Agriculture

With about 14.5% contribution at 2004-05 prices, to the gross domestic product (GDP), agriculture provides livelihood support to about two-thirds of country's population. The sector provides employment to 57% of country's work force and is the single largest private sector occupation. Agriculture accounts for about 10% of the total export earnings and provides raw material to a large number of Industries (textiles, silk, sugar, rice, flour mills, milk products). Besides, the rural areas are the biggest markets for low-priced and middle-priced consumer goods, including consumer durables. It means, if agriculture performs, rural demand is high. Rural domestic savings are an important source of resource mobilisation.

The agriculture sector is crucial in maintaining food security and, in the process, national security as well. The allied sectors like horticulture, animal husbandry, dairy and fisheries, have an important in improving the overall economic conditions and health and nutrition of the rural people. Thus, any change in this sector, positive or negative, has a multiplier effect on the entire economy. India is the world's largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. It is the second largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea.

Recognising the crucial role played by the agriculture sector in enabling the widest dispersal of economic benefits, the Eleventh Plan has emphasised that agricultural development is central to equitable and fast economic development of country.

Considerable progress has been made on this front. Foodgrains production rose from 52 million tonnes in1951-52 to 259 million tonnes in 2013-14. The share of agriculture in real GDP has fallen given its lower growth rate relative to industry and services. However, what is of concern is that growth in the agricultural sector has quite often fallen short of the Plan targets. During the period 1960-61 to 2010-11, food grains production grew at a compounded annual growth rate (CAGR) of around 2 per cent. In fact, the Ninth and Tenth Five Year Plans witnessed agricultural sectoral growth rate of 2.44 per cent and 2.30 per cent respectively compared to 4.72 per cent during Eighth Five Year Plan. During the 11th Five Year plan, agriculture growth is estimated at 3.28 per cent against a target of 4 per cent. The Approach Paper to the Twelfth Five Year Plan emphasises the need to "redouble our efforts to ensure that 4.0 per cent average growth" is achieved during the Plan if not more.

Without incremental productivity gains and technology diffusion across regions, achieving this higher growth may not be feasible and has implications for the macroeconomic stability given the rising demand of the 1.2 billion people for food. Achieving minimum agricultural growth is a pre-requisite for inclusive growth, reduction of poverty levels, development of the rural economy and enhancing of farm incomes

Food deficit to food surplus

After remaining a food deficit country for about two decades after Independence, India has become self-sufficient in food grains.

From the mid 1960s , food security improved with the introduction of high yielding varieties (HYVs) of crops, and the development of agriculture infrastructure for irrigation, input supply, storage and marketing. The HYVs motivated farmers to adopt improved production technologies with the use of water, fertilisers and agrochemicals. Besides the public sector rural infrastructure, farmers developed their own 'onfarm' resources. The extension support for production technology and the marketing support through procurement operations encouraged farmers to step up production. The production of various crop commodities has increased substantially, over the various Plan periods.

Accounting for Success in Agriculture

The main factors for the all-round success of agriculture have been

- increase in net sown area
- expansion of irrigation facilities
- land reforms,especially consolidation of holdings
- development and introduction of high yielding seeds
- fertilizers
- improved implements and farm machines
- technology for pest management
- price policy based on MSP and procurement operations
- infrastructure for storage/cold storage
- improvements in trade system
- increase in investments, etc.

However, in spite of the spectacular achievements, various constraints and disturbing trends continue to hamper the requisite growth of the agriculture sector.

Foodgrain production 2012-13

India's foodgrains production was an all-time high of 252.56 million tonne in 2011-12.The country produced 244.78 million tonne in the previous year.

Rice production has been revised to a record 103.41 million tonne .Wheat output, too, has been pegged higher at 90.23 million tonne. However, the production figure of coarse cereals and pulses has been revised downwards to 41.91 million tonne and 17.02 million tonne, respectively.

In the 2010-11 crop year, rice production stood at 95.98 million tonne, wheat — 86.87 million tonne, pulses — 18.24 million tonne and coarse cereals — 43.68 million tonne.

Crisis and Challenge in Agriculture

One of the major challenges of the 12th Plan is to reverse the deceleration in agricultural growth from 3.2% observed between 1980 and 1996-97 to a trend average of less than 2% subsequently. This deceleration is the root cause of the problem of rural distress that has surfaced in many parts of the country- unemployment, underemployment, declining incomes, distress migration etc.

Low farm incomes due to inadequate productivity growth, high prices of inputs and lack of credit at reasonable rates pushed many farmers into crippling debt. Uncertainties have

increased- prices, quality of inputs ,weather and pests which, coupled with unavailability of proper extension and risk insurance have led farmers to despair. This has also led to widespread distress migration, a rise in the number of female headed households in rural areas and a general increase in women's work burden and vulnerability.

To reverse this trend, corrective policies are being implemented under the 11th Plan-focused not only on the small and marginal farmers who continue to deserve special attention, but also on middle and large farmers who suffer from productivity stagnation arising from a variety of constraints. Bharat Nirman with irrigation component is an example.

It is vital to increase agricultural incomes for reasons of employment; equity; food security etc. A second green revolution is urgently needed to raise the
growth rate of agricultural GDP to around 4% in an ever green way(ecologically friendly). This is not an easy task since actual growth of agricultural GDP, including forestry and fishing, was below 2% for the 10th Plan period. The challenge posed, therefore, is to at least double the rate of agricultural growth. The 12th plan Approach Paper(2012-17) targets 4% growth rate for agriculture.

Causes for low agricultural growth since mid-1990s

There are region-specific causes for the decelerating growth in the agriculture sector during the 1990s. Some of these are:

- Low public investment in irrigation.
- Poor maintenance of rural infrastructure, specially canals and roads.
- Decline in investments in rural electrification and in its availability. This has greatly affected production in eastern India, where huge groundwater potential remains untapped.
- Rising level of subsidies for power, water, fertilisers and food are eroding public sector investments in agriculture, besides encouraging inefficient use of scarce resources such as water. This further aggravates environmental problems leading to loss of soil fertility and decline in groundwater, which reduces returns on capital. Farmers then demand further subsidies to maintain the same level of production.
- Inadequate credit support till 2004
- Distortions brought in marketing mechanism
- Continuing imbalanced use of NP &K fertilisers, (6.4:2.5:1) as against the desirable norm of 4:2:1 and increasing deficiency of micro nutrients in the soil.
- Stringent controls on movement, marketing, credit, stock and export of agri-products that affect their profitability.
- Controls on the agro-processing industry.
- Poor extension service.

Remedies

In recent years, several new initiatives have been taken which included :

- Announcement of National Policy for Farmers (2007).
- Kisan Credit Card (1998-1999).
- Creation of a Watershed Development Fund
- Bharat Nirman

- National Horticulture Mission.
- Technology Mission on Cotton (1999-2000).
- Implementation of the National Agriculture Insurance Scheme/Rashtriya Krishi Bima Yojana .
- programmes for elimination of post-harvest losses
- Lifting some of the restrictions and controls on the movement and storage and exports of foodgrains/agri produce.
- De-reservation of the manufacture of some farm implements/machines from the smallscale industries sector
- Vishesh Krishi Upaj Yojana: The objective of the scheme is to promote export of fruits, vegetables, flowers, minor forest produce, and their value added products, by incentivizing exporters of such products. Exporters of such products shall be entitled for duty rebates.
- AEZs
- Contract farming
- Loan waiver to revive farming
- NRAA was set up in 2006(read ahead)
- Nutrient based fertilizer subsidy (2008-09)

11th Plan and Agriculture: Some areas

Accelerating Agricultural Growth

The crisis of stagnation in agriculture needs urgent attention. As pointed out by the National Commission on Farmers, we need a new deal that rebuilds hope about farming by making it a viable and profit-making enterprise. This involves finding larger public resources.

Concerns

Initially, public sector investment played a crucial role in the development of infrastructure like irrigation, electricity, agriculture research, roads, markets and communications. Investment in agriculture declined in the last three five year plans This decline was due to a fall in public investment. This calls for a review of policies so that productive investment is made in capital formation. Diversion of scarce resources from creation of productive assets - rural electricity, irrigation, credit and other agricultural inputs to subsidies needs to be resisted. The declining trend in public sector investment will need to be reversed by better targeting of subsidies. Following are the concerns:

Firstly, the share of agriculture in GDP has declined from 61 per cent in 1950-51 to 17 per cent (2009), whereas the dependence of population on agriculture has declined only marginally from 3/4ths to 2/3rds during the period. In all the developed countries, there has been a major shift of population from agriculture as an occupation to other sectors. However, this has not happened in India.

Secondly, the average size of holdings has reduced from 2.28 ha in 1970-71 to less than 1 ha in 2009 with the pressure on land increasing proportionately . Small plots do not permit introduction of modern technology due to high costs.

Thirdly, during the 1990s, foodgrains production growth rate and productivity growth rate declined: the growth rate of foodgrains production declined to 1.92 per cent per annum from 3.54 per cent per annum during 1980s. Similarly the growth rate of productivity in food grains decelerated to 1.32 per cent per cent as compared to 3.33 per cent per annum during the 1980s. The per unit area productivity of our crop commodities is much lower as compared to that of the other major crop producing countries . There is also a wide gap in the yield levels among and within States.

Fourthly, during the 1990s, the policy of various States has been to increase production through subsidies on inputs such as power, water and fertilisers, rather than by building new capital assets in irrigation and power. These problems are particularly severe in the poorer states. Lower public investment and deteriorating quality of public services in agriculture are the major problems. The poor base of rural productive assets and poorer technological base because of past public/private patterns of spending has been recognised as a serious constraint in increasing production and productivity.

11th Plan strategy to raise agricultural output is based on the following elements:

- Double the rate of growth of irrigated area;
- Improve water management, rain water harvesting and watershed
- development;
- Reclaim degraded land and focus on soil quality;
- Bridge the knowledge gap through effective extension;
- Diversify into high value outputs, fruits, vegetables, flowers, herbs and
- spices, medicinal plants, bamboo, bio-diesel etc., but with adequate measures to ensure food security;
- Promote animal husbandry and fishery;
- Provide easy access to credit at affordable rates;
- Improve the incentive structure and functioning of markets;
- Refocus on land reforms issues.

Boosting agricultural productivity by making available institutional credit adequately and affordably, support for investments in land development structures, farm mechanisation, biotechnology, cold storages, value adding enterprises and marketing to improve productivity and profitability in
Agriculture is the need of the hour.

12th FYP and agriculture

The Planning Commission set annual agriculture growth target for the 12th Five Year Plan (2012-17) at 4 per cent as it was in the previous two plans.

During the 11th five year plan (2007-12) average farm growth of about 3.5 per cent was achieved ."The investment in farm research should be 2 per cent of agriculture gross domestic product (GDP) which ranges from 0.5-0.6 per cent at present.

12th Plan expressed concerns over relatively lower agriculture yields in India compared to the developed world.Production could be increased by reducing knowledge deficit.

The farm growth is crucial in the back drop of high food prices in the country. The performance of the farm sector was dismal in the previous fiscal as the growth was just 0.2 per cent against the annual average target of 4 per cent in the 11th Plan (2007-12), on account of widespread drought.

The annual average farm growth during the 10th Plan (2002-07) also missed the 4 per cent target, and grew instead at the rate of 2.13 per cent.

The annual average farm growth which was 4.72 per cent in 8th Plan (1992-97), slowed down to 2.44 in 9th Plan and further to 2.13 per cent in 10th Plan period.

Capital Formation in Indian Agriculture

Capital formation is one of the basic factors for increasing production. It means addition to the physical stock of dams, roads, power plants and other infrastructure. This is all the more important in agriculture where we are faced with the need of increasing production against vagaries of weather to keep pace with the increase in population. Judicious use of natural resources for sustainable production of agriculture, adoption of advanced technology and development of infrastructure for facilitating all agricultural activities, ensuring food security in the broader sense of making adequate nutritious food available and accessible to all and making agriculture a profitable commercial activity at par with other industries in the arena of global economy are the problems that can be successfully tackled only with a strong capital base.

It is necessary to have a broader measure of agricultural capital formation which can be called **capital formation for agriculture** in comparison with **capital formation in agriculture.** That is, rural roads, powers etc should also be considered capital formation for agricultural growth while they may not be directly related to agriculture.

As agriculture is getting diversified, there is a need to not only augment but also re-structure the pattern of investment in agriculture. Historically, the public sector has taken the lead in directing the growth and pattern of agriculture investment. Steps should be taken to improve capital formation for agriculture in both Public and Private Sectors. Otherwise, it may be difficult to sustain the agriculture growth and rural purchasing power. Currently, irrigation accounts for the bulk of public investment in agriculture (above 90%).

The new strategy of agriculture growth and diversification of agriculture from traditional crop cultivation to horticulture etc. would require more investments on cold storage, rural roads, communication, marketing network and facilities, warehouses etc.

Simultaneously efforts should be made to revitalize agriculture through introduction of bio-technology and other innovations. This would require substantial increase in investment on research & development for agriculture.

Recent steps are showing positive results: gross capital formation in agriculture as a proportion of agriculture GDP improved.

The Gross Capital Formation (GCF) in the agriculture and allied sectors in the country rose by 87 per cent to Rs 1,42,254 crore in the 2010-11 fiscal as compared to 2004-

05.Capital investment in agriculture and allied sectors has witnessed a steady increasing trend in recent years. It has risen from 13.5 per cent of GDP in 2004-05 to 20.1 per cent in 2010-11.

This growth has been possible because of initiatives taken by the government to make agriculture a sustainable vocation- Bharat Nirman is responsible for the good performance. **Bharat Nirman** is the plan for creating basic rural infrastructure. It comprises projects on irrigation, roads (Pradhan Mantri Gram Sadak Yojana), housing (Indira Awaas Yojana), water supply, electrification (Rajiv Gandhi Grameen Vidyutikaran Yojana) and telecommunication connectivity..

Investment in public sector includes irrigation works, command area development, land reclamation, afforestation and development of state farms, it added.

Private sector investment includes construction activities including improvement / reclamation of land, construction of non-residential buildings, farm houses, wells and other irrigation works, it said.

The share of public investment in gross investment increased.
Efforts are being intensified to boost investment in agriculture .These programmes are likely to increase capital formation in agriculture by the public sector and induce the private sector to increase investment in agriculture. The improved availability of credit for agriculture and liberalized trade for agricultural products should enhance private investment in agriculture.

Government stepped up public investment significantly for rural roads and rural employment programmes. Major measures taken for agricultural development through enhanced capital formation include the following:

- A roadmap for agricultural diversification has been prepared with focus on horticulture, floriculture, animal husbandry and fisheries.
- Strengthening of agriculture marketing infrastructure.
- National scheme for the repair, renovation and restoration of water bodies.
- Focus on micro irrigation, micro finance, micro-insurance and rural credits.
- Setting up a Knowledge Centre in every village.
- Setting up a National Fund for strategic agricultural research.
- Provision of urban amenities in rural areas through creation of new growth poles
- New fertilizer subsidy regime that is nutrient based so as to fortify soil
- Bharat Nirman
- Pradhan Mantri Gram Sadak Yojana
- Loan waiver also will enable fresh investment as farmers become eligible for loans again due to write off.

Sustainable Agriculture: Water Management and Irrigation

Sustainable development of land and water resources becomes important for the nation like India, which shares about 16 per cent of the global population but has only 2.4 per cent of the total land and 4 per cent of the total water resource. Scarcity of water in rainfed areas is causing serious hardships. Ground water resources are dwindling fast due to poor water

harvesting leading to excessive run off and poor recharging of ground water. This is accompanied by excessive drawal/ exploitation mainly to meet the household needs of growing population as also irrigation needs of new high yielding crops. The number of dark blocks/mandals where there is over exploitation of groundwater (over 85 per cent) is increasing in most of the States with large rainfed areas (Andhra Pradesh, Karnataka, Rajasthan, Madhya Pradesh, Chattisgarh etc.). If this continues, the number of over exploited blocks will double over a period of every twelve and a half years.

Water is a critical input for agriculture and this calls for more effective utilization of existing irrigation potential, expansion of irrigation where it is possible at an economic cost, flood forecasting and better water management in rainfed areas where assured irrigation is not possible. The Bharat Nirman programme envisages creation of 10 million hectares additional assured irrigation during the 4 years period (2005-2009).

Along with expansion of irrigation facilities, steps need to be taken to ensure that water is distributed equitably and that it is used efficiently. The pattern observed in the past where tail-enders are denied water because upper end-users appropriate it for highly water intensive crops must be avoided. Participatory Irrigation Management (PIM) by democratically organised water user associations empowered to set water charges, collect and retain substantial part of it, would help to maintain field channels, expand irrigated area, distribute water equitably and provide the tail enders their just share of water. Experience in Andhra Pradesh and Gujarat has shown the effectiveness of such PIM.

Watershed management, rainwater harvesting and ground water recharge can help augment water availability in rainfed areas. Micro-irrigation is also important to improve water use efficiency.

Warabandi

Warabandi means fixing of turns for irrigation water for each farmer so as to make it available to its potential users, i.e. farmers. It aims at use of water judiciously and equitably.

Soil Health

Soil health is a critical factor for agricultural productivity and human health. The following steps are being taken to improve it.

Government will issue Soil Health Cards to all farmers in the country detailing the deficiencies in the soil and the amount of fertilizers needed, Soil Health Cards would give farmers information about the quality of the soil and what is the normal quantity of fertilizer to be used for a particular crop. For this, setting up of 500 new soil testing laboratories and 250 new mobile soil testing laboratories had been sanctioned in the Budget for 2008-09.

Studies have found that over-dose and injudicious use of conventional chemical fertilizers and pesticides affect soil fertility, vegetation, human and animal health. The government is also encouraging use of organic fertilizer and wormicompost as overdose of conventional fertilizers has been found to affect fertility of the soil in many places. Land under organic farming has increased from 42,000 hectares in 2003-04 to 464,000 hectares currently.

The introduction of nutrient based fertilizer subsidy will enhance soil health as it will be demand driven and not price driven.

Soil reclamation

It is necessary to offset the loss of agricultural land by bringing more land under cultivation. There is a large amount of degraded land that can be reclaimed through watershed development. There is also a considerable amount of saline and sodic land, which can be brought back to cultivation with treatment. It is being done by making many government programmes including MNAREGA. Vast areas of cultivated land are acidic, where significant yield increases are possible through treatment using waste material from industry. There is sulphur deficiency in large parts of the country, but this can be treated effectively, particularly for pulses and oilseeds. More generally, Indian soils are relatively deficient in organic matter and are suffering inadequate manuring and composting, aggravated in many regions by unbalanced use of chemical fertilisers, especially excessive application of nitrogen. This raises prospects of large yield increases by applying nutrients, including micronutrients, that have been seriously depleted.

The NBS based fertilizer subsidy can restore soil fertility.

Extension services

The National Commission on Farmers (NCF) has drawn attention to the knowledge deficit that exists at present and explains much of the difference between yields realised in experiments and what farmers actually get. One reason for this is the virtual collapse of extension services in most states,.Farmers are not fully aware of the adverse consequences of unbalanced fertiliser use or of benefits of micronutrient application and soil testing to determine optimal nutrient requirements is hardly practised on a regular basis even by State Agriculture Departments. Similarly, although many new varieties of seeds and pesticides have entered the market during the last decade and farmers are using these, they do not appear to have significantly higher productivity and there are frequent complaints about quality. A problem is that input dealers, who have narrow commercial interests have emerged as the main vehicle for technology diffusion and farmers do not have access to reliable third-party advice which an effective and knowledgeable extension service should be able to provide. Lack of credit also pushes farmers to purchase inputs from local suppliers who often provide sub-standard inputs.

To overcome information gaps and for advice in contingencies such as pest-attacks, it is necessary to revitalise the extension system in a manner which links universities and best practices effectively to farmers. States need to take urgent steps in this area. Central initiatives on this also need to be strengthened. Krishi Vigyan Kendras set up by Indian Council of Agricultural Research (ICAR), can be better used. Agricultural Technology Management Agency (ATMA) model of extension being promoted by Department of Agriculture & Cooperation (DAC) will deliver results.

The Department of Agriculture and Cooperation, along with NABARD, has introduced a scheme for establishment of agri-clinics / agri-business centres / ventures by the agricultural graduates.

The ICAR is also associated in agriculture extension activities not only through KVKs but also Institute Village Linkage Programme (IVLP) and also its institutes / centres all over the country. The interaction of KVKs activities with the State / district extension machinery is being strengthened. It is planned to strengthen linkages between research and extension to improve quality and effectiveness of research and extension system. The extension system , thus, is being revitalised and broad based through KVKs, NGOs, farmers' organisations, cooperatives, the corporatesector and agri-clinics / agri-business centres. KVKs and ICAR/SAUs units are designated nodal agencies for quality certification including organic products, bio-fertilisers, and bio-pesticides. The supply of inputs, agro-processing and trade through such cooperatives / companies is encouraged through the availability of credit with the help of NABARD.

The NFC has suggested ways to synergise at the village level, for example through Farmer Knowledge Centres, and this is already being implemented in some places with PRI and NGO help. Since synergies across line departments and Centrally sponsored schemes can be derived best through district plans, the Planning Commission and Ministry of Panchayati Raj have begun strengthening the process of district planning. The recent MoA initiative to set up technical bodies such as the National Fisheries Board and the National Rainfed Areas Authority should help to improve synergy.

Agri clinic and agri business centre

The Ministry of Agriculture, Government of India, in association with NABARD has launched a unique programme to take better methods of farming to each and every farmer across the country.This programme aims to tap the expertise available in the large pool of Agriculture Graduates. AgriClinic offers professional extension services to innumerable farmers.

Government is now also providing start-up training to graduates in Agriculture, or any subject allied to Agriculture like Horticulture, Sericulture, Veterinary Sciences, Forestry, Dairy, Poultry Farming, and Fisheries, etc. Those completing the training can apply for special start-up loans for venture

Agribusiness Centres would provide paid services for enhancement of agriculture production and income of farmers. Centres would need to advise farmers on crop selection, best farm practices, post-harvest value-added options, key agricultural information (including perhaps even Internet-based weather forecast), price trends, market news, risk mitigation and crop insurance, credit and input access, as well as critical sanitary and phyto-sanitary considerations, which the farmers have to keep in mind.

Farmers could make use of the clinic to undertake soil testing and get professional counsel.The programme was started in 2002 as a supplement to government's extension services.

ITC's e-choupal is another development in the field of strengthening extension services.

SFAC

Small Farmers' Agribusiness Consortium (SFAC), a specialized agency of the Dept. of Agriculture & Cooperation, Govt. of India, supports entrepreneurs, farmer producer

groups, cooperatives, companies and other entities to set up agribusiness enterprises which add value to agriculture produce by offering risk capital through its Venture Capital Assistance Scheme.

Rainfed agriculture

The ministry of agriculture classifies areas, which receive less than 750 mm rainfall annually, and have less than 30 per cent land under irrigation (both surface and ground water) as drylands.

Rainfed regions are those where crop production is exclusively dependent upon rainfall. In India rainfed regions cover 177 districts and exist in all agro-climatic zones. However, they are mostly concentrated in arid and semi-arid areas. Most of these districts are country's poorest. Rainfed regions account for 68 per cent of the total net sown area in the country, according to the Union Ministry of Agriculture.

Rainfed agriculture plays an important role in India's economy. Rainfed crops account for 48 per cent of the total area under food crops and 68 per cent of the area under non-food crops in the country.

Nearly 50 per cent of the total rural workforce and 60 per cent of the livestock in the country are concentrated in the dry districts.

As opportunities for further agricultural growth in irrigated regions get exhausted, food security and productivity growth in agriculture in India in the coming years will increasingly depend on improved utilisation of resources and productivity growth in rainfed regions.

Most agricultural lands in rainfed areas in Orissa, West Bengal, Bihar and Chhattisgarh suffer from sulphur and phosphorous deficiency. Thus soil has become acidic in nature. These areas need interventions from agriculture scientists in dealing with the crisis.

Promotion of appropriate cropping patterns and livestock development is necessary. Development of suitable varieties and lab to land transfer is required.

Region specific watershed programmes need to be developed.

There is a need to divert a portion of the population dependent on agriculture to areas like fisheries, agro-processing and horticulture.Fisheries have a lot of potential in areas, which get good rainfall. It is quite clear that agriculture cannot sustain such a large mass of people in rainfed areas. The policy towards rainfed areas has to look beyond crop production and rainwater management.

National Rainfed Area Authority

National Rainfed Area Authority was set up in 2006 to coordinate the work of five ministries and improve productivity of the 85 million hectares of non-irrigated agricultural land- panchayati raj, rural development, agriculture, water resources and environment and forests. NRAA works under the agriculture ministry

NRAA aims to build synergy among these ministries on their schemes, programmes and policies that are relevant to non-irrigated lands. It works for wholistic and integrated development of the rainfed areas.

The NRAA would prepare a national prospective plan, which would look at regional variations. The plan would be flexible and dynamic.

Drought

Droughts is of the following three types

Meteorological drought is when the actual rainfall in an area is significantly less than the climatological mean of that area. The country as a whole may have a normal monsoon, but different meteorological districts and sub-divisions can have below normal rainfall.

India Meteorological Department (IMD) defines a rainfall range between 96 and 104 per cent of the LPA as being "near normal", while 90 to 96 per cent is considered "below normal", 104 to 110 per cent "above normal", above 110 per cent "excess" and below 90 per cent "deficient".

Hydrological drought means marked depletion of surface water causing very low stream flow and drying of lakes, rivers and reservoirs.

Agricultural drought means inadequate soil moisture resulting in acute crop stress and fall in agricultural productivity.

Droughts can throw out of gear the rural and national economy. Cattle, human beings and crops suffer a water shortage.

Drought occurs mainly due to failure of monsoon.

With wide variations in agro-climatic zones, drought occurs somewhere in India each year. While parts of Rajasthan and Andhra's Anantpur and Chittoor districts see two droughts in five years, western UP and northern Gujarat face it once in three years. Maharashtra alone has about a quarter of India's drought-prone districts. About 50 million Indians are affected every year.

Climate change is accelerating drought attacks. There were six between 1900 and 1950 and 12 in the following 50 years. We have already faced three droughts between 2000 and 2009.

There is an official checklist of symptoms to diagnose drought.. The early warning signs include delay in onset of SW monsoon, long 'break' within a monsoon, less rain in July, rise in fodder prices, fall in water reservoir levels, dwindling water supply, slower crop sowing.

Initially, government advises farmers to grow less water-seeking crops, increase fodder supply, and keep the Centre's National Crisis Management Committee (NCMC) informed. It becomes an emergency when there is virtually no rain during the sowing period; monsoon withdraws mid-season; and a dry spell for more than a month. The deficit in

rainfall by now grows and could be as much as 40% and crops start to wilt with no water and excessive heat.

The problem becomes acute and gets classified as a potential disaster when there is no rain for more than six weeks in a crop area, and the monsoon withdraws early, leaving behind parched land and people.

If 20%-40% of India's area is affected , it is called a drought year. If more than 40% of the country is reeling from rainfall shortage, the met department calls it an All India Severe Drought Year.

The primary responsibility of catching the early signs, offering relief and managing droughts lies with states.

The situation may warrant loan rescheduling , insurance premium waivers, and relief from the Centre. The state's budget can come under severe strain.

Once a drought is declared, Central government starts considering deferring/rescheduling farm loans, moving water and fodder by rail, hiking food allocation to poor families, creating more jobs, importing foodgrains to meet likely demand-supply gap, and check inflation.

A ministerial task force is set up to take rapid decisions. Drought-declared states are monitored individually and more carefully by the Centre. The Essential Commodities Act is used to prevent hoarding, and states get money for relief programmes.

Landless labourers and marginal farmers move to cities in search of casual jobs. Families with loans from moneylenders get further entrapped in poverty. Health suffers and schooling is disrupted as money dwindles. The impact on cities is by way of migration stress; declining farm growth pulls down industry, urban goods and services.

Proper water management, drought-resistant agriculture, income diversification, smarter subsidies and technology can ensure no one is left devastated by it anymore.

Drought-resistant varieties of seeds should be made available sufficiently.

Remedies lie in the form of better water management; sprinkler irrigation;drought resistant varieties of seeds; creation of irrigation; better credit facilities; shifting to dairy and other animal husbandry activities.

Contingency plan 2012

According to India Meteorological Department data, rains in the country are deficient by 21 per cent as of the beginning of August 2012.Sowing area of total kharif crops has declined by 10 per cent so far at 66.82 million hectare. Coarse cereals is worst affected with 23 per cent shortfall, followed by pulses (18 per cent), paddy (9 per cent) and cotton (7 per cent).

Government prepared contingency plans for 320 districts where monsoon rains have been poor. The plan has been prepared by the Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad.

Among various measures being taken to tackle the drought-like situation, the Centre is providing knowledge input twice a week from ICAR besides seeds for alternate crop.
The government is also trying to provide states with additional electricity to draw water from tubewells.

Centre has sanctioned 300 mega watt (MW) of power to Punjab and Haryana and about 275 MW for Uttar Pradesh for the purpose.

Centre has taken decisions to introduce diesel subsidy scheme, hike seed subsidy and release funds under National Rural Drinking Water Programme (NRDWP) and Integrated Watershed Management Programme.

A new Calamity
Since 2012, , damage to crops due to cold wave/frost will be eligible for central and state assistance following the government's decision to consider such weather condition as natural calamity.At present, cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst and pest attack are treated as natural calamities and are eligible for relief under the State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF).

The proposal was taken by the GoM on requests from the chief minister of Madhya Pradesh, which faced damage to rabi crops like wheat and pulses last year due to extreme cold conditions.

NDRF and SDRF
Government has created State Disaster Response Fund (SDRF)/National Disaster Response Fund (NDRF) to mitigate hardships due to natural calamities including drought. There is ready availability of funds with State Governments under SDRF to take immediate relief measures. Government of India supplements efforts of State Governments with financial assistance and logistic support. Government of India and State Governments contribute to SDRF in ratio of 3:1 for 17 General Category States and 9:1 in case of 11 Special Category States covering North-Eastern States including Sikkim and 3 hill States of Himachal Pradesh, Uttarakhand and Jammu & Kashmir.

Additional financial assistance, over and above SDRF, is considered from NDRF for natural calamities of severe nature. Allocation for SDRF/NDRF is made on the basis of recommendations of the 13th Finance Commission.

UN and drought
WMO, UN weather agency says that there's an urgent need for nations to adopt drought-management policies as farmers from Africa to India struggle with lack of rainfall and the United States endures the worst drought it has experienced in decades.

The World Meteorological Organization says the US drought and its ripple effects on global food markets show the need for policies with more water conservation and less consumption.WMO Secretary-General Michel Jarraud said the world must "move away from a piecemeal, crisis-driven approach and develop integrated risk-based national drought policies" because of climate change projections for more drought.

WMO

The **World Meteorological Organization (WMO)** is an intergovernmental organization with a membership of 189 Member States and is a specialised agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences. It has its headquarters in Geneva, Switzerland, and is a member of the United Nations Development Group..

As weather, climate and the water cycle know no national boundaries, international cooperation at a global scale is essential for the development of meteorology and operational hydrology as well as to reap the benefits from their application. WMO provides the framework for such international cooperation.

Since its establishment, WMO has played a unique and powerful role in contributing to the safety and welfare of humanity. Under WMO leadership and within the framework of WMO programs. National Meteorological and Hydrological Services contribute substantially to the protection of life and property against natural disasters, to safeguarding the environment and to enhancing the economic and social well-being of all sectors of society in areas such as food security, water resources and transport.

Rural credit

Nabard

The National Bank for Agricultural and Rural Development (Nabard) was set up in 1982, as the apex development bank for agriculture and rural development under an Act of Parliament. The bank began by taking over the agriculture credit functions of the Reserve Bank of India and the refinance functions of the then Agricultural Refinance and Development Corporation (ARDC).

Nabard's mission is to "promote sustainable and equitable prosperity in rural India through effective credit support, related services, institution development and other innovative initiatives." Its prime function continues to be that of refinancing, supplementing the resources of co-operative banks, regional rural banks (RRBs) and commercial banks against the amounts lent at the grassroots level for agriculture and rural development.
Apart from its developmental role, Nabard has also been entrusted with certain supervisory functions in respect of co-operative banks and RRBs under the Banking Regulation Act, 1949.

Nabard is now a major shareholder in the Agricultural Insurance Corporation of India. It also has equity stake in NCDX (National Commodity and Derivatives Exchange) in association with other national-level institutions such as ICICI Bank, the LIC and the NSE (National Stock Exchange).

Promoting self-help groups reflects Nabard's capabilities in capacity-building and nurturing the rural credit delivery system.

Nabard manages RIDF.

RIDF is made up of the priority sector shortfalls of public sector commercial banks, which were assigned the task of channelling at least 18 per cent of their total lending to agriculture.

The fund was set up in 1995-96 for providing loans to State governments and state-owned corporations for projects relating to minor and medium irrigation, soil conservation, watershed management and rural infrastructure (such as roads, bridges and market yards). Investment projects under social infrastructure, such as construction of primary health centres/schools, providing drinking water, and so on, were also supported under the RIDF. (Read ahead)

Rural credit institutions
They comprise cooperative banks, RRBs and LABs.

Co-operative credit structure
Co-operative credit institutions continue to play a crucial role in dispensation of credit for agriculture and rural development.

She short-term credit structure is managed by State co-operative banks (SCBs) and district central co-operative banks (DCCBs). Primary agricultural credit societies (PACSs) are short-term co-operative credit institutions dealing directly with individual borrowers.
The long-term co-operative credit structure is managed by State co-operative and agriculture rural development banks (SCARDBs) and primary co-operative agriculture and rural development banks (PCARDBs).

RRBs
Regional rural banks were set up in 1975 under an Act of Parliament to exclusively cater to the credit needs of the rural population, especially small and marginal farmers. The ownership structure of RRBs is, the Central Government (50 per cent), the State government concerned (15 per cent) and the sponsor commercial bank (35 per cent). The sponsor bank manages the RRB concerned.

At present, the 86 RRBs in the country are sponsored by 26 PSU banks . RRBs have a strong branch network across the country and the branches are located in 588 out of the 622 districts of the country.Since 2005, the Union Government has taken up a process for consolidation through amalgamation of different RRBs in a particular state sponsored by the same bank. As a result of this process of consolidation , the number of RRBs in the country had reduced from 156 to 82.

There are 11.55 crore farmer households in the country, of which, 9.27 crore belong to small and marginal farmers. Institutional rural credit is accessible to only around 50 per cent of these farmers.

Local area banks

LABs were started in 1996 with a view to providing institutional mechanisms for promoting rural savings as well as for the provision of credit for viable economic activities in the local areas. They are in the private sector. This is expected to bridge the gaps in credit availability and enhance the institutional credit framework in the rural and semi-urban area.

The bank shall be registered as a public limited company under the Companies Act, 1956. It will be licensed under the Banking Regulation Act, 1949 and will be eligible for including in the Second Schedule of the Reserve Bank of India Act, 1934.

The minimum paid up capital for such a bank shall be Rs.5 crore. The promoters' contribution for such a bank shall at least be Rs.2 crore.

The area of operation of the proposed bank shall be a maximum of three geographically contiguous districts in one or more states. Backward and less developed districts are considered for area of operation of LABs.

Priority sector

The Government of India through Reserve Bank of India (RBI) directs certain type of lending from the Banks operating in India irrespective of their origin. RBI sets targets in terms of percentage (of total money lent by the Bank) to be lent to certain sectors, which would not have had access to organised lending market or could not afford to pay the interest at the commercial rate. This type of lending is called Priority Sector Lending. Financing of Small Scale Industry, Small business, Agricultural Activities and Export activities fall under this category. This is also called directed credit 40% of net bank credit should be for the priority sector and of the 40%, 18% should be for the agriculture.22% is for the non-agri sectors.Rate of interest charged on such loans is less. The targets and sub-targets set under priority sector lending for domestic and foreign banks operating in India are given below

	Domestic banks (both public sector and private sector banks)	**Foreign banks operating in India**
Total Priority Sector advances	40 percent of NBC	32 percent of NBC
Total agricultural advances	18 percent of NBC	No target
SSI advances	No target	10 percent of NBC
Export credit	Export credit does not form part of priority sector	12 percent of NBC
Advanees to weaker sections	10 percent of NBC	No target

(NBC denotes net bank credit)

Direct Agricultural advance means advances given by banks directly to farmers for agricultural purposes. These include short-term loans for raising crops i.e. for crop loans.

Indirect finance denotes to finance provided by banks to farmers indirectly, i.e., through other agencies. For example, credit for financing the distribution of fertilisers, pesticides, seeds, etc.The weaker sections under priority sector include small (1-2 hectares)and marginal farmers(upto 1 hectare) landless labourers, tenant farmers and share croppers;beneficiaries of Differential Rate of Interest (DRI) scheme where loans are given at 4% interest rate. It is an example of financial inclusion.

(Read along with the Nair Committee recommendations and the RBI policy changes in July 2012 as given in the Chapter on Banking)

RIDF

RIDF was introduced by Government of India during the year 1995-96 for implementation and timely completion of various rural oriented schemes/ projects in the States which were languishing for shortage of funds. The fund is placed with NABARD for providing loan assistance to the State. It is composed of priority sector shortfalls of public sector banks, as mentioned above.

In the Union Budget 2013-14, allocation under RIDF enhanced to Rs 20,000 crore. Rs 5,000 crore earmarked exclusively for creating warehousing facilities.

Nabard and SHGs

A pioneer in the self-help group (SHG)-bank linkage concept, Nabard has brought banking to the doorsteps of the poor people, especially the women.

SHGs represent a unique approach to financial intermediation. Self Help Groups (SHGs) are small groups of 10-20 members. These groups collect savings from their members and provide loans to them. These groups also obtain loans from banks and on-lend them to their members. SHGs are formed and supported usually by NGOs or banks or by Government agencies. Linked not only to banks but also to wider development programmes, SHGs are seen to confer many benefits, both economic and social. SHGs enable women to grow their savings and to access the credit which banks are increasingly willing to lend. SHGs can also be community platforms from which women become active in village affairs, stand for local election or take action to address social or community issues (the abuse of women, alcohol, the dowry system, schools, water supply).

Being made up mostly of women, their default rate is negligible. Group lending ensures peer pressure to repay. Transaction costs are also dramatically reduced. With extension services and counseling, deployment of funds is effective.

Microfinance

Microfinance is defined as provision of credit and other financial services like insurance of very small amount to the poor in rural, semi-urban and urban areas for enabling them to raise their income levels and improve living standards. Micro finance Institutions are those which provide these facilities.

Microfinance covers not only consumption and production loans for various farm and non-farm activities of the poor but also include their other credit needs such as housing and shelter improvements.

A Self-Help Group (SHG) is a registered or unregistered group of micro entrepreneurs having homogenous social and economic background voluntarily coming together to save small amounts regularly, to mutually agree to contribute to a common fund and to meet their emergency needs on mutual help basis.

While the SHG-bank linkage programme has surely emerged as the dominant micro finance dispensation model in India, other models too have evolved as significant micro finance channels.

Government allows 'Micro Credit/Rural Credit' (non-banking financial company, NBFC) activities for Foreign Direct Investment (FDI)/Overseas Corporate Bodies (OCB)/Non-Resident Indians (NRI) investment to encourage foreign participation in micro credit projects.

Types of micro credit providers in India

- Domestic Commercial Banks:Public Sector Banks; Private Sector Banks & Local Area Banks
- Regional Rural Banks
- Co-operative Banks
- Co-operative Societies
- Registered NBFCs
- Unregistered NBFCs
- Other providers like Societies, Trusts, etc.

In the area of microfinance, there are many areas of concern in India. They are

a) unjustified high rates of interest
b) lack of transparency in interest rates and other charges.
c) multiple lending
d) upfront collection of security deposits
e) over-borrowing
f) ghost borrowers
g) coercive methods of recovery

Malegam Committee

Aimed at reviving the crisis- ridden micro finance sector, Reserve Bank of India Committee suggested that micro finance institutions (MFIs) be allowed to charge a maximum interest of 24 per cent on small loans which cannot exceed Rs.25,000.

The committee, headed by Reserve Bank's Central Board Director Y. H. Malegam, also recommended creation of a separate category of non-banking financial companies (NBFC-MFI) for the micro finance sector.

The panel also said small loans of up to Rs.25,000 could be given to families having an income up to Rs.50,000 per annum.

It further said at least 75 per cent of loans extended by MFIs should be for income generation purposes. It further recommended that a borrower cannot take loans from more than two MFIs.

These recommendations, the committee said, should be implemented from April 1, 2011. The RBI constituted the committee in October last in the wake of allegations of overcharging and using coercive recovery practices by MFIs that led to a spate of suicides in Andhra Pradesh.

About the regulations of MFIs, the Malegam Committee, suggested that it should be done by the National Bank for Agriculture and Rural Development (NABARD) in close coordination with the RBI.

With regard to NBFC-MFIs, the committee suggested that they should have a minimum net worth of Rs.15 crore.

It recommended that bank lending to NBFCs, which qualify as NBFC-MFIs, will be entitled to the 'priority lending' status.
It has made a number of recommendations to mitigate the problems of multiple-lending, over borrowing, ghost borrowers and coercive methods of recovery. These include: a borrower can be a member of only one self-help group or a joint liability group(where money is lent to the whole group, it is called JLG); not more than two MFIs can lend to a single borrower; there should be a minimum period of moratorium between the disbursement of loan and the commencement of recovery; the tenure of the loan must vary with its amount; a credit information bureau has to be established; the primary responsibility for avoidance of coercive methods of recovery must lie with the MFI and its management; and the RBI must prepare a draft customer protection code to be adopted by all MFIs.

NBFC-MFI (given elsewhere in the material)

National Vegetable Initiative
The union government has launched a new scheme called vegetable initiative for urban clusters during 2011-12 with an outlay of Rs. 300 crore under the aegis of the Rashtriya Krishi Vikas Yojana.

The scheme envisages development of vegetable clusters for ensuring supply of good quality vegetables to one city or town in every state having a population of one million and above. In the case of states which do not have any city with one million population such as in the North East and the Goa, the state capital city or township having less than one million population is covered.

The scheme covers all aspects relating to vegetable production, from production and supply of planting material to marketing upto the retail level along with support for conducting base line survey, formation of farmer groups, their linkage to aggregators/markets besides training and capacity building of vegetable growers in the identified clusters.

The production of vegetables in the country has increased from 111.39 million tonnes in 2005-06 to 133.7 million tonnes in 2009-10. Accordingly, per capita availability of vegetables has increased from 279 gm per day to 317 gm per day over a period of 5

years. However, there are issues relating to enhancement of productivity, post-harvest losses and improvement in quality of vegetables.

NMFP

National Mission on Food Processing has been launched from 2012.The National Mission on Food Processing (NMFP) is a new Centrally Sponsored Scheme for giving of greater role to State/UTs; decentralized administration, better outreach and effective supervision and monitoring. The NMFP would also provide flexibility to States / UTs in the selection of beneficiaries, location of projects etc. for the development of food processing sector. This initiative of the Ministry would give an impetus to food processing industries in the country.

NMFP Scheme provides for sharing of the cost between Government of India (75%) and States (25%) for all States except North Eastern States, where, it is at 90:10 pattern. All Union Territories would be provided funds on 100% basis.

Kisan Credit Cards

The scheme of Kisan Credit Card (KCC) was introduced in 1998-99 for timely, easy and flexible availability of production credit to farmers. Commercial banks, cooperative banks and RRBs are implementing this scheme. Each farmer is

provided with a Kisan Credit Card and a passbook for providing revolving cash credit facilities. The farmer is permitted any number of drawals and repayments within a stipulated date, which is fixed on the basis of land-holdings.

All categories of farmers including tenant farmers, share croppers, oral lessees are eligible for a Kisan Credit Card .

Agricultural Price Policy in India

Prices of agricultural produce are important for farmers as these determine their Incomes. Farming should become economically viable and profitable for agriculture to boom and country to have food security. Agricultural produce shows maximum price fluctuation. So farm sector needs a price policy for price stabilisation.

The main objective of the Government's price policy for agricultural produce continue to aim at ensuring remunerative prices to the growers for their produce with a view to encouraging higher investment and adoption of modern farm technology for achieving higher levels of production as also to safeguard the interests of consumers by making available supplies at reasonable prices. Each season Government announces Minimum Support Price (MSP) for 24 major agricultural commodities and organises purchase operations through public and cooperative agencies. It operates effectively only for rice and wheat.

At the beginning of the sowing season for kharif and rabi crops, the Government announces Minimum Support Price (MSP) at which it is prepared to procure the produce that the farmer is willing to sell to the FCI for the PDS and buffer stock operations. When it actually procures when harvesting is done, the MSP is added to and the procurement price

is arrived at. The grain is sold at the PDS outlets at issue price. The FCI's economic cost is what it costs the FCI to procure, store, distribute etc.

The Government decides on the support price for various agricultural commodities based on the recommendations of the commission for agricultural costs and prices (CACP). Commission for Agricultural Costs and Prices (CACP), while recommending prices takes into account all-important factors, viz.

- Cost of Production
- Changes in Input Prices
- Input/Output Price Parity
- Trends in Market Prices
- Inter-crop Price Parity
- Demand and Supply Situation
- Effect on Industrial Cost Structure
- Effect on General Price Level
- Effect on Cost of Living
- International Market Price Situation
- Parity between Prices Paid and Prices Received by farmers (Terms of Trade).

CACP recommends MSPs for 24 important crops.Of all the factors, cost of production is the most tangible factor and it takes into account all operational and fixed demands. Government organises Price Support Scheme(PSS) of the commodities, through various public and cooperative agencies such as FCI, CCI, JCI, NAFED, Tobacco Board, etc., for which the MSPs are fixed. For commodities not covered under PSS, Government also arranges for market intervention on specific request from the States for specific quantity at a mutually agreed price. The losses, if any, are borne by the Centre and State on 50:50 basis. The price policy paid rich dividends. Production improved and food security is being realized.

However, the criticism of MSP is that it is promoting rice and wheat while the need is for diversification. It helps the big farmer while the majority of farmers in India are subsistence farmers. Food subsidy burden is increasing and needs to be rationalized so as to spend on infrastructure.

National Food Security Mission

The Department of Agriculture & Cooperation, Ministry of Agriculture, has launched a Centrally-sponsored scheme on National Food Security Mission (NFSM) in pursuance of the resolution of the National Development Council (NDC) to increase the production of rice, wheat and pulses by 10, 8 and 2 million tonnes, respectively, over the benchmark levels of production, by the end of the Eleventh Five Year Plan period.

The Mission aims at increasing foodgrains production of the above crops through area expansion and productivity enhancement; restoring soil fertility and productivity; creating employment opportunities; and enhancing farm level economy to restore confidence of farmers of targeted districts.

Various activities of NFSM relate to demonstration of improved production technology, distribution of quality seeds of HYVs and hybrids, popularization of newly released varieties, support for micronutrients, and training and mass media campaign including awards for best performing districts. The identified districts are given flexibility to adopt any local area specific interventions as are included in the Strategic Research and Extension Plan (SREP) prepared for the agriculture development of the district. Rs. 2 crore each will be provided during the Eleventh Five Year Plan period to those districts which have a programme for two or more crops of the NFSM and Rs. 1 crore to the districts having a programme for any one of the crops.

The national food security mission (NFSM) is being implemented in 312 identified districts of 17 states of the country.

Food subsidy

Provision of minimum nutritional support to the poor through subsidized foodgrains and ensuring price stability in different states are the twin objectives of the food security system. In fulfilling its obligation towards distributive justice, the Government incurs food subsidies. The difference between economic cost of foodgrains and the issue price is reimbursed to FCI. Food subsidy is provided to FCI and states/ UTs undertaking DCP operations . Food subsidy is provided to distribute wheat and rice to the poor and also maintain a buffer stock. In 2012-13, food subsidy is budgeted at Rs.75,000 crores. However, it is expected to go up due to the concessional food planned to be supplied through the Food security Act.

Rashtriya Krishi Vikas Yojana (RKVY)

The NDC in its 53rd meeting (2007) decided to launch a programme to incentivise the States to increase the share of investment in agriculture in their State plans. Accordingly, the Government approved the Rashtriya Krishi Vikas Yojana (RKVY) with an allocation of Rs. 25,000 crore for the Eleventh Five Year Plan.

The RKVY aims at achieving the 4 per cent annual growth in the agriculture sector during the Eleventh Five Year Plan period by ensuring a holistic development of agriculture and allied sectors. The RKVY will be a State Plan Scheme and the eligibility for assistance under the scheme would depend upon the amount provided in the State budgets for agriculture and allied sectors, over and above the baseline percentage expenditure incurred on agriculture and allied sectors. The funds under the RKVY would be provided to the States as 100 per cent grant by the Central Government.

The main objectives of the schemes are:

- To incentivise the States to increase public investment in agriculture and allied sectors
- To provide flexibility and autonomy to the States in planning and executing agriculture and allied sector schemes
- To ensure the preparation of plans for the districts and the States based on agro-climatic conditions, availability of technology and natural resources.
- To ensure that the local needs/crops/ priorities are better reflected.
- To achieve the goal of reducing the yield gaps in important crops, through focused interventions.

- To maximize returns to the farmers.

Under the Scheme of RKVY, the following indicative broad activities have been identified for focused attention – Integrated Development of Food Crops, including coarse cereals, minor millets and pulses; agriculture mechanization; soil health and productivity; development of rain-fed farming systems; integrated pest management; market infrastructure; horticulture; animal husbandry, dairying and fisheries; organic and biofertilizers; and innovative schemes.

Second Green Revolution

The first Green Revolution has run its course. Cereal yields are rising very slowly, water tables are plunging, and agricultural growth now averages only 2% annually.

Second Green Revolution is necessary and is being ushered in , spearheaded by the corporate sector and helped by new laws. Second Green Revolution, focusing on fruits and vegetables, can double agricultural growth to 4% per year.

Land reform laws ban corporates from farming. But contract farming is possible: corporates contract to provide high-tech farm inputs on credit, and lift the output at guaranteed prices.

The biggest rural initiative comes from ITC, whose e-choupals.

E-choupals are electronic buying and selling centres, which also provide information to farmers on prices, weather, and scientific farming practices.

By cutting out middlemen, e-choupals can pay farmers a higher price than they get in mandis, yet lower ITC's procurement costs. The company started with soyabeans, wheat and shrimps, and is now diversifying into oilseeds, spices and fruit.

FieldFresh, run by Sunil Mittal of Bharti Telecom, already has 1,000 acres under horticulture in Punjab. Pepsi and McDonalds have started contract cultivation of citrus fruits and lettuce respectively. Godrej is into contract cultivation of maize, used to make cattle feed.

Global Green, a Thapar company, uses contract cultivation for gherkins and other products for export, and has a turnover of over Rs 100 crore.

Paper companies like Ballarpur and ITC provide farmers with fast-growing clonal varieties of trees that mature in just four years, and buy the output.

This corporate upsurge is being encouraged by a new political urgency to uplift rural India. A raft of new laws aim to end historical hurdles.

The Agricultural Produce Marketing Committee Act forces farmers to sell only at mandis, ostensibly to protect them from rapacious traders. But this makes contract farming illegal; companies cannot directly buy from farmers.

However, many states have now repealed their versions of the APMC Act, Second, India has long been plagued by a maze of 16 different food laws, some of which are self-contradictory (one law permits sweeteners in jams and another bans the practice).

Chilli paste is a widely sold product in Asia but cannot be produced in India because the law prohibits the use of thickeners. The central government wants to make a new comprehensive model law - integrated food law to replace the old laws.

Third, the government proposes a Warehousing Receipts Act, which will make warehousing receipts negotiable instruments, and thus qualify for bank financing.

This, along with futures trading in the NCDEX and other commodity exchange, can modernise agricultural trading just as stock market reforms earlier modernised the capital market.

Fourth, in order to curb hoarding, the Essential Commodities Act has long placed limits on commodity stocks. This makes large-scale corporate investment impossible.

Now that chronic agricultural shortages have given way to surpluses, the list of essential commodities has been drastically cut and optimists hope that the Act will soon be scrapped.

Fifth, tax laws and incentives are being liberalised to encourage private investment.
Sixth, banks are very keen to get into rural business, and many are now lending to self-help groups, which can enter into contracts with companies.

Cheap credit from banks and corporates can facilitate horticulture.
If new GMOs are added to it along with rural infrastructure(Bharat Nirman) and sustainability, the second green revolution can be the ever green revolution unlike the first one.

Horticulture

Vast areas of India have tropical and agro-climatic conditions which are well suited for cultivation of horticulture and plantation crops. They are also ideal substitutes for marginal and degraded lands, which are unsuitable for crop husbandry. They can help in diversification of agriculture. The horticulture sector contributes about 24.5 per cent towards agriculture GDP from only about 8 per cent of the cultivated area. Besides, providing nutritional and livelihood security and helping poverty alleviation and employment generation, this sub-sector sustains a large number of agro-Industries, which generate huge additional non-farming employment opportunities. The range of horticultural products includes fruits, vegetables, spices, coconut, medicinal and aromatic plants, mushrooms, cashew, cocoa etc. India accounts for 10 per cent of the world production of fruits and stands second after Brazil and is second largest producer of vegetables after China, contributing 13.4 per cent of the world vegetables production.The thrust areas for providing boost to the horticulture sector are as follows:

- Area Expansion
- Improving production
- Improving productivity

- Reducing cost of production
- Improving quality of products
- Value addition
- Promotion of marketing and exports
- Strengthening of credit and organisational
- support
- Human resource development
- Addressing relevant policy issues
- Cold chains.

National Horticulture Mission (NHM)

The National Horticulture Mission (NHM) is facilitating the holistic development of horticulture by promoting latest technologies involving production and supply of good quality planting material through tissue culture as well as nurseries, area expansion with improved cultivars, rejuvenation of senile orchards, organic farming, protected cultivation, integrated pest management/ integrated nutrient management along with creation of infrastructure for post harvest management and marketing. The post harvest management component includes the setting up of primary/mobile processing facilities. Besides, the cluster approach adopted under mission provides opportunities for setting up of food processing units for fruits and vegetables.

The Government has allocated a sum of Rs.1100.00 crore under the National Horticulture Mission during 2008-09 for taking up various activities involving production and productivity enhancement, post harvest management and marketing which in turn will create job opportunities in the field of horticulture.

Vishesh Krishi Upaj Yojana

The objective of the scheme is to promote export of fruits, vegetables, flowers, minor forest produce, and their value added products, by incentivizing exporters of such products.Exporters of such products shall be entitled for duty rebates.

AGRINDIA

The Union Cabinet has approved the proposal of Ministry of Agriculture, Department of Agricultural Research & Education (DARE) for setting up of a new company, called AGRINDIA.

AGRINDIA is a registered company under the Companies Act, fully owned by Government of India in the Department of Agricultural Research and Education (DARE) with a share capital of Rs.100 crore and initial paid up capital of Rs.50 crore.The company will undertake protection and management of intellectual properties generated in the system and its commercialization/distribution for public benefit. It will also set up research and development farms adn assist in setting up production units outside India, especially in Africa and the Asia Pacific regions, besides Latin America.

Livetock

India's livestock sector is one of the largest in the world. In 2010-11 livestock generated output worth Rs 2075 billion (at 2004-05 prices) which accounted for 4 per cent of the

national GDP and 26 per cent of the agricultural GDP. The output worth was higher than the value of food grains. Distribution of livestock is more equitable compared to that of land. Livestock sector grew about 1.5 times larger than in the crop sector over the years. Livestock, however, received only about 12 per cent of total public expenditure on agriculture and allied sector and about 4-5 per cent of the total institutional credit that went into agriculture and allied sector.

In the livestock sector, poor contribute to growth directly instead of getting benefit from growth generated elsewhere. The ownership of the livestock is more evenly distributed with landless labourers and marginal farmers owning bulk of livestock. The progress in the sector results in balanced development of the rural economy particularly in reducing the poverty amongst the weaker sections. The rural women play a significant role in Animal Husbandry and are directly involved in most of the operations relating to feeding, breeding, management and health-care of the livestock.

Livestock biodiversity is a valuable asset and provide insurance and buffer in adverse situation. The sector is playing a major role in the rural economy and a driving force for food security and sustainable agriculture in India. Livestock provide a diverse range of output for agriculture, irrigation, transport, fiber, leather, manure besides production of 90.7 million ton milk, 45 billion eggs and around 45 million kg wool.

Livestock is the major source of animal protein through milk, meat, eggs, etc, the demand for which is constantly increasing.

Problems

The livestock sector is presently facing serious constraints due to huge unproductive population, with low genetic potential, e.g. low milk yield, low body weight etc., shortage of feed grains, fodder and pasture lands and the presence of a large number of animal diseases. All these contribute to poor productivity and low levels of production inspite of large population of livestock. In the dairy sector, only 15% of the milk produced gets processed in the organized sector. There is also very little awareness on the safe and clean production system of livestock.

It was being contemplated for quite some time now to bring out a National Livestock Policy for holistic development of the livestock sector in the country. The Policy aims at higher growth rate of the sector to meet the future and increasing demand of livestock products without disturbing the existing fabric of small-holding system of production. The Policy also contemplates to double the per capita availability of protein from approximately 10 gm at present to 20 gm within a decade. The main focus of the Policy is on improving productivity, infusion of technologies, enhanced farmer participation, safety and quality assurance, marketing linkages, restructuring of institutions and enhanced investments.

Shortage of fodder is a major constraint. Various actions like distribution of quality fodder seeds, appropriate land use planning, promoting of fodder development technologies, assistance of Krishi Vigyan Kendras to promote these technologies and training on balanced feeding of livestock with appropriate supplementation are being taken. Encouraging mineral supplement, use of by-pass protein and by-pass fat are other interventions proposed. Better utilization of crop residues and use of unconventional crop

residues, e.g., bagasse for supplementation of feed are being considered. Growing fodder trees in degraded forest will also be encouraged. **(Dairy farmers do not want the protein in their cow's feed to be digested by the microbes in the rumen. This means the protein has to be protected so it can bypass the stomachs and can be absorbed in the intestines.)**

Two important schemes are being launched during XI Plan on sheep and goat Development and on Piggery Development. While the first one is targeted towards generating rural livelihood opportunities by promoting goat and sheep husbandry the later is more oriented towards the North Eastern States, where there is huge demand for pork and other pig meat products.

Livestock diseases take a huge toll on our livestock every year. FMD is most economically important disease prevalent in the country for many years.

Bird-flu as a exotic disease took a heavy toll on our poultry industry consecutively on three occasions in the last three years.

In order to mitigate the threat of breach on biosecurity and thereby compromise nutritional security, the quarantine system in the country is being revamped.

The issue of climatic stress on livestock productivity is also being addressed and research areas have bee prioritized. Special emphasis is being laid on protection and conservation of indigenous breeds, who have high endurance as well as more resistance to disease etc.

Livestock development has been as an important tool for poverty alleviation and sustainable livelihood security in terms of income generation for more than 500 million people in the country. In India 70-80 percent of the total livestock produce is contributed by underprivileged families and livestock are central to their livelihood and culture. According to FAO (2012), India ranks top in milk, third in egg and fifth in meat production but still insufficient to provide food security.

Livestock biodiversity: The Indian sub-continent occupies a pre-dominant position in so far as its animal genetic resources are concerned. Over 140 breeds of livestock including cattle (30), buffaloes (10), sheep (40), goats (20), camel (4), horse (6), pigs, donkey, mule, yak and mithun including poultry (18) have been distributed over the large area spread in different afro-ecological zones of the country. The usefulness of a breed is now judged not only on the basis of physical fitness and utility but also on monetary return.

Role of livestock: Livestock systems, if managed properly, play an important role in alleviating hunger and counteracting environmental degradation. These days concepts of organic farming and increased demand for cow based products such as bio-fertilizers, bio-pesticides, bio-energy and panch-gavya medicines gives an opportunity to make agriculture economically viable on a sustainable basis. The livestock production systems of the rural poor and underprivileged families are different from those of resource-rich farmers since they aim at optimizing use of the limited available resources and minimizing external input and avert risks, as against maximizing profits by the resource-rich. Livestock have strong socio-cultural linkages and for most rural families

particularly for women, livestock are a part of the family. The multi-functionality of livestock and their existence in developing countries particularly in smallholder production systems directly link them with poor rural communities.

Animal production practices: In the early part of this country, most farms integrated both crop and livestock operations. Indeed the two were highly complementary both biologically and economically. Livestock activities are normally integrated in the existing farming systems. Animals are kept mainly for the purpose of food security and poverty alleviation, which involves millions of small, landless and marginal farmers.

The growing population of the world need not only more animal proteins and products but also specific constituent and there is a pressure to multiply livestock species and make improvements and conservation of dwindling resources with modern biotechnological methods. The potential of livestock to reduce poverty is enormous.

Milk

Milk production increased from about 20 million tonnes in 1960s to 115 million tonnes in 2010-11. It grew at an annual rate of 4.4 per cent during 1990's and 3.8 per cent during 2000s. Although per capita availability of milk has increased from 128 gms per day in 1980-81 to 276 gms per day in 2010-11, it is far below the requirement of 280 gms per capita. In an effort to increase milk production, the Government of India has been implementing the National Project for Cattle and Buffalo Breeding since 2000 with focus on genetic upgradation of cattle and support system. Over the years the availability of feed resources has improved. But the deficit of dry fodder, concentrate and green fodder is high.

Milk is the main output of livestock sector accounting for 66.7 per cent of the total value of output of livestock. The growth in milk production decelerated from 4.4 per cent during 1990s to 3.8 per cent during 2000s. There remains a huge gap between the potential and realised yields in Indian livestock, on account of constraints relating to feeding, breeding, health and management. Crossbreeding of indigenous species with exotic stocks to enhance genetic potential has been successful only to a limited extent. Even after more than three decades of crossbreeding, the crossbred cattle population is just 16.6 per cent. Livestock sector did not receive the policy and financial attention it deserved. Further, livestock extension has remained grossly neglected — only about 5 per cent of farm households in India have access to information on livestock technology. The Working Group reports that the number driven progress in livestock production may not sustain in the long run due to increasing stress on the limited natural resources and that future growth has to come from improvement of technology and service delivery system leading to accelerated productivity, processing and marketing.

The Working Group has analysed various programmes related to cattle and buffalo development, particularly, National Project on Cattle and Buffalo Breeding (NPCBB). It has observed that NPCBB has significantly contributed to strengthening of semen stations . The group has suggested reformulation of strategy on breeding programme during the 12th Plan to achieve a sustained growth rate of at least 5 per cent in milk production. Technologies on sexed semen, embryo transfer and ovum pick up should be integrated in breed improvement programme. In view of climate changing scenario,

improvement of indigenous breeds that have the potential to contribute and be part of production system should be identified, evaluated and improvement programmes for them initiated on priority basis. These should include *Gir, Red Sindhi, Sahiwal, Kankrej* and *Rathi*breeds.

National Dairy Plan

Launched in 2012 at an initial outlay of Rs 2242 crore, the six year NDP-1 will be implemented in 14 major milk producing states including Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. While 80 per cent of the scheme will be financed through International Development Association (IDA) of World Bank, the rest will be funded by the Government of India and implemented by National Dairy Development Board (NDDB) through end implementing agencies (EIA)s in the states.
The total outlay for the National Dairy Plan has been set at Rs 17,000 crore.

As of today, milk production is growing at four per cent which should increase to six per cent in the next few years. Through the NDP we intend to enhance breeding, feeding and milk procurement in the country to increase milk production. The demand for milk is projected to be around 200 million tonnes in 2021-22 as against the production of 122.8 million tonnes in 2010-11. The plan is expected to cover about 1.2 million milk producers in 23,800 villages.

National Dairy Plan-Phase 1 (NDP-1) looks to increase milk procurement by co-operatives from current 30 per cent to 65 per cent in next 15 years.

The project aims at boosting milk production using scientific breeding and feeding programmes covering about 2.7 million milch animals in 40,000 villages. It will also focus on modernising village-level infrastructure for milk collection and bulking such as milk cans, bulk milk coolers for a cluster of villages, associated weighing and testing equipment and related IT equipment.

India was the largest milk producing nation in 2010-11 with a production of 116.2 million tonne. This is close to 16% of world milk production. Milk production in the country is growing at 3.3% per annum while consumption is growing at 5% leaving a gap in demand and supply. We need to plug that gap to steady the domestic supply and milk prices.The National Dairy Plan (phase-1) was launched at Anand (Gujarat)

Modified Crop insurance

In 2010, the Government of India approved the modified National Agricultural Insurance Scheme (mNAIS), moving from a social crop insurance program with ad-hoc funding from the Government of India to a market-based crop insurance program with actuarially sound premium rates and product design. Given the technical and operational challenges associated with moving from the NAIS to the mNAIS, implementation began with a three-season pilot, starting with 34 districts across 12 states for the Rabi 2010-11 crop. Over time it could be expanded to India's 110 million farmer households.
Under the actuarial regime, farmer premiums and government subsidies will both be paid upfront at the start of the crop season to the insurer. The insurer, which could be the

public insurer AICI or a private sector competitor at the choice of each state, will then be responsible for settling all claims as they fall due.

Increasing competition and expanding the role of the private sector in crop insurance contributes to the promotion of effective public-private partnerships in agricultural insurance.

With the introduction of the modified scheme, it is expected that an increased number of farmers will be able to manage risk in agriculture production in a better way and will succeed in stabilizing farm income particularly at the times of crop failure on account of natural calamities.

Keeping in view the various risks involved in agriculture production, the Ministry of Agriculture has been implementing the National Agricultural Insurance Scheme (NAIS) as a Central Sector Scheme since Rabi season 1999-2000 to insure the farming community against these risks. The modified scheme has the following features:

(i) Actuarial premiums will be paid for insuring the crops
(ii) The unit area of insurance for major crops is village panchayat;
(iii) Indemnity amount shall be payable for prevented sowing/planting risk and for post harvest losses due to cyclone;
(iv) payment up to 25% of likely claims would be released as advance for providing immediate relief to farmers;
(v) More accurate basis for calculation of threshold yield and minimum indemnity level of 70% instead of 60%;
(vi) Modified NAIS with improved features will have two components i.e. compulsory and voluntary. Loanee farmers will be insured under 'compulsory category' while non-loanee farmers will be insured under 'voluntary category';
(vii) Private sector insurers with adequate infrastructure and experience would also be allowed in the implementation of MNAIS.

Marketing and reforms

In order to provide the farmers with the choice of alternative marketing channels for sale of their produce at better and remunerative price and to encourage private investment in development of market infrastructure and supply chains, Ministry of Agriculture has formulated a model Agricultural Produce Marketing (Development & Regulation) Act, 2003. It has been circulated it to all the States/Union Territories for its adoption in their respective Agricultural Produce Marketing Committee (APMC) Act for facilitating the market reforms.

The Model Act provides for direct marketing, contract farming and setting up of market in private and cooperative sectors.

The provisions of contract farming, direct marketing by corporate and setting up of private and cooperative markets will faeilitate better market access by farmers, reduce transportation cost and post harvest losses thus helping to increase the farmers' income.

'Krishi Karman' Awards

In August 2011, ten States have been selected for the newly instituted 'Krishi Karman' awards for best performance towards raising production of food grains.

Three awards are being given for total food grain production and four awards for production of rice, wheat, coarse cereals and pulses – the crops that constitute the food grain basket. Krishi Karman awards are the first-ever awards being given to States for their effort and contribution towards raising the country's food grain production.

Punjab and Uttar Pradesh are the joint winners of the Krishi Karman award in the category of States with overall food grain production of more than 10 million tonnes recorded in the last five years.

Assam and Orissa get the award in the category of States with overall food grain production of between one and 10 million tonnes.

Tripura is the sole winner in the category of States with overall food grain production of less than one million tonnes.

In the second set of four awards, being given for individual crops and crop groups, the award for rice goes to Chhattisgarh, wheat to Haryana, pulses to Maharashtra and Rajasthan, and coarse cereals to Karnataka.

Each award winning State gets a trophy, a citation and cash award. The cash award (for each State) is Rs. 2 crore for total food grain production and Rs. 1 crore for each of the four crops included in food grains.

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Agriculture and climate change

Impact of climate change on agriculture

Indian agriculture, with two-third rainfed area remains vulnerable to various vagaries of monsoon, besides facing occurrence of drought and flood in many parts of the country. Natural calamities such as drought and flood occur frequently in many parts of the country. Climate change will aggravate these risks and may considerably affect food security through direct and indirect effects on crops, soils, livestock, fisheries, and pests. Building climate resilience, therefore, is critical. Potential adaptation strategies to deal with the adverse impacts of climate change are developing cultivars tolerant to heat, moisture, and salinity stresses; modifying crop management practices; improving water management; adopting new farm practices such as resource-conserving technologies;

crop diversification; improving pest management; making available timely weather-based advisories; crop insurance; and harnessing the indigenous technical knowledge of farmers.

The Indian Council of Agricultural Research has initiated a scheme on National Initiative on Climate Resilient Agriculture with an outlay of 350 crore for 2010-12. This initiative has been planned as a multi-disciplinary, multi-institutional effort covering crops, livestock, and fisheries and focusing mainly on adaptation and mitigation of climate change in agriculture.

It also has a component for demonstration of climate-coping technologies on farmers' fields in 100 most vulnerable districts. State-of-the-art infrastructure is being set up at key research institutes to undertake frontier research on climate change adaptation and mitigation.

Agriculture has to become more competitive, efficient, and profitable and develop mechanism to reduce its vulnerability to climate change. Indian farmers, scientists and policy-makers have to address these issues in totality and develop strategies to increase adaptive capacity.

Earlier India had built capacity to withstand climatic extremes such as drought by establishing buffer food stocks, strengthening irrigation infrastructure and developing agriculture insurance schemes. We now need to put more emphasis on anticipatory adaptation measures that will allow attainment of sustainable development goals even if there is no climatic change or its magnitude is different from current projections.

A key requirement is to substantially increase the capital investment in agriculture, which has been continuously going down in last few years. Investment in irrigation infrastructure, silos for food and feed, timely implementation of contingency planning, rural roads and power could enhance agriculture's resilience to climatic extremes.

Establishment of early warning systems of climatic risks, disease and pests could help in determining the potential food insecure areas and communities and in providing assistance to policy planners in arranging relief.

Focused agricultural research on development of more adaptive varieties of crops, livestock and fish in future climate and development of water and carbon conservation practices will also be useful.

ICAR has launched a large networked project named National Initiative on Climate Resilient Agriculture to enhance the resilience of Indian Agriculture and demonstrate site-specific technology package on farmers fields for adapting to current climate risks.

Under Prime Minister's National Plan on Climate Change, 8 National Missions are being launched on climate change and National Mission of Sustainable Agriculture is one of them.

India Celebrates Declaration of Global Freedom from Rinderpest

A national ceremony was held to celebrate the declaration of global freedom from Ruinderpest, the dreaded cattle plague.

It took almost 150 years to wipe-out the disease once called Cattle-Plague due to very high level of mortality.

Productivity of Foodgrains

The productivity of foodgrains has increased from 1756 kg/ha during 2006-07 to 1921 kg/ha during 2010-11. Similarly, productivity of oilseeds has also increased from 916 kg/ha during 2006-07 to 1159 kg/ha during 2010-11.

The crop-wise productivity of various foodgrains crops and oilseeds from 2006-07 to 2010-11 is as under:

Crop	Yield (Kg/ha)				
	2006-07	2007-08	2008-09	2009-10	2010-11
Rice	2131	2202	2178	2125	2240
Wheat	2708	2802	2907	2839	2938
Coarse cereals	1182	1431	1459	1212	1528
Pulses	612	625	659	630	689
Foodgrains	1756	1860	1909	1798	1921
Oilseeds	916	1115	1006	959	1159

For enhancing the productivity of various foodgrains and oilseeds crops further in the country, various crop development programmes such as National Food Security Mission (NFSM), Integrated Cereals Development Programmes (ICDP) under Macro Management Mode of Agriculture, Rashtriya Krishi Vikas Yojana (RKVY) and Integrated Scheme of Oilseeds, Pulses, Oilpalm & Maize (ISOPOM) are being implemented. Besides, new initiatives have also been taken by the Government to enhance productivity of various crops by launching Bringing Green Revolution in Eastern India (BGREI), Initiatives for Nutritional Security through Intensive Millet Promotion (INSIMP) and Integrated Development of 60,000 Pulses Villages in Rainfed Areas as sub-schemes of RKVY.

In addition, frontline demonstrations of various crops are also organized by Indian Council of Agricultural Research (ICAR) for transfer of latest technology among the farmers at their fields.

Agrisnet Scheme to Provide IT Enabled Services to Farmers

The Government has launched the Agriculture Information System Network (AGRISNET) in the country.

AGRISNET envisages promotion of e-Governance by use of Information & Communication Technology (ICT). The objective of the programme is to provide IT

enabled services to farmers and also for computerization of various offices in the States in agriculture & allied sectors.

Kisan Call Centres

Kisan Call Centres function from 6.00 AM to 10.00 PM on all days throughout the year. They receive calls through the toll-free number 1800-180-1551. Call Centre agents reply farmers' queries instantaneously by using their own expertise as well as by referring to reference material available with them. They also browse Kisan Knowledge Management System data base for answering farmers' queries in local language. If some of the queries cannot be answered by the Call Centre agents, such calls are referred to experts. Call Centre agents record the details of every call in terms of farmer's details, query asked, reply given etc.

Pulses development

India's allocation of funds for boosting pulses production has multiplied eight fold in the last four years. India, leading producer and consumer of pulses in the world, has been investing more for food security(pulses are poor man's protein) and reducing imports. The allocations have risen from 105.59 crore in 2007-08 to 837.03 crore in 2010-11. A total of Rs. 1805.87 has been allocated for pulses development in these four years.

Government has approved Accelerated Pulses Production Programme (A3P) under National Food Security Mission (NFSM)on Pulses from 1.04.2010 for the remaining period of 11th Plan.

In the next two years, 10 lakh hectares of total pulses area would be targeted for coverage for village level demonstrations in 1000 blocks for five major crops of pulses namely Arhar (Tur), Moong, Chana, Urad, Masoor covering an area of 1000 hectares each in NFSM Pulses districts.

Farmers would be provided institutional support for supply of quality seeds, kits of nutrients and plant protection chemicals. Development and research projects focusing on inherent constraints of pulses production would also be encouraged for increased pulses production.

Implementation of A3P is estimated to bring in additional pulses production of 0.5 million tonnes.

Besides, a sum of Rs.300 crores has also been earmarked for organizing sixty thousand "Pulses and Oilseeds Villages" in the rainfed areas during 2010-11 for agricultural development under RKVY. The states which are not covered under NFSM Programme get assistance for pulses development under the Macro Management of Agriculture (MMA) scheme.

Government raised the minimum support prices (MSP) for pulses in mid-2010.

The major schemes such as the National Food Security Mission (NFSM), the Rashtriya Krishi Vikas Yojna (RKVY) and the Macro Management of Agriculture Scheme, now have special components for pulses development.

Under NFSM, 10 lakh hectares would be covered in the next two years for village level demonstrations for five major crops - arhar (tur), moong, chana, urad and masoor.

Under RKVY, Rs.300 crore have been earmarked for organising 60,000 "pulses and oilseeds villages" in the rainfed areas.

It is envisaged that productivity of pulses would increase by at least 10 percent with the implementation of this new programme. 2010-11 saw a record pulses production of over 18mt.

- Regional Rural Banks
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