

DEPARTMENT OF AGRICULTURAL EXTENSION

Seminar report on

An Overview of Centrally Sponsored Agriculture Schemes



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Introduction

Agriculture plays a vital role in India's economy. 54.6% of the population is engaged in agriculture and allied activities (census 2011) and it contributes 17% to the country's Gross Value Added (current price 2015-16, 2011-12 series). Given the importance of agriculture sector, Government of India took several steps for its sustainable development. Steps have been taken to improve soil fertility on a sustainable basis through the soil health card scheme, to provide improved access to irrigation and enhanced water efficiency through Pradhan Mantri Krishi Sinchai Yojana (PMKSY), to support organic farming through Paramparagat Krishi Vikas Yojana (PKVY) and to support for creation of a unified national agriculture market to boost the income of farmers. Further, to mitigate risk in agriculture sector a new scheme "Pradhan Mantri Fasal Bima Yojana (PMFBY) has been launched for implementation from Kharif 2016.

Agriculture in India is highly susceptible to risks like droughts and floods. It is necessary to protect the farmers from natural calamities and ensure their credit eligibility for the next season. For this purpose, the Government of India introduced many agricultural schemes throughout the country. Agriculture, with its allied sectors, is unquestionably the largest livelihood provider in India, more so in the vast rural areas. It also contributes a significant figure to the Gross Domestic Product (GDP). Sustainable agriculture, in terms of food security, rural employment, and environmentally sustainable technologies such as soil conservation, sustainable natural resource management and biodiversity protection, are essential for holistic rural development. Indian agriculture and allied activities have witnessed a green revolution, a white revolution, a yellow revolution and a blue revolution. This section provides the information on agriculture produces; machineries, research etc. Detailed information on the government policies, schemes, agriculture loans, market prices, animal husbandry, fisheries, horticulture, loans & credit, sericulture etc... is also available. Welfare of farmers has been the top priority of Government of India. In this regard it is implementing several farmers welfare schemes to revitalize agriculture sector and to improve their economic conditions. Therefore, the government has rolled out new initiatives, schemes, programmes and plans to benefit all the farmers. These agriculture schemes or programmes are very helpful for the farmers and he or she must know about it so as to take its benefit.

Central welfare schemes, implemented by the government to provide financial and other aids to individuals who cannot support themselves, can be categorized into two sections centrally sponsored schemes and central sector schemes. Centrally Sponsored Schemes (CSS) are those schemes which are implemented by the state government but sponsored by the central government with a defined shareholding. At present, there are 30 centrally-sponsored schemes but these are umbrella programmes and they have many sub-schemes under them. The funding is borne by the states in the ratio of 50:50 or 90:10 or 75:25 or 60:40. These schemes are aimed at supplementing efforts undertaken by the state government because the central government has more resources at its disposal. These schemes can either be national or regional in character. In CSS, the funding by the central government works as an initiation, with further spending coming from states towards the cause. With this background the present seminar has been conceptualized with the following objectives:

1. To know the concept of agriculture development
2. To know the features of centrally sponsored agriculture schemes in operation
3. To review the related research studies

History

I st Five-Year Plan (1951-56): Agriculture was given the topmost priority in this Five-Year Plan. The Plan was aimed towards increasing agricultural production and strengthening economic infrastructures

like irrigation, power and transport after independence, there was an acute food shortage in the country and to solve the food problem priority was given to increase production of food grains. The abolition of zamindari system, the launching of the community development programme, growing more food campaign along with improvement in other related spheres like marketing, fisheries, animal husbandry, soil conservation and forestry were the notable features. There was a remarkable increase in agricultural production during period of this plan. The production of food grains increased from 54 million tones in 1950-51 to 65.8 million tones at the end of the Plan. Production of all agricultural commodities increased by 22.2 % to 32 % of the total outlay during the plan was to be spent on agriculture and irrigation (GOI, 1952). The targets sent out for the plan were almost achieved, and, even in some cases, exceeded. A good monsoon was helpful for the success of agriculture during the whole plan period.

IIInd Five-Year Plan (1956-61): In the second plan, emphasis was shifted from agriculture to industry and only about 21% of the actual plan expenditure was spent for agricultural development. The food production rose from 65.8 million tones to 79.7 million tones as against the fixed target of 80.5 million tones. There was a shortfall in the production of all crops except sugarcane, As a result, of this unsatisfactory agricultural production; the country had to import food grains from abroad to overcome the food shortage. During this plan, an inflationary situation started in the economy.

IIIrd Five-Year Plan (1961-66): The objective of this plan was to achieve self-sufficiency in food grains and to increase the agricultural production to meet the needs of industry and export. The plan accorded higher priority (20.5%) to agriculture and irrigation than to industrial development (20.1%). This plan targeted to increase overall agricultural production by 30%, but the achievements were disappointing. The actual output of food grains was 88.4 million tones in 1964-65 and 72.3 million tons in 1965-66, respectively due to the drought condition of 1965-66. Food production was increased by 10% only as against the target of 30%. Consequently, the country has to import Rs. 1,100 crores worth of food grains to meet the domestic demand (Arora, 1986).

Three Annual Plans (1966-69): During this period, a high priority was given to minor irrigation and this was followed by adoption of a high yielding variety programme to increase agricultural production and productivity. Thus, this period is considered crucial for Indian agriculture as the green revolution took place during this period and the Government set up Agricultural Prices Commission (APC) to assure minimum support prices to farmers and the Food Corporation of India (FCI) for maintaining buffer-stock to overcome fluctuation in the supplies of food grains and their prices. Due to implementation of HYV programme, there was a recorded food grain production of 95.6 million tones in 1967-68 and 1968-69, respectively.

IVth Five-Year Plan (1969-74): This plan had two main objectives for the agriculture sector; (i) to provide the conditions necessary for a sustained increase of food production by about 5% per annum over the decade 1969-78 and (ii) to enable a large section of the rural population including small farmers, farmers in the dry areas and agricultural laborers to participate in the process of agricultural development and share its benefit. The Green Revolution introduced during the annual plans had a good result and the farmers particularly in the wheat-producing belt were keen to adopt cultivation of HY varieties. The actual production of food grain was 104.7 million tones in 1973-74 as against the targeted increase of 129 million tones (GOI, 1974).

Vth Five-Year Plan (1974-79): During the Fifth Plan, Rs. 8080 crores (nearly 21% of the plan outlay) was made for agricultural development and irrigation. This plan accorded priority for the spread of HYV cultivation, double or multiple, greater use of fertilizers, pesticides and insecticides to increase agricultural production. The plan further provided special emphasis on; (i) small and marginal farmers, (ii) dry farming technique, (iii) evolving HYV seeds for other crops like paddy, (iv) social conservation measures on saline and alkaline soils and for desert land reclamation. During this Fifth Plan, the

production of food grains increased substantially (232.5 million tones). But the output of pulses and oilseeds, paddy remained stagnant and caused considerable hardship for the common man. The plan was terminated in 1978 (instead of 1979) when Janta Party Govt. rose to power.

Rolling Plan (1978 - 80): There were two VI Plans. Janta Party Government put forward a plan for 1978-1983. However, the government lasted only for two years. Congress Government returned to power in 1980 and launched a different plan.

VIth Five-Year Plan (1980-85): The VI plan recognized that the growth of the Indian economy depends significantly on a rapid growth in agriculture and rural development. The main objective of the plan, therefore, was to increase agricultural production, generate employment and income opportunities in rural areas and strengthen the forces of modernization for achieving self-reliance. Further, the plan aimed at accelerating the pace of the implementation of the land reforms and institution building for beneficiaries. This plan aimed at 3.8% annual growth in agricultural production. But, the actual growth-rate was 4.3%. This plan was officially held as a great success particularly due to its success on the agricultural fund.

VIIth Five-Year Plan (1985-90): The VII plan aimed at an annual average increase of 4% in agricultural production. The Plan allocated Rs. 39,770 crores for agricultural sector which is 22% of the total plan outlay. The major programmes adopted during the plan were, a special rice production programme in the eastern region, national water-shed programme for rain-fed agriculture, national oil-seed development project and social forestry. Unfortunately enough, the first three years of the plan were poor monsoon years. As a result, agricultural production received a set-back during these years. However, it increased sufficiently during the last two years for which the agricultural production recorded a commendable growth of 4.1% in this plan as against the target of as per cent rice.

VIIIth Five-Year Plan (1992-97): The basic objectives of the VIII Five-Year Plan were to consolidate the gains already achieved in agricultural productivity and production during the last 40 years; to sustain agricultural productivity and production in order to meet the increased demands of the growing population; to enlarge the income of the farmers; to create more-employment opportunities in the agricultural sector; and to step up agricultural exports. 22% of the total plan outlay amounting to Rs. 93,680 crores was allotted for agriculture and irrigation (GOI, 1997). The Plan targets a growth rate of 4.1 per cent per annum for the agricultural sector. Thus, during different plan periods, the Government has accorded vital importance to the agricultural sector and has tried to increase the agricultural production and productivity through different policy measures viz., (i). Special rice production programme, initiated by the Government in Assam, Bihar, Orissa, West Bengal and eastern Uttar Pradesh, and (ii). National water-shed development programme which gives emphasis on dry land horticulture, optimal cropping system, farm forestry and fodder production. Here, the aim is to develop areas under dry land agriculture which are characterized by low productivity and high risk.

IXth Five-Year Plan (1997-2002): Ninth Five Year Plan was developed in the context of four important dimensions: (i) Quality of life, (ii) Generation of productive employment, (iii) Regional balance and (iv) Self-reliance. Target growth was 6.5% but 5.35% actual growth achieved. It was formulated from 1997-2002 with the prime objectives like drastic industrialization human development, poverty eradication, self-reliance in economy, increase employment, to provide basic infrastructure of life like education for all, safe drinking water, provide primary health care, food security, women empowerment etc. During 1999-2000 the IRDP, TRYSEM, DWCRA, SITRA, MWS were merged to form a new self-employment program called rename as Swarna Jayantri Gram Swarajgar Yojana (SJGSY) with effect from 1st April, 1999. The eradication of poverty, security of nutritional food, water supply, empowerment of women and socially disadvantages groups, provide universal primary education, health, shelter etc. (MoRD, 2005).

Xth Five-Year Plan (2002-2007): During the tenth five year plan under Swarna Jayanti Gram Swarozgar Yojana (SJGSY) emphasized to form 1.25 lakhs SHG benefiting 25 lakhs women, establishment of micro enterprises, training for improvement of skill and capacity building, credit linkages vocational training for about 5 lakhs rural women, etc. The erstwhile wage employment Programmes. JGSY and EAs were merged and a new scheme namely Sampoorna Grameen Rozgar Yojana (SGRY) was launched from 15th August, 2001. The Pradhan Mantri Gram Sadak Yojana (PMGSY) introduced in the year 2000-2001 for road connectivity in the rural areas. During this plan a new scheme viz, Rastriya Sam Vikas Yojana was introduced to investigate the real problems of high poverty, unemployment etc. which would remove barriers to growth and accelerate the development process (MoRD, 2005). The scheme is founded by Central and State Government in the ratio of 75:25. The target growth was 8.1% of national income and achieved 7.7% (GOI, 2007).

XIth Five-Year Plan (2007-2012): The eleventh five year plan was constituted with two rural development program i.e. Bharat Nirman Programme and flagship program to provide opportunities to improve living conditions as well as livelihoods. The objective of the Bharat Nirman Programme is to impart a sense of urgency to create rural infrastructure by setting time-bound goals under various schemes, creation of average rate of irrigation, rural roads connectivity for rural development, poverty alleviation in India, rural electrification, pure drinking water etc. which form a part of the Bharat Nirman Program. In order to roads connectivity for rural habitations Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched as a hundred CSS in December, 2000. The flagship programs were included National Rural Employment Guarantee Programme (NREGP), National Rural Health Mission (NRHM), Integrated Child Development Services (ICDS), Sarva Shiksha Abhiyan (SSA), Mid-Day-Meal (MDM), National Social Assistance Programme (NSAP), Total Sanitation Campaign (TSC) and Backward Regions Grant Fund (BRGF). The BRGF has replaced the Rastriya Sam Vikas Yojana (RSVY) in order to provide a more participative approach through the involvement of Panchayath raj institutions (GOI, 2012).

XIIth Five-Year Plan (2012-2017): Twelfth Five Year plan is devoted to agricultural and rural development and committed to all round development of the country. The following seven major flagship programmes are operating in rural areas. MGNREGA, NFRLM, IAY, NRDWP, TSP, IWDP, PMGSY, RGGVY (GOI, 2012). Besides these, the Government of India launched the other programmes for uplift of the poor classes like village self-sufficiency scheme, Member of Legislative Assembly Constituency Development Scheme, Integrated Sanitary Complex for Women, Clean Village Campaign and Rural Sanitation, Capital programme of Infrastructure Development by rural local Bodies, Construction of village Administrative Officers Office Buildings, Rejuvenation of water Bodies and Rain Water Harvesting in Rural Areas etc...

Agriculture development:

Agriculture development means providing assistance to the crop producers with the help of various agricultural resources. Providing protection, assisting in the research sphere, employing latest techniques, controlling pests and facilitating diversity all fall within the purview of agriculture development.

According to Udemzue & Osegbue Agricultural development is defined as improving the quality of life in rural areas, ensuring enough food for present and future generations and generating sufficient income for farmers.

According to Jaun laiglesia Agriculture development is defined as the process that creates the conditions for the fulfilment of agricultural potential those conditions include the accumulation of knowledge and availability of technology as well as the allocation of inputs and output.

Neem Coated Urea: is a fertilizer and an agriculture scheme initiated by the Government of India to boost the growth of wheat and paddy and curb the black marketeering and hoarding of urea. Urea which is coated with neem tree seed oil is called **neem-coated urea**. In January 2015, the urea manufacturers were mandated by the government to increase their neem coated urea production from 35 percent to 75 percent

Objectives

1. This scheme is initiated to regulate use of urea, enhance availability of nitrogen to the crop and reduce cost of fertilizer application.
2. It reduces the cost of cultivation and improves soil health management.

Aim: The urea manufacturers were mandated by the government to increase their neem coated urea production from 35 percent to 75 percent.

Pradhan Mantri Fasal Bima Yojana: The Pradhan Mantri Fasal Bima Yojana (PMFBY) was launched in 2016. It is a scheme that provides coverage against financial losses suffered by farmers due to various unfortunate events. It covers crop failure due to localized risks, post-harvest losses, natural calamities, unseasonal rainfall, pests, crop diseases, and so on. The scheme operates under the motto 'One Nation, One Crop, One Premium' and aims to provide affordable crop Insurance to farmers in India. The goal of Pradhan Mantri Fasal Bima Yojana is to expand the penetration of crop insurance in India with a primary focus to cover total sown area in the country.

Objectives:

1. To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.
2. To stabilise the income of farmers to ensure their continuance in farming.
3. To encourage farmers to adopt innovative and modern agricultural practices.
4. To ensure flow of credit to the agriculture sector.

Highlights of the scheme:

- There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5%. The premium rates to be paid by farmers are very low and balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.
- There is no upper limit on Government subsidy. Even if balance premium is 90%, it will be borne by the Government.
- Earlier, there was a provision of capping the premium rate which resulted in low claims being paid to farmers. This capping was done to limit Government outgo on the premium subsidy. This capping has now been removed and farmers will get claim against full sum insured without any reduction.

- The use of technology will be encouraged to a great extent. Smart phones will be used to capture and upload data of crop cutting to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop cutting experiments.
- PMFBY is a replacement scheme of NAIS / MNAIS, there will be exemption from Service Tax liability of all the services involved in the implementation of the scheme. It is estimated that the new scheme will ensure about 75-80 per cent of subsidy for the farmers in insurance premium.

Farmers to be covered: All farmers growing notified crops in a notified area during the season who have insurable interest in the crop are eligible.

To address the demand of farmers, the scheme has been made voluntary for all farmers from Kharif 2020. Earlier to Kharif 2020, the enrollment under the scheme was compulsory for following categories of farmers:

- Farmers in the notified area who possess a Crop Loan account/KCC account (called as Loanee Farmers) to whom credit limit is sanctioned/renewed for the notified crop during the crop season. and
- Such other farmers whom the Government may decide to include from time to time.

Voluntary coverage: Voluntary coverage may be obtained by all farmers not covered above, including Crop KCC/Crop Loan Account holders whose credit limit is not renewed.

Unit of insurance: The Scheme shall be implemented on an 'Area Approach basis' i.e., Defined Areas for each notified crop for widespread calamities with the assumption that all the insured farmers, in a Unit of Insurance, to be defined as "Notified Area" for a crop, face similar risk exposures, incur to a large extent, identical cost of production per hectare, earn comparable farm income per hectare, and experience similar extent of crop loss due to the operation of an insured peril, in the notified area. Defined Area (i.e., unit area of insurance) is Village/Village Panchayat level by whatsoever name these areas may be called for major crops and for other crops it may be a unit of size above the level of Village/Village Panchayat. In due course of time, the Unit of Insurance can be a Geo-Fenced/Geo-mapped region having homogenous Risk Profile for the notified crop. For Risks of Localised calamities and Post-Harvest losses on account of defined peril, the Unit of Insurance for loss assessment shall be the affected insured field of the individual farmer.

Pradhan Mantri Krishi Sinchai Yojana: Har Khet ko Pani "Prime Minister Krishi Sinchayee Yojana" Government of India is committed to accord high priority to water conservation and its management. To this effect Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More crop per drop' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities. The Cabinet Committee on Economic Affairs chaired by Hon'ble Prime Minister has accorded approval of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) in its meeting held on 1st July, 2015.

PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation

(DAC). PMKSY has been approved for implementation across the country with an outlay of Rs. 50,000 crore in five years.

Objectives:

- Achieve convergence of investments in irrigation at the field level (preparation of district level and, if required, sub district level water use plans).
- Enhance the physical access of water on the farm and expand cultivable area under assured irrigation (Har Khet ko pani).
- Integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.
- Improve on - farm water use efficiency to reduce wastage and increase availability both in duration and extent.
- Enhance the adoption of precision - irrigation and other water saving technologies (More crop per drop).
- Enhance recharge of aquifers and introduce sustainable water conservation practices.
- Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting runoff, providing livelihood options and other NRM activities.
- Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.
- Explore the feasibility of reusing treated municipal waste water for peri - urban agriculture.
- Attract greater private investments in irrigation.

Programme implementation:

- Krishi Sinchayee Yojana with an outlay of Rs.50,000 crores for a period of 5 years (2015-16 to 2019-20) is to achieve convergence of investments in irrigation at the field level.
- PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of Ministry of Water Resources, River Development & Ganga Rejuvenation; Integrated Watershed Management Programme (IWMP) of Department of Land Resources; and On Farm Water Management (OFWM) component of National Mission on Sustainable Agriculture (NMSA) of Department of Agriculture and Cooperation.
- PMKSY is to be implemented in an area development approach, adopting decentralized state level planning and projectised execution, allowing the states to draw their irrigation development plans based on district/blocks plans with a horizon of 5 to 7 years. States can take up projects based on the District/State Irrigation Plan.
- All the States and Union Territories including North Eastern States are covered under the programme.
- The National Steering Committee (NSC) of PMKSY under the chairmanship of Hon'ble Prime Minister, will provide policy direction to programme framework and a National Executive Committee (NEC) under the chairmanship of Vice Chairman of NITI Aayog will oversee the programme implementation at national level.
- Provision has been made under PMKSY during 2015-16 for carrying out extension activities in the field with special focus on water harvesting, water management and crop alignment for farmers and grass root level field functionaries.

Micro Irrigation Fund: India is an agricultural country and livelihood of the major population of the country depends upon agriculture. Water is a prized resource for the growth and development of agriculture and its overall efficiency. In order to address the issue of water scarcity and make use of the available water resources in a more efficient way, micro-irrigation technology has been installed in the rainfed areas to save water, reduce the usage of fertilisers, labour charges and other input costs, and improve the fertility of the soil. The Department of Agriculture Cooperation & Farmers Welfare (DAC&FW) proposed a scheme on Micro-irrigation to improve the drip and sprinkler irrigation method. Later on, it was launched as National Mission on Micro-irrigation scheme in 2010-2011 and was included as a major component of the National Mission for Sustainable Agriculture (NMSA).

Objectives:

- Taking up new and innovative projects to support the States in utilising the water resources properly
- Expanding the area under Micro-irrigation
- Promoting micro-irrigation projects available under the scheme **PMKSY-PDMC**
- Encouraging farmers to establish micro-irrigation systems
- Merging all the investments made at field level in the irrigation sector
- Offering complete irrigation supply chain solutions such as water resources, distribution network, farm-level applications and efficient water usage.
- Establishing resources for guaranteed irrigation benefits
- Safeguarding irrigation through rainwater harnessing at the micro-level
- Improve the efficiency of water usage, especially during the drought seasons
- Supporting the activities of Per Drop More Crop motto (PDMC) component

Roles of the Implementing Authorities:

- The State Government undertakes all the steps necessary to remove any legal or other procedural hurdles in the smooth implementation of the Micro Irrigation Projects/Proposals to be sanctioned under
- NABARD is the responsible agency for boosting the resources from the market and lending it to State Governments under MIF in the proportion of its Net Owned Funds (NOF) for its normal business as well as to meet requirements under specific funds like MIF.
- To facilitate uninterrupted loans to State and for raising required financial resources from the market, MoAFW, The Government of India will facilitate in the contribution of additional share capital to NABARD up to the extent of 10% of the annual lending requirement under MIF.

Rainfed Area Development Programme: To ensure agriculture growth in the rainfed areas, the Department of Agriculture Cooperation and Farmers Welfare has launched the “Rainfed Area Development Programme (RADP)” in the year 2011-12 as a sub-scheme under Rashtriya Krishi Vikas Yojana (RKVY). The key objective of this scheme is to improve the quality of life of farmers’ mainly, small and marginal farmers by offering a proper package of activities to maximise the farm returns. RADP scheme focuses on Integrated Farming System (IFS) for enhancing productivity and minimising risks associated with climatic variabilities. In this article, we will look at the Rainfed Area Development Programme (RADP) in detail.

Objectives:

- To increase the agricultural productivity of rainfed areas in a sustainable manner by adopting appropriate farming system based approaches.
- To minimise the adverse impact of crop failure due to flood, drought, or un-even rainfall distribution through diversified and composite farming systems
- To restore the confidence in rainfed agriculture by creating sustained employment opportunities through improved on-farm technologies and cultivation practices
- To enhance the farmers' income and livelihood support for the reduction of poverty in rainfed areas

Financial Support to Farmers:

Financial support will be provided to those who wish to add another compatible farming component to their existing system. It should have the potential to merge at least two or more major components of the farming system as envisaged under the eligible components to qualify for the support.

- Farmers can choose one or combination of farming systems suitable to the specific ecosystem supported through local KVK, SAU, ICAR Centre, ICRISAT, ATMA for maximising agricultural productivity.
- Based on agro-climatic conditions, investments in the farming system will vary.
- Support to each farm families under RADP will be restricted to a farm size of 2 hector and all-time financial assistance of Rs. 100000 in case of arid and semi-arid zones and Rs. 80000 for sub-humid and humid areas, even if most of the components are planned as per the financial pattern indicated below.

National Mission for Sustainable Agriculture: Sustaining agricultural productivity depends on quality and availability of natural resources like soil and water. Agricultural growth can be sustained by promoting conservation and sustainable use of these scarce natural resources through appropriate location specific measures. Indian agriculture remains predominantly rainfed covering about 60% of the country's net sown area and accounts for 40% of the total food production. Thus, conservation of natural resources in conjunction with development of rainfed agriculture holds the key to meet burgeoning demands for food grain in the country. Towards this end, National Mission for Sustainable Agriculture (NMSA) has been formulated for enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.

NMSA derives its mandate from Sustainable Agriculture Mission which is one of the eight Missions outlined under National Action Plan on Climate Change (NAPCC). The strategies and programmers of actions (POA) outlined in the Mission Document, that was accorded 'in principle' approval by Prime Minister's Council on Climate Change (PMCCC) on 23.09.2010, aim at promoting sustainable agriculture through a series of adaptation measures focusing on ten key dimensions encompassing Indian agriculture namely; 'Improved crop seeds, livestock and fish cultures', 'Water Use Efficiency', 'Pest Management', 'Improved Farm Practices', 'Nutrient Management', 'Agricultural insurance', 'Credit support', 'Markets', 'Access to Information' and 'Livelihood diversification'. During XII Five Year Plan, these measures are being embedded and mainstreamed onto ongoing/proposed Missions/ programmes / Schemes of Dept. of Agriculture & Cooperation (DAC&FW) through a process of restructuring and convergence. NMSA architecture has been designed by converging, consolidating

and subsuming all ongoing as well as newly proposed activities/programmes related to sustainable agriculture with a special emphasis on soil & water conservation, water use efficiency, soil health management and rainfed area development. The focus of NMSA will be to infuse the judicious utilization of resources of commons through community based approach.

NMSA will cater to key dimensions of ‘Water use efficiency’, ‘Nutrient Management’ and ‘Livelihood diversification’ through adoption of sustainable development pathway by progressively shifting to environmental friendly technologies, adoption of energy efficient equipments, conservation of natural resources, integrated farming, etc. Besides, NMSA aims at promoting location specific improved agronomic practices through soil health management, enhanced water use efficiency, judicious use of chemicals, crop diversification, progressive adoption of crop-livestock farming systems and integrated approaches like crop-sericulture, agro-forestry, fish farming, etc...

Objectives:

1. To make agriculture more productive, sustainable, remunerative and climate resilient by promoting location specific Integrated/Composite Farming Systems;
2. To conserve natural resources through appropriate soil and moisture conservation measures;
3. To adopt comprehensive soil health management practices based on soil fertility maps, soil test based application of macro & micro nutrients, judicious use of fertilizers etc.;
4. To optimize utilization of water resources through efficient water management to expand coverage for achieving ‘more crop per drop’ ;
5. To develop capacity of farmers & stakeholders, in conjunction with other on - going Missions e.g. National Mission on Agriculture Extension & Technology, National Food Security Mission, National Initiative for Climate Resilient Agriculture (NICRA) etc., in the domain of climate change adaptation and mitigation measures;
6. To pilot models in select blocks for improving productivity of rainfed farming by mainstreaming rainfed technologies refined through NICRA and by leveraging resources from other schemes/Missions like Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Integrated Watershed Management Programme (IWMP), RKVY etc.; and
7. To establish an effective inter and intra Departmental/Ministerial co - ordination for accomplishing key deliverables of National Mission for Sustainable Agriculture under the aegis of National Action Plan on Climate Change (NAPCC).

Mission strategy:

- Promoting integrated farming system covering crops, livestock & fishery, plantation and pasture based composite farming for enhancing livelihood opportunities, ensuring food security and minimizing risks from crop failure through supplementary/ residual production systems;
- Popularizing resource conservation technologies (both on - farm and off - farm) and introducing practices that will support mitigation efforts in times of extreme climatic events or disasters like prolonged dry spells, floods etc.
- Promoting effective management of available water resources and enhancing water use efficiency through application of technologies coupled with demand and supply side management solutions;

- Encouraging improved agronomic practices for higher farm productivity, improved soil treatment, increased water holding capacity, judicious use of chemicals/ energy and enhanced soil carbon storage;
- Creating database on soil resources through land use survey, soil profile study and soil analysis on GIS platform to facilitate adoption of location and soil - specific crop management practices & optimize fertilizer use;
- Promoting location and crop specific integrated nutrient management practices for improving soil health, enhancing crop productivity and maintaining quality of land and water resources;
- Involving knowledge institutions and professionals in developing climate change adaptation and mitigation strategies for specific agro climatic situations and promoting them through appropriate farming systems
- Programmatic interventions as per land capability and conducive to climatic parameters in select blocks as pilots for ensuring integrated development through dissemination and adoption of rainfed technologies with greater reach in disadvantaged areas & location specific planning by way of coordination, convergence and leveraging investments from other Schemes/Missions like MGNREGS, IWMP, RKVY, National Food Security Mission (NFSM), Mission for Integrated Development of Horticulture (MIDH), National Mission for Agricultural Extension & Technology (NMAE&T) etc.

PM Kisan Maan Dhan Yojana: Government has launched the Pradhan Mantri Kisan Maan Dhan Yojana (PM-KMY) on 12.9.2019 with a view to provide social security to Small and Marginal Farmers in their old age when they have no means of livelihood and minimal or no savings to take care of their expenses.

Benefits: Under this scheme, a minimum fixed pension of Rs.3,000/- is provided to the small and marginal farmers, subject to certain exclusion criteria, on attaining the age of 60 years. It is a voluntary and contributory pension scheme. The eligible farmer is required to contribute to a Pension Fund between Rs.55 to Rs.200 per month depending on the entry age. The Central Government also contributes in equal amount to the Pension Fund.

Objectives:

- Pension scheme for all Small and Marginal Farmers (SMFs)
- To secure the lives of the farmers
- To provide proper development skills and social security

Eligibility:

1. Small and Marginal Farmer (SMF) - a farmer who owns cultivable land upto 2 hectare as per land records of the concerned State/UT.
2. Age of 18- 40 years

Features:

Pradhan Mantri Kisan Maan-Dhan Yojana has been started to provide social security to all landholding Small and Marginal Farmers in the country.

- These farmers have minimal or no savings and also do not have any source of livelihood when they reach old age.

- The scheme aims to help them live a healthy and happy life after they reach their old age.
- Under this scheme, a fixed pension of Rs.3,000/- will be provided to all eligible small and marginal farmers.
- It is a voluntary and contribution based pension scheme.
- Pension will be paid to the farmers from a Pension Fund managed by the Life Insurance Corporation of India.
- Farmers will have to contribute an amount between Rs.55 to Rs.200 per month in the Pension Fund till they reach the retirement date i.e. the age of 60 years.
- The Central Government will also make an equal contribution of the same amount in the pension fund.
- Those farmers who are of the age of 18 years and above and upto 40 years are eligible to join the scheme.
- Spouses of the Small and Marginal farmers are also eligible to join the scheme separately and they will also get separate pension of Rs.3000/ when they reach the age of 60 years.
- The farmers who have joined the scheme may also leave the scheme later if they do not wish to continue for any reason. Their contributions to the Pension Fund will be returned to them alongwith interest.
- In case of unfortunate death of the farmer before retirement date, the spouse may continue in the scheme by paying the remaining contributions till the remaining age of the deceased farmer.
- In case of death of the farmer before retirement date, if the spouse does not wish to continue, the total contribution made by the farmer along with interest will be paid to the spouse.
- In case of death of the farmer before retirement date, if there is no spouse, then total contribution along with interest will be paid to the nominee.
- If the farmer dies after the retirement date, the spouse will receive 50% of the pension i.e. Rs.1500 per month as Family Pension.
- If the farmer is a beneficiary of the PM-KISAN Scheme, he/she may allow the contribution to be directly paid from the same bank account in which he / she receives the PM-Kisan benefit.
- The eligible farmers desirous of joining the scheme will visit nearest Common Service Centre (CSC) along with their Aadhaar number and bank passbook or account details.
- Later on alternative facility of enrollment through the PM-Kisan State Nodal Officers or by any other means or online enrollment will also be made available.
- Enrollment under the scheme is free of cost and the farmers are not required to make any payment for the purpose at the CSC Centres.

Pradhan Mantri Kissan Samman Nidhi: The Pradhan Mantri Kisan Samman Nidhi Yojana (PM-Kisan Yojana) is a government scheme through which, all small and marginal farmers will get up to Rs 6,000 per year as minimum income support. Under the PM-KISAN scheme, all landholding farmers' families shall be provided the financial benefit of Rs. 6000 per annum per family payable in three equal installments of Rs. 2000 each, every four months. The PM Kisan Yojana came into effect from December 1, 2018. The definition of the family for the scheme is husband, wife, and minor children. State Government and UT administration will identify the farmer families which are eligible for support as per scheme guidelines. The fund will be directly transferred to the bank accounts of the beneficiaries.

Objectives:

1. With a view to augment the income of the Small and Marginal Farmers (SMFs), the Government has launched a new Central Sector Scheme, namely, "Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)" in the current financial year.
2. The PM-KISAN scheme aims to supplement the financial needs of the SMFs in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income at the end of the each crop cycle.
3. This would also protect them from falling in the clutches of moneylenders for meeting such expenses and ensure their continuance in the farming activities.

Eligibility criteria:

1. In the database, the land owner's name, gender.
2. Social Classification (Scheduled Tribes / Scheduled Tribes).
3. Aadhaar number, bank account number and mobile number etc.
4. Land record details.
5. Jan Dhan Bank Account Number, Aadhaar and Mobile Number will help in identifying eligible beneficiaries and incompetent claimants.
6. The scheme is sponsored by the Central Government. Therefore, the farmers have to be citizens of the country.
7. Land holding size should not be greater than 2 hectares.

National food security mission: The National Development Council (NDC) in its 53rd meeting held on 29th May, 2007 adopted a resolution to launch a Food Security Mission comprising rice, wheat and pulses to increase the annual production of rice by 10 million tonnes, wheat by 8 million tonnes and pulses by 2 million tonnes by the end of the Eleventh Plan (2011-12). Accordingly, a Centrally Sponsored Scheme, 'National Food Security Mission' (NFSM), was launched in October 2007. The Mission met with an overwhelming success and achieved the targeted additional production of rice, wheat and pulses. The Mission continued during 12th Five Year Plan with new targets of additional production of food grains of 25 million tonnes of food grains comprising of 10 million tonnes rice, 8 million tonnes of wheat, 4 million tonnes of pulses and 3 million tonnes of coarse cereals by the end of 12th Five Year Plan.

Objectives:

- Increasing production of rice, wheat, pulses, coarse cereals (Maize) Commercial Crops (Cotton and Sugarcane) and Nutri-Cereals (Jowar, Bajra and Ragi) through area expansion and productivity enhancement in a sustainable manner in the identified districts of the country
- Restoring soil fertility and productivity at the individual farm level

Aim:

1. **Improve the production and productivity of wheat, rice and pulses on a sustainable basis.**
2. **To raise the income of farmers through enhanced technologies and farm management practices.**
3. **To ensure food security in the country.**

Major components of NFSM:

1. National Food Security Mission – Rice (NFSM-Rice)
2. National Food Security Mission – Wheat (NFSM-Wheat)
3. National Food Security Mission – Pulses (NFSM-Pulses)
4. National food Security Mission - Coarse cereals (NFSM-Coarse cereals)
5. National Food Security Mission – Nutri cereals (NFSM- Nutri cereals)
6. National Food Security Mission – Commercial crops (NFSM-Commercial crops)
7. National Food Security Mission – Oilseeds and Oilpalm (NFSM-Oilseeds)
8. National Food Security Mission – Seed village programme

Soil health card: "Swasth Dharaa. Khet Haraa." - Healthy Earth. Green Farm. A Soil Health Card is used to assess the current status of soil health and, when used over time, to determine changes in soil health that are affected by land management. A Soil Health Card displays soil health indicators and associated descriptive terms. The indicators are typically based on farmers' practical experience and knowledge of local natural resources. The card lists soil health indicators that can be assessed without the aid of technical or laboratory equipment. Soil Health Card (SHC) is a Government of India's scheme promoted by the Department of Agriculture & Co-operation under the Ministry of Agriculture and Farmers' Welfare. It is being implemented through the Department of Agriculture of all the State and Union Territory Governments. Soil Health Card Scheme is a very beneficial scheme for farmers. There are many farmers in India. And they do not know which types of crops they should grow to get maximum yield. Basically, they do not know the quality and the type of their soil. They might know by experience what crops grow and what crops fail. But they don't know what they can do to improve the condition of the soil.

What is a Soil Health Card: SHC is a printed report that a farmer will be handed over for each of his holdings. It will contain the status of his soil with respect to 12 parameters, namely N,P,K (Macro-nutrients); S (Secondary- nutrient); Zn, Fe, Cu, Mn, Bo (Micro - nutrients); and pH, EC, OC (Physical parameters). Based on this, the SHC will also indicate fertilizer recommendations and soil amendment required for the farm.

2017-18
ಕೃಷಿ ವಿಜ್ಞಾನ ವಿಭಾಗ, ಬೆಂಗಳೂರು
ಭಾರತೀಯ ಕೃಷಿ ಅನುಸಂಧಾನ ಪರಿಷತ್, ನವದೆಹಲಿ
ಐ.ಸಿ.ಎ.ಆರ್-ಕೃಷಿ ವಿಜ್ಞಾನ ಕೇಂದ್ರ, ಚಿಕ್ಕಬಳ್ಳಾಪುರ ಜಿಲ್ಲೆ ಜಿಂಟಾಮನೆ-563 125
ಮಣ್ಣಿನ ಆರೋಗ್ಯ ಪತ್ರ SOIL HEALTH CARD

ದೃಶ್ಯ ಹೆಸರು: _____ ಸರ್ವೆ ನಂಬರ್: _____ ಅಕ್ಷಾಂಶ: _____ ರೇಖಾಂಶ: _____ ಮಣ್ಣು ಮಾದರಿ ಸಂಗ್ರಹಿಸಿದ ದಿನಾಂಕ: _____
 ಗ್ರಾಮ: _____ ಹೋಬಳಿ: _____ ತಾಲ್ಲೂಕು: _____ ಜಿಲ್ಲೆ: _____
 ಹಿಂದಿನ ಬೆಳೆ: _____ ಉದ್ದೇಶಿತ ಬೆಳೆ: _____ ಮಣ್ಣಿನ ಕಣ ವಿನ್ಯಾಸ: ಮರಳು / ಗೋಡು / ಬೇಡಿ
 ಮಣ್ಣಿನ ವಿಧ: ಕೆಂಪು / ಬಂಜಟ್ಟಿಗೆ / ಕಪ್ಪು _____ ಮಿಷಿ / ನೀರಾವರಿ: _____

ವಿಶ್ಲೇಷಣಾ ಪರದಿ

ನಿಯಂತ್ರಕಗಳು	ಪ್ರಮಾಣ	ಪರಾ	ನಿಯಂತ್ರಕಗಳು	ಪ್ರಮಾಣ	ಪರಾ
1. ರಸಸೂಚಕ - pH (1:2.5)			ದ್ವಿತೀಯ ಮೂಲಪದಾರ್ಥಗಳು		
2. ವಿದ್ಯುತ್ ವಾಹಕತ್ವ - EC (ಡಿಸ್.ಸಿ.ಎಂ. / ಮೀ.)			9. ದೊರೆಯುವ ಗಂಧಕ - S (ಪಿ.ಪಿ.ಎಂ.)		
3. ಸಾವಯವ ಇಂಗಾಲ - OC (ಕೇಕಡ)			10. ವಿನಿಮಯ ಕ್ಷಾರೀಯತೆ - Ca (ಮಿ.ಈ. /100 ಗ್ರಾಂ)		
ಮುಖ್ಯ ಮೂಲಪದಾರ್ಥಗಳು			11. ವಿನಿಮಯ ಮೆಗ್ನೀಷಿಯಂ - Mg (ಮಿ.ಈ. /100 ಗ್ರಾಂ)		
4. ದೊರೆಯುವ ಸಾರಜನಕ - N (ಕೆ.ಜಿ. /ಹೆ.)			ಲಘು ಮೂಲಪದಾರ್ಥಗಳು		
5. ದೊರೆಯುವ ರಂಜಕ - P ₂ O ₅ (ಕೆ.ಜಿ. /ಹೆ.)			12. ಸತು - Zn (ಪಿ.ಪಿ.ಎಂ.)		
6. ದೊರೆಯುವ ಪೊಷ್ಠಾಹ - K ₂ O (ಕೆ.ಜಿ. /ಹೆ.)			13. ತಾಮ್ರ - Cu (ಪಿ.ಪಿ.ಎಂ.)		
ಸಮಸ್ಯಾತ್ಮಕ ಮಾರ್ಗಗಳಿದ್ದಲ್ಲಿ			14. ಕಬ್ಬಿಣ - Fe (ಪಿ.ಪಿ.ಎಂ.)		
7. ಸುಗ್ಗಡ ಅವಶ್ಯಕತೆ (ಕೆ.ಜಿ. /ಹೆ.)			15. ಮ್ಯಾಂಗನೀಸ್ - Mn (ಪಿ.ಪಿ.ಎಂ.)		
8. ಬೆವರಣೆ ಅವಶ್ಯಕತೆ (ಕೆ.ಜಿ. /ಹೆ.)			16. ಬೋರಾನ್ - B (ಪಿ.ಪಿ.ಎಂ.)		

ಡಿಶಂಬರ್ 5 - ಅಂತರರಾಷ್ಟ್ರೀಯ ಮಣ್ಣಿನ ದಿನ

ವಿಜ್ಞಾನಿ _____ ಹಿರಿಯ ವಿಜ್ಞಾನಿ ಮತ್ತು ಮುಖ್ಯಸ್ಥರು _____

ಆರೋಗ್ಯಕರ ಮತ್ತು ಆರೋಗ್ಯಕರ ಜನ ಮತ್ತು ಶಕ್ತಿಯುತ ರಾಷ್ಟ್ರ

Objectives:

- scheme are to issue soil health cards to farmers every two years so as to provide a basis to address nutritional deficiencies in fertilization practices.
- Soil testing is developed to promote soil test based on nutrient management.
- Soil testing reduces cultivation cost by application of right quantity of fertilizer.

Benefits of the soil health card:

- The scheme will monitor the soil of the farmers well and will give them a formatted report. So, they can decide well which crops they should cultivate and which ones they should skip.
- The authorities will monitor the soil on a regular basis. One in every 3 years, they will provide a report to farmers. So, farmers need not worry if the nature of the soil changes due to certain factors. Also, they will always have updated data about their soil.
- The work of the government does not stop at listing down measures required to improve the quality of the soil. In fact, they will also employ experts to help farmers in carrying out the corrective measures.
- Farmers will get a proper soil health record, thanks to the Soil Health Card Scheme. Also, they can study the soil management practices. Accordingly, they can plan the future of their crops and land.
- Generally, in government schemes, the person carrying out the study for a particular farmer gets changed. But in the Soil Health Card Scheme, the government is paying attention that the same person carries out soil analysis for a farmer. This will further enhance the effectiveness of the scheme.
- The soil card will give the farmers a proper idea of which nutrients their soil is lacking. And hence, which crops they should invest in. they will also tell which fertilizers they need. So, ultimately, the crop yield will see a rise.

- The main aim behind the scheme was to find out the type of particular soil. And then provide ways in which we can improve it. Even if a soil has some limitations, we can do something to get the most out of it. And that is what the government is trying to do with the help of this scheme.

Paramparagat Krishi Vikas Yojana: The Paramparagat Krishi Vikas Yojana (PKVY), launched in 2015, is an extended component of Soil Health Management (SHM) under the Centrally Sponsored Scheme (CSS), National Mission on Sustainable Agriculture (NMSA)¹. PKVY aims at supporting and promoting organic farming, in turn resulting in improvement of soil health. The scheme promotes Participatory Guarantee System (PGS) For India (PGS- India)² form of organic certification that is built on mutual trust, locally relevant and mandates the involvement of producers and consumers in the process of certification. PGS – India operates outside the framework of “Third Party Certification³”. Funding pattern under the scheme is in the ratio of 60:40 by the Central and State Governments respectively. In case of North Eastern and Himalayan States, Central Assistance is provided in the ratio of 90:10 (Centre: State) and for Union Territories, the assistance is 100%.

Objectives:

The objective is to produce agricultural products free from chemicals and pesticides residues by adopting eco- friendly, low- cost technologies. Key Thrust areas of PKVY in promoting organic farming include the following:

- Promote organic farming among rural youth/ farmers/ consumers/ traders
- Disseminate latest technologies in organic farming
- Utilize the services of experts from public agricultural research system in India
- Organize a minimum of one cluster demonstration in a village

Implementation of the programme:

- PKVY is being implemented by the Organic Farming cell of the Integrated Nutrient Management (Division) of Department of Agriculture; Cooperation and Farmers Welfare (DAC&FW)
- At the State level, State Department of Agriculture and Cooperation has been implementing the scheme with the involvement of Regional Councils that are registered under PGS- India Certification Programme
- At the district level, the Regional Councils (RCs) within the district anchor the implementation of PKVY.

Rashtriya Krishi Vikas Yojana: RKVY scheme was initiated in 2007 as an umbrella scheme for ensuring holistic development of agriculture and allied sectors. The scheme has come a long way since its inception and has been implemented across two plan periods (11th and 12th). The scheme incentivizes States to increase public investment in Agriculture & allied sectors. The Cabinet has approved (as on 1st November 2017) for continuation of the ongoing Centrally Sponsored Scheme (State Plans) - Rashtriya Krishi Vikas Yojana (RKVY) as Rashtriya Krishi Vikas Yojana- Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR) for three years i.e. 2017-18 to 2019-20 with a financial allocation of Rs. 15,722 crores with broad objectives of making farming a remunerative economic activity through strengthening the farmer’s effort, risk mitigation and promoting agri-business entrepreneurship.

Objectives:

- To incentivize the states that increase their investment in Agriculture and allied sectors
- To provide flexibility and autonomy to the States in planning and executing programmes for agriculture
- To ensure the preparation of Agriculture Plans for the districts and states
- To achieve the goal of reducing the yield gaps in important crops
- To maximize returns to the farmers
- To address the agriculture and allied sectors in an integrated manner

Features of RKVY:

- It is a State Plan scheme
- The eligibility of a state for the RKVY is contingent upon the state maintaining or increasing the State Plan expenditure for Agricultural and Allied sectors
- The base line expenditure is determined based on the average expenditure incurred by the State Government during the three years prior to the previous year.
- The preparation of the district and State Agriculture Plans is mandatory
- The scheme encourages convergence with other programmes such as NREGS.
- The pattern of funding is 100% Central Government Grant.
- If the state lowers its investment in the subsequent years, and goes out of the RKVY basket, then the balance resources for completing the projects already commenced would have to be committed by the states.
- It is an incentive scheme, hence allocations are not automatic
- It will integrate agriculture and allied sectors comprehensively
- It will give high levels of flexibility to the states
- Projects with definite time-lines are highly encouraged

National Mission On Agricultural Extension And Technology: The rate of productivity in the agricultural sector has always depended on the level of farm mechanisation in a positive manner. To accelerate agricultural productivity and subsequently, enhance farm mechanisation, it is essential that the large community, comprising of small and marginal farmers, are included in the process as well. This would help sustain the desired agricultural progress and boost its productivity. However, first, it is crucial to extend farming services and mechanisation. Therefore, the National Mission on Agricultural Extension and Technology (NMAET) was approved by the Cabinet Committee on Economic Affairs. This article talks about NMAET and the various essentials of the same.

Objectives:

- To spread farm extension services and mechanization.
- To make available quality seeds and increase Seed Replacement Ratio
- To promote Integrated Pest Management and plant protection measures

Aim: The objective of the National Mission on Agricultural Extension and Technology (NMAET) is to restructure and further strengthen agricultural extension and thereby, enabling the delivery of appropriate technology and improving agronomic practices to farmers. The Mission is a judicious mix of

various elements such as the following in order to form Farmer Producer Organisations (FPOs) and Farmers Interest Groups (FIGs):

- Extensive Physical Outreach
- Interactive Methods of Information Dissemination
- Use of Information and Communication Technology
- Popularisation of modern and appropriate technologies
- Capacity building and institution strengthening in order to promote mechanisation
- Availability of quality seeds
- Plant Protection

Sub Missions of NMAET:

1. Sub Mission on Agricultural Extension : Sub-Mission on Agricultural Extension will focus on awareness creation and enhanced use of appropriate technologies in agriculture & allied sectors. Gains made in the past will be consolidated and strengthened through increased penetration of extension functionaries.
2. Sub-Mission on Seed and Planting Material: Adoption of quality seeds is the most cost effective means for increasing agricultural production and productivity.
3. Sub Mission on Agricultural Mechanization: There is a strong co-relation between farm power availability and agricultural productivity. Therefore, SubMission on Agricultural Mechanization will focus on farm mechanization. The Sub-Mission will mainly cater to the needs of the small and marginal farmers through institutional arrangements such as custom hiring, mechanization of selected villages, subsidy for procurement of machines & equipments, etc.

National Mission on Oilseeds and Oil Palm: India is one of the major oilseeds grower and importer of edible oils. India's vegetable oil economy is world's fourth largest after USA, China & Brazil. The oilseed accounts for 13% of the Gross Cropped Area, 3% of the Gross National Product and 10% value of all agricultural commodities. This sector has recorded annual growth rate of area, production and yield @ 2.44%, 5.47% and 2.96% respectively during last decade (1999-2009). The diverse agro-ecological conditions in the country are favourable for growing 9 annual oilseed crops, which include 7 edible oilseeds (groundnut, rapeseed & mustard, soybean, sunflower, sesame, safflower and niger) and two non-edible oilseeds (castor and linseed). Oilseeds cultivation is undertaken across the country in about 27 million hectares mainly on marginal lands, of which 72% is confined to rainfed farming. During the last few years, the domestic consumption of edible oils has increased substantially and has touched the level of 18.90 million tonnes in 2011-12 and is likely to increase further. With per capita consumption of vegetable oils at the rate of 16 kg/year/person for a projected population of 1276 million, the total vegetable oils demand is likely to touch 20.4 million tonnes by 2017. A substantial portion of our requirement of edible oil is met through import of palm oil from Indonesia and Malaysia. It is, therefore, necessary to exploit domestic resources to maximize production to ensure edible oil security for the country. Oil Palm is comparatively a new crop in India and is the highest vegetable oil yielding perennial crop. With quality planting materials, irrigation and proper management, there is potential of achieving 20-30 MT Fresh Fruit Bunches (FFBs) per ha after attaining the age of 5 years. Therefore, there is an urgent need to intensify efforts for area expansion under oil palm to enhance palm oil production in the country. Tree Borne Oilseeds (TBOs), like sal, mahua, simarouba, kokum, olive, karanja, jatropha, neem, jojoba, cheura, wild apricot, walnut, tung etc. are cultivated/grown in the

country under different agro-climatic conditions in a scattered form in forest and non-forest areas as well as in waste land /deserts/hilly areas. These TBOs are also good source of vegetable oil and therefore need to be supported for cultivation.

Objectives: The NMOOP envisages increase in Production of vegetable oils sourced from Oilseeds, Oilpalm and TBOs by the end of Twelfth Plan (2016-17).

Key features of the Mission: The NMOOP was launched under Mini Missions (MM) I, II & III to achieve the following specific targets;

- **Under the MM–I**, the mission aims to increase the production of oilseeds to 35.51 million tonnes from the current average production of 28.93 million tonnes of oilseeds.
- **Under the MM–II**, the mission’s target is to broaden the area for oil palm cultivation and boost the production of Fresh Fruit Bunches (FFBs) from 4927 kg/ha to 15,000 kg/ha.
- **MM–III envisages** to strengthen the seed collection of Tree Borne Oilseeds (TBOs) such as olive, sal, mahua, kokum, wild apricot, Tung, etc., from 9 lakh tonnes to 14 lakh tonnes and provide best planting materials for the expanded areas.

National e – governance plan agriculture: The Government of India aims to expand, strengthen and implement the Sub Mission on Agricultural Extension under the National Mission on Agricultural Extension and Technology (NMAET). Approval of the NMAET ensures that all the IT schemes implemented by the Department of Agriculture Cooperation (DAC) fall in line with the Mission. Furthermore, the Mission Mode Project of the **National e-Governance Plan** in Agriculture (NeGP-A) was introduced for the rapid growth in the agricultural sector with the help of Information and Communication Technologies.

Objectives:

- Bringing in farmer-centric plans and service orientation programs.
- Improving outreach of the extension services.
- Providing farmers with greater access to information, as well as various services coming under the scheme with the help of the crop-cycle program.
- Enhancement and integration of existing Information.
- Communication Technologies’ initiatives of both the Center as well as the State Governments.
- Redesigning processes to enhance their efficiency and effectiveness.
- Effectively managing various schemes coming under the DAC.
- Promoting common frameworks for the project across different states.

Benefits of the Project

The project provides various services including Government to Business, Government to Consumer, Government to Government and Government to Employee, among others. The key benefits of the project are as follows:

- Farmers get access to information and various services.
- Online agricultural services would be provided across the states.
- Grievances of the farmers would be addressed in a faster and more efficient way.
- Provision and use of email services across the department.

- The department would become more transparent and efficient.
- The farmers would be able to give feedback to the decision-makers.
- Various Governments schemes made for farmers would be monitored in a better and more efficient way.
- Resources can be managed more effectively.
- Farmers can reap higher benefits and profitability.
- Stakeholders can use information more effectively for decision making.
- The project lays the foundation for the development of various e-businesses in the agriculture sector.
- The organisation would become better and more efficient.

Web Applications:

Besides mobile applications, there are also plenty of web applications that have been developed. These applications include:

- **Farmers' Portal** – The website is exclusively meant for farmers and provides information about various seed, fertilisers, pesticides, dealers, and ethical farming practices.
- **mKisan Portal** – The platform enables scientists and other officials to send targeted text and voice messages to the farmers, advising them about various issues persisting in agriculture and the sectors related to it.
- **Crop Insurance Portal** – This website provides information related to getting crops insured and various crop insurance schemes available throughout the country.
- **Participatory Guarantee System of India (PGS) Portal** – This portal helps farmers to take an organic approach towards farming.

Agricultural Technology Management Agency: In order to address the key constraints faced by extension system in the country with respect to reducing capacity of public extension services, its lack of decentralized and demand driven focus, the Innovations in Technology Dissemination component of National Agricultural Technology Project (NATP) was implemented in seven States in the country namely, Andhra Pradesh, Bihar, Himachal Pradesh, Jharkhand, Orissa, Maharashtra and Punjab through four project districts in each State. This component aimed at pilot testing new institutional arrangements for technology dissemination at district level and below in order to move towards an integrated extension delivery. The project process involved adopting bottom up planning procedures for setting the research and extension agency in order to make the technology dissemination farmer driven and farmer accountable. The extension delivery was oriented towards group approach catering to the location specific requirement of the farmers. Gender concerns have been given adequate emphasis under the project. It functions as a registered society at District level and serves as a focal point for integrating research and extension activities and helps in decentralizing the management of agricultural technology transfer.

The purpose of NATP's innovation in Technology Dissemination Component is to pilot test new organizational arrangements and operational procedures not merely strengthen the existing extension system. One key concept or goal is to decentralize decision-making to the district level through the creation of Agricultural Technology Management Agency (ATMA). A second goal is to increase farmer input into programme planning and resource allocation, especially at the Block level, and to increase accountability to stakeholders. A third major goal is to increase programme coordination and

integration, so that the programme thrust such as farming System innovations, Farmer organization, Technology gaps and Natural Resource Management can be more effectively and efficiently implemented. The ATMA at district level would be increasingly responsible for all the technology dissemination activities at the district level.

It would have linkage with all the line departments, research organizations, non-governmental organizations and agencies associated with agricultural development in the district. Research and Extension units within the project districts such as ZRS or substations, KVKs and the key line Departments of Agriculture, Animal Husbandry, Horticulture and Fisheries etc. would become constituent members or Key stake holders of ATMA. Each Research-Extension(R-E) unit would retain its institutional identity and affiliation but programmes and procedures concerning district-wise R-E activities would be determined by ATMA Governing Board to be implemented by its Management Committee (MC). This Scheme was approved on 29th March, 2005. The Scheme has made extension system farmer driven and farmer accountable. 237 Agricultural Technology Management Agency (ATMA) at district level have been set up to operationalise the extension reforms with active participation of farmers / farmer groups, NGOs, Krishi Vigyan Kendras, Panchayati Raj Institutions and other Stakeholder operating at district level and below. The release of funds are based on Strategic Research and Extension plan (SEWP)/ State Extension Work Plans (SEWPs) prepared by the State Governments. State level Extension Plans have been developed keeping in mind the strategic extension needs of the farmers. 252 districts across all the States/UTs in the country were covered under the scheme during the 10th Plan.

Objectives:

1. To strengthen research – extension – farmer linkages
2. To provide an effective mechanism for co-ordination and management of activities of different agencies involved in technology adaption / validation and dissemination at the district level and below.
3. To increase the quality and type of technologies being disseminated.
4. To move towards shared ownership of the agricultural technology system by key shareholders.
5. To develop new partnerships with the private institutions including NGOs.

Salient Features of ATMA :

1. Creating Farmer Advisory Committee to improve feed back.
2. Using NGOs to organize farmers.
3. Encouraging private sector involvement in technology transfer.
4. Validation and refining technologies through research units in the district.
5. Bottom up planning procedure.
6. Increased use of Information Technology (ARIS, WWW)
7. In-service training to increase staff competence.
8. Developing new Public-Private partnerships.
9. Formation and strengthening of farmer's interest group

Brief Comparison Of Centrally Sponsored Agricultural Schemes(CSAS):

Sl.No	Schemes	Purpose
1	Neem coated urea	curb the black marketeering and hoarding of urea, regulate urea use, reduce cost, enhance N availability
2	PMFBY	Comprehensive insurance cover against failure of crop
3	PMKSY	Providing end to end solutions in irrigation supply chain viz. water sources, distribution network, application
4	Micro Irrigation Fund	Mobilizing the resources for expanding coverage of Micro irrigation
5	RADP	Improve quality of life of farmers(small and marginal) by adopting appropriate farming system based approaches.
6	NMSA	Enhancing agril. Productivity in rainfed area focusing on integrated farming, soil health management and synergizing resources conservation
7	PM kisan maan dhan yojana	Providing a minimum fixed pension of rupees 3000 to all farmers owning less than two ha of land after they attain age of 60.
8	PM kisan samman nidhi yojana	Providing direct income support of rupees 6000 per year to the farmers
9	NFSM	Sustainable increase in production of targeted crops through area expansion and productivity enhancement
10	Soil Health card	For issuing Soil health cards to all farmers in country
11	Paramparagat krishi vikas yojana	To promote organic farming
12	RKVY	Strategies to rejuvenate agriculture and commitment to achieve 4 per cent annual growth in agricultural sector
13	NM on Agril. Extension and technology	Strengthening extension machinery and utilizing it for schemes under ATMA
14	NMOOP	Envisages increase in production of oil from oilseeds and oilpalm.
15	National e-governance plan agriculture	Providing relevant information and services to farming community, private sectors and other community through ICTs.

16	ATMA	making extension system farmer driven and farmer accountable by way of new institutional arrangements for technology dissemination in the form of an Agricultural Technology Management Agency (ATMA) at district level to operationalize the extension reforms.
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Sl.No.	Schemes	Beneficiaries covered
1	Neem coated urea	
2	PMFBY	4,87,49,066 (2018)
3	PMKSY	4,66,49,000 (2018)
4	Micro Irrigation Fund	
5	RADP	40,11,547 (2018)
6	NMSA	2,04,984 (2018)
7	PM kisan man dhan yojana	21,03,587 (2018)
8	PM kisan samman nidhi yojana	14 crore (2019)
9	NFSM	11,00,754(2018)
10	Soil Health card	
11	Paramparagat krishi vikas yojana	8,22,893(2018)
12	RKVY	
13	NM on Agril. Extension and technology	

14	NMOOP	
15	National e-governance plan agriculture	12,75,000 (2018)
16	ATMA	1,97,389 (2018)

Sl.No.	Schemes	Funds
1	Neem coated urea	1,64,935 crore (2019-20)
2	PMFBY	14,000 crore (2019-20)
3	PMKSY	50,000 crore in five years. (2016)
4	Micro Irrigation Fund	7,600 Crores (2019)
5	RADP	24,725 lakhs(2019)
6	NMSA	202.50 crore(2019)
7	PM kisan man dhan yojana	-----
8	PM kisan samman nidhi yojana	87,217.50 crores (2019)
9	NFSM	1,31,359.16 lakhs (2019)
10	Soil Health card	12,222.79 lakhs(2019)
11	Paramparagat krishi vikas yojana	500 lakhs (2019)
12	RKVY	3,745 crore (2019-20)
13	NM on Agril. Extension and technology	13,073.08 crore (2018)

14	NMOOP	1,84,17,000 (2018)
15	National e-governance plan agriculture	2,65,670 crore (2018)
16	ATMA	8,319.90 lakhs (2018)

Sl.No.	Schemes	Implementation
1	Neem coated urea	Department of agriculture and cooperation , ministry of farmers welfare GOI.
2	PMFBY	Department of agriculture and cooperation , ministry of farmers welfare GOI.
3	PMKSY	Implemented by Ministries of Agriculture, Water Resources and Rural Development.
4	Micro Irrigation Fund	The Scheme will be implemented by an Implementing Agency (IA) appointed by the State Government
5	RADP	The State Agriculture Department, the nodal agency for implementation of Rashtriya Krishi Vikas Yojana will also be implementing the Rainfed Area Development Programme (RADP).
6	NMSA	Department of agriculture and cooperation , ministry of farmers welfare GOI and state governments
7	PM kisan man dhan yojana	The enrollment to the Scheme can be done through self registration online or through the Common Service Centers in various states. The enrollment is free of cost.
8	PM kisan samman nidhi yojana	Department of agriculture and cooperation , ministry of farmers welfare GOI.
9	NFSM	Department of agriculture and cooperation and ministry of farmers welfare GOI.
10	Soil Health card	Implemented through the Department of Agriculture of all the State and Union Territory Governments.
11	Paramparagat krishi vikas yojana	Implemented through the Department of Agriculture of all the States.
12	RKVY	The State Agriculture Department shall be the nodal department for the implementation of the scheme.

13	NM on Agril. Extension and technology	Implemented through a National Level Steering Committee
14	NMOOP	Oilseeds Division, Department of Agriculture, Co-operation and Farmers Welfare will implement the scheme at national level. The Principal Secretary (Agriculture/Horticulture) of the respective state will be in charge of the scheme at state level.
15	National e-governance plan agriculture	Department of Information Technology (DIT) and Department of Administrative Reforms & Public Grievances (DAR&PG). NeGP implementation involves setting up of common and support IT infrastructure such as: State Wide Area Networks (SWANs), State Data Centres (SDCs), Common Services Centres (CSCs) and Electronic Service Delivery Gateways
16	ATMA	Department of agriculture and cooperation , ministry of farmers welfare GOI and state government.

Sl.No.	Schemes	Funding Pattern
1	Neem coated urea	100% financed by central government
2	PMFBY	50:50
3	PMKSY	100% financed by central govt.
4	Micro Irrigation Fund	100% financed by central govt.
5	RADP	100% financed by central govt.
6	NMSA	100% financed by central govt.
7	PM kisan man dhan yojana	100% financed by central govt.
8	PM kisan samman nidhi yojana	100% financed by central govt.
9	NFSM	100% financed by central govt.

10	Soil Health card	60:40
11	Paramparagat krishi vikas yojana	90:10, 60:40
12	RKVY	100% financed by central govt
13	NM on Agril. Extension and technology	60:40
14	NMOOP	90:10, 75:25
15	National e-governance plan agriculture	90:10, 60:40
16	ATMA	90:10

Research studies

Study no – 1

Performance of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Hyderabad-Karnataka (H-K) region

ADEETH CARIAPPA. A. G., LOKESH. G. B., AMRUTHA, JOSHI.T., REDDY. B. S.
AND BASAVARAJ HULAGUR (2018)

Major findings:

Table-1. Physical and financial performance of PMFBY in H-K region during kharif 2016

District	No. of Farmers insured	Area (lakh acres)	Sum Insured (₹ in lakhs)	Gross Premium (₹ in lakhs)	No. of beneficiaries	Claim settled (₹ in lakhs)	Claims to sum assured ratio (%)	Beneficiary ratio (%)	Premium to sum assured (%)	Claim to premium ratio
Ballari	27508	1.20	27486	2333	1185	139.43	0.51	4.31	3.59	0.14
Bidar	170765	4.70	65088	12092	125491	14751.79	22.66	73.49	2.00	11.33
Kalaburagi	98649	3.28	54474	8934	2584	306.16	0.56	2.62	2.00	0.28
Koppal	38701	1.56	29148	3661	33332	5158.25	17.70	86.13	2.27	7.79
Raichur	31496	1.49	37683	3508	825	250.57	0.66	2.62	2.46	0.27
Yadgiri	48070	1.35	27238	2577	8553	613.3	2.25	17.79	2.59	0.87
H-K Region	415189	13.58	241117	33105	171970	21219.5	8.80	41.42	13.73	0.64
Karnataka state	943554	29.73	623386	78986	529114	78266.03	12.55	56.08	12.67	0.99

Physical and financial performance of PMFBY in H-K region (Table 1) revealed that a total of 4.15 lakh farmers and an area of 13.58 lakh acres were insured under PMFBY during kharif 2016. H-K region had about 44 per cent of insured farmers and 46 per cent of insured area in the state. Bidar district had the highest number of farmers insured (1.71 lakhs) and area insured (4.7 lakh acres), whereas Ballari district had the lowest number of farmers insured (0.28 lakhs) and area insured (1.2 lakh acres) in H-K region under PMFBY during kharif 2016. The gross premium collected in H-K region was almost 42 per cent of premium collected in the state whereas the claims settled are only 27 per cent of the claims settled in the state. Out of the 4.15 lakhs farmers insured, 1.72 lakh farmers received claims (beneficiaries), which meant 41 per cent of the insurers received indemnity payment (claims) in H-K region against 56 per cent of insurers getting indemnity payment in the state. Penetration of PMFBY indicated that a total of 9.44 lakh farmers with an area of 29.73 lakh acres were covered in Karnataka during kharif 2016. Out of total numbers of farmers covered, 5.3 lakh farmers received indemnity payment (Table 1).

Table-2. Distribution of farmers, area insured, premium and claims received under PMFBY by H-K districts during kharif 2016

District	Share in farmers insured (%)	Share in no. of loanee insurers in the state (%)	Share in no. of non loanee insurers in the state (%)	% of no. of loanee insurers in district	% of no. of non-loanee insurers in district	Share in area insured (%)	Share in gross premium (%)	Share in claims received (%)	Share in farmers benefitted (%)
Ballari	2.92	3.42	1.04	92.44	7.56	4.02	2.95	0.18	0.22
Bidar	18.10	21.21	6.53	92.35	7.65	15.83	15.31	18.85	23.72
Kalaburagi	10.46	13.16	0.42	99.15	0.84	11.03	11.31	0.39	0.49
Koppal	4.10	2.67	4.41	51.36	22.80	5.23	4.64	6.59	6.30
Raichur	3.34	4.16	0.29	98.16	1.84	5.03	4.44	0.32	0.16
Yadgiri	5.09	6.41	0.22	99.07	0.93	4.52	3.26	0.78	1.62
H-K region	44.00	51.03	12.91	93.62	6.38	45.66	41.91	27.11	32.50
Others	56.00	48.97	87.09	61.45	38.55	54.34	58.09	72.89	67.50
Karnataka state	100.00	100.00	100.00	78.79	21.21	100.00	100.00	100.00	100.00

Overall, Hyderabad-Karnataka (H-K) region constituted for 44 per cent and 51.03 per cent of the total farmers covered and loanee farmers insured respectively in Karnataka during kharif 2016. Whereas, only 12.91 per cent of total non-loanee farmers covered in Karnataka were from H-K region. Pattern of coverage of loanee and non-loanee farmers (Table 3) indicated that 78.79 per cent of farmers enrolled under PMFBY in Karnataka during kharif 2016 were loanee and 21.21 per cent were non-loanee, whereas the coverage of non-loanee farmers in H-K region (6.38 %) was less compared to the state (21.21 %) and non H-K districts (38.55 %). Among the districts of H-K region, out of all the farmers insured in Koppal district 22.80 per cent were nonloanee. Enrolment under PMFBY is compulsory for farmers who have availed crop loans from institutional sources (loanee farmers) and voluntary for farmers who have not taken crop loans from institutional sources (non-loanee farmers). Out of total insured farmers, non-loanee farmers constitutes about 21 per cent in the state as a whole and 39 per cent in H-K region, which implied that farmers outside the institutional framework of borrowing credit hadn't accepted the PMFBY well in the first season.

Study no - 2

Impact of Soil Health Card Scheme on Paddy Farmers' Income in North Eastern Karnataka

ABHISHEK.V., JAGRATI, DESHMANYA.B., PRABHULING TEVARI, LOKESH.G.B., RAVI.M.V.
AND SURESH.K (2020)

Major findings:

Table.1 Soil Health Card (SHC) distributions in Raichur district

Sl.No	Taluk	No. of soil samples	No. of farmers	SHC distributed
1	Lingsugur	10,085	39,407	39,402
2	Devadurga	14,017	36,696	36,676
3	Raichur	18,314	43,970	43,950
4	Manvi	8,605	23,312	26,938
5	Sindhanur	24,688	49,665	49,389
	Total No	64, 709	1,93,050	1,96,355

Table -1 indicate that among all the six taluks of Raichur district Sindhanur taluk has the highest number of soil samples (24,688), highest No. of farmers (49,665), and highest No. of SHC distributed (1,96,355).

Table.2 Costs and returns realised by farmers under paddy cultivation (ha)

SL No.	Particulars	SHC users (n=20)		SHC non-users (n=20)	
		Quantities	Value	Quantities	Value
A.	Variable cost				
1	Seeds (kg)	68.00	5363 (5.81)	69.32	5467 (5.74)
2	Manure (t)	04.50	10000 (10.83)	05.69	8250 (8.66)
3	Fertilizers (kg)	885.17	10250 (11.10)	1076.26	12500 (8.66)
4	Plant protection chemical (Lt)	08.50	8750 (9.48)	09.80	10500 (11.03)
5	Human labour (MD)	58.50	14625 (15.84)	61.00	15250 (16.02)
6	Machine labour (Hr)	12.50	8750 (9.48)	12.85	9000 (9.45)
7	Miscellaneous		1209 (1.31)		1209 (1.27)
8	Interest on working capital(at 8 per cent per annum)		5291 (5.73)		4974 (5.22)
	Sub total		67616 (69.59)		70595.05 (70.52)
B.	Fixed cost				
1	Land revenue		160 (0.17)		160 (0.17)
2	Depreciation		1125 (1.22)		1125 (1.18)
3	Rental value		25640 (27.78)		25640 (26.93)
4	Interest on fixed capital at 12%		1144.2 (1.24)		1144.2 (1.20)
	Sub total		28069 (30.41)		28069 (29.48)
C.	Total Cost (I +II)		92307 (100)		95219 (100)
D.	Yield (qtl)		75.34		71.05
E.	Gross Returns		146160		137837
F.	Net Returns		53852		42618
G.	B.C Ratio		1.58		1.45

The per hectare cost of cultivation of paddy was worked out for SHC and SHC non-users and it is presented in Table 2. It was observed that total variable cost for SHC farmers was found to be (Rs. 67,616/ha) which is relatively lower than that of SHC non-users (Rs. 70,595/ha). Similarly total fixed cost in SHC and SHC non-users accounted was Rs. 28069/ha. Out of total variable cost, the cost incurred on human labour constituted a major share (15.84%), followed by the cost on fertilizer (11.10%), FYM (10.83%), plant protection chemicals (9.48%), machine labour (9.48%), seed (5.81%) and interest on working capital (5.73%) which together constituted of 69.59 per cent on total cost. The rental value of the land shares (27.78%) of total cost followed by interest on fixed capital (1.24%), depreciation (1.22%) and land revenue (0.17%) were other fixed cost. The returns structure in paddy production clearly revealed that the gross returns obtained by SHC users was found to be relatively higher (Rs. 1,46,610/ha) than that of SHC non-users (Rs. 1,37,837/ha). Similarly the net returns realized by SHC users (Rs. 53852/ha) which is higher when compared to SHC non-users. The returns per rupee of investment of SHC and SHC non-users were 1.58 and 1.45 respectively. This kind of results might be due to optimum use of resources viz., fertilizer and PPC which will reduce the cost of cultivation in paddy for SHC users and get higher yield than SHC non-users. There may be other reason also such as recommended dose of fertilizer application which would help in avoiding the attack of pest and diseases and it would have been contributed for increase in yield and returns from paddy cultivation.

Conclusion

Government of India has introduced many agriculture development schemes to enhance agricultural production, to improve livelihood security and income of the farmers. Insurance schemes will help the farmers from crop loss, crop damage and providing financial support to the farmers during their retirement stage is one of the new initiatives taken under CSS. Through the use of Information & Communication Technology (ICT) many schemes are providing timely access to agricultural and allied information to the farmers. Even though farmers are aware of CSS, only a limited number of farmers are benefited under the above discussed CSS. So it is the need of the hour for the government to push for more efforts such as to reach out farmers to ensure proper access to the benefits of the implemented schemes.

Discussion

1) What is the difference between Scheme and programme?

- **Scheme** is a systematic plan of future action while **program** is a set of structured activities.

2) What is the uniform premium to be paid by farmers for all kharif and rabi crops?

- There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops.

3) What is the main aim of national mission on oilseed and oilpalm?

- The main aim to increase the production of oilseeds and oil palm

4) How much amount will farmers get from Pradhan mantri Krishi Sichai Yojana?

- Farmers will get the amount 6000 per year

5) What is the main reason to get the profit of Rs.8000 Under paddy cultivation by soil health card users?

- There is a reason such as recommended dose of fertilizer application which would help in avoiding the attack of pest and diseases and it would have been contributed for increase in yield and returns from paddy cultivation.



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ID No: PALB 9026
Class: II PH.D.

Date: 12-12-2020
Time: 9.30 AM
Venue: Dwarkinath Hall

Seminar I
An Overview of Centrally Sponsored Agriculture Schemes
Synopsis

Agriculture in India is eminently prone to danger like natural calamities, droughts, floods, etc. It is very crucial to safeguard the farmers from natural disasters and to safeguard their credit eligibility for the next approaching season. For this reason the GOI (Government of India) has introduced several agricultural schemes throughout the country for the benefit of the farmers. With the growing technology and internet services the information related to the different government agricultural schemes are now easily accessible on internet in the form of websites and mobile apps. Centrally Sponsored Schemes (CSS) are those schemes which are implemented by the state government but sponsored by the central government with a defined shareholding. The funding is borne by the states at varying ratios like 50:50, 90:10, 75:25 and 60:40. These schemes are aimed at supplementing efforts undertaken by the state government because the central government has more resources at its disposal. These schemes can either be national or regional in character. In CSS, the funding by the central government works as an initiation, with further spending coming from states towards the cause. With this background the present seminar has been conceptualized with the following objectives:

1. To know the concept of agriculture development
2. To know the features of centrally sponsored agriculture schemes in operation
3. To review the related research studies

Agriculture development

Agriculture development means providing assistance to the crop producers with the help of various agricultural resources. Providing protection, assisting in the research sphere, employing latest techniques, controlling pests and facilitating diversity which all fall within the purview of agriculture development.

According to Jaun laiglesia Agriculture development is defined as the process that creates the conditions for the fulfilment of agricultural potential those conditions include the accumulation of knowledge and availability of technology as well as the allocation of inputs and output

Centrally sponsored schemes

Based upon the needs of the farmers from time to time, Government of India is implementing several programmes. The major thrust areas of operation for the schemes are livelihood and financial security like Pradhan Mantri Kissan Samman Nidhi , Pradhan Mantri Kissan Maan Dhan Yojana,

sustainable agriculture like Soil Health Card, Pradhan Mantri Krishi Vikas Yojana and modernizing extension implementation National e-governance plan agriculture and National Mission on Agricultural Extension and Technology.

List of schemes

1. Neem coated urea 2. Pradhan mantri fasal bhima yojana 3. Pradhan mantri krishi sinchai yojana 4. Micro irrigation fund 5. Rainfed area development programme 6. National mission for sustainable agriculture 7. PM kisan man dhan yojana 8. PM kisan samman nidhi 9. National food security mission 10. Soil health card 11. Parampargarat krishi vikas yojana 12. RKVY 13. National mission on agricultural extension and technology 14. National mission oilseeds and oilpalm 15. National e-governance plan agriculture 16. ATMA

Research studies

Adeeth Cariappa *et al.* (2018) revealed study that a total of 4.15 lakh farmers an area of 13.58 lakh acres were insured under PMFBY during kharif 2016. H-K region had about 44 per cent of insured farmers and 46 per cent of insured area in the state. Bidar district had the highest number of farmers insured (1.71 lakhs) and area insured (4.7 lakh acres), whereas Ballari district had the lowest number of farmers insured (0.28 lakhs) and area insured (1.2 lakh acres) in H-K region under PMFBY.

Abhishek *et al.* (2020) elicited in their study on the returns structure in paddy production clearly shows that the gross returns obtained by Soil Health Card users was found to be relatively higher (Rs. 1,46,610/ha) than that of Soil Health Card non-users (Rs. 1,37,837/ha). Similarly the net returns realized by Soil Health Card users (Rs. 53852/ha) which is higher when compared to Soil Health Card non-users. The returns per rupee of investment of Soil Health Card and Soil Health Card non-users were 1.58 and 1.45 respectively.

Conclusion

Government of India has introduced many agriculture development schemes to enhance agricultural production, to improve livelihood security and income of the farmers. Insurance schemes will help the farmers from crop loss, crop damage and providing financial support to the farmers during their retirement stage is one of the new initiatives taken under CSS. Through the use of Information & Communication Technology (ICT) many schemes are providing timely access to agricultural and allied information to the farmers. Even though farmers are aware of CSS, only a limited number of farmers are benefited under the above discussed CSS. So it is the need of the hour for the government to push for more efforts such as to reach out farmers to ensure proper access to the benefits of the implemented schemes.

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