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AN OVERVIEW OF GOVERNMENT POLICY OF AGRICULTURE INPUTS THAT'S HELPING ECONOMIC GROWTH IN INDIA

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ABSTRACT

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. Agriculture is one of the prominent sectors of Indian economy providing livelihoods to more than half of India's population. While providing food security, this is the backbone of the country's rural economy. In the first quarter of FY 2020-21, when the Indian economy registered 23.9 percent negative growth, agriculture was the only sector which emerged as a silver lining for India's economic recovery with over 3.4 percent growth. It makes agriculture the most prominent sector in country. And therefore, it needs a lot of public sector support for a sustainable growth.

Keywords:S:Sustainable,H:Horticulture,P:Prominent,B:Backbone,S:Support

Here we are talking about the 11 most important government schemes in agriculture sector.

1.National Mission For Sustainable Agriculture (NMSA)

In order to make agriculture more productive, sustainable, remunerative and climate resilient, the Government of India introduced National Mission for Sustainable Agriculture (NMSA) in the year 2014-15. To achieve these goals, the mission promotes location specific sustainable and best farming practices; soil conservation and moisture protection measures; soil nutrient management; efficient and sustainable water management practices with mainstreaming rainfed methods.As a major component of the mission, ‘On Farm Water Management’ (OFWM) is being implemented with the objective of increasing water use efficiency by promoting modern technologies such as micro irrigation and sustainable water management practices, efficient water consumption, better distribution channels along with secondary storage facilities.

2.Pradhan Mantri Fasal Bima Yojana (PMFBY)

The extreme weather conditions such as droughts, floods and hailstorms cause crop failures and financial loss to the farmers every year. And therefore, to save them from these ill effects, the Government, by merging all previous crop insurance schemes, launched Pradhan Mantri Fasal Bima Yojana (PMFBY) from Kharif 2016 season with the aim to support production in agriculture by providing an affordable crop insurance system.Central government has made Aadhaar mandatory for availing crop insurance from Kharif 2017 season. The scheme has been restructured with states given option to determine scale of finance at district level as per average yield.

3.Pradhan Mantri Krishi Sinchai Yojana (PMKSY)

The Government of India has structured Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) with the vision to extend the coverage of irrigation and improving water use efficiency in a focused manner. PMKSY focuses end to end solution on source creation, distribution, management, field application and extension activities. The Cabinet Committee on Economic Affairs had approved the irrigation scheme on July 1,, 2015.

The Centre has structured the scheme with merging previous irrigation and water management programmes such as Accelerated Irrigation Benefit Programme (AIBP), Integrated Watershed Management Programme (IWMP) and On Farm Water Management (OFWM) scheme. The Centre has approved Rs. 50,000 crore for five years for the implementation of the flagship irrigation scheme across India.

4. Paramparagat Krishi Vikas Yojana (PKVY)

Parampragat Krishi Vikas Yojana (PKVY) is one of the important government schemes which encourages farmers for traditional and organic farming in India. Under the scheme, the Government of India provides a financial assistance to the farmers of Rs 50,000 per hectare every three years for organic inputs, certification, labelling, packaging, transportation and marketing of organic produce. The scheme focuses on reducing the ill effects of overuse of fertilisers and agrochemicals by promoting organic manures, bio-fertilisers and bio-pesticides. It helps improve the soil fertility by improving organic carbon in the soil which results in enhancing moisture holding capacity in the field too.

5. Micro Irrigation Fund scheme

National Bank for Agriculture and Rural Development (NABARD) has created a Micro Irrigation Fund with a corpus of Rs. 5,000 crore implemented from 2019-20. The objective of the fund is to facilitate the states in availing an interest subvented loan for expanding coverage of micro irrigation facilities by taking up special and innovative projects and also for incentivising micro irrigation beyond the provisions available under PMKSY to encourage farmers to install micro irrigation systems.

6. Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)

MOVCDNER aims to develop the certified organic production in a value chain mode to link farmers with consumers and to support the development of entire value chain starting from organic inputs, seeds, certification and creation of facilities for collection, aggregation, processing, marketing and brand building initiatives. The

scheme is being implemented in north eastern states Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura

7. E-NAM

In order connect the existing agricultural mandis on a common online market platform for trading agricultural commodities, Government of India, launched a pan-India portal, e-National Agriculture Market (eNAM) on April 14, 2016. So far, e-NAM has connected nearly 1,000 mandis in 18 states and three union territories. Implemented by Small Farmers Agribusiness Consortium (SFAC), eNAM aims at reducing transaction costs, bridging information asymmetries, and helping expansion of market access for farmers and other stakeholders. Since the implementation, e-NAM has registered a user base of 1.66 crore farmers, 1.31 lakh traders, 73,151 commission agents and 1,012 farmer producer organisation (FPOs).

8. Kisan Credit Card (KCC)

In a bid to provide adequate and timely credit to the farmers for their agricultural expenditures, the Central government had launched Kisan Credit Card (KCC) scheme in the year 1998. Under the scheme, the Government of India provides farm credit at a very subsidised rate of 4 percent per annum. Since 2019, the Centre has extended the benefits of Kisan Credit Card to animal husbandry, dairy and fisheries farmers for their working capital requirement and raising the existing limit of collateral free loan from Rs. 1 lakh to Rs.1.60 lakh..As part of the Aatmanirbhar Bharat package, the Centre has announced to cover 2.5 crore farmers under KCC scheme with a credit boost of Rs 2 lakh crore through a special drive. As a result, till October 19, 2020, according to the Government of India's data, the package has disbursed Rs. 1.35 lakh crore to 1.5 crore farmers under the scheme.

9. Soil Health Card

With an objective of conserving and maintaining soil nutrient and soil fertility, Soil Health Card (SHC) scheme issues soil health cards to the farmers every two years to provide a basis to address nutritional deficiencies in the fields. Under the scheme, soil testing is conducted to analyse the nutrient needs, then crop-wise fertilisers are recommended accordingly. This reduces cultivation cost by application of right fertilisers with right quantity.

In the next five years, the Centre has targeted to cover 400,000 villages under individual farm holding soil sampling and testing, organise 2.5 lakh demonstrations, set up of 250 village level soil testing labs, strengthening 200 soil testing labs and promotion of micro-nutrients in two lakh hectare area.

10. PM Kisan Samman Nidhi Yojana

Lunched on February 24, 2019, PM Kisan Samman Nidhi Yojana makes transferring of Rs 6,000 per annum directly to the farmers' bank accounts through Direct Benefit Transfer (DBT) in three instalments of Rs 2,000 each. The scheme supplements the financial needs of the small and marginal farmers in buying farm inputs and other agricultural expenses, The scheme aims to protect the farmers from falling in the vicious traps of local moneylenders and ensures their continuance in the farming activities.

11. PM-Kusum

In order to reduce the consumption of diesel and electricity for agricultural irrigation, the Cabinet Committee on Economic Affairs (CCEA) approved Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyaan (PM-Kusum) scheme in February 19, 2019. With a total Central financial support of Rs 34,422 crore, PM Kusum scheme aims to add solar and other renewable capacity of 25,750 MW by 2022.

Under the scheme, Ministry of New and Renewable Energy has targeted to install 10,000 MW of decentralised grid connected renewable power plants of individual plant size up to 2 MW, installation of 20 lakh solar powered agricultural pumps of individual pump capacity up to 7.5 HP and solarisation of 15 lakh grid-connected irrigation pumps of individual capacity up to 7.5 HP.

Pest / Diseases Control Scheme through different ecological resources

Objective

Quantity growth in production and distribution of bio-pesticides/ bio-agents.

No grant on distribution of pesticides categorized in red class chemical and brings less poisonous chemicals in the periphery of grant.

For rodent and grain storage, fumigant chemicals are of red class. No suitable alternative is available for these chemicals so the grant will be payable on it as earlier.

Promoting seed treatment program so that the diseases can be controlled on low expenditure.

Facilities permissible to the farmers

Under the scheme farmers of all class and categories are benefited for seed treatment and small and marginal farmers which includes Scheduled Cast and tribe and Women farmers in other heads. The benefit of the scheme is passed on to the farmers through Black Level Plant Protection Unit as given below:

75% maximum Rs. 500.00 per hectare grants on bio Pesticides/ bio-agents, Whichever is less.

75% maximum Rs.150.00 per hectare grants on seed treatment chemicals for seed treatment, Whichever is less.

50% maximum Rs. 500.00 per hectare grants on Farm Protection Chemicals, Whichever is less.

50% grants on farm protection implements –

Maximum Rs. 1500.00 per hand driven implements, Whichever is less.

Maximum Rs. 3000.00 per power driven implements, Whichever is less.

50% maximum Rs. 1500.00 grants on per storage bin of 5, 3, 2 quintals for safety of Food Grains, Whichever is less.

Area of Operation Whole State

Requirement of Grants

Grants will be provided in case of epidemic or outbreak of pest and diseases menace. Approximately 15-20% of the crop is destroyed by insects, Diseases and weeds etc. every year in the State which includes loss of 33% by weeds, 26% by diseases, 20% by insects, 7% by insects of storage, 6% by rodents and 8% by other factors. To prevent this loss knowledge of new technology for insects, diseases and weeds control is mandatory to be given to the district so that joint efforts of all the important components related to Agriculture Development through qualitative improvement in Agriculture Production can be possible. With this objective, insects/diseases

control through different ecological resources is included in the scheme. Main objective of the work performed and program implemented by Plant Protection Department is given below:

To make integrated pest management (IPM) popular and give timely information to farmers of technical methods related to farm protection.

Ensure sufficient arrangement of quality farm protection chemicals.

Advise use of farm protection chemical in case of higher incidence in view of safety and level of economic loss.

Promote use of bio-chemicals for Plant Protection. Use of safe and eco-friendly chemicals.

Ensure effective action for insecticides quality control.

Create awareness among the farmers about prohibited insecticides chemicals.

Management of incidence of insects/diseases through surveillance.

Program implemented to achieve above objective

Seed Processing

As per guidelines issued by Government of India, seed processing campaign is being implemented to aware the farmers to control seed based diseases in main crop of Kharif and Rabi.

Integrated Pest Management

Remains of pesticides chemicals adversely affect the health and produces resistance in the insects due to which effect of pesticides becomes a problem and it disturb the environmental balanced. This problem can be solved by adoption of integrated pest management system.

Pest Surveillance

As per guidelines issued by the Government of India, Government of Uttar Pradesh has organized pest surveillance and advisory unit at State and district level. Meeting of the committee every month is organized under the chairmanship of Director, Agriculture, U.P. at State Level. In the meeting, data received from district level pest surveillance and advisory unit is examine, presented, monitoring of surveillance and ensure implementation on the recommendation received from district.

Arrangement of Farm Protection Chemicals

In the State 25% of the total targets of farm protection chemicals is being distributed through Department of Agriculture, 12.5% by Co-operative, 12.5% by U.P. Agro and remaining 50% by private traders. Targets for its distribution district wise and Institution wise is fixed every year.

Quality Control

Department of Agriculture is determined to ensure the availability of quality farm protection chemicals. Under insecticides at 1968 direction is given to draw samples of insecticides at the beginning of every financial year and register cases against manufacturers/ sellers of sub-standard samples in competent court.

Extension

Timely information of insects, diseases and weed control is given through press release in main New Paper and talks on Radio and Television so that the farmer can get the benefit of timely information of crop protection. The farmers or also benefited through technical knowledge provided by organizing training/ workshop as per requirement from time to time. Technical literature/ booklet/ calendar about insects/ diseases is being printed and distributed among the farmers.

Surveillance of Co-Crop and Diagnostic System (PCSR)

Under the scheme, there are two mobile number 9452247111 and 9452257111 in surveillance cell established at Head Office Level on which problems about insects/ diseases is sent through SMS/ whatsapp by the farmers. Computer operator downloads problems sent by farmers through SMS/ whatsapp in the surveillance cell established at State level and forwards it to concerned District Plant Protection Officers on his log-in under the scheme in two days (48 Hr). Plant Protection Officer of the concerned districts solves the problems and ensures that it is sent to the farmers through SMS.

Seed Treatment/ Soil Treatment Special Campaign

Department of Agriculture is driving special campaign in minimum 50 hectare area in every revenue village for 100% seed treatment and soil treatment in 5 revenue village of every Development Block. To make the campaign success, one revenue village is allotted to Senior Technical Assistant group – B (Farm/ Farm Protection) and Technical Assistant group - C and farmers are trained by providing knowledge of importance of seed treatment and soil treatment in selected villages. The share of agriculture in gross domestic product (GDP) has reached almost 20 per cent for the first time in the last 17 years, making it the sole bright spot in GDP performance during 2020-21, according to the Economic Survey 2020-2021.

The resilience of the farming community in the face of adversities made agriculture the only sector to have clocked a positive growth of 3.4 per cent at constant prices in 2020-21, when other sectors slid. The share of agriculture in GDP increased to 19.9 per cent in 2020-21 from 17.8 per cent in 2019-20. The last time the contribution of the agriculture sector in GDP was at 20 per cent was in 2003-04.

This was also the year when the sector clocked 9.5 per cent GDP growth, after the severe drought of 2002 when the growth rate was negative. Following 2003-04, the share has remained between 17 and 19 per cent.

“The growth in GVA (gross value added) of agriculture and allied sectors has been fluctuating over time. However, during 2020-21, while the GVA for the entire economy contracted by 7.2 per cent, growth in GVA for agriculture maintained a positive growth of 3.4 per cent,” according to the survey. The continuous supply of agricultural commodities, especially staples like rice, wheat, pulses and vegetables, also enabled food security. In 2019-20 (according to fourth advance estimates), total food grain production (296.65 million tonnes) in the

country was higher by 11.44 million tonnes than 2018-19. It was also higher by 26.87 million tonnes than the previous five years' (2014-15 to 2018-19) average production of 269.78 million tonnes.

The production also boosted allocation of food grains under the National Food Security Act (NFSA) that increased by 56 per cent in 2020-21, compared to 2019-20. The government allocated 943.53 lakh tonnes of food grains to states / Union territories till December 2020.

The survey also termed the new farm laws as a “remedy” and “not a malady” in a message to the farmer community opposing the laws.

“The three agricultural reform legislations are designed and intended primarily for the benefit of small and marginal farmers who constitute around 85 per cent of the total number of farmers and are the biggest sufferers of the regressive Agricultural Produce Market Committee regulated market regime. The newly introduced farm laws herald a new era of market freedom that can go a long way in the improvement of farmer welfare in India,” it said.

The survey gave a note of various consultations and reports on the need for agricultural reforms.

“The reforms in the agricultural sector were more overdue than even the labour reforms as the existing laws kept the Indian farmer enslaved to the local Mandi (wholesale market) and their rent-seeking intermediaries,” it said.

It called for a paradigm shift in how agriculture was viewed, “from a rural livelihood sector to a modern business enterprise”.



Modern agriculture is driven by continuous improvements in digital tools and data as well as collaborations among farmers and researchers across the public and private sectors.

During the Green Revolution in the 1960s, India could achieve self-sufficiency in food grain production by using modern methods of agriculture like better quality of seeds, proper irrigation, chemical fertilisers and pesticides.

As time passed, more technological advances appeared in agriculture. The tractor was introduced, followed by new tillage and harvesting equipment, irrigation and air seeding technology, all leading to higher yields and improved quality of the food and fibre that was grown.

It is possible for farmers to utilise scientific data and technology to improve crop yields and keep themselves up-to-date with cutting edge methods of farming.

Here are some examples of how modern technology can be used to improve agriculture:

Monitoring and controlling crop irrigation systems via smartphone

- Mobile technology is playing an important role in monitoring and controlling crop irrigation systems.
- With this modern technology, a farmer can control his irrigation systems from a phone or computer instead of driving to each field.
- Moisture sensors in the ground are able to communicate information about the level of moisture present at certain depths in the soil.
- **2. Ultrasounds for livestock**
- Ultrasound is not only for checking on baby animals in the womb. It also can be used to discover what quality of meat might be found in an animal before it goes to the market.
- The testing of DNA helps producers to identify animals with good pedigrees and other desirable qualities. This information can also be used to help the farmer to improve the quality of his herds.
- **3. Usage of mobile technology and cameras**
- Some farmers and ranchers use apps like 'Foursquare' to keep tabs on employees. They also put up cameras around the farm.
- Livestock managers are wiring up their barn feedlots and pastures with cameras that send images back to the central location like an office or home computer. They can keep a closer eye on the animals when they are away or home for the night.
- **4. Crop Sensors**
- Crop sensors help apply fertilisers in a very effective manner, maximising uptake. They sense how your crop is feeling and reduce the potential leaching and runoff into ground water.
- Instead of making a prescription fertiliser map for a field before you go out to apply it, crop sensors tell application equipment how much to apply in real time.
- Optical sensors are able to see how much fertiliser a plant may need, based on the amount of light reflected back to the sensor.

Vision about modern agriculture

- Nearly everyone working on the future of modern agriculture is focused on efficiency. A wide range of technologies will enable the transition of modern agriculture in the field.
- Some technologies will need to be developed specifically for agriculture, while other technologies already developed for other areas could be adapted to the modern agricultural domain such as autonomous vehicles, artificial intelligence and machine vision.
- If modern agriculture is applied widely in the near future, millions of farmers will be able to benefit from the acquisition of real-time farm information. Farmers need not spend significant amount of time on acquiring farm data and will have access to disaster warnings and weather information when a disaster event occurs.
- It is difficult to predict the future of technology in agriculture but there are many promising trends and pilot projects.

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