plan total production of food grains rose to about 132 million tones and then rose to 145.5 million tones at the end of Sixth Plan.

Another aspect of the food problem is that prices of food grains have been rising continuously causing serious difficulties to the rural poor.

Different Aspects of Food Problem

Food Problem in India has the following three aspects;

- (i) Quantitative Aspect: Supply of food grains in India is totally inadequate as per the per capita calorie intake in India is very low in comparison to other developing countries.
- (ii) Qualitative Aspects: There is a deficiency in the nutrient content of the diet of average Indian and this deficiency is mostly marked in respect of sugar, fish and milk.
- (iii) High Prices of Food grains: In India, the prices of food grains have been rapidly increasing and prices were doubled in 1970-71 as compared to that of 1960-61.

Factors responsible for Food Problem in India

The following are some of the important factors which are responsible for this persisting food problem in the country-

1. High rate of population growth.
2. High marginal propensity to consume.
3. Inadequate increase in the production of food grains.
4. Hoarding of food grains.
5. Increase in farm consumption.
6. Corrupt administrative practices.

Policy Measures adopted by the Government to solve the Food Problem

The policy measures adopted by the Government during the planning period can be broadly classified into four headings:

- (1) Measures to increase output.
- (2) Measures to improve the distribution system.
- (3) Import of food grains, and
- (4) Price incentive to agricultural producers.

1. Measures to increase agricultural output

- (a) **Technological measure:** Since 1966, the Government adopted New Agricultural Strategy through the application of HYV seeds, fertilizers, pesticides etc. and adopted farm mechanization technique through the use of tractors, oil engines, tubewells etc.
- (b) **Land Reforms:** Various land reforms measures were introduced and also legislation was adopted to bring ceiling on land holding, regulation of rent, conferment of ownership to tenants etc.

2. Measures to improve the distribution system

- (a) **Food Zones:** The Government adopted zoning system where the country was divided into food deficit zones and food surplus zones.
- (b) **Buffer stock and state trading:** The Food Corporation of India was set up in 1965 to undertake purchase, handling, transport, storage and distribution of food grains on behalf of the Government. The total buffer stocks of food grains with public agencies were 15.34 million tones in 1997 as against 19.88 million tones in 1996.
- (c) **Procurement and Public Distribution System(PDS):** In order to supply food grains through PDS, FCI is allowed to undertake procurement operations in different states on a large scale.

3. Import of Food grains

The Government of India entered into the first PL-480 agreement with U.S.A. in 1956 to import 3.1 million tones in wheat and 0.19 million tones of rice for the next three years. Thereafter the Government resorted to continuous import of food grains for meeting the deficiency in the food supply.

This import of food grains although had a favourable impact in the food situation in the short run but it had a bad impact on the production in the long run.

4. Price Incentives to Agricultural Producers:

The Government set up an Agricultural Prices Commission(later on renamed as Commission for Agricultural Costs and Prices) which is making important decisions in connection with determining and announcing minimum support prices of agricultural produce regularly. This commission has been recommending incentive prices policy for various agricultural crops since last 28 years.

FOOD SECURITY IN INDIA

1. Concept of Food Security

The concept of food security indicates access of food to all people of the country at all times. World Development Report (1986) defined food security as “access by all people at all times to enough food for an active, healthy life”. Moreover, Food and Agricultural (FAO, 1983) defined food security in terms of “ensuring that all people at all times have both physical and economic

access to basic food they need". Thus, by the term 'food security' we mean establishing a food system which provides access to a timely, reliable and nutritionally adequate and food supply.

Thus food security involves (i) physical availability of food to entire population, (ii) enough purchasing power in the hands of the people to buy food, (iii) maintain adequate quality and quantity of food to meet nutritional requirements (iv) maintaining timely, reliable and nutritionally adequate supply of food on long term basis.

2. Food Self-sufficiency and Food Security in Indian Context

From the very beginning, Indian planners have been giving due stress on the attainment of self-sufficiency in food grains as one of the important objectives of planning. The Government of India, under the leadership of Prime Minister Indira Gandhi introduced the strategy of Green Revolution for raising the production and yield of food grains in the country. As a result, India has transformed itself into a food surplus country since 1976 and thereby has been able to raise the per capita availability of cereals in the country. Accordingly, India successfully raised the production of food grains from 51 million tones in 1950-51 to 212.2 million tones in 2003-04.

India has achieved progress on the production of food grains in the form of:

- (a) Production of food grains has increased from 50.8 million tones in 1950-51 to 212.2 million tones in 2003-04;
- (b) the share of cereals in total production of food grains has increased from 84.0 percent in 1950-51 to 93.5 percent in 2003-04 and that of pulses has declined from 16.0 percent to 6.5 percent during the same period; and
- (c) the share of rice and wheat in total cereals has increased from 53 percent in 1950-51 to 77 percent in 2003-04 and the share of coarse cereals has declined from 30 percent to 17 percent during the same period, showing a change in consumption pattern of poorer sections towards rice and wheat.

3. Ninth Plan and Food Security

Ninth Plan document has made a detailed reference on the problem of food security both at the household level and at the national level.

Food security at the household level indicates maintaining physical and economic access to food articles which are considered adequate in terms of quantity, quality and affordability. In order to achieve household level food security in the country in present times, the following steps are to be taken:

- (i) accelerate growth in food and agricultural sectors so as to provide direct sources for food and income for buying food;
- (ii) setting development strategies for creating conditions for growth equity;
- (iii) promoting rural development with special focus on the poor;
- (iv) raising employment opportunities;
- (v) to stabilize supply of food and its prices;

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- (vi) to introduce income transfer scheme along with provision of Public Distribution System for supplying subsidized cheap food, etc.

4. National Food Security Mission (NFSM) under Eleventh Plan

NFSM aims to increase production through area expansion and productivity enhancement; restore soil fertility and productivity; create employment opportunities; and enhance the farm level economy to restore confidence of farmers.

5. National Nutrition Policy (1993)

Under this policy, the following goals were set to be achieved:

- (i) To reduce incidence of moderate and severe malnutrition among pre-school children by half;
- (ii) To reduce chronic under-nutrition and reduction in incidence of low birth weight children to 10 percent;
- (iii) To eliminate micro nutrient deficiencies;
- (iv) To improve household food security through poverty alleviation programmes and also to promote strategy for attaining appropriate and healthy lifestyles.

6. Food Security in India and its challenges ahead

Although the country has been trying to attain food security for the entire nation but the strategy has started to face serious challenges in recent times and is likely to face more such challenges in future.

In Punjab, even rich farmers are leasing out lands through “contract farming”. Incidence of farmers committing suicide has been increasing .During 1998 and 2002, more than 5000 thousand farmers in India have committed suicides.

Public investment in agriculture declined from 1.8 per cent at GDP 10 years ago to 1.3 per cent. Rural development expenditure has also declined considerably nearly 60 per cent from its earlier proportion of 14.5 per cent of GDP. With the rise in size of population, the food insecurity, instead of security, is growing alarmingly. Per capita availability of cereals in 2001 fell to the extent of 141 kg and in 2002 it came down to 132 kg levels which were even lower than the level during World War II. Availability of food grains on per capita basis has fallen to nearly 150 to 155 kg which is about 25 kg less than of the level during the early 1990s.

The UN Food and Agricultural Organization (FAO) in its “State of Food Insecurity In World (SOFI) “ reported in 2003 observed that the goal of having the number of undernourished people by 2015 cannot be reached at present rate. The report said that India reduced the number of malnourished people by 20 million between 1990-92 and 1995-97, but the number again increased by 19 million over the following four years(1998-99 to 2002-03). Planning commission is considering undertaking a Food and Nutrition Security Programme to focus on achieving adequate nutrition levels among pregnant women and other people both in urban and rural areas along with National Food for work programme. The government is devoting as much

as Rs.40,000crores to various social programmes including mid-day meal scheme and the Antyodaya Anna Yojana in recent years.

WTO AND INDIAN AGRICULTURAL AFTER ECONOMIC LIBERALIZATION

The GATT arrangement and WTO regime, which incorporate various compromise proposals of **Arthur Dunkel** and which was finalised at Geneva on 15th December, 1993, would have some important implication on Indian Agriculture.

During the run up to the GATT agreement, fears were expressed from various corners that India's interest in agriculture will be adversely affected as a result. Apprehensions were raised from various corners that the country may be forced to reduce the subsidies available to the farmers, phase out the public distribution system and compulsorily open up to agricultural imports. It was also feared that the traditional rights of farmers to retain and exchange seeds may also be constrained. The agreement has stipulated that countries with an aggregate subsidy of more than 10 per cent of the value of agricultural produce will have to reduce them. But the current level of subsidy in India is well below this level and this stipulation will therefore not affect the country.

The central feature of the agreement on agriculture is the reduction in production subsidies paid by developed countries to their farmers and the rolling back of some of non-tariff barriers which have restricted agricultural trade. It provide benefit to India as the agricultural export of the country enjoy a comparative advantage.

Dunkel Plans and Indian Agriculture:

The Dunkel text on GATT has four definite proposals for the agricultural sector. These include:

- (i) A basic agreement on modalities of the reform programme;
- (ii) A supplementary agreement on the modalities for specific binding commitments under the reforms programme;
- (iii) A decision on application of sanitary and phyco-sanitary measures; and
- (iv) A declaration on measures to assist food importing centres.

In respect of support measures to be adopted by the Government for the agricultural sector, the Dunkel plan provided-

- (a) Amber Policies and
- (b) Green Policies

The developing countries normally apply policies in the "Green Box" which includes various government support measures for research, pest control, expansion of infrastructure, environmental protection etc. the Dunkel plan has made provisions for the reduction of agricultural subsidies in developing countries, if the value of subsidies exceeded 10 per cent of the value of their total agricultural produce.

Steps taken to Protect Plant Variety by the Government:

In India we have about 175 varieties of HYV seeds, out of which 96 varieties are developed by Indian scientists.

The Government has identified five important features of the proposed new legislation:

- (a) The farmer can choose the best seed that he like;
- (b) The farmer can save seed from one crop and use it for replanting it in the next crop;
- (c) The farmers can sell his surplus seed but not as branded seed in case of protected variety;
- (d) The farmer can also become a whole-time seed producer and sell protected seed as a commercial enterprise with the consent of the right holder; and
- (e) Our scientists will be free to use all seed variety, including protected variety for experiment and research for development of new varieties.

The text of the TRIPs agreement does not refer to any particular international convention in the context of the “sui generis” protection of plant varieties, an international convention, which is known as “UPOV”(union pour le protection des obtentionvegetals) and covers the protection of plant varieties could be referred to for guidance.

The 1978 text of “UPOV” convention has the following broad contents:

- (a) As regards the scope, it has been provided that only five genera would be protected initially and would be increased to 24 genera in eight years
- (b) The term of protection is 15 to 18 years
- (c) The right include protection for the purposes of commercial marketing, offering for sale and marketing, and
- (d) It is provided that the plant breeders right may be abridged to permit acts generally for experimental purpose on his holding of harvested material obtained by planting protected varieties in his own holding .

Provision of subsidy in Indian Agriculture and GATT Agreement:

The new GATT agreement has stipulated that countries with an aggregate subsidy of more than 10 per cent of the value of total agricultural produce will have to reduce them. Reduction of subsidy to agriculture under the agreement applied to developing countries like India, only if the value of subsidies exceeded 10 per cent of the value of their total agricultural production.

In India , the aggregate value of agricultural subsidies was not only far below 10 per cent limit but also negative. Currently the agricultural subsidy in India is ruling at the rate of 5 per cent of the value of agricultural produce compared with far higher rates in Japan and E.U. In case of product specific subsidies such as minimum support price, official estimates show that for 17 out of 20 items subsidized in India remain negative. Only in case of sugarcane, groundnut, and tobacco, subsidies remain positive but were still lower than 10 per cent threshold.

Moreover under the new agreement, consumer subsidies under the public distribution system (PDS) for the rural and urban poor are legitimate and are thus permitted. Thus , there is an explicit provision for exempting public distribution system from the agreement. Accordingly, PDS in India can therefore be continued.

CONCLUSION

In the country like India, the maintenance of food security and management of surplus food grains are equally important. It is also argued that food security in India is only notional despite maintaining a food grain buffer stock of nearly 58 million tones (as on January 1, 2002) since food deprivation and financial indebtedness of scores of small and marginal farmers still existing at wide level. As the purchasing capacity of all the buyers is not at par with the prices at which the food grains are marketed in many parts of the country, thus an arrangement has to be made by the government to meet such gap. Moreover, the production system in the country is also not a balanced one. As the country self-sufficient in respect of wheat and rice but the country is still deficient in pulses and vegetable oil, reflected in import of huge quantities of oils and pulses in recent past. Similarly, production and access to vegetables, fruits and livestock products, which are also important contributors to food security, have not received as much attention as they deserve. Thus the biggest challenge faced by the agricultural sector in India is to diversify from wheat and rice to millets, pulses and vegetables.

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