UNIT 8 ISSUES AND CONCERNS OF INDIAN AGRICULTURE

Structure

8.0 OBJECTIVES

After going through this unit, you will be able to:

- point out the importance of agriculture in Indian economy;
- identify the issues and concerns in Indian agriculture;
- describe the nature and dimension of various issues;
- assign priorities to various issues for policy making;
- highlight the growing significance of high value of agricultural commodities; and
- analyse the reasons for persistence of crisis in Indian agriculture.

8.1 INTRODUCTION

Since independence, considerable progress has been made in the sphere of agricultural development in the country in terms of increase in crop production and productivity, technological developments and crop diversification. There were, however, periods of ups and downs in the growth of agriculture during the period of sixty years. After the initial euphoria lasting during the First Plan and a part of the Second Plan, growth rate in agriculture began to stagnate and even went down. Since the mid-1960s, growth rate began to move up, gathered momentum again during the 1980s, and decelerated considerably in the 1990s. The deceleration in the growth during the 1990s and the subsequent decade is more pronounced in the case of foodgrains and it raises concerns from the point of view of food security. Moreover, it casts doubt regarding the future growth prospects of the economy, which depends largely upon the growth performance of agriculture. As a primary source of livelihood, agriculture is becoming increasingly un-remunerative and un-sustainable; the economic and social consequences are there for all to see — agrarian crisis, large-scale migration to the cities, farmers' suicides and the like. In some essential food products, such as pulses and edible oils, our import dependence is well-established, and it is a matter of time before regular imports become inevitable. A proper understanding of the factors shaping the past trends in the growth path holds the key for designing the future strategy of development. No strategy of economic reform and regeneration in India can succeed without sustained and broad-based agricultural development. Such development is critical for raising general living standards, alleviating deep-seated rural poverty, assuring food security, generating a buoyant market for expansion of industry and services and making a substantial contribution to the national export effort. This unit brings forth some of the important issues which deserve more detailed analysis.

8.2 GROWTH OF INDIAN AGRICULTURE (1950-2012): AN OVERVIEW

Agriculture has been a way of life and continues to be the single most important livelihood of the masses. In shaping the processes and trends of Indian agriculture since independence, the role of the specific agricultural strategies and policies formulated by the government was very significant.

***Agricultural Strategies*:** From the early 1950s, India tried to give importance to agricultural growth as well as equity. On the basis of the relative emphasis given to institutional and technological factors, two distinct strategies corresponding to two periods can be identified. In the first period starting from 1950-51 to 1965-66, the main thrust was on institutional and agrarian reforms as well as expansion of irrigation base. Immediately after Independence, India abolished intermediary landlordism known as *Zamindari* system. As a result, 20 million statutory tenants occupying 40 per cent of cultivated area acquired occupancy rights. This led to considerable increase in the area under owner operated system. This reform also led to the process of consolidation of the distorted economy by removing major hindrance in the modernisation of agriculture. Thus, opportunity for a more equitable distribution of land was missed. Efforts had also been made to minimise the exploitation of cultivators by money lenders and traders by expanding government sponsored co-operatives.

Policy emphasis shifted from *institutional factors to technological factors* in the mid-1960s. India took advantage of the biological innovations in High Yielding Varieties (HYV) of wheat and rice and adopted a new strategy known as Green Revolution. Two factors influenced this policy change. *First*, Indian economy was under severe stress due to stagnant yield during the first three years of the Third Five Year Plan.; *Secondly*, possibilities for bringing additional area under cultivation were almost exhausted. In contrast to the pre-Green Revolution period, the second period which started from the mid-1960s witnessed rapid modernisation of Indian agriculture. The new agricultural technology provided avenues for private investment in agriculture. In order to overcome the selectivity bias of the strategy, government introduced area and target group specific programmes in the 1970s. Food Corporation of India was established in 1965 to secure a strategic and commanding position for the public sector in the food grain trade. The Central government expenditure on subsidies increased phenomenally in the recent past.

***Growth Performance*:** Indian agriculture achieved respectable progress over the last six decades. It achieved an annual growth rate of 3 per cent in the pre-Green Revolution period and 2.7 per cent in the subsequent period. Food grain production increased from 55 mt in 1950-51 to 152.4 mt in 1983-84 recording an annual growth rate of 2.7 per cent. Irrigation was the most important source of food grain output growth. Researchers have attributed one-half to two-thirds of the increase in food grain production directly to irrigation. Despite the good performance of food grain sector, within it, *pulses* which are a major source of protein, performed badly. Production of pulses increased from 8.40 mt in 1950-51 to 12.89 mt. in 1983-84 recording an annual growth rate of 1.27 per cent. Economic reforms were expected to give a fillip to agriculture. However, in reality, this has not proved to be the case. The growth rate in the immediate post-reforms plan period were 2.5 per cent in the Ninth Plan, 2.4 per cent in the Tenth Plan, and estimated 3.4 per cent in the Eleventh Plan. The growth in output was driven by yields. Not surprisingly, the pattern of annual compound growth rate of yields is similar to that of output. The growth rate of yields was lower in the post-reform era than in the pre-reform era.

Studies on the comparative performance of agricultural sectors between pre and post green revolution periods brought out several striking features. *First*, the two periods differ in their sources of agricultural growth. The first period relied heavily on the expansion of cropped area, while the second period on yield improvements. In the case of non-food grain crops, both area and yield contributed to their growth. Market forces seem to have favoured their area expansion. *Secondly*, in the post green revolution period, wheat experienced an acceleration in its output growth whereas most of the other crops particularly coarse cereals, pulses and oilseeds experienced deceleration. *Thirdly,* crop output tended to be more sensitive to rainfall in the post green revolution period. The most striking feature of the agricultural growth is that it tended to widen inter-regional disparities.

The following inter-related features may have to be noted in the current phase for policy formation.

1) There is a clear evidence of some growth in agricultural output over the past six decades. However, the progress is crop and region specific. Hence, there are signs of widening of inter-regional inequalities. There does not appear to be any major breakthrough in developing HYVs suitable for the diverse rainfed regions.

2) There is no marked improvement in the per capita availability of food grains.

The advances in food grain production is mostly used for reducing imports and building stocks.

3) The recent phase is marked by improvement in real wages in almost all states some of which have also experienced employment expansion. Prosperous regions like Punjab and Haryana recorded decline in real wage and low employment expansion. Punjab has also shown a peculiar characteristic of increase in average size of holding in the recent past.

There has been greater recognition for regionalisation of Indian agricultural planning in the recent past. Attempts are being made to concentrate on *agro-climatic features*, particularly, soil type, climate including temperature and rainfall and its variation and water resources. The Planning Commission has commenced to prepare agricultural planning strategies at the level of 15 agro-climatic regions.

***Investment in Agriculture*:** In view of the falling rate of capital formation in agriculture during the 1980s, there is now a fear over whether even the modest growth performance in agriculture would be maintained in future. This fall is also reflected in the proportion of plan outlays on agriculture. There is fortunately no decline in absolute terms. But proportionately, there is now less resource flow to agriculture from Plan Outlays. The gross capital formation in agriculture and allied sectors has increased from 13.1 per cent of the GDP in agriculture in 2004-05 to 20.1 per cent in 2010-11.

***Credit flows to Agriculture*:** The Reserve Bank of India has observed that in spite of quantitative expansion, the credit system has suffered from four major weaknesses: (i) weak recycling of credit, (ii) poor deposit mobilisation, (iii) ineffective lending, and (iv) poor loan recovery. The weaknesses are so serious that the credit system for agriculture is not sustainable on its own, and unless continuously propped up by the State by committing vast resources from outside the system, it will crash. *In spite of pumping more credit into agriculture, the quality of credit has not improved*. Credit flows to agriculture and the rural sector have also tended to be concentrated in a few regions and on well-to-do farmers and businessmen in rural areas. A related fact is that the *functioning of the credit institutions in the formal sector*, i.e. Rural Financial Institutions (RFI) is far from satisfactory. RFIs are not advancing credit to agriculture at the rate warranted by the increased requirement of credit with the larger use of purchased inputs. Rural Financial Institutions, particularly commercial banks, advance three reasons for their unsatisfactory performance in rural areas. These are: (i) low absorptive capacity in rural areas, (ii) high transaction costs, and (iii) greater risks.

***Price policy for agricultural produce*:** With a view to encourage higher investment and production and safeguarding the interest of consumers the price policy for agricultural commodities seeks to ensure remunerative prices to growers for their produce. The price policy also seeks to evolve a balanced and integrated price structure in the perspective of the overall needs of the economy. With this aim, the Government announces minimum support prices (MSPs) for major agricultural commodities each season and organises purchase operations. Supply response studies have generally shown that agricultural output is much more responsive to availability of the right technology and inputs like irrigation and fertilizer, than merely to price. Price policy, however, has to play a supportive role though not as a prime instrument. If the price regime is discouraging, technology adoption can be slow. In India, price incentives are offered both by continuously

increasing procurement prices in line with changes in costs and terms of trade, and by increasing *subsidies on inputs like fertilizer, credit, irrigation, and electricity*.

***Problems of Agriculture*:** A available alternatives in terms of single choices like (a) low output prices combined with low input prices involving subsidies, vis-à-vis (b) high output prices combined with high input prices with no subsidies, would not do justice to the complexities involved. There could be further alternatives of subsidies for some vis-à-vis for all. *There are considerations of equity, efficiency and environmental soundness*.

***Institutional failures are even more glaring*:** Studies at the ground level from all parts of the country, and more so from the regions where input use is increasing rapidly, suggest that there is a disproportionate use of all inputs on the farms, leading to increased liability of the farmers. This trend can be traced largely to the non-availability of technical know-how and inadequate support provided by extension institution.

In the present circumstances, the thrust of the policy should be on encouraging improvement in the productivity of the crops grown in the dry regions and on small farms, mainly coarse cereals, pulses and kharif oilseeds. Measures to encourage productivity in the dairy sector is equally important for these groups. These regions can have a comparative advantage in dairying based on open grazing due to large areas of cultivable wasteland and *goucher* land, provided a massive programme of land development is taken up in these regions. Only when the small farmers broadly reach their self sufficiency level, and start generating surpluses from their traditional crops and enterprises, should diversification to input intensive high value crops and enterprises be encouraged. *Our immediate task should be to encourage self-provisioning rather than market exposure as far as small and marginal farmers are concerned*.

The growth of agriculture and allied sectors is still a critical factor in the overall performance of the Indian economy as it accounts for about 58 per cent of employment in the country (as per 2001 census). Moreover, this sector is a supplier of food, fodder and raw materials for a vast segment of industry. Hence the growth of Indian agriculture can be considered a necessary condition for 'inclusive growth'. More recently, the rural sector (including agriculture) is being seen as a potential source of domestic demand, a recognition that is even shaping the marketing strategies of entrepreneurs wishing to widen the demand for goods and services. The real challenge in agriculture sector is to enhance capital investment in the sector both by public and private sector in a sustained way. Sixty per cent of our net sown area is still rainfed. Various studies indicate that the potential of rainfed areas has not been fully utilised. A targeted development of rainfed areas should be prioritised. India's 60-year quest for land reform, for example, remains incomplete. The age-old obsession with land ceilings should now be replaced with methods that aid land consolidation, without which supply will remain constrained and productivity and wages low. Average farm size has already shrunk to less than 1.2 hectares; most are tiny pieces that are uneconomical to till. The consolidation of these minuscule portions of land into viable holdings can spur investment in productivity-enrichment measures, notably irrigation, which will boost overall farm production.

To conclude, raising farm productivity with adequate focus on rainfed areas, diversification of Indian agriculture from just crop farming to livestock, fisheries and poultry and horticulture while simultaneously addressing

environmental concerns should be the focus for the agriculture sector. Higher levels of investments are required for not only increasing farm productivity but also creating adequate infrastructure for transport, storage and distribution of agricultural produce. The continued lackluster performance of Indian agriculture has been a source of concern. The question foremost on people's mind is what or where would be the next breakthrough in Indian agriculture. A complete lack of reform and a paucity of investment stand out as the most significant among the several factors that have subdued agricultural growth, especially since the 1990s. Marketing and other reforms are necessary to meet the ever-growing requirement of agri-products and prepare agriculture to face the challenges posed by human and environmental factors. Modernisation of agricultural markets and connecting them with much-needed supporting infrastructure and institutions are also urgently needed.

8.3 FUTURE GROWTH OF AGRICULTURE – SOME ISSUES

Some aspects of the agricultural issues and concerns are the following:

i) Agricultural production, productivity, and value of output have decelerated. Growth of the agriculture sector has been lower than that of the overall economy, but what is worrying is the deceleration in agriculture in the 1990s than in the 1980s. This takes us to the agrarian crisis.

ii) The state, instead of facilitating the risk-taking farmers, has been withdrawing. There has been a decline of public investment in irrigation and related infrastructure.

iii) A tragedy of the commons through declining water tables.

iv) Inadequate access to formal sources of credit with a greater interest burden.

v) Waning link between research and extension, and

vi) Farming increased reliance on the input provider for advice bringing about supplier-induced demand. With changing technology and market conditions, the farmer is increasingly being exposed to the uncertainties of the product as well as factor markets. The farmer faces multiple risks, vagaries of weather, price shocks, and spurious inputs, among others, further compromising on his already lower returns.

The poor performance of agriculture against the background of an impressive growth of the overall economy is having serious implications. *One*, it is causing wide disparities between income in agriculture and non-agriculture. The slow growth of agriculture would not have caused an increase in disparities, if there was a commensurate decline in population dependent on agriculture. But this is not happening. *Two*, as more than 50 per cent of the workforce and about same proportion of the total population of the country depends on agriculture for income and livelihood, slow growth in agriculture is putting them in distress. The decline in the area under food grains has been a major constraining factor in the growth of agricultural production during the nineties; for achieving a higher growth in future, the declining trend in food grains area must have to be, therefore, reversed. The increased coverage of irrigation may be expected to help in the growth of gross cropped area in future. The ultimate irrigation potential could, however, pose a limit to its expansion. Now let us discuss these issues one by one.

8.3.1 Productivity Growth

Overall, in the planning era, Indian agriculture has made some significant strides. Notwithstanding achievements, the structural limitations of Indian agriculture have posed numerous problems. *Crop and regional imbalance* persist and continue to pose a major challenge to planning of the sector. While there is hope that crop imbalances could be corrected to some extent, the overall agricultural growth may continue to be below desired levels, since the aggregate supply response is known to be poor in Indian case. This opens up the possibility that demand-supply gap would persist and even accentuate in respect of some of the crops.

While there is an urgent need for growth of crop area, in view of the limited scope for expansion of area in the long term, the future growth of agriculture would greatly depend upon the *growth of crop productivity*. The growth of productivity, to a large extent, would depend upon the efforts in scientific research and diffusion of technology. Even without any breakthrough in technology, the all-India yield level of crops can be expected to be raised through a more balanced spread of the yield raising know-how.

8.3.2 Investment in Agriculture

Raising agricultural investment is yet another factor of critical importance, in view of the imperative need for expansion of gross cropped area as well as boosting crop productivity. Then the question comes, what would be the future investment requirement and what should be the policy option — whether to go in for more public investment or to have it from the private sector? This issue is linked to the question of complementarity between the two categories of *investment in agriculture*. The two categories of investment in agriculture have their distinct roles. While the trends in private investment seem to be encouraging, the private sector cannot be expected to fulfill all the investment requirements of agriculture, particularly the investment in large irrigation projects, in R&D and in other support systems, etc.

For future growth, greater attention needs to be given for the development of irrigation which may be expected to facilitate the growth of crop area and also the spread of yield raising technology. The prospects of achieving a significantly higher agricultural growth in the long term would also depend critically upon the growth of crop productivity, possibly achievable through a *vigorous R & D effort*. Agricultural policies must also upgrade the quality of research and extension support, ensure better arrangements for meeting the energy needs of rural areas on a sustainable basis, and devote greater attention to improving rural infrastructure, developing and propagating *technologies for dry land agriculture and devising effective policies for control of water and land degradation*. All these underscore the urgency of raising the level of agricultural investment. It would be too early to expect the private sector to fulfill all the investment requirements of agriculture. Furthermore, there is widespread evidence that existing public capital assets are deteriorating fast for want of adequate funds and effort for operation and maintenance. It is absolutely imperative that these trends are reversed forthwith. *Public investment in irrigation, rural communication, schemes for control of land and water degradation, reforestation and other agriculture – related infrastructure can only increase if the huge subsidies being provided for water, electricity and fertilizers are contained*. This is the key. Taking the Centre and States together, the pattern of public expenditure for agriculture has to be radically restructured to favour durable and productive investments and

adequate provision for their operation and maintenance instead of input subsidies, whose benefits are typically appropriated by better-off farmers.

8.3.3 Decline in Area

An important issue relates to the alarming decline in area under food grains; for policy purposes, it would be useful to examine whether the area is shifting to other alternative uses or whether the farmers are not finding the cultivation profitable and the lands are kept unused. The overall demand conditions for the agriculture sector might be favourable; but there could be problems for some specific crops, and for the regions which specialise in those crops because of their specific agro-climatic conditions. The economic reforms failed to bring about the expected benefits to the Indian peasantry. The main reason for this is the deceleration of agricultural growth during the 1990's. This event should teach the Indian policy makers that public investment in rural infrastructure continues to be of paramount importance.

8.3.4 Institutional Weaknesses

There is a need to take some institutional measures that help the small and marginal farmers in sharing the potential gains of growth and increase in exports. A pro-active policy should be designed to involve the *small and marginal farmers* and the landless labour in deriving benefits of increased agricultural exports through innovative institutions like integrated co-operatives like the mother dairy, and other service co-operatives; contract farming, etc. Small and marginal farmers who are the most numerous categories of our farmers and who constitute the great bulk of our poorest people. Our *agricultural credit system* has been gravely weakened by the burden of subsidised interest rates, poor recovery of loans, high intermediation costs of cooperatives and commercial banks and debt write-offs. The poorest farmers have suffered the most. What matters most to farmers is the timely availability of credit. Our present system does not ensure this.

In several States the *agenda of land reform* remains woefully unfinished and tenancy regimes need urgent reform. Thus, efforts at tenancy reform have frequently not achieved desired results. The incidence of oral and concealed tenancy remains high as does insecurity of tenants. Land and tenancy reform, special attention to providing irrigation and other infrastructure services to small and marginal farmers, and restoring the health of the rural credit system are key elements for enhancing the incomes and productivity of small farmers.

Special efforts should also be made to develop new *technologies for the farming* sector and reach these to the small farmers for enabling them to diversify their production towards high value commercial and export commodities. The efforts on the production front should be supplemented by creation of institutions like trading houses, market intelligence services and creation of network of information on national and international prices. There is also a need to create *necessary infrastructure, in processing, marketing and grading of produce, investment in information infrastructure through market committees would percolate the information to the local levels*.

8.4 STRATEGY OF REFORMS IN AGRICULTURE

The clear lesson is that while liberalising the economy, policy makers should remember that it is only agricultural growth, which determines the fortunes of a vast majority of farmers in India and also makes a dent in their poverty. The post-

liberalisation policies that have neglected public investment in rural infrastructure are primarily responsible for the steep deceleration in agricultural growth. The present policies of fostering elite centerd growth without according a very high priority to agriculture would lead to the creation of a dual society. It has also to be understood that a market driven liberalisation process in agriculture is invariably strongly biased towards rich farmers and prosperous regions. The local level activists and the peasant movement would have to intervene effectively and play a crucial role in assuring that the interests of small farmers and of disadvantaged regions are protected and they are also enabled to gain from trade liberalisation.

It has to be underlined that globalisation offers both opportunities and challenges. The opportunities consist of participating in the benefits of world trade and growth. The evidence so far indicates that a majority of the peasantry has been unable to reap any substantial benefits from economic liberalisation and globalisation.

Admittedly, we have almost all that it takes to be agricultural superpower – abundant sunshine, adequate rainfall, varied agro-climatic conditions and biodiversity. These several simultaneous steps are necessary to strengthen domestic agriculture to ensure sustained output growth, lower losses and decent farm incomes. The policy focus in the last ten years has been so diffuse that there is a discernable wariness in the flow of investments to the farm sector. *The policy environment is confusing*. No one is sure whether science will prevail over populism. The uncertainty over adoption of *agricultural biotechnology* as a way forward is in no one's interest. It is critical that the Central government takes a clear stand on the future of the use of biotechnology in agriculture. Otherwise, the country faces the daunting challenge of pursuing non-technology options.

8.4.1 Pricing Policy

Macro-economic policy measures that may not be directly aimed at agriculture sector, can nevertheless affect the sector in a big way altering the production as well as social relations. These policies have been affecting the Indian agriculture, particularly through movements in terms of trade and through pricing, fiscal, credit and exchange rate policies. These issues have recently acquired added importance because of the on-going structural adjustment process.

The issue of pricing has attracted considerable attention in recent years. Two major causes may be mentioned for this. *Firstly*, there has been a rise in the political power of the formidable farm lobby. The second cause for propelling the pricing strategy to the forefront of debate on agricultural issues emanate from the strong macro-linkages which have a potential to significantly alter the result of the stabilisation-cum-structural reform package in vogue. Fiscal, monetary, exchange-rate and credit policies can sizably affect the agricultural price scenario and through a feedback relationship affect all the sectors of the economy, including agriculture.

A plausible approach to meet the challenge posed by the pricing dilemma is to remove the present negative protection to the agriculture sector and let prices correct themselves through increases staggered over the next few years. But, while allowing for such increases, it is immensely important that the poor and the vulnerable sections of population are provided a meaningful and workable safety net. This can only be achieved through increased allocation to poverty alleviation and employment generation programmes and through strengthening the Public Distribution System (PDS) to a narrowly targeted population.

8.4.2 Fiscal Policies

A politically sustainable policy would have to be evolved for this as there appears to be no reason why those who have benefited the most from public investments made in the agricultural sector, should now be allowed to escape from their due in this regard. Perhaps a useful policy option in this context is to reduce input subsidies, especially on fertilizers and electricity. We have to recognise that if water charges and electricity rates are not raised to appropriate levels to recover cost from beneficiaries, then delivery of these critical inputs will worsen over time to the detriment of agriculture and the nation as a whole.

The steady decline in public investment in agriculture has been in hard investments like irrigation. It appears unlikely that without greater public sector investment and other appropriate policy measures, the vast regions characterised by poor agricultural growth can come up and use institutional credit to a greater extent. The fall in agriculture's share in investment is sharper than its share in government expenditure. Furthermore, private investment has not gained any momentum.

8.4.3 Input Supplies

Fertilizer use is concentrated in a few crops and few regions and it is skewed in favour of rich farmers. Therefore, the benefit of these subsidies to farming community is highly skewed. The Government will have to reduce these subsidies in a phased manner. Increasing irrigation investment is a more efficient way to raise agricultural output than subsidising fertilizers. The issues related to irrigation are important in themselves. Low levels and poor collection of water charges, unsatisfactory maintenance and burgeoning establishment have plagued the functioning of irrigation systems in the country.

Improved technology is most important for the growth of output. Available evidence shows that there is a big gap between the level of yield with improved farm practices in farmers' fields and the yield with practices followed by the farmers. Besides the need for extension to transfer improved technology to farmers, the critical factor in this is the *availability of quality seeds*. Most of the farmers do not distinguish between "seed and grain" and use common grain as seed. Research institutes have very limited capacity for seed multiplication and they can supply only quality seeds in small quantity. India needs to develop a competitive market for seeds by expanding the role of public sector and by encouraging private sector in seed business in a big way. We feel that transferring some of the subsidies from other inputs to seed would be more paying.

8.4.4 Agricultural Credit

Revitalising the rural credit structure is important for agriculture growth as money lenders still appear to be an important source of credit. It nevertheless appears that there is a need to study the factors affecting the access of institutional credit to small farmers. It is important that *credit delivery is made timely* and is regulated to efficient productive channels. Reform of credit institutions should touch all levels of co-operative as well as commercial banking sector. The long-standing problem of unviable Regional Rural Banks (RRBs) also needs to be resolved.

8.4.5 Agricultural Marketing

Provide sizable government *support to agricultural marketing activities*; market

systems remain inefficient and even primitive to some extent. Price support operations are biased in favour of wheat and rice crops and even in these crops they are almost non-existent in case of deficit States. Market intervention programmes exist for sugar and cotton also but are inefficiently conducted. At the same time, one has to be cautious in commercialising Indian agriculture, as it may unduly benefit the endowment-rich regions. Marketing structures in backward districts do not quite function in a commercial way. It is important to understand the dynamics of class relations and marketing practices in backward regions.

8.4.6 Food Stock Operations

There has been a sharp increase in economic cost of food grains handled by the Food Corporation of India (FCI). The problem is compounded by the increasing gap between economic cost and procurement prices indicating a *steep rise in procurement and distribution incidentals*. In addition there is an element of credit subsidy to the FCI that is not explicitly accounted for in its cost. The problem of maintaining food subsidies has been by and large intractable so far because ensuring food security is a paramount concern of any government. The solution to the problem will necessarily require restricting PDS coverage to a narrowly targeted group.

A key issue in food stock operation is the *optimal level of stocks* that the public agencies need to maintain. Very little effort has been made to systematically compute the optimal stock levels. The newly set norms require another look. The question needs to be examined *de novo* in an integrated framework of not only the stock level, but also the procurement and off-take policies. A decision to restrict PDS off-take to a narrower target group must precede the exercise of setting stock norms.

8.4.7 Technology and Sustainability

There are several dimensions to the *issue or technology absorption, land use and sustainability of agricultural growth*. *First* and foremost is the need to take up dissemination of dry land technology on a priority basis that matches the thrust mission taken up earlier for certain crops or for certain areas. A conglomeration of adverse facts such as poor and neglected land base, low priority to development of infrastructure, inefficient research and extension services and overall inability of dry land regions to compete with more dynamic parts of agriculture constitute a formidable barrier in dissemination of dry land technology. Investments will, therefore, have to be made not only in technology but also in removing attendant constraints, so that growth in these areas becomes sustainable over the medium and long-term. It may be added that perhaps the *Agro-climatic Regional Planning (ACRP)* provides a suitable framework as dry land technology is area specific in nature. *Secondly*, the sustainability of irrigation system needs to be emphasised. An important sustainability question arises in respect of drought prone areas. The problem of sustainability is bound to become important as efforts are made to put agriculture on a high growth path.

8.4.8 Institutional Arrangements

A renewed thrust on *land reforms* can form the core of the structural adjustment process. Bitter medicines are seldom palatable but become inevitable to correct the malaise. The bias in state-intervention is a sufficient cause for compensatory intervention in the form of land reforms. Inter-regional differences in agrarian

reforms, including those on land tenures, continue to be of topical interest. Some other institutional arrangements may also be suggested for structural reforms in agricultural sector. On the *credit side* there is a need for appropriate institutional mechanisms to enhance lending for both production and long-term investment purposes. The *crop insurance* scheme may be re-cast by enhancing in its coverage and including more remunerative cash crops in order to cross-subsidise its operations. On the marketing side, steps may be initiated to improve marketing network for coarse cereals on a regional basis for distribution operations and for this NAFED needs to be treated on par with FCI for all practical purposes. A special programme for maintenance of irrigation system and another for dissemination of dry land technology on an area specific basis is also required. *Lastly*, it may be stressed that agricultural labourer, though landless, forms the backbone of agricultural economy. Therefore, institutional measures for an effective monitoring of minimum wage legislation and for distributing surplus land among these labourers is a sine qua non of agricultural production plans and relations. *It must be stated that in recent times institutional reforms are not getting their due place*. At the same time, shifts in the demand for institutional change are induced by changes in endowments and technology.

Check Your Progress 1

1) Why do we attach so much importance to agriculture in the present state of Indian seconomy? Write in about100 words.

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2) Point out any four concerns in Indian agriculture.

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3) What do you understand by reforms in agriculture? Which particular reform should be given priority?

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4) How are credit and marketing significant for the progress of agriculture?

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8.5 PERSISTENCE OF CRISIS IN INDIAN AGRICULTURE

Srijit Mishra and D. Narasimha Reddy have stressed that agriculture needs to be seen in a larger context where not only production but also producers are equally important. Today, both are in crisis. There are two dimensions to the current crisis in Indian agriculture — the agricultural and the agrarian. The former is a developmental crisis that lies in the neglect of the sector arising out of poor design of programmes and inadequate allocation of resources. The latter is a *livelihood crisis* threatening the very basis of survival for the vast majority of the population dependent on agriculture. *On the one hand, there is a neglect of farming, and on the other hand, there is a neglect of farmer*. The two dimensions are inter-related in the sense that the problem at the larger structural context cannot be separated from the problem that the individual farmer faces. What is worrying is that this crisis in agriculture, which has been there for nearly two decades now, is taking place at a time when the overall Indian economy has been witnessing a high growth.

There has been an increase in *marginalisation of holdings*. In 2001, from the total operational holdings, more than three-fifths were with less than 1 hectare of land and for nearly one-fifth the land size was between 1 and 2 hectares. Farmers' suicides, which, like indebtedness, are symptomatic of the larger crisis, have been showing an increasing incidence and continue to remain much higher than those by non-farmers. There is need for institutional structures to organise the farmers to help them address their concerns and problems. Concurrently, unlike the green revolution technology that began with large farmers in resource-rich areas, community managed sustainable agriculture focusing on marginal and small farmers in resource-poor dry and drought-prone areas needs to be promoted. At a time when returns to cultivation have been decreasing, there is an increasing *dependence on the market for inputs*. The failure of research and extension service, which is striking in case of crops/cultivation in rain-fed/dry land areas, has resulted in reliance on the unregulated input seller, leading to supplier-induced demand.

Rural poverty is strongly associated with the state of agriculture. Suicide is a symptom of the larger crisis, and its absence does not in any way indicate the absence of a crisis. The increasing incidence of farmers' suicides is symptomatic of the agrarian crisis, but it is also a manifestation of the agricultural crisis. It indicates that for every farmer committing suicide, there are hundred thousands more in crisis. Further, the larger malaise or the agrarian/agricultural crisis is not just limited to regions reporting higher suicides, it is much more widespread.

8.5.1 Technology and Institutional Alternatives

One of the features of the current agrarian crisis is *poor returns to cultivation*. Technological interventions such as the green revolution meant for increasing production were neutral to land size in terms of output, but were not neutral in terms of resources, making it a costly imperative for marginal and small farmers. In recent years, a number of financial products too were introduced to address uncertainties, but more often than not, they ended up adding to rather than reducing risks. *The need of the hour is reducing costs*. The technology is knowledge-centric rather than product centric. To successfully replicate experiments among the large mass of marginal and small farmers requires, among other things, institutional arrangements.

To revive farming as also the farmer, it is necessary to have *alternative technology and institutional structures*. There is a need to do away with input-intensive cultivation in favour of cost-reducing knowledge-centric technology that builds on local resources and further strengthens the existing social capital. The latter is possible through structures that empower the farmers at the grassroots and organise them into federations so that they can aggregate different things at different levels. In short, the need of the hour is innovation in institutions (like federation of SHGs), government structure that facilitates empowerment (not the current line departments that have become burdened under their own weight), and technologies that reduce costs/risks (not the input-intensive production practices) if we have to revive farming and save farmers. And the successful experiments indicate that this is possible.

8.6 DIVERSIFICATION TOWARDS HIGH VALUE AGRICULTURE

Sustained economic and income growth, urbanisation and globalisation are fuelling rapid growth in demand for *high value food commodities* in India. Demand for milk, meat, fish, fruits and vegetables is expected to double over the current levels. This offers both an opportunity as well a challenge to the millions of producers especially smallholders, who dominate the Indian agriculture (80 per cent of holdings are of less than 2.0 ha in size). High value agriculture has a comparative advantage in production and labour absorption over staples, and thus is reckoned as an important strategy for smallholders to augment income and employment. Besides, globalisation offers opportunities to augment exports of high value food commodities.

Nevertheless, there are apprehensions whether smallholders can take advantage of the emerging opportunities. Most of the high value food commodities are perishable, and require immediate transportation to consumption centers/markets or storage or processing into less perishable forms, which are woefully inadequate in India. Markets for high value commodities are concentrated mainly in urban and semi-urban areas, and transport facilities are inadequate especially for smallholders in remote rural locations. In other words, lack of access to markets, transport facilities and post-harvest infrastructure inflate the transaction costs of marketing, discouraging producers to diversify towards high value agriculture.

Access to markets is critical to the growth of high value agriculture. Access to markets is defined in terms of demand for high value commodities and the factors facilitating transport of high value commodities from production sites to consumption centers. In India, most of the production of high value commodities takes place in rural areas, which is then transported to markets in urban areas, the major consumption centers. Thus, access to markets is approximated by urbanisation and road density. Urbanisation is an important determinant of demand for high value commodities. By 2020 urban population is expected to be nearly 35 per cent of the total population. This is expected to fuel rapid growth in the demand for high value food commodities as demand for these commodities is higher in urban areas.

At the all India level, high value food commodities (fruits, vegetables, animal products, spices, tea and coffee) contribute nearly 40 per cent to the gross value of agricultural output. There is, however, *considerable regional variation in the incidence of high value agriculture.* Regionally, production of fruits is concentrated mainly on the east and west coast and in the north-west and north-east regions

of the country. Concentration of vegetables is higher in the northern, eastern and north-eastern parts. The north-western region has the lowest concentration of vegetables. *Dairying* is concentrated largely in the northern and western parts of the country and some pockets of the south-west. Meat and egg production has a larger concentration in the eastern, north-eastern and southern parts. Some pockets in the west, closer to big cities, also have high intensity of meat production. Meat species, however, are different; poultry is dominant in the south and small ruminants in the east and the west.

High value agriculture is growing faster compared to the rest of agriculture. Existence of demand is a necessary but not a sufficient condition for growth of high value agriculture. Thus, infrastructure, particularly transport, is an important prerequisite for the growth of high value agriculture in near-urban districts. The growth is likely to benefit millions of smallholders by augmenting opportunities for income and employment. *High value agriculture is concentrated in areas with a larger proportion of smallholders and has been growing faster than the rest of the agricultural sector*. This would accelerate overall growth of the agricultural sector and have positive effects on the equity, as some activities like dairying that are concentrated among the smallholders. Further, the production of most high value commodities HVCs is labour-intensive and effects of the expansion of high value agriculture on employment are expected to be enormous. Producers are responding positively to the emerging demand patterns by altering their production portfolio. Although high value agriculture is widespread in the country, there are substantial spatial differences.

Fruits are the most important in the intensive HVC regions, followed by milk, vegetables and poultry. In the extensive HVC regions, milk is the major commodity with vegetables, fruits and poultry being next in the order. In general, high value agriculture is more prevalent in areas with high rainfall, low level of irrigation and mechanisation, smaller land holdings and higher endowment of labour. *High value agriculture-led growth is expected to be more equitable as smallholders have a greater tendency to diversify*.

Nevertheless, high value agriculture may come under stress for want of adequate technology, infrastructure and policy support. *High value agriculture has greater production and market risks*, and there is clearly a need to provide a cushion to producers against these risks. Mitigating production risks would require improved technologies, quality inputs and formal insurance mechanisms, which hitherto have a thin spread and are not easily accessible to producers, especially smallholders. High value agriculture is capital-intensive, while the producers, especially smallholders, have limited resources of their own to invest. This implies increasing participation of financial institutions in high value agriculture to sustain the growth momentum.

Access to markets is critical to the growth of high value agriculture. In general, markets for HVCs are concentrated largely in the urban centers. This increases costs associated with the transfer of produce from rural production centers to urban markets, more so for the smallholder producers in remote areas. Further, the prices of most HVCs are volatile and fall drastically even with a small increase in their arrivals at the market place. Options to mitigate market risks and reduce transaction costs include establishment of special markets for HVCs in rural areas and promotion of private sector participation in agriculture through institutions like producers' associations, co-operatives and contract farming.

The infrastructure requirement of high value agriculture is different from that of other food and non-food commodities. Being perishable, high value food commodities require *refrigerated transport, cold storage and immediate processing*. These, however, are woefully inadequate. Considerable investment is required to facilitate such infrastructure. Recently, the government of India has taken some policy initiatives to give a boost to high value agriculture. The focus is largely on strengthening the backward linkages through food processing.

Check Your Progress 2

1) Explain the nature of crisis in Indian agriculture.

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2) What kind of technology and institutional alternatives you would suggest for reducing the crisis in Indian agriculture?

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3) What is the significance of high value agricultural commodities in prevailing consumption basket of people in India?

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4) What specific problems are related to marketing of high value commodities?

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8.7 LET US SUM UP

This unit addresses issues specific to the agricultural sector. Input subsidies, marketing support including public procurement, stocking and distribution policies, irrigation systems, apart from the inadequacy of investment in the agricultural sector, are discussed and also raises the issues of technology, sustainability and institutional arrangements and covers themes such as land reforms, share tenancy, drought prone areas, ground water-resources.

Three of the basic foundations needed for building a sound agricultural economy are: (i) a productive technology package, (ii) efficient delivery services, and (iii) remunerative and stable market prices for produce. The market place in agricultural sector can indeed inflict undeserved losses on the farmer, even when he has applied modern technology and produced efficiently to meet the requirements of the economy. It is in this perspective that with the introduction of modern farm technology, the Government simultaneously evolved a price support mechanism.

Low level of input use and low productivity in most of the states would require simultaneous efforts on several fronts. These include (a) stepping up investments and putting in place suitable institutional mechanisms to exploit irrigation potential that exists in most of the states; (b) increasing power supply to the sector; (c) promoting fertilizer use by expanding the distribution network and improving credit facilities for farmers; (d) establishing competitive seed markets and ensuring attractive prices for seeds; (e) improvement in terms of trade for agriculture; and (f) measures to mitigate risk in farming. High value agriculture is increasing faster than the rest of agriculture everywhere.

The persistence of distress in Indian agriculture has two intertwined dimensions — the agricultural and the agrarian. There is an agricultural developmental crisis arising out of poor designing of programmes and inadequate allocation of resources. This has adversely affected the production and productivity. Withdrawal of the state, manifested in insufficient public investments, poor availability of credit, and the failure of research and extension to address the needs of dry land/rain-fed agriculture increased the risk and vulnerability in farming. On the other hand, there is an agrarian crisis threatening the mass of small marginal farmers and agricultural labourers.

8.8 EXERCISES

i) Critically analyse major institutional obstacles coming in the way of improving the conditions of Indian agriculture.

ii) What suggestions will you suggest for sustainable growth of Indian agriculture. What steps have been taken by the *government* in this regard?

iii) Explain the nature of crisis in Indian agriculture and what steps are required to meet the challenge.

iv) How is high value food commodities helpful to smallholders? Suggest measures to improve infrastructure facilities for these high value commodities.

8.9 KEY WORDS

Investment in Agriculture : Relates to improving the condition of agriculture by making investment both by public and private sectors. The investment is required in large irrigation projects, in R&D and in other support systems by the government. Raising agricultural investment is the imperative need for expansion of gross cropped area as well as boosting crop productivity. The private sector cannot be expected to fulfill all the investment requirements of agriculture.

Agricultural Credit : Finance is required right from agricultural crop to marketing of final produce. Farmers should have credit from institutional sources like co-operatives and commercial banks. The poorest farmers have suffered the most. What matters most to farmers is the timely availability of credit. Our present system does not ensure this.

Land Reforms : This relates to improving land relations — who owns the land and who tills the land. In several sates the agenda of land reform remains woefully unfinished and tenancy regimes need urgent reform. Thus far, efforts at tenancy reform have frequently not achieved desired results. The incidence of oral and concealed tenancy remains high as does insecurity in tenants.

Pricing Policy : Covers both input pricing and output pricing of agricultural produce. The issue of pricing has attracted considerable attention in recent years. Farmers must get remunerative price for their produce and consumers interest should also be safeguarded.

Commercialisation of Indian Agriculture : Means farmers should produce for the market. However, one has to be cautious in commercialising the Indian agriculture, as it may unduly benefit the endowment-rich regions and farmers. Marketing structures in backward districts do not quiet function in a commercial way.

Dry Land/Rain-fed Agriculture: Indicates agricultural operations in areas where rain is very scarce. In the absence of rain doing agriculture increases the risk and vulnerability in farming.

High Value Commodities : Such as fruits and vegetables and animal products. Access to markets is critical to the growth of high value agriculture. In India most of the production of high value commodity takes place in rural areas, which is then transported to markets in urban areas, the major consumption centres. High value agriculture may come under stress for want of adequate technology, infrastructure and policy support. Being perishable, high value food commodities require refrigerated transport, cold storage and immediate processing.

8.10 SOME USEFUL BOOKS

Chand, Ramesh, S.S. Raju and L.M. Pandey (2007): *Growth Crisis in Agriculture, Economic & Political Weekly*, June 30.

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Rao, P. Parthasarathy, P.S. Birthal and P.K. Joshi (2006): Diversification towards High Value Agriculture, *Economic & Political Weekly*, Vol. XLI, No. 26, June 30.

Report of the National Commission on Agriculture (1976): Ministry of Agriculture, Government of India, New Delhi.

Saggar, Mridul (1992): *Issues and Concerns in Indian Agriculture*, Reserve Bank of India Occasional Papers, Vol. 3, No. 3, September.

8.11 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) See Section 8.1 and 8.3

2) See Section 8.2

3) See Section 8.3

4) See Sub-sections 8.3.4 and 8.3.5

Check Your Progress 2

1) See Section 8.4

2) See Sub-section 8.4.1

3) See Section 8.5

4) See Section 8.5