PRS LEGISLATIVE RESEARCH

Demand for Grants 2021-22 Analysis

Agriculture and Farmers' Welfare

The Ministry of Agriculture and Farmers' Welfare has two Departments: (i) Agriculture, Cooperation and Farmers' Welfare, which implements policies and programmes related to crop husbandry and manages agriculture inputs, and (ii) Agricultural Research and Education, which coordinates and promotes agricultural research and education. This note examines the budget allocations to the two Departments of the Ministry and their expenditure, and discusses issues in the agriculture sector.

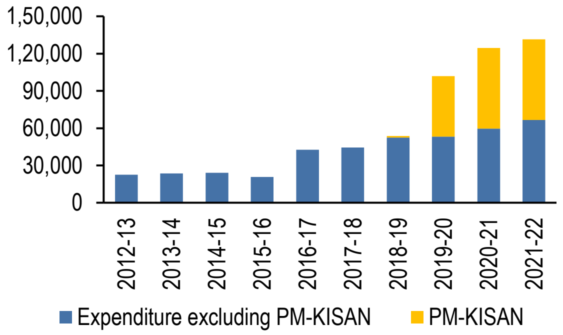
As 2020-21 had extraordinary expenditure on account of COVID-19, we have used annualised increase (CAGR) over the 2019-20 figures for comparison across all our Tables.

Overview of Finances

The Ministry has been allocated Rs 1,31,531 crore in 2021-22, a 14% annual increase over 2019-20.[1] Allocation to the Ministry accounts for 4% of the government's budget. The Ministry had estimated an expenditure of Rs 1,42,762 crore in 2020-21, which has been reduced by 13% to Rs 1,24,520 crore at the revised stage.[2] This includes a cut of Rs 10,000 crore in the proposed expenditure on the PM-KISAN scheme (income support scheme for farmers), due to coverage of lower beneficiaries than initially estimated.[3] In 2020-21 and 2021-22, PM-KISAN is estimated to cost Rs 65,000 crore.

49% of the allocation to the Ministry in 2021-22 is for the PM-KISAN scheme. All other programmes of the Ministry, including interest subsidy and crop insurance, have been allocated Rs 66,531 crore in 2021-22, a 12% annual increase over 2019-20.

Figure 1: Expenditure of the Ministry (Rs crore)



Note: Revised estimate in 2020-21; Budget estimate in 2021-22.
Sources: Expenditure Budget, Union Budgets (2014-22); PRS.

Before PM-KISAN, the Ministry's expenditure saw a large increase in 2016-17 due to the interest subsidy provided on short-term credit to farmers. The subsidy, earlier provided by the Ministry of Finance, is being provided by the Ministry of Agriculture and Farmers' Welfare since 2016-17.

Policy Proposals in the Budget Speech

In her 2021-22 budget speech, the Finance Minister made the following proposals regarding agriculture:

- An Agriculture and Infrastructure Development Cess will be levied on certain goods for financing agriculture infrastructure and other development activities. These goods include certain imports such as cotton, coal, gold, silver, and alcoholic beverages, and petrol and diesel.
- The Agriculture Infrastructure Fund will be made available to the Agriculture Produce Market Committees (APMCs) for augmenting their infrastructure facilities. 1,000 more mandis will be integrated with the electronic National Agriculture Market (e-NAM).
- The Operation Green Scheme, which presently provides a subsidy on the storage and transportation of tomatoes, onions, and potatoes, will be extended to cover 22 perishable products to boost value addition and exports.

Departments: The Department of Agriculture, Cooperation and Farmers' Welfare has received 94% of the allocation to the Ministry in 2021-22, while 6% has been allocated to the Department of Agricultural Research and Education (Table 1).

Table 1: Allocation to the Ministry (in Rs crore)

Department	2019-20 Actuals	2020-21 Revised	2021-22 Budget	% change (annualised) in 2021-22 over 2019-20
Agriculture, Cooperation and Farmers' Welfare	94,252	1,16,758	1,23,018	14%
Agricultural Research and Education	7,523	7,762	8,514	6%
Ministry	**1,01,775**	**1,24,520**	**1,31,531**	**14%**

Sources: Expenditure Budget, Union Budget 2021-22; PRS.

The Department of Agriculture, Cooperation and Farmers' Welfare has been allocated Rs 1,23,018 crore in 2021-22, which is a 14% annual increase over 2019-20. 76% of the Ministry's budget is proposed to be spent on three schemes under this Department: the income support scheme, i.e., PM-KISAN (49%), interest subsidy on short-term credit to farmers (15%), and the crop insurance scheme, i.e., Pradhan Mantri Fasal Bima Yojana (12%).

The Department of Agricultural Research and Education has been allocated Rs 8,514 crore in 2021-22, a 6% annual increase over 2019-20.[4] Allocation to the Indian Council of Agricultural Research (ICAR) accounts for 63% of the Department's allocation in 2021-22. See Table 7 and Table 8 in the Annexure for more details.

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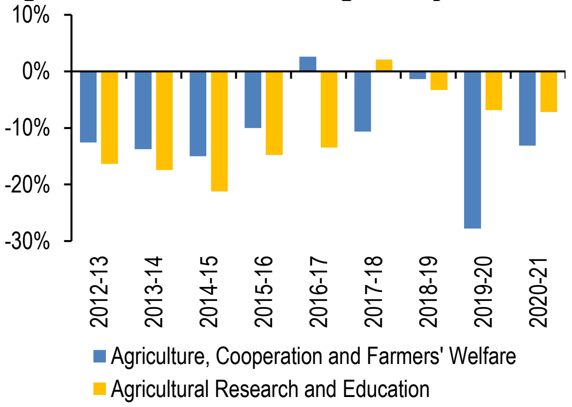
Allocation vs actual expenditure: Expenditure of both the Departments has been lower than their budget allocations in almost all years during the period 2012-21 (Figure 2). The Ministry spent 27% less than its budget allocation in 2019-20, primarily due to an underspending of Rs 26,286 crore (35%) in PM-KISAN (owing to coverage of lower beneficiaries than targeted). Further, the Standing Committee on Agriculture (2016) noted that a slow pace of fund utilisation in the first half of the financial year results in a cut in allocation for the rest of the year, which leads to underspending.[5]

Figure 2: Deviation from budgeted expenditure



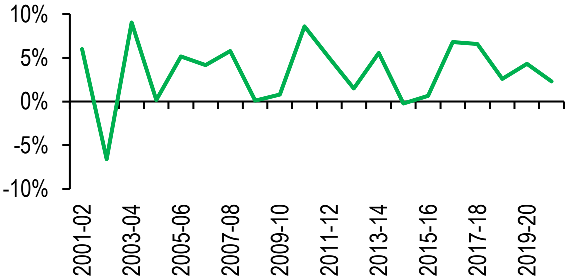
Note: Figures for 2020-21 are revised estimates.
Sources: Expenditure Budget, Union Budgets (2012-22); PRS.

Issues in the sector

Growth of the agriculture sector

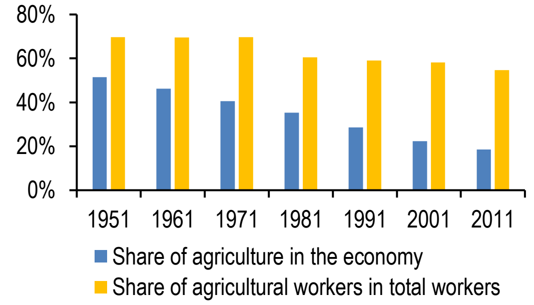
Growth of the sector comprising of agriculture and allied activities has been volatile over the years (Figure 3). In 2020-21, the sector is estimated to grow at 2.3%, as compared to 4.3% in 2019-20.

Figure 3: Growth of agriculture sector (in %)



Sources: Central Statistics Office (CSO), MOSPI; PRS.

Figure 4: Share of agriculture in the economy and in the total number of workers (in %)



Sources: Agricultural Statistics at a Glance 2019, Ministry of Agriculture and Farmers' Welfare; CSO, MOSPI; PRS.

The contribution of the agriculture sector in the economy has significantly decreased from 51% in 1951 to 19% in 2011, and further to 14.8% in 2019-20.[6] Meanwhile, the share of workers who are dependent on agriculture has decreased at a lower rate from 70% in 1951 to 55% in 2011. This implies that the average income of these workers grew at a slower pace than that of workers in other sectors. The Committee on Doubling Farmers' Income (Chair: Mr. Ashok Dalwai, 2017) observed that one way of significantly improving income of farmers is by shifting the agricultural workforce to more productive employment in non-farm sectors.[7]

Income support to farmers

The PM-KISAN scheme was launched in February 2019 to provide income support of Rs 6,000 per year (disbursed in three instalments of Rs 2,000) to farmer families with the aim of supplementing their financial needs in procuring inputs for appropriate crop health and yields.[8]

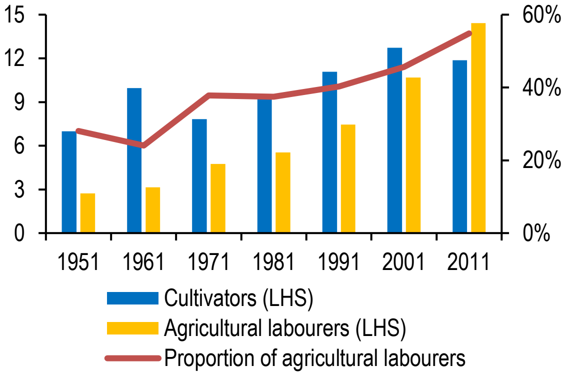
Earlier, only small and marginal landholder farmer families, i.e., families with total cultivable landholding of up to two hectares, were eligible for the scheme. In May 2019, the Union Cabinet approved the extension of the scheme to all farmer families irrespective of their size of landholdings. With this increase in coverage, expenditure on the scheme was estimated to increase from the budget allocation of Rs 75,000 crore to Rs 87,218 crore in 2019-20.[9] However, in 2019-20, the Ministry spent Rs 48,714 crore on the scheme, 35% lower than the budget allocation. For 2020-21, the allocation has been cut down from the budget estimate of Rs 75,000 crore to Rs 65,000 crore (revised estimate).

Implementation: Initially, the scheme was expected to cover 12.5 crore beneficiaries.[9] With the increase in coverage, this was revised to 14.5 crore beneficiaries.[9] Till January 2021, 10.75 crore beneficiaries have been covered (received at least one instalment) under the scheme.[10] However, the coverage under different instalments vary. In 2020-21, 10.5 crore beneficiaries have received the first instalment (Apr-Jul), 10.2 crore beneficiaries have received the second instalment (Aug-Nov), and 9.5 crore beneficiaries have received the third instalment (Dec-Mar), till February 10, 2021.[11]

The Standing Committee on Agriculture (2020) noted that the scheme is facing the following issues in implementation: (i) non-availability of proper land records in some states, (ii) slow identification of beneficiaries and delay in the uploading of data by states, (iii) issues with the matching of demographic data between the PM-KISAN database and Aadhaar data, (iv) incorrect bank accounts, and (v) poor internet connectivity in rural areas hampering the uploading of data.[12] The Committee recommended that the government should hold regular consultation with states to resolve issues and take corrective steps.

Land as an eligibility criterion: Farmer families owning cultivable landholding are eligible for receiving income support under the scheme. The beneficiaries are identified by states based on their land records. The scheme does not cover landless agricultural labourers who form 55% of the agricultural workers in the country (Figure 5).[13] Agricultural workers include cultivators and labourers working in the agriculture sector. The share of landless agricultural labourers in total agricultural workers has increased over the years from 28% in 1951 to 55% in 2011. The Standing Committee (2020) noted that tenant farmers, who are a significant part of landless farmers in many states, do not receive the income support benefits.[12] It recommended the government to examine this issue in coordination with states so that landless farmers can also receive benefits under the scheme.

Figure 5: Breakup of agricultural workers into cultivators and agricultural labourers (in crore)



Sources: Agricultural Statistics at a Glance 2019, Ministry of Agriculture and Farmers' Welfare; PRS.

Agricultural credit

Agriculture credit is provided to farmers at a subsidised cost through interest subsidy.[14] An interest subsidy of two percent is provided to farmers on their short-term crop loans of up to three lakh rupees. An additional interest subsidy of three percent is provided to farmers repaying their loan on time, i.e., within a year.

In 2021-22, Rs 19,468 crore has been allocated for interest subsidy, which is 2% lower than the 2020-21 revised estimate (Rs 19,832 crore). However, a significant difference has been observed in the last few years between the estimates presented in the budget (even the revised estimate) and the actual expenditure at the end of the year (Table 2).

Table 2: Comparison of the estimates with the actual expenditure on interest subsidy (Rs crore)

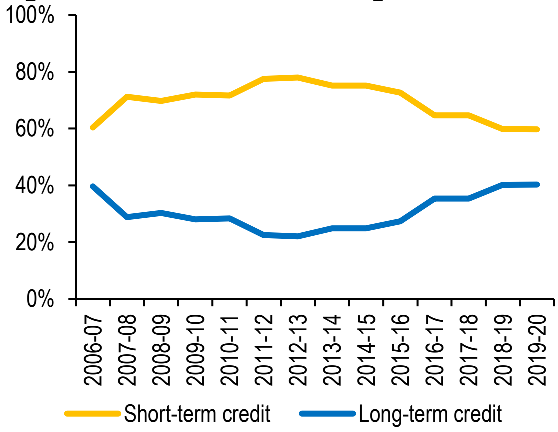
Year	Budgeted	Revised	Actuals	% shortfall
2016-17	15,000	13,619	13,397	-11%
2017-18	15,000	14,750	13,046	-13%
2018-19	15,000	14,987	11,496	-23%
2019-20	18,000	17,863	16,219	-10%
2020-21	21,175	19,832	-	-6%

Sources: Expenditure Budget, Union Budgets (2016-21); PRS.

Short-term vs long-term loans: In 2015, the Committee on Medium-term Path on Financial Inclusion under the Reserve Bank of India (RBI) observed that the interest subsidy provided for short-term crop loans discriminates against long-term loans.[15] Short-term crop loans are used for pre-harvest activities such as weeding, harvesting, sorting, and transporting. Long-term loans are taken to invest in agricultural machinery and equipment, or irrigation system. The Committee observed that the scheme does not incentivise long-term capital formation in agriculture, which is essential to boost productivity in the sector.

Over the past few decades, the trend of short-term and long-term agricultural credit has reversed. In 1990-91, a majority of the agricultural credit were long-term loans, whereas short-term loans were only about a quarter of the total credit.[16] In 2019-20, the share of long-term loans in total agricultural credit was at 40% (Figure 6).[17] A lower share of long-term agricultural credit implies that farmers are taking more loans for recurring expenditure rather than to fund long-term investments.

Figure 6: Share of short and long-term credit



Sources: Reports of the Standing Committee on Agriculture (2020) and the RBI Working Group on Agriculture Credit; PRS.

The Committee on Doubling Farmers' Income (2017) recommended that the central and state governments should provide interest subsidy on long-term or investment credit taken by farmers, particularly small and marginal farmers.[18] In May 2020, under the Aatmanirbhar Bharat Economic Package, the central government announced the setting up of an Agriculture Infrastructure Fund of one lakh crore rupees for financing farm-gate infrastructure.[19] Under the scheme, the government will provide an interest subsidy of 3% on loans of up to two crore rupees issued under the Fund.

Land ownership: The 2015 RBI Committee on Financial Inclusion observed that the owner of the land is often not the cultivator, even in the case of small and marginal holdings. For example, a landowner may get the benefit of subsidised credit at times and may be the moneylender to his cultivator.[15] The Committee recommended that agricultural credit must flow to the actual cultivator for which substantial reform is necessary.[15] Further, it stated that the subsidised credit increases the probability of misuse. The Committee on Comprehensive Financial Services for Small Businesses and Low-Income Households (2016) also recommended the transfer of benefits to farmers directly, instead of subsidy and waivers.[20]

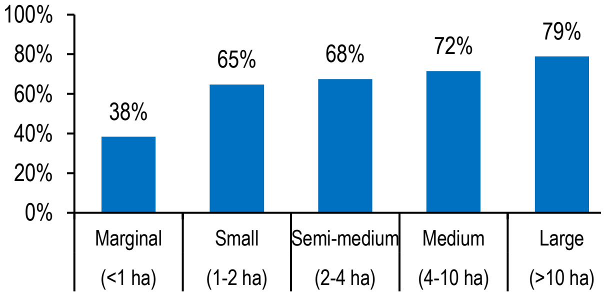
Access to agricultural credit is linked to formal land titles. An Internal Working Group of the RBI constituted to review Agricultural Credit (2019) noted that the absence of a proper land leasing framework and a lack of land records restricted access to institutional credit.[21] It recommended the central government to encourage states to digitise and update land records in a time-bound manner.

The 2015 RBI Committee on Financial Inclusion recommended that credit eligibility certificates, which would act as tenancy or lease certificates, should be issued to tenant farmers.[15] These certificates would enable landless tenant cultivators to obtain agricultural credit.

Small and marginal farmers: Farmers with landholdings of less than a hectare primarily borrow from informal sources of credit such as moneylenders, whereas those with landholdings of two or more hectares primarily borrow from banks (Figure 7).[15] Informal sources of credit are typically offered at higher rates of interests, and may not have proper documentation.

Note that 68% of the agricultural landholdings in the country belong to the marginal (less than one hectare) category.[22] Another 18% belong to the small category (between one to two hectare). Further, the share of the marginal category in total agricultural landholdings has been increasing over the years, from 51% in 1970-71 to 68% in 2015-16. The RBI Internal Working Group on Agricultural Credit (2019) noted that only 41% of the small and marginal farmers have been covered by banks.[21]

Figure 7: Share of borrowings from institutional sources across various landholders (2012-13)



Sources: Committee on Medium-term Path on Financial Inclusion (2015), Reserve Bank of India; PRS.

Crop insurance

Crop insurance is provided to farmers under the Pradhan Mantri Fasal Bima Yojana (PMFBY).[23] All farmers, including sharecroppers and tenant farmers, who are growing notified crops in notified areas are eligible under the scheme. In 2021-22, the scheme has been allocated Rs 16,000 crore, a 5% increase over the 2020-21 revised estimate. Issues faced in providing crop insurance include:

Awareness about crop insurance: The Economic Survey 2017-18 noted that the share of agricultural households getting their crops insured was low.[24] Among households cultivating major crops, such as rice and wheat, less than 5% of them got their crops insured. Lack of awareness about crop insurance among farmers is a major reason for not getting their crops insured. Lack of awareness about the government's crop insurance programmes is another reason for not getting their crops insured.

Coverage of farmers: During the period 2016-19, the scheme covered 36-40% of the farmers.[25] Note that before Kharif season 2020, enrolment was mandatory for farmers with loans and optional for others. To address the demand of farmers, the scheme has been made voluntary for all farmers.[26]

Assessment of losses: The Standing Committee on Agriculture (2017) observed that states are not readily accepting and adopting the technologies used for assessing yield loss.[27] The Committee recommended the Ministry to pursue states to adopt technology aids and satellite imagery for crop cutting experiments. Under the revised guidelines of the scheme, the government has proposed a two-step process of using weather and satellite indicators for an early assessment of yield loss.[26]

Further, based on the increased efficiency seen in the implementation of the scheme in some states, the government has proposed the use of smart sampling technique through satellite data by all states for conducting crop cutting experiments.[26]

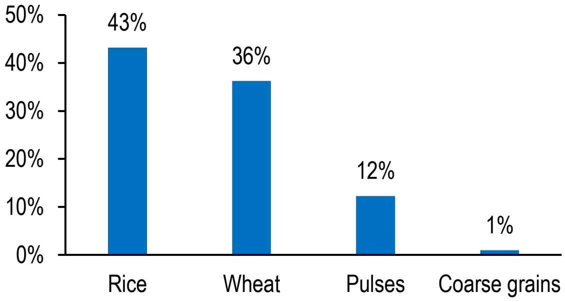
Grievance redressal: The Standing Committee on Agriculture (2019) observed that farmers are facing issues in lodging complaints with the insurance companies due to the absence of local offices of the companies at the district and block-level.[25] It recommended that the Ministry should ensure the availability of a common helpline number for lodging of complaints. Under the revised scheme guidelines, states have to constitute grievance redressal committees at the district and state level.[28]

Minimum Support Prices (MSPs)

MSP is the assured price announced by the central government at which foodgrains are procured from farmers by the central and state governments and their agencies, for the central pool of foodgrains.[29] The central pool is used for providing foodgrains under the Public Distribution System and other welfare schemes at subsidised prices and also kept as reserve in the form of buffer stock. The cost of procuring from farmers at MSP and distributing under PDS at subsidised prices is borne by the Department of Food and Public Distribution. However, the MSPs for all crops are decided by the Ministry of Agriculture and Farmers' Welfare.

MSPs are notified based on the recommendations of the Commission for Agricultural Costs and Prices, an attached office of the Ministry of Agriculture and Farmers' Welfare.[30] While MSPs are annually announced for 23 crops, public procurement is limited to a few crops such as paddy, wheat, and, to a limited extent, pulses.

Figure 8: Percentage of crop production procured at MSP in crop year 2019-20



Sources: Unstarred Question No. 331, Lok Sabha, September 15, 2020; PRS.

The foodgrain procurement is largely concentrated in a few states. Three states (Madhya Pradesh, Punjab, and Haryana) producing 46% of the wheat in the country account for 85% of its procurement. For rice, six states (Punjab, Telangana, Andhra Pradesh, Chhattisgarh, Odisha, and Haryana) with 40% production have a 74% share in procurement.

According to the central government's procurement policy, the objective of public procurement is to ensure that farmers get remunerative prices for their produce and do not have to resort to distress sale.[31] If farmers get a better price in comparison to MSP, they are free to sell their produce in the open market. The Economic Survey 2019-20 observed that the regular increase in MSP is seen by farmers as a signal to opt for crops which have an assured procurement system (for example, rice and wheat).[32] It also noted that this indicates market prices do not offer remunerative options for farmers, and MSP has, in effect, become the maximum price that the farmers are able to realise.

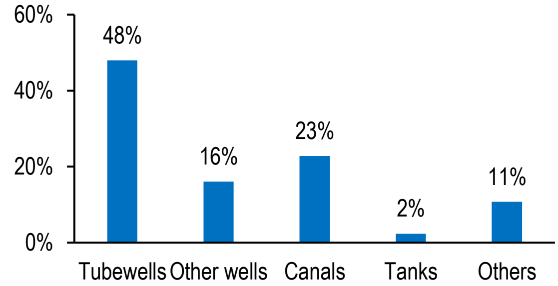
Thus, MSP incentivises farmers to grow crops which are procured by the government. As wheat and rice are major food grains provided under the PDS, the focus of procurement is on these crops. This skews the production of crops in favour of wheat and paddy (particularly in states where procurement levels are high) and does not offer an incentive for farmers to produce other items such as pulses. Further, this puts pressure on the water table as these crops are water-intensive crops.

In a report to measure the efficacy of MSPs, NITI Aayog (2016) found that a low proportion of farmers (10%) were aware of MSPs before the sowing season.[33] 62% of the farmers were informed of MSPs after sowing their crops. The pricing policy of MSPs would be effective only if farmers are aware of it at the time of deciding what crops to grow. NITI Aayog recommended that the awareness level of farmers regarding MSPs must be increased and the mediums of dissemination of this information must be strengthened. Other issues with the implementation of the MSP regime include long distances to the procurement centres, increasing transportation cost for farmers, irregular hours of the procurement centres, lack of covered storage godowns and inadequate storage capacity, and delays in the payment of MSPs to farmers.

Irrigation

As of 2016-17, 49% of the country's net sown area was under irrigation.[34] The remaining agricultural area in the country depends on rainfall. Major irrigation sources for agriculture include tubewells (48%) and other wells (16%), and canals (23%).

Figure 9: Sources of irrigation (2016-17)



Sources: Land Use Statistics at a Glance (2016-17), Ministry of Agriculture and Farmers' Welfare; PRS.

Sources such as canals and tubewells use the flood irrigation technique, where water is allowed to flow in the field and seep into the soil.[35] This results in wastage of water since excess water seeps into the soil or flows off the surface without being utilised. It has been recommended that farmers move from flood irrigation to micro-irrigation systems (drip or sprinkler irrigation systems) to conserve water.[36]

The Pradhan Mantri Krishi Sinchai Yojana was launched in 2015 to increase the coverage of the area under irrigation.[37] The Ministry implements the 'Per Drop More Crop' component under the scheme to increase water efficiency through micro-irrigation and other interventions. During the period 2013-21, 60.3 lakh hectares of area has been covered under micro-irrigation (Table 3).[38]

Table 3: Area covered under micro-irrigation in lakh hectares (as of February 12, 2021)

Year	Target	Achievement	Achievement %
2013-14	6.6	4.3	66%
2014-15	5.7	4.3	74%
2015-16	5.0	5.7	115%
2016-17	8.0	8.4	105%
2017-18	12.0	10.5	87%
2018-19	16.0	11.6	72%
2019-20	14.0	11.7	84%
2020-21	0.0	3.7	-
Total	**67.3**	**60.3**	**90%**

Sources: Pradhan Mantri Krishi Sinchai Yojana website; PRS.

Shortfall in funds: In 2021-22, the scheme has been allocated Rs 4,000 crore, which is 56% higher than the 2020-21 revised estimate. Though the budget allocation to the scheme seems higher than the previous year, it is usually cut down at the revised stage, resulting in a lower expenditure than the allocation (Table 4). Allocation to the scheme for 2020-21 has been revised down by 36% from Rs 4,000 crore to Rs 2,563 crore (revised estimate).

Table 4: Comparison of the allocation to the scheme with its actual expenditure (in Rs crore)

Year	Allocation*	Expenditure	% shortfall
2015-16	1,800	1,556	14%
2016-17	2,340	1,991	15%
2017-18	3,400	2,819	17%
2018-19	4,000	2,918	27%
2019-20	3,500	2,700	23%
2020-21	4,000	2,563#	36%

Note: *Budget estimate; #Revised estimate used as expenditure.
Sources: Expenditure Budget, Union Budgets (2015-21); PRS.

Soil health and fertilisers

While the Ministry of Chemicals and Fertilisers is responsible for monitoring the production, distribution, and prices of fertilisers, the Ministry of Agriculture and Farmers' Welfare is responsible for the promotion of balanced use of fertilisers.[39] Balanced use refers to the use of a proper combination of various nutrients and other micro-nutrients. Three major nutrients are primarily used: Nitrogen (N), Phosphatic (P), and Potassic (K). The government subsidises fertilisers through: (i) subsidy for urea (containing N fertiliser), and (ii) nutrient-based subsidy for P and K fertilisers. The fertiliser subsidy is provided to the fertiliser manufacturers and importers so that farmers can directly buy them at affordable or subsidised prices.

In 2021-22, Rs 79,530 crore has been allocated to the Department of Fertilisers for fertiliser subsidy, an annual decrease of 1% over 2019-20 (Table 5).

Table 5: Fertiliser subsidy allocation (Rs crore)

Subsidy	2019-20 Actuals	2020-21 Revised	2021-22 Budgeted	% change (annualised) in 2021-22 over 2019-20
Urea	54,755	94,957	58,768	3.6%
Nutrient based	26,369	38,990	20,762	-11.3%
Total	**81,124**	**1,33,947**	**79,530**	**-1.0%**

Sources: Expenditure Budget, Union Budget 2021-22; PRS.

In November 2020, under the Aatmanirbhar Bharat Economic Package, the government announced an additional allocation of Rs 65,000 crore in 2020-21 for fertiliser subsidy.[40] As a result, the allocation for 2020-21 has increased from Rs 71,309 crore at the budgeted stage to Rs 1,33,947 crore at the revised stage. Note that in March 2020, the Standing Committee on Chemicals and Fertilisers had recommended that the Ministry should be provided a one-time allocation to clear off all the pending fertiliser subsidy dues owed to companies, as the 2020-21 budget allocation is insufficient for this purpose.[41] The Committee observed that as of February 2020, the Ministry owed Rs 43,483 crore as dues to companies, which could not be paid in previous years due to insufficient budget allocation.

The Standing Committee (2020) observed that many fertiliser manufacturing plants are operating with very old technology and systems, and not at their highest efficiency.[42] The government bears the cost of their inefficiency in the form of higher subsidy. The Committee recommended that the companies should be set free to manufacture and sell fertilisers as per their own system. A farmer should have the choice to buy from various brands of fertilisers while getting the subsidy directly in his bank account. This will push manufacturers to produce and sell their fertilisers in the most cost-effective manner and push the inefficient ones out. It recommended that the government should set out a clear and firm roadmap for switching to a direct subsidy system, where the manufacturing and importing of fertilisers is set free to market forces.

Prices of urea are controlled by the government, whereas that of P and K fertilisers are market-driven.[39] This has led to lower prices of urea (N) over the years, whereas the market prices of P and K fertilisers have remained higher. This is one of the reasons for imbalanced use of nutrients as urea is used more than other fertilisers.[39] While the ratio recommended for use of the N, P, and K fertilisers is 4:2:1, the ratio was 6.3:2.5:1 in 2018-19.[43] Table 9 in the Annexure shows their consumption trend.

Overuse of fertilisers could lead to an imbalance of nutrients in the soil and deteriorate its quality. The Standing Committee on Agriculture (2015) observed that use of fertilisers in the country was not based on scientific analysis of soil due to near absence of soil testing facilities, low awareness, and over-reliance on urea.[44]

Soil Health Cards: In order to provide farmers with information regarding the quality of their soil, the Soil Health Card scheme was launched in 2015.[45] Under the scheme, farmers are issued soil health cards, which contain information such as nutrient status of soil and recommended dose of nutrients to be provided to improve its fertility.

In 2021-22, Rs 315 crore has been allocated for the National Project on Soil Health and Fertility, a 41% increase over the 2020-21 revised estimate. During the first cycle (2015-17) of the scheme, 10.74 crore soil health cards were provided as per the target.[46] During the second cycle (2017-19), 11.87 crore soil health cards were provided against the target of 12.54 crore cards. During the period 2019-21, 18.9 lakh soil health cards have been distributed under the Model Village Programme (82% of the target).

Rashtriya Krishi Vikas Yojana

The umbrella scheme was initiated in 2007 for ensuring holistic development of agriculture and allied sectors by allowing states to choose their own development activities as per district and state agriculture plans.[47] With the aim of making farming a remunerative economic activity, the Ministry provides financial assistance to states to spend on sub-schemes such as: (i) pre-harvest and post-harvest infrastructure, (ii) value addition using agri-business models, and (iii) projects based on local and national priorities.

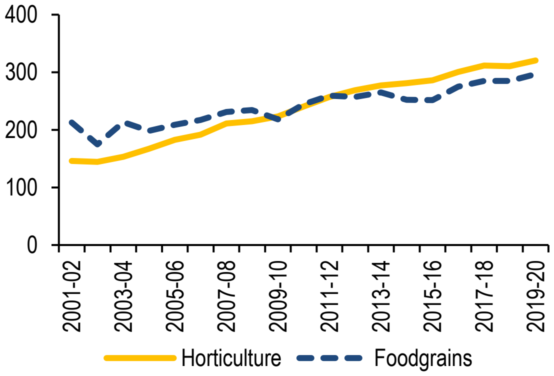
In 2021-22, Rs 3,712 crore has been allocated to the scheme, a 46% increase over the revised estimate of 2020-21. The Standing Committee on Agriculture (2017) observed that the allocations for the scheme are not utilised optimally and timely.[27] This is due to a delay in the approval of projects and funds by states and consequent slow pace of implementation, causing a reduction in the release of funds. For instance, in 2020-21, Rs 3,700 crore was allocated to the scheme, which has been cut by 31% at the revised stage to Rs 2,551 crore.

The Standing Committee on Agriculture (2020) noted that the scheme's allocation gets cut at the revised stage as states are not able to timely submit their utilisation certificates, due to the delays in completion of infrastructure projects.[12] It recommended that there is a need to increase the time period for submission of utilisation certificates for schemes involving infrastructure projects.

Horticulture

Between 2001-02 and 2019-20, the production of horticulture crops increased from 146 million tonnes to 320 million tonnes (Figure 10).[48] This implies that the horticulture production increased at an average rate of 4.5%. Production of food grains increased at a rate of 1.9% during the same period.

Figure 10: Comparison of horticulture and food grain production during 2001-20 (million tonne)



Sources: Directorate of Economics and Statistics, Ministry of Agriculture and Farmers' Welfare; PRS.

In 2019-20, fruits and vegetables are estimated to contribute to 31% and 60% of the total horticultural production, respectively.[49] The National Mission on Horticulture seeks to promote horticulture by providing availability of quality inputs such as planting material, and post-harvest interventions such as reduction in losses and access to markets. In 2021-22, the scheme has been allocated Rs 2,385 crore, 48% more than the 2020-21 revised estimate. However, over the past few years, the actual expenditure on the scheme has been lower than the allocation made in the budget (Table 6).

Table 6: Comparison of the allocation to the scheme with its actual expenditure (in Rs crore)

Year	Allocation*	Expenditure	% shortfall
2016-17	1,620	1,493	8%
2017-18	2,320	2,027	13%
2018-19	2,536	1,997	21%
2019-20	2,225	1,331	40%
2020-21	2,300	1,610#	30%

Note: *Budget estimate; #Revised estimate used as expenditure.
Sources: Expenditure Budget, Union Budgets (2016-21); PRS.

Agricultural Marketing

The Integrated Scheme on Agriculture Marketing includes sub-schemes such as: (i) agriculture marketing infrastructure, to create storage capacity and farmer consumer markets, (ii) market research and information network, (iii) strengthening of Agmark grading facilities, (iv) agro-business development to provide market linkages to farmers, and (v) e-NAM (National Agriculture Market), which is a national electronic market platform on which farmers can sell their produce.

In 2021-22, the scheme has been allocated Rs 410 crore. This is 17% higher than the 2020-21 revised estimate. However, the allocation for 2020-21 has been revised down by 29%, from Rs 490 crore to Rs 350 crore. Till January 24, 2021, 1,000 mandis across 18 states and three union territories have been integrated with e-NAM.[50]

Regulation: Agriculture markets in most states are regulated by the Agriculture Produce Marketing Committees (APMCs) established by the state governments. APMCs were set up to ensure fair trade between buyers and sellers for effective price discovery of farmers' produce.[51] APMCs can: (i) regulate the trade of farmers' produce by providing licenses to buyers, commission agents, and private markets, (ii) levy market fees or any other charges on trade, and (iii) provide necessary infrastructure within their markets to facilitate the trade.

The Standing Committee on Agriculture (2019) observed that the APMC laws are not implemented in their true sense and need urgent reforms.[51] Issues identified by the Committee include: (i) most APMCs have a limited number of traders operating, which leads to cartelization and reduces competition, and (ii) undue deductions in the form of commission charges and market fees.[51] Traders, commission agents, and other functionaries organise themselves into associations, which do not allow easy entry of new persons into market yards, stifling competition.[52] The Acts are highly restrictive in promotion of multiple channels of marketing and competition in the system.[51]

Parliament enacted three laws in September 2020: (i) the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, (ii) the Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020, and (iii) the Essential Commodities (Amendment) Act, 2020.[53,54,55] These laws collectively seek to (i) facilitate barrier-free trade of farmers' produce outside the markets notified under the various state APMC laws, (ii) define a framework for contract farming, and (iii) impose stock limits on agricultural produce only if there is a sharp increase in retail prices. The three laws together aim to increase opportunities for farmers to enter into sale contracts, increase the availability of buyers, and permit buyers to purchase bulk produce. However, following protests against the laws, in January 2021, the Supreme Court stayed their implementation until further orders.[56]

Marketing infrastructure: The Standing Committee on Agriculture (2019) noted that the availability of a transparent, easily accessible, and efficient marketing platform is a pre-requisite to ensure remunerative prices for farmers.[51] Most farmers lack access to government procurement facilities and APMC markets.[51] Small and marginal farmers (who hold 86% of the agricultural landholdings in the country) face various issues in selling their produce in APMC markets such as inadequate marketable surplus, long-distance to the nearest APMC markets, and lack of transportation facilities.[51] The average area served by an APMC market is 496 sq. km., much higher than the 80 sq. km. recommended by the National Commission on Farmers (Chair: Dr. M. S. Swaminathan) in 2006.[51]

The Standing Committee (2019) noted that Gramin Haats (small rural markets) can emerge as a viable alternative for agricultural marketing if they are provided with adequate infrastructure facilities.[51] It recommended that the Gramin Agricultural Markets scheme (which aims to improve infrastructure and civic facilities in 22,000 Gramin Haats across India) should be made a fully funded central scheme and scaled to ensure the presence of a Haat in each panchayat of the country.[51]

The central government has proposed development of basic infrastructure in Gramin Haats through the MGNREGS and of marketing infrastructure through the Agri-Market Infrastructure Fund.[57] The Fund will be set up by NABARD to provide Rs 1,000 crore to states at a concessional interest rate for development of marketing infrastructure in Gramin Haats. In the 2021-22 budget, the government has proposed that the Agriculture Infrastructure Fund will be made available to APMCs for augmenting infrastructure facilities.[58]

It has also proposed the levy of an Agriculture and Infrastructure Development Cess, which will be used to generate funds for financing agricultural infrastructure and other development activities. It will be levied on petrol, diesel, and imports such as cotton, coal, gold, silver, and alcoholic beverages.

Agricultural Research

The Indian Council of Agricultural Research (ICAR) has been allocated Rs 5,322 crore for the year 2021-22, which is 7% higher than the revised estimate of 2020-21. The allocation is primarily for salaries, pensions, administrative expenses, and different schemes under ICAR. The Standing Committee on Agriculture (2019) noted that almost 75% of the allocation to the Department of Agricultural Research and Education is incurred on items such as salaries and pensions, and only 25% is available for research activities.[59] The Committee recommended that more funds should be provided to the Department to promote agricultural research and education. It also recommended the Department to work towards attracting Corporate Social Responsibility (CSR) funds for investment in agricultural research.

Research under crop sciences and animal sciences has been allocated Rs 968 crore and Rs 462 crore in 2021-22, respectively. Observing that vegetable oils, pulses, cashew are among the major import commodities between 2011 and 2016, the Standing Committee on Agriculture (2017) recommended that there is a need for enhancing the production of these commodities.[60] It also recommended the government to allocate additional funds to ICAR for this purpose. It also noted that the production of animal vaccines is inadequate in the country. It recommended that adequate resources and manpower must be devoted to ICAR for the development of animal vaccines.

International comparison: The Committee on Doubling Farmers' Income (Chair: Mr. Ashok Dalwai, 2017) observed that the expenditure on agricultural research in India has remained around 0.3-0.4% of the agriculture GDP since 2001 (except in 2011 when it was 0.52% because of higher plan allocations by the government).[61]

The Committee observed that this is substantively lower in comparison to many developed countries, and also vis-à-vis comparable developing economies. The share of agricultural research in agriculture GDP is much higher in Brazil (1.8%), Mexico (1.05%), Malaysia (0.99%), and China (0.62%). It observed that in the high-income countries, the share stands at 3.01%. The Committee recommended that expenditure on agricultural research should be increased to up to one percent of agriculture GDP.

15th Finance Commission's grants for agricultural reforms

The 15th Finance Commission, in its report for the period 2021-26, has recommended a total of Rs 45,000 crore as performance-based grants for states implementing agricultural reforms.[62] It has identified four areas (with equal weightage) where states need to carry out reforms to be eligible for their share under these performance-based grants. These four areas are:

Land leasing: States are required to create legal provisions for liberalisation and recognition of agricultural land lease. The instances of leasing of agricultural land are rising but since these agreements are largely informal, the tenant is not recognised by the law. They are also not eligible for benefits under various government schemes. The 15th Finance Commission has recommended states to amend their land-related laws (on the lines of NITI Aayog's Model Agricultural Land Leasing Act, 2016) to allow short-term and long-term lease of agricultural land for agricultural purpose, agro-industry, logistics for agricultural trade, and supply chains.

Sustainable and efficient water use: States are required to maintain and augment groundwater stock and check the fall in the water table. Despite groundwater levels falling at an alarming rate, agricultural policies encourage profligate use of water and the sector uses about 90% of the total water used in the country. The 15th Finance Commission has recommended three measures which states can adopt to reduce water use in agriculture: (i) replacing free/ subsidised power supply with direct benefit transfers to facilitate judicious use of water and a shift from water-guzzling crops, (ii) encouraging new technologies, such as drip, sprinkler, and sensor-based irrigation, for efficient use, and (iii) conserving and harvesting rainwater to increase the availability of water.

Export promotion: States are required to increase exports in the agriculture sector. India exports 7% of its domestic production. Despite being the second-highest agricultural producer in the world, India's share in the global market is just 2.5%. An Expert Group constituted by the 15th Finance Commission has recommended various measures to increase agricultural exports, including: (i) focusing on certain crop value chains with high export potential, (ii) supporting these value chains through a cluster approach and preparing comprehensive plans to develop these clusters, and (iii) reducing logistics' cost to make exports more competitive.

Contribution towards Aatmanirbhar Bharat: States are required to increase the production of oilseeds, pulses, and wood and wood products. These grants aim to make India self-reliant in the production of these commodities where there is a sizeable deficit. The Green Revolution, focusing on wheat and rice, created a strong disadvantage for production of pulses and oilseeds. The per capita domestic availability of pulses declined from 69 gm per person per day in 1961 to less than 55 gm in recent years, leading to under-nutrition and malnutrition. More than 60% of the domestic demand for vegetable oil is met from imports, valued at Rs 69,000 crore. Similarly, 40% of the non-fuel timber requirement is met from imported wood and wood products, valued at Rs 42,000 crore.

Annexure

Allocation to major expenditure heads under the Departments

Table 7: Allocation under the Department of Agriculture, Cooperation and Farmers' Welfare (Rs crore)

	2019-20 Actuals	2020-21 Budgeted	2020-21 Revised	% change in RE 2020-21 over BE 2020-21	2021-22 Budgeted	% change (annualised) in BE 2021-22 over 2019-20
PM-KISAN	48,714	75,000	65,000	-13%	65,000	16%
Interest subsidy for short-term credit to farmers	16,219	21,175	19,832	-6%	19,468	10%
Pradhan Mantri Fasal Bima Yojana	12,639	15,695	15,307	-2%	16,000	13%
Pradhan Mantri Krishi Sinchai Yojana (Per Drop More Crop)	2,700	4,000	2,563	-36%	4,000	22%
Market Intervention Scheme and Price Support Scheme (MIS-PSS) *	2,005	2,000	996	-50%	1,501	-13%
Agriculture Infrastructure Fund	-	-	208	-	900	-
Formation and Promotion of 10,000 Farmer Producer Organisations	-	500	250	-50%	700	-
Green Revolution	9,895	13,320	10,474	-21%	13,408	16%
Rashtriya Krishi Vikas Yojana	3,085	3,700	2,551	-31%	3,712	10%
National Mission on Horticulture	1,331	2,300	1,610	-30%	2,385	34%
National Food Security Mission	1,769	2,100	1,864	-11%	2,096	9%
Department	**94,252**	**1,34,400**	**1,16,758**	**-13%**	**1,23,018**	**14%**

*for procurement of pulses and oilseeds

Sources: Demand no. 1, Expenditure Budget, Union Budget 2021-22; PRS.

Table 8: Allocation under the Department of Agricultural Research and Education (Rs crore)

	2019-20 Actuals	2020-21 Budgeted	2020-21 Revised	% change in RE 2020-21 over BE 2020-21	2021-22 Budgeted	% change (annualised) in BE 2021-22 over 2019-20
ICAR headquarters	4,869	5,138	4,997	-3%	5,322	5%
Crop sciences	859	965	836	-13%	968	6%
Agricultural education	688	740	530	-28%	613	-6%
Central agricultural universities	459	460	429	-7%	471	1%
Animal sciences	452	486	420	-14%	462	1%
Department	**7,523**	**8,363**	**7,762**	**-7%**	**8,514**	**6%**

Sources: Demand no. 2, Expenditure Budget, Union Budget 2021-22; PRS.

Consumption of Fertilisers

Table 9: Consumption of fertilisers in terms of N, P, and K nutrients (in lakh tonnes)

Year	Urea (N)	Phosphatic (P)	Potassic (K)	Total (N+P+K)
2006-07	137.7	55.4	23.3	216.5
2007-08	144.2	55.1	26.4	225.7
2008-09	150.9	65.1	33.1	249.1
2009-10	155.8	72.7	36.3	264.9
2010-11	165.6	80.5	35.1	281.2
2011-12	173.0	79.1	25.8	277.9
2012-13	168.2	66.5	20.6	255.4
2013-14	167.5	56.3	21.0	244.8
2014-15	169.4	60.9	25.3	255.8
2015-16	173.7	69.8	24.0	267.5
2016-17	167.4	67.1	25.1	259.5
2017-18	169.6	68.5	27.8	265.9
2018-19	176.3	69.7	27.8	273.8

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