






UNION BUDGET 2023-24

Analysis of Expenditure by Ministries

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PRS Legislative Research

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Overview

The central government's expenditure is presented and authorised by Parliament through the Union Budget every financial year. Article 113 of the Constitution requires all expenditure (except charged expenditure) to be submitted in the form of Demands for Grants (Ministry-wise) to Lok Sabha. The Demands for Grants are referred to the Ministries' respective Departmentally-Related Standing Committee for further examination. Following this, they are discussed in Lok Sabha and approved. After Lok Sabha's authorisation of the demands, an Appropriation Bill is introduced and passed to permit expenditure out of the Consolidated Fund of India.

This document contains a short analysis of the Union Budget for 2023-24, and an assessment of the allocations made by 15 ministries, which account for 72% of the total union budget. This includes an analysis of key trends in expenditure, various schemes being implemented, and key sectoral issues.

The Union Budget 2023-24 was presented on February 1, 2023 by the Finance Minister Ms. Nirmala Sitharaman. It proposes to spend Rs 45,03,097 crore in the financial year. Out of the total expenditure, revenue expenditure is estimated to be Rs 35,02,136 crore (1.2% increase from revised estimates of 2022-23). Interest expenditure is 41% of revenue receipts. Capital expenditure is estimated to be Rs 10,00,961 crore, a 37.4% increase from revised estimates of 2022-23. The increase in capital expenditure is driven by higher outlay on transport infrastructure and capital loans to states. Revenue deficit in 2023-24 is targeted at 2.9% of GDP, which is lower than the revised revenue deficit of 4.1% in 2022-23. Fiscal deficit in 2023-24 is targeted at 5.9% of GDP, lower than the revised fiscal deficit of 6.4% in 2022-23.

Under the Finance Bill, 2023, a number of changes have been made to the new tax regime. The income limit to avail a rebate and not pay any taxes has increased from Rs 5 lakh to Rs 7 lakh. Further, the number of tax slabs have been reduced from six to five. The surcharge for the highest slab (income over Rs 5 crore) has been cut from 37% to 25%.

The highlights of expenditure of various ministry/department include the following:

Defence: The Ministry of Defence has been allocated Rs 5,93,538 crore which is the largest across all ministries and accounts for over 13% of the total expenditure of the central government. Over the last decade, the expenditure of the Ministry as a percentage of GDP has reduced. In 2023-24, its allocation is estimated to be marginally lower than 2% of GDP. Since 2014-15, the spending on defence pension has been consistently higher than 20% of the total budget and capital outlay has remained below 30% of the budget.

Road Transport and Highways: The Ministry has been allocated Rs 2,70,435 crore, 25% higher than the revised estimates of 2022-23. Most of the additional allocation (60%) has been earmarked for investment in NHAI. Budgetary allocation has increased since NHAI will not borrow from the market. Construction of roads is primarily done through public funds. Private investment constituted 7% of investment in roads in 2020-21.

Railways: In 2023-24, Railways is projected to have a marginal revenue surplus, which would fund less than 1% of its capital expenditure plan. 92% of capital expenditure will be funded by budgetary support from the central government, and 7% from extra budgetary resources. The operating ratio (expenditures as proportionate to traffic works receipts) is 98.5%, indicating limited surplus for capital investment.

Food and Public Distribution: Allocation for the Department in 2023-24 was 31% lower as compared to the revised estimate of 2022-23. This was due to the discontinuation of the Pradhan Mantri Garib Kalyan Anna Yojana that was announced during the pandemic to provide free foodgrains to eligible beneficiaries. In 2023-24, expenditure on food subsidy is estimated to be Rs 1.97 lakh crore. Updating the coverage of eligible families is an issue as the total number of beneficiaries continues to be based on the 2011 Census.

Home Affairs: The Ministry has been allocated Rs 1,96,035 crore, an increase of 1.1% over the revised estimates for 2022-23. Of the Ministry's total budget, 65% of the expenditure is on police and 31% is on grants to UTs. 74% of the expenditure on police has been allocated to the Central Armed Police. Issues in the sector include shortages of police personnel and inadequate number of cybercrime cells. 24% of the Indo-Bangladesh border remains unfenced.

Rural Development: The Ministry of Rural Development was allocated around Rs 1.6 lakh crore for 2023-24, 12% less than the revised estimates of 2022-23. This is largely due to the decrease in allocation towards the Mahatma Gandhi National Rural Employment Guarantee Scheme (Rs 60,000 crore), which is 33% less than revised estimate for 2022-23. Demand for work under MGNREGS could decrease this year, as the rural economy returns to normal after the pandemic. Allocation towards rural housing increased by 13% in 2023-24, while allocation towards rural roads remained unchanged.

Agriculture: The Ministry has been allocated Rs 1,25,036 crore in 2023-24, a 5% increase over the revised estimates of 2022-23. 77% of the Ministry's estimated expenditure is towards three schemes that provide cash transfer, interest subsidy, and crop insurance. The amount of institutional credit to farmers has risen (7.8% over the past ten years), but loans are primarily being used to meet revenue expenditure in farming or recurring household expenditure.

Education: In 2023-24, the estimated expenditure of the Ministry of Education is Rs 1,12,899 crore, a 13% increase from revised estimates for 2022-23. Of this, the Department of School Education and Literacy has been allocated 61% and the Department of Higher Education has been allocated the remaining 39%. 33% of the Ministry's budget has been allocated to Samagra Shiksha Abhiyan. Since 2015, overall allocation towards education has been around 2.8% of the GDP.

Telecommunications: Rs 59,740 crore (56% of the allocation) in 2023-24 is towards the revival package for BSNL and MTNL. No funds were disbursed under the PLI scheme in 2021-22. In 2022-23 also, no funds will be spent towards this scheme as per revised estimates. Bharatnet and Network for Defence projects have seen significant delays.

Jal Shakti: The Ministry of Jal Shakti was allocated Rs 97,278 crore for 2023-24, a 31% increase over the revised estimates for 2022-23. The Jal Jeevan Mission received the highest allocation (Rs 70,000 crore). River Interlinking saw an increase in allocation due to the implementation of the Ken-Betwa Link Project. Funds have remained underutilised in schemes such as the Swachh Bharat Mission- Gramin, Atal Bhujal Yojana, and Namami Gange.

Health and Family Welfare: In 2023-24, the expenditure of the Ministry of Health and Family Welfare is estimated to be Rs 89,155 crore, a 13% increase from revised estimates for 2022-23. The National Health Mission is its largest component, accounting for 33% of the Ministry's budget and medical colleges and hospitals account for 27% of the budget. High out-of-pocket expenditure and shortage of healthcare personnel remain major issues.

Housing and Urban Affairs: In 2023-24, the Ministry of Housing and Urban Affairs has been allocated Rs 76,432 crore, an increase of 2.5% over the revised estimates for 2022-23. The major items are urban housing (PMAY-U) at Rs 25,103 crore and metro projects at Rs 23,175 crore. Several metro systems are not able to generate required ridership to breakeven.

Petroleum and Natural Gas: The Ministry has been allocated Rs 41,008 crore, which is a 21% increase over the revised estimates for 2022-23. This includes Rs 30,000 crore towards capital support to Oil Marketing Companies via equity infusions. There has been a decrease in allocation towards the LPG subsidy and no allocation has been made towards the kerosene subsidy. There has been an increase in capital outlay towards the creation of caverns and purchase of oil for the Strategic Petroleum Reserves.

Women and Child Development: The Ministry has been allocated Rs 25,449 crore in 2023-24, a 6% increase over the revised estimates of 2022-23. This is spent across three centrally sponsored schemes: Saksham Anganwadi and POSHAN 2.0, Mission Shakti, and Mission Vatsalya. In the past five years between 2016-17 and 2021-22, the Ministry has underutilised its funds.

Environment, Forests, and Climate Change: In 2023-24, the Ministry of Environment, Forests and Climate Change has been allocated Rs 3,079 crore, a 24% increase over the revised estimates of 2022-23. While India has set targets to transition to renewable energy to tackle climate change, availability of adequate finance is a key challenge. According to experts the overall cost required for India to adapt to climate change by 2030 is expected to be around Rs 86 lakh crore (at 2012 base price).

Union Budget 2023-24 Analysis

Budget Highlights

- **Expenditure:** The government proposes to spend Rs 45,03,097 crore in 2023-24, which is an increase of 7.5% over the revised estimate of 2022-23. In 2022-23, total expenditure is estimated to be 6.1% higher than the budget estimate.
- **Receipts:** The receipts (other than borrowings) in 2023-24 are expected to be to Rs 27,16,281 crore, an increase of 11.7% over revised estimate of 2022-23. In 2022-23, total receipts (other than borrowings) are estimated to be 6.5% higher than the budget estimates.
- **GDP:** The government has estimated a nominal GDP growth rate of 10.5% in 2023-24 (i.e., real growth plus inflation).
- **Deficits:** Revenue deficit in 2023-24 is targeted at 2.9% of GDP, which is lower than the revised estimate of 4.1% in 2022-23. Fiscal deficit in 2023-24 is targeted at 5.9% of GDP, lower than the revised estimate of 6.4% of GDP in 2022-23. While the revised estimate as a percentage of GDP was the same as the budget estimate, in nominal terms, fiscal deficit was higher by Rs 94,123 crore (increase of 5.7%) in 2022-23. Interest expenditure at Rs 10,79,971 crore is estimated to be 41% of revenue receipts.
- **Ministry allocations:** Among the top 13 ministries with the highest allocations, in 2023-24, the highest percentage increase in allocation is observed in the Ministry of Railways (49%), followed by the Ministry of Jal Shakti (31%), and the Ministry of Road Transport and Highways (25%).

Main tax proposals in the Finance Bill

- **Changes in the new income tax regime:** The number of tax slabs has been reduced from six to five. Table 1 compares the current tax income structure with the proposed income tax structure. The surcharge on the income when it exceeds Rs 5 crore will be reduced from 37% to 25%. Currently, those with income up to Rs 5 lakh can avail a rebate and not pay any taxes; this limit has been raised to Rs 7 lakh. Further, the standard deduction will be available under the new tax regime.

Table 1: Current and proposed tax slabs

Tax Rate	Current Income Slab	Proposed Income Slab
Nil	Up to Rs 2.5 lakh	Up to Rs 3 lakh
5%	Rs 2.5 lakh to Rs 5 lakh	Rs 3 lakh to Rs 6 lakh
10%	Rs 5 lakh to Rs 7.5 lakh	Rs 6 lakh to Rs 9 lakh
15%	Rs 7.5 lakh to Rs 10 lakh	Rs 9 lakh to Rs 12 lakh
20%	Rs 10 lakh to Rs 12.5 lakh	Rs 12 lakh to Rs 15 lakh
25%	Rs 12.5 lakh to Rs 15 lakh	-
30%	Above Rs 15 lakh	Above Rs 15 lakh

- **Changes in tax exemptions:** The tax exemption for news agencies set up solely for the collection and distribution of news will be removed.
- Charitable trusts are required to apply 85% of their income within the year to avail income tax exemption. From April 2023, if a charitable trust donates to another charitable trust, only 85% of such a donation would be considered as application of income.
- **Presumptive taxation:** The upper limit on turnover for MSMEs to be eligible for presumptive taxation has been raised from Rs 2 crore to Rs 3 crore. The upper limit on gross receipts for professionals eligible for presumptive taxation has been raised from Rs 50 lakh to Rs 75 lakh.
- **Co-operative societies:** The income tax rate for new co-operative societies engaged in manufacturing activities has been lowered from 22% to 15% (plus 10% surcharge).
- **Capital gains:** Capital gains from sale of residential property can be deducted to the extent of purchase or construction of another residential property. The deduction will be capped at Rs 10 crore.
- **Life insurance:** Income from investments in life insurance policies will be taxable if premium of Rs 5 lakh has been paid in any year. The amount paid upon the death of the policy holder will continue to be exempt from income tax.
- **Online Games:** Winnings from online games will be subject to 30% tax deductible at source.

- **Startups:** Startups incorporated within a time-period and meeting other conditions can deduct up to 100% of their profits; the end of this period has been extended from March 31, 2023 to March 31, 2024. In addition, the period within which losses of startups may be carried forward has been extended from seven to ten years.
- **Indirect Taxes:** Customs duty on several items have been changed. On a few items such as gold, platinum, and aeroplanes the amount of cess has been increased with a corresponding decrease in customs duties.
- **CGST:** The CGST Act will be amended such that input tax credit will not be available for goods and services purchased for use in activities related to corporate social responsibility.

Policy Highlights

- **Legislative proposals:** Amendments will be made to the Banking Regulation Act, 1949, Banking Companies (Acquisition and Transfer of Undertaking) Act, 1970, and the Reserve Bank of India Act, 1934 to improve bank governance and enhance investors' confidence. Several measures will be taken to improve business activities in the Gujarat International Finance Tech-City International Financial Services Centre (GIFT IFSC). For instance, the IFSC Authority Act, 2019 will be amended to provide for arbitration and ancillary services in GIFT IFSC, and avoiding dual regulation under the Special Economic Zones Act, 2005.
- **Infrastructure:** The scheme providing 50-year interest free loans to state governments will be made available in 2023-24 also with an outlay of Rs 1.3 lakh crore. 100 critical transport infrastructure projects for last and first mile connectivity for various sectors such as ports, coal, steel will be taken up. This will have an investment of Rs 75,000 crore including Rs 15,000 crore from private sources.
- **Urban Development:** An Urban Infrastructure Development Fund will be established for development of urban infrastructure by public agencies in tier-2 and tier-3 cities. The Fund will be managed by the National Housing Bank and is expected to have an annual allocation of Rs 10,000 crore. States and cities will be encouraged to undertake urban planning reforms such as efficient land use and transit-oriented development. Cities will be incentivised to improve their credit worthiness for municipal bonds through property tax reforms and setting aside user charges.
- **Agriculture:** An Agriculture Accelerator Fund will be set up to encourage agri-startups in rural areas. A sub-scheme of PM Matsya Sampada Yojana will be launched with an investment of Rs 6,000 crore to support fishermen, fish vendors, and MSMEs. Decentralised storage capacity will be set up for farmers to store their produce. PM Programme for Restoration, Awareness, Nourishment and Amelioration of Mother Earth (PM-PRANAM) will be launched to incentivise states/UTs to promote balanced use of chemical fertilisers and alternative fertilisers.
- **Energy and Environment:** A Green Credit Programme will be notified under the Environment (Protection) Act, 1986 to incentivise environmentally sustainable actions by companies, individuals, and local bodies, and help gather additional resources for such actions. Battery Energy Storage Systems with 4,000 MWh capacity will be supported with viability gap funding.
- **Research and Development (R&D):** Three centres of excellence for R&D in Artificial Intelligence will be established in select educational institutions. 100 labs will be set up in engineering institutions for developing applications using 5G services. A National Data Governance Policy will be released to enable access to anonymised data. A programme to promote research and innovation in pharmaceuticals will be taken up through centres of excellence.
- **Health:** Nursing colleges will be started along with all existing 157 medical colleges. In order to eliminate sickle cell anaemia by 2047, a Mission will be launched covering seven crore people in the age group 0-40 in affected tribal areas.
- **Finance:** A National Finance Information registry will be set up for accessing all financial and ancillary information. A small savings scheme, Mahila Samman Savings Certificate will be launched for two years. Further, the deposit limit for senior citizens savings scheme will be increased from Rs 15 lakh to Rs 30 lakh.
- **Governance:** The KYC process will be simplified and financial sector regulators will be encouraged to have a KYC system. A Unified Filing Process will be set up for submitting information to different government agencies. A Voluntary Settlement Scheme will be launched to settle contractual disputes of government and its undertakings. The financing system of certain schemes will be changed from input-based to result-based on a pilot basis.

Budget estimates of 2023-24 as compared to revised estimates of 2022-23

- **Total Expenditure:** The government is estimated to spend Rs 45,03,097 crore in 2023-24. This is an increase of 7.5% over the revised estimate of 2022-23. Out of the total expenditure, revenue expenditure is estimated to be Rs 35,02,136 crore (1.2% increase) and capital expenditure is estimated to be Rs 10,00,961 crore (37.4% increase). The increase in capital expenditure is due to an increase in capital outlay on transport (including railways, roads and bridges, and inland water transport) by Rs 1,28,863 crore (36.1% increase). Expenditure on total capital outlay is estimated to be Rs 8,37,127 crore in 2023-24, an increase of 35% over the revised estimates for 2022-23.
- **Total Receipts:** Government receipts (excluding borrowings) are estimated to be Rs 27,16,281 crore, an increase of 11.7% over the revised estimates of 2022-23. The gap between these receipts and the expenditure will be plugged by borrowings, budgeted to be Rs 17,86,816 crore, an increase of 1.8% over the revised estimate of 2022-23.
- **Transfer to states:** The central government will transfer Rs 18,62,874 crore to states and union territories in 2023-24, an increase of 8.9% over the revised estimates of 2022-23. Transfer to states includes devolution of Rs 10,21,448 crore out of the divisible pool of central taxes, grants worth Rs 6,86,773 crore, and special loans worth Rs 1.3 lakh crore for capital expenditure.
- **Deficits:** Revenue deficit is targeted at 2.9% of GDP, and fiscal deficit is targeted at 5.9% of GDP in 2023-24. The target for primary deficit (which is fiscal deficit excluding interest payments) in 2023-24 is 2.3% of GDP. The revised estimate for the revenue deficit target has increased from the budgeted estimate in 2022-23. The revised fiscal deficit target for 2022-23 has remained the same, despite higher receipts. In 2022-23, the central government's revenue deficit is expected to be 4.1% of GDP against a budget estimate of 3.8% of GDP.
- **GDP growth estimate:** The nominal GDP is estimated to grow at a rate of 10.5% in 2023-24.

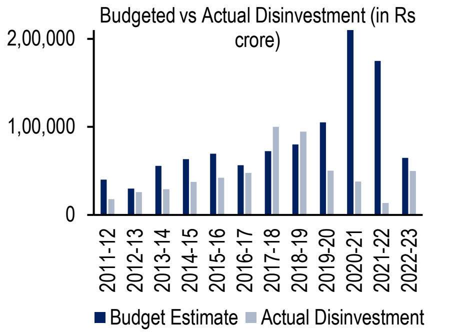
Table 2: Budget at a Glance 2023-24 (Rs crore)

	Actuals 2021-22	Budgeted 2022-23	Revised 2022-23	Budgeted 2023-24	% change (2022-23 RE to 2023-24 BE)
Revenue Expenditure	32,00,926	31,94,663	34,58,959	35,02,136	1.2%
Capital Expenditure	5,92,874	7,50,246	7,28,274	10,00,961	37.4%
of which:					
Capital Outlay	5,34,499	6,10,189	6,20,204	8,37,127	35.0%
Loans and Advances	58,376	1,40,057	1,08,070	1,63,834	51.6%
Total Expenditure	**37,93,801**	**39,44,909**	**41,87,232**	**45,03,097**	**7.5%**
Revenue Receipts	21,69,905	22,04,422	23,48,413	26,32,281	12.1%
Capital Receipts	39,375	79,291	83,500	84,000	0.6%
of which:					
Recoveries of Loans	24,737	14,291	23,500	23,000	-2.1%
Other receipts (including disinvestments)	14,638	65,000	60,000	61,000	
Total Receipts (excluding borrowings)	**22,09,280**	**22,83,713**	**24,31,913**	**27,16,281**	**11.7%**
Revenue Deficit	10,31,021	9,90,241	11,10,546	8,69,855	-21.7%
% of GDP	**4.4%**	**3.8%**	**4.1%**	**2.9%**	**-29.3%**
Fiscal Deficit	15,84,521	16,61,196	17,55,319	17,86,816	1.8%
% of GDP	**6.7%**	**6.4%**	**6.4%**	**5.9%**	**-7.8%**
Primary Deficit	7,79,022	7,20,545	8,14,668	7,06,845	-13.2%
% of GDP	**3.3%**	**2.8%**	**3.0%**	**2.3%**	**-23.3%**

Sources: Budget at a Glance, Union Budget Documents 2023-24; PRS.

Expenses which bring a change to the government's assets or liabilities (such as construction of roads or recovery of loans) are capital expenses, and all other expenses are revenue expenses (such as payment of salaries or interest payments). In 2023-24, **capital expenditure** is expected to increase by 37.4% over the revised estimates of 2022-23, to Rs 10,00,961 crore. **Revenue expenditure** is expected to increase by 1.2% over the revised estimates of 2022-23 to Rs 35,02,136 crore.

Disinvestment is the government selling its stakes in Public Sector Undertakings (PSUs). In 2022-23, the government is estimated to meet 77% of its disinvestment target (Rs 50,000 crore against a target of Rs 65,000 crore). The disinvestment target for 2023-24 is Rs 51,000 crore.



Note: Actual data for 2022-23 is revised estimate.
Sources: Union Budget Documents (various years); PRS.

Receipts Highlights for 2023-24

- **Receipts** (excluding borrowings) in 2023-24 are estimated to be Rs 27,16,281 crore, an increase of 11.7% over the revised estimates of 2022-23.
- **Gross tax revenue** is budgeted to increase by 10.4% over the revised estimates of 2022-23, which is about the same as the estimated nominal GDP growth of 10.5% in 2023-24. Corporation tax and income tax are estimated to increase at the same rate as the nominal GDP (10.5%). Excise duties (mainly imposed on petroleum products) are expected to rise by 5.9% in 2023-24. GST revenue is budgeted to increase at a higher rate (12%). The net tax revenue of the central government (excluding states' share in taxes) is estimated to be Rs 23,30,631 crore in 2023-24, which is 11.7% over the revised estimates for 2022-23.
- **Devolution to states** from centre's tax revenue is estimated to be Rs 10,21,448 crore in 2023-24, an increase of 7.7% over the revised estimates of 2022-23. In 2022-23, the devolution to states increased by Rs 1,31,756 crore, from an estimate of Rs 8,16,649 crore at the budgeted stage to Rs 9,48,405 crore at the revised stage (16%).
- **Non-tax revenue** is estimated at Rs 3,01,650 crore in 2023-24, an increase of 15.2% over the revised estimate of 2022-23.
- **Capital receipts** (excluding borrowings) are targeted at Rs 84,000 crore, a marginal increase of 0.6% over the revised estimates of 2022-23. Recoveries of loans and advances were 64% higher in the revised estimates of 2022-23 at Rs 23,500 crore compared to budget estimates of Rs 14,291 crore.

Table 3: Break up of central government receipts in 2023-24 (Rs crore)

	Actuals 2021-22	Budgeted 2022-23	Revised 2022-23	Budgeted 2023-24	% change 2022-23 RE to 2023-24 BE
Gross Tax Revenue	**27,09,135**	**27,57,820**	**30,43,067**	**33,60,858**	**10.4%**
of which:					
Corporation Tax	7,12,037	7,20,000	8,35,000	9,22,675	10.5%
Taxes on Income	6,96,243	7,00,000	8,15,000	9,00,575	10.5%
Goods and Services Tax	6,98,114	7,80,000	8,54,000	9,56,600	12.0%
Customs	1,99,728	2,13,000	2,10,000	2,33,100	11.0%
Union Excise Duties	3,94,644	3,35,000	3,20,000	3,39,000	5.9%
Service Tax	1,012	2,000	1,000	500	-50.0%
A. Centre's Net Tax Revenue	**18,04,794**	**19,34,771**	**20,86,662**	**23,30,631**	**11.7%**
Devolution to States	**8,98,392**	**8,16,649**	**9,48,405**	**10,21,448**	**7.7%**
B. Non Tax Revenue	**3,65,112**	**2,69,651**	**2,61,751**	**3,01,650**	**15.2%**
of which:					
Interest Receipts	21,874	18,000	24,640	24,820	0.7%
Dividend	1,60,647	1,13,948	83,953	91,000	8.4%
Other Non-Tax Revenue	1,79,540	1,34,276	1,48,342	1,81,382	22.3%
C. Capital Receipts (without borrowings)	**39,375**	**79,291**	**83,500**	**84,000**	**0.6%**
of which:					
Disinvestment	13,627	65,000	50,000	51,000	2.0%
Receipts (without borrowings) (A+B+C)	**22,09,281**	**22,83,713**	**24,31,913**	**27,16,281**	**11.7%**
Borrowings	**15,84,521**	**16,61,196**	**17,55,319**	**17,86,816**	**1.8%**
Total Receipts (including borrowings)	**37,93,802**	**39,44,909**	**41,87,232**	**45,03,097**	**7.5%**

Sources: Receipts Budget, Union Budget Documents 2023-24; PRS.

- **Indirect taxes:** The total indirect tax collections are estimated to be Rs 15,29,200 crore in 2023-24. Of this, the government has estimated to raise Rs 9,56,600 crore from GST. Out of the total tax collections under GST, 85% is expected to come from central GST (Rs 8,11,600 crore), and 15% from the GST compensation cess (Rs 1,45,000 crore).
- **Corporation tax:** The collections from taxes on companies are expected to increase by 10.5% in 2023-24. In 2022-23, corporate tax collection is expected to be 16% higher than the budget estimate (Rs 7,20,000 crore).
- **Income tax:** The collections from income tax are also expected to increase by 10.5% in 2023-24 to Rs 9,00,575 crore. Income tax collection is expected to be 16.4% higher than the budget estimate in 2022-23.
- **Non-tax receipts:** Non-tax revenue consists mainly of interest receipts on loans given by the centre, dividends, license fees, tolls, and charges for government services. Dividend receipts were lower in 2022-23 than originally budgeted mainly on account of lower dividend from Reserve Bank of India. In 2023-24, non-tax revenue is expected to increase by 15% over the revised estimates of 2022-23.
- **Disinvestment target:** The disinvestment target for 2023-24 is Rs 51,000 crore. This is a marginal increase of 2% over the revised estimate of 2022-23 (Rs 50,000 crore). In 2022-23, the receipts from disinvestment are expected to be 23% lower than the budget estimate.

Expenditure Highlights for 2023-24

- **Total expenditure** in 2023-24 is expected to be Rs 45,03,097 crore, which is an increase of 7.5% over than the revised estimate of 2022-23. Out of this: (i) Rs 14,67,880 crore is proposed to be spent on central sector schemes (4% increase over the revised estimate of 2022-23), and (ii) Rs 4,76,105 crore is proposed to be spent on centrally sponsored schemes (a 5.4% increase over the revised estimate of 2022-23).
- The government has estimated to spend Rs 2,34,359 crore on pension in 2023-24, which is 4.3% lower than the revised estimate of 2022-23. In addition, expenditure on interest payment in 2023-24 is estimated to be Rs 10,79,971 crore, which is 24% of the government's expenditure. In 2023-24, interest payments are expected to increase by 14.8% as compared to revised estimates of 2022-23.

Table 4: Break up of central government expenditure in 2023-24 (Rs crore)

	Actuals 2021-22	Budgeted 2022-23	Revised 2022-23	Budgeted 2023-24	% change (2022-23 RE to 2023-24 BE)
Central Expenditure	**29,13,970**	**30,06,111**	**32,82,936**	**35,13,761**	**7.0%**
Establishment Expenditure of Centre	6,93,272	6,92,214	7,34,619	7,44,339	1.3%
Central Sector Schemes	12,09,950	11,81,084	14,11,729	14,67,880	4.0%
Other expenditure	10,10,748	11,32,813	11,36,588	13,01,542	14.5%
Grants for CSS and other transfers	**8,79,832**	**9,38,797**	**9,04,296**	**9,89,337**	**9.4%**
Centrally Sponsored Schemes (CSS)	4,54,366	4,42,781	4,51,901	4,76,105	5.4%
Finance Commission Grants	2,07,435	1,92,108	1,73,257	1,65,480	-4.5%
of which:					
Rural Local Bodies	40,312	46,513	41,000	47,018	14.7%
Urban Local Bodies	16,147	22,908	15,026	24,222	61.2%
Grants-in-aid	20,272	23,294	22,135	24,466	10.5%
Post Devolution Revenue Deficit Grants	1,18,452	86,201	86,201	51,673	-40.1%
Other grants	2,18,031	3,03,908	2,79,138	3,47,752	24.6%
Total Expenditure	**37,93,801**	**39,44,909**	**41,87,232**	**45,03,097**	**7.5%**

Sources: Budget at a Glance, Union Budget Documents 2023-24; PRS.

Expenditure by Ministries

In 2023-24, the ministries with the highest allocations account for 55% of the estimated total expenditure. Of these, the Ministry of Defence has the highest allocation in 2023-24, at Rs 5,93,538 crore. It accounts for 13.2% of the total budgeted expenditure of the central government. Other ministries with high allocation include: (i) Road Transport and Highways (6% of total expenditure), (ii) Railways (5.4%), and (iii) Consumer Affairs, Food, and Public Distribution (4.6%). Table 5 shows the expenditure on Ministries with the 13 highest allocations for 2023-24 and the changes in allocation as compared to the revised estimate of 2022-23.

Table 5: Ministry-wise expenditure in 2023-24 (Rs crore)

	Actuals 2021-22	Budgeted 2022-23	Revised 2022-23	Budgeted 2023-24	% change (2022-23 RE to 2023-24 BE)
Defence	5,00,681	5,25,166	5,84,791	5,93,538	1.5%
Road Transport and Highways	1,23,551	1,99,108	2,17,027	2,70,435	24.6%
Railways	1,35,242	1,40,367	1,62,312	2,41,268	48.6%
Food and Public Distribution	3,06,571	2,17,684	2,96,523	2,05,765	-30.6%
Home Affairs	1,68,791	1,85,777	1,93,912	1,96,035	1.1%
Chemicals and Fertilisers	1,54,789	1,07,715	2,27,681	1,78,482	-21.6%
Rural Development	1,61,643	1,38,204	1,82,382	1,59,964	-12.3%
Agriculture and Farmers' Welfare	1,22,836	1,32,514	1,18,913	1,25,036	5.1%
Communications	51,545	1,05,407	1,05,478	1,23,393	17.0%
Education	80,352	1,04,278	99,881	1,12,899	13.0%
Jal Shakti	83,467	86,189	74,029	97,278	31.4%
Health and Family Welfare	84,470	86,201	79,145	89,155	12.6%
Housing and Urban Affairs	1,06,840	76,549	74,546	76,432	2.5%
Other Ministries	17,13,022	18,39,751	17,70,613	20,33,419	14.8%
Total Expenditure	**37,93,801**	**39,44,909**	**41,87,232**	**45,03,097**	**7.5%**

Sources: Expenditure Budget, Union Budget 2023-24; PRS.

- **Railways:** Allocation is estimated to increase by Rs 78,956 crore (48.6%) in 2023-24, over the revised estimate of 2022-23. This is mainly on account of increased capital outlay on commercial lines.
- **Jal Shakti:** Allocation to the Ministry of Jal Shakti is estimated to increase by Rs 23,249 crore (31.4%) in 2023-24, driven by an increase in the allocation for Jal Jeevan Mission.
- **Road Transport and Highways:** Allocation in 2023-24 is estimated to increase by Rs 53,408 crore (24.6%), on account of an increase on capital outlay on roads and bridges (24.5%).
- Allocation towards the Ministries of Consumer Affairs, Food and Public Distribution, and Chemicals and Fertilisers have decreased mainly on account of a reduction in food subsidy and fertiliser subsidy. We discuss the expenditure on subsidies below.

Expenditure on Subsidies

In 2023-24, the total expenditure on subsidies is estimated to be Rs 4,03,084 crore, a decrease of 28.3% from the revised estimate of 2022-23 (Table 6).

- **Food subsidy:** Allocation to food subsidy is estimated at Rs 1,97,350 crore in 2023-24, a 31.3% decrease over the revised estimate of 2022-23. A higher level of food subsidy was budgeted in 2021-22 and 2022-23 mainly on account of Pradhan Mantri Garib Kalyan Ann Yojana, which provides for free additional foodgrains to eligible beneficiaries to mitigate the impact of COVID-19. The provision of additional foodgrains was discontinued in December 2022.
- **Fertiliser subsidy:** Expenditure on fertiliser subsidy is estimated at Rs 1,75,100 crore in 2023-24. This is a decrease of Rs 50,120 crore (22.3%) from the revised estimate of 2022-23. Fertiliser subsidy for 2022-23 was increased substantially in response to a sharp increase in international prices of raw materials used in the manufacturing of fertilisers.
- **Other subsidies:** Expenditure on other subsidies includes interest subsidies for various government schemes, subsidies for the price support scheme for agricultural produce, and assistance to ship building research and development, among others. In 2023-24, the expenditure on these other subsidies is estimated to decrease by 30% over the revised estimate of 2022-23.

Table 6: Subsidies in 2023-24 (Rs crore)

	Actuals 2021-22	Budgeted 2022-23	Revised 2022-23	Budgeted 2023-24	% change (2022-23 RE to 2023-24 BE)
Food subsidy	2,88,969	2,06,831	2,87,194	1,97,350	-31.3%
Fertiliser subsidy	1,53,758	1,05,222	2,25,220	1,75,100	-22.3%
Petroleum subsidy	3,423	5,813	9,171	2,257	-75.4%
Other subsidies	57,758	37,773	40,495	28,377	-29.9%
Total	**5,03,907**	**3,55,639**	**5,62,080**	**4,03,084**	**-28.3%**

Sources: Expenditure Profile, Union Budget 2023-24; PRS.

Expenditure on Major Schemes

Table 7: Scheme wise allocation in 2023-24 (Rs crore)

	Actuals 2021-22	Budgeted 2022-23	Revised 2022-23	Budgeted 2023-24	% change (2022-23 RE to 2023-24 BE)
Pradhan Mantri Awas Yojana	90,020	48,000	77,130	79,590	3.2%
Jal Jeevan Mission/National Rural Drinking Water Mission	63,126	60,000	55,000	70,000	27.3%
PM-KISAN	66,825	68,000	60,000	60,000	0.0%
MGNREGS	98,468	73,000	89,400	60,000	-32.9%
National Education Mission	25,305	39,553	32,612	38,953	19.4%
National Health Mission	32,958	37,160	33,708	36,785	9.1%
Modified Interest Subvention Scheme*	-	19,500	22,000	23,000	4.5%
Saksham Anganwadi and POSHAN 2.0	18,382	20,263	20,263	20,554	1.4%
Pradhan Mantri Gram Sadak Yojana	13,992	19,000	19,000	19,000	0.0%
AMRUT and Smart Cities Mission	13,868	14,100	15,300	16,000	4.6%
National Livelihood Mission-Ajeevika	10,177	14,236	13,886	14,129	1.7%
Guarantee Emergency Credit Line to MSME borrowers	7,445	15,000	10,500	14,100	34.3%
Pradhan Mantri Fasal Bima Yojana	13,549	15,500	12,376	13,625	10.1%
Swachh Bharat Mission	5,050	9,492	7,000	12,192	74.2%
Reform Linked Distribution Scheme	814	7,566	6,000	12,072	101.2%

Note: The Modified Interest Subvention Scheme replaced the scheme for interest subsidy for short term credit to farmers (the actual expenditure towards this scheme is Rs 21,477 crore in 2021-22).
Sources: Expenditure Profile, Union Budget 2023-24; PRS.

- Pradhan Mantri Awas Yojana (rural and urban components taken together) has the highest allocation in 2023-24 at Rs 79,590 crore. This is an increase of 3.2% over the revised estimate of 2022-23. As compared to the revised estimates of 2022-23, the allocation for the rural component of the scheme has increased by 13% and the urban component has declined by 13% in 2023-24. For 2022-23, the allocation towards the scheme has been increased by 60.7% as compared to the budget estimates.
- The Jal Jeevan Mission has the second highest allocation in 2023-24 at Rs 70,000 crore, an increase of 27.3% over the revised estimate of Rs 55,000 crore in 2022-23.
- Allocation for PM-KISAN has been kept constant at Rs 60,000 crore, and for MGNREGS has been reduced by 33% to Rs 60,000 crore.
- Some other schemes with a comparatively higher increase in allocation in 2023-24 include: (i) Reform Linked Distribution Scheme (101.2%), (ii) Swachh Bharat Mission (74.2%), and (iii) Guarantee Emergency Credit Line to MSME borrowers (34.3%).

Loans to states for capital expenditure

- The Centre has budgeted Rs 1.3 lakh crore for special interest-free loans to states for capital expenditure. The revised estimates for 2022-23 at Rs 76,000 crore were lower than the budgeted Rs 1 lakh crore.

Expenditure on Scheduled Caste and Scheduled Tribe sub-plans and schemes for welfare of women, children and North Eastern Region

- Programmes for the welfare of women and children have been allocated Rs 3,27,010 crore in 2023-24, an increase of 6.3% over the revised estimate of 2022-23. These allocations include programmes being implemented across all ministries.
- The allocation towards scheduled castes and scheduled tribes in 2023-24 is estimated to increase by 4.3% and 26.7%, respectively. The budget for road works under allocation for welfare of scheduled tribes has increased by 265% in 2023-24 as compared to revised estimate of 2022-23. The allocation towards North Eastern Region is estimated to increase by 30.5% in 2023-24 over the revised estimates of 2022-23.

Table 8: Allocations for women, children, SCs, STs and NER (Rs crore)

	Actuals 2021-22	Revised 2022-23	Budgeted 2023-24	% change (2022-23 RE to 2023-24 BE)
Welfare of Women	2,09,528	2,18,487	2,23,220	2.2%
Welfare of Children	73,199	89,008	1,03,791	16.6%
Scheduled Castes	1,21,614	1,52,604	1,59,126	4.3%
Scheduled Tribes	83,921	94,293	1,19,510	26.7%
North Eastern Region (NER)	-	72,540	94,680	30.5%

Sources: Expenditure Profile, Union Budget 2023-24; PRS.

Fiscal Responsibility and Budget Management targets

The Fiscal Responsibility and Budget Management (FRBM) Act, 2003 requires the central government to progressively reduce its outstanding debt, revenue deficit and fiscal deficit, and give three year rolling targets. Note that the Medium-Term Fiscal Policy Statement has not provided rolling targets for budget deficits since 2021-22. In the Budget speech, the finance minister reiterated the government's aim to reduce fiscal deficit to below 4.5% of GDP by 2025-26.

Fiscal deficit is an indicator of borrowings by the government for financing its expenditure. The estimated fiscal deficit for 2023-24 is 5.9% of GDP.

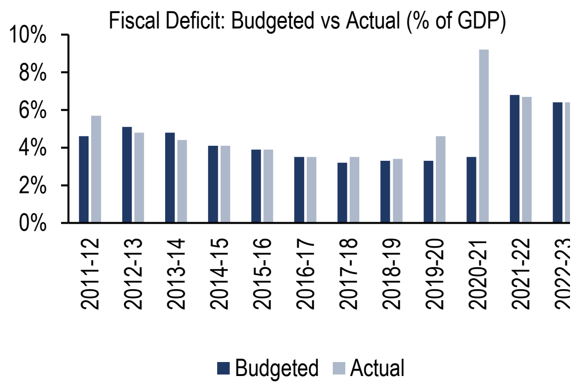
Revenue deficit is the excess of revenue expenditure over revenue receipts. Such a deficit implies that the government needs to borrow funds to meet recurring expenses which may not provide future returns. The estimated revenue deficit for 2023-24 is 2.9% of GDP.

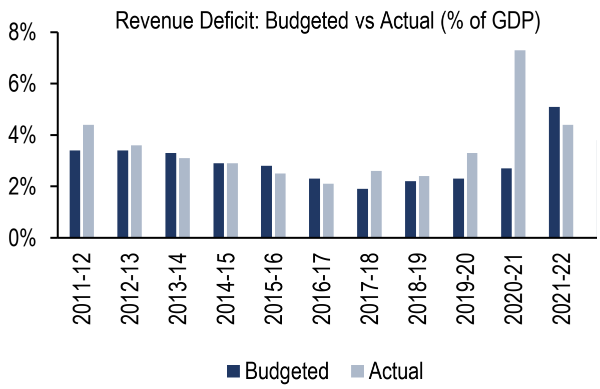
Table 9: FRBM targets for deficits (as % of GDP)

	Actuals 2021-22	Revised 2022-23	Budgeted 2023-24
Fiscal Deficit	6.7%	6.4%	5.9%
Revenue Deficit	4.4%	4.1%	2.9%
Primary Deficit	3.3%	3.0%	2.3%

Sources: Medium Term Fiscal Policy Statement, Union Budget 2023-24; PRS.

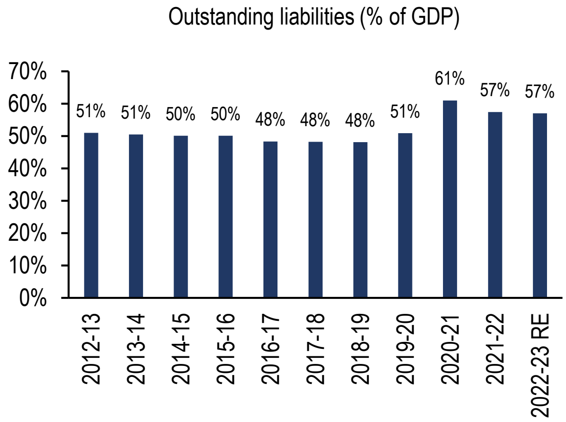
Primary deficit is the difference between fiscal deficit and interest payments. It is estimated to be 2.3% of GDP in 2023-24.

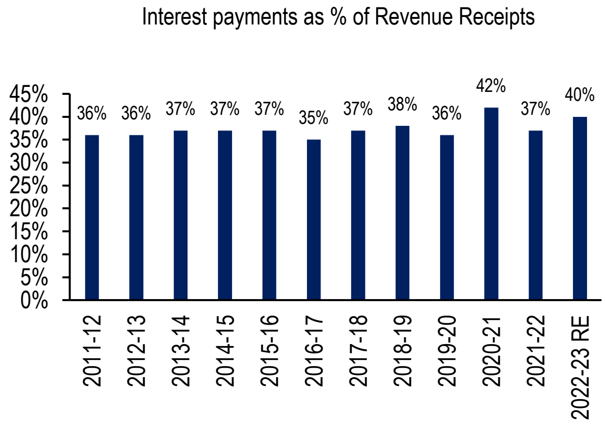




Note: Data for 2022-23 is revised estimate.
Sources: Budget at a Glance, Union Budget (multiple years); PRS.

- In the 2022-23 budget, the government estimated the fiscal deficit to be at 6.4% of GDP, and the revenue deficit to be at 3.8% of GDP. As per the revised estimates for 2022-23, the ratio of fiscal deficit to GDP is estimated to be the same as budget estimate despite fiscal deficit being higher in nominal terms by Rs 94,123 crore (5.7% overshooting). This was due to GDP growth being higher than estimated.
- **Outstanding Liabilities:** The central government's outstanding liabilities declined from 51% in 2012-13 to 48% in 2018-19. From 2019-20 onwards, outstanding liabilities have been increasing, and reached a high of 61% in 2020-21. They declined to 57% in 2021-22, and are expected to remain at that level in 2023-24.
- Outstanding liabilities is the accumulation of borrowings over the years. A higher debt implies that the government has a higher loan repayment obligation over the years.
- The interest payments as a percentage of revenue receipts increased from 36% in 2011-12 to 42% in 2020-21. As per the budget estimates, this figure is expected to marginally reduce to 41% in 2023-24.





Note: RE is revised estimate and BE is budget estimate.
Sources: Economic Survey 2022-23, Union Budget Documents 2023-24; PRS.

Demand for Grants 2023-24 Analysis
Defence

The Ministry of Defence frames policies on defence and security-related matters, and ensures its implementation by the defence services (Army, Navy, and Air Force). In addition, it is responsible for production establishments such as defence public sector undertakings, research and development organisations, and ancillary services that assist the defence services, such as the Armed Forces Medical Services.

This note analyses budgetary allocation and expenditure trends of the Ministry. The note also discusses certain issues such as the falling expenditure on defence as percentage of GDP, high share of pension, continued reliance on imports to meet defence equipment needs, and shorter tenure of Agnipath recruits compared to regular cadres.

Overview of finances

The Budget of the Ministry of Defence includes the allocation towards the three defence services along with the expenditure on research and development and border roads. In 2023-24, the Ministry has been allocated Rs 5,93,538 crore. This includes expenditure on salaries of the armed forces and civilians, pension, modernisation of armed forces, production establishments, maintenance, and research and development organisations. The allocation towards the Ministry is largest across all ministries and accounts for over 13% of the total expenditure of the central government.

India among top global military spenders but expenditure declines as share of budget

According to the Stockholm International Peace Research Institute (SIPRI), India was the third-largest defence spender in absolute terms in 2021 after USA and China.[1] Note that the SIPRI database includes the expenditure on paramilitary forces under India's total defence expenditure. While China spends a lower proportion of its GDP on defence than India, its larger economy implies that it spends over 3.5 times as much as India in terms of absolute terms.

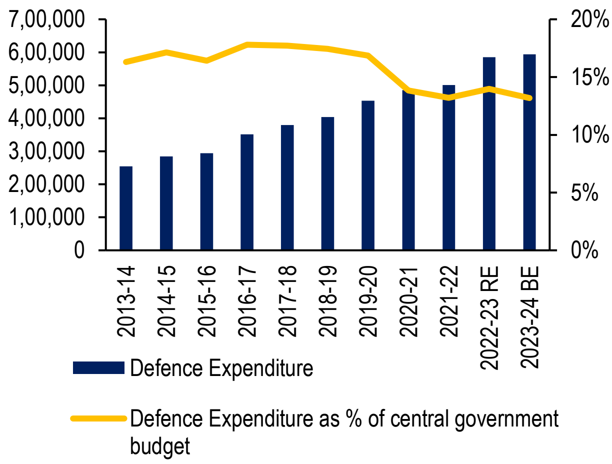
While India continues to be among the top nations in terms of spending on its military, the expenditure of the Ministry as a share of the central government expenditure has steadily declined over the years. In 2016-17, 17.8% of the total central government expenditure was spent on defence which is expected to decline to 13.2% according to the budget estimates of 2023-24. Between 2013-14 and 2023-24 while central government expenditure is estimated to increase at an annual rate of 11%, spending on defence is estimated to increase at an annual rate of 9%.

Table 1: Top military spenders and Pakistan (2021)

Country	Expenditure (in USD billion)	Expenditure (as % of GDP)
USA	801	3.48%
China	293	1.74%
India	77	2.66%
UK	68	2.22%
Russia	66	4.08%
Pakistan	11	3.83%

Note: The figures for India include expenditure on the paramilitary forces of the Border Security Force, the Central Reserve Police Force, the Assam Rifles, the Indo-Tibetan Border Police and, Sashastra Seema Bal.
Sources: SIPRI Military Expenditure Database; PRS.

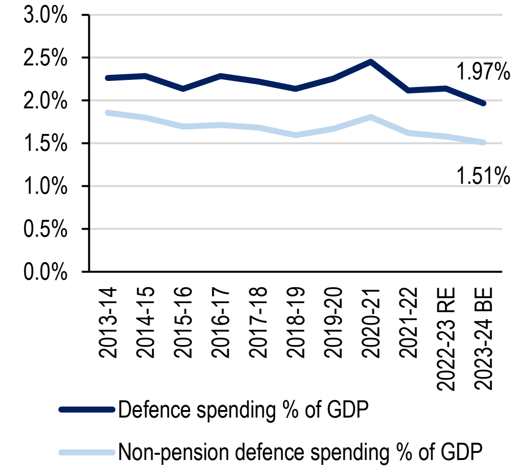
Figure 1: Defence expenditure (Rs crore)



Note: BE is budget estimate and RE is revised estimate.
Sources: Union Budget Documents (various years); PRS.

The Standing Committee on Defence (2018) had recommended that the Ministry of Defence should be allocated a fixed budget of about 3% of GDP to ensure adequate preparedness of the armed forces.[2] However, over the last decade, India's spending on defence has consistently been lower than this recommended level. In 2023-24, allocation to the Ministry is estimated to be marginally lower than 2% of GDP (Figure 2). This is different from the figure given in Table 1 due to different methodology used by SIPRI. If spending on defence pension is excluded from the total expenditure of the Ministry, the expenditure as a percentage of GDP decreases by about 0.5 percentage point across years.

Figure 2: Defence spending as % of GDP

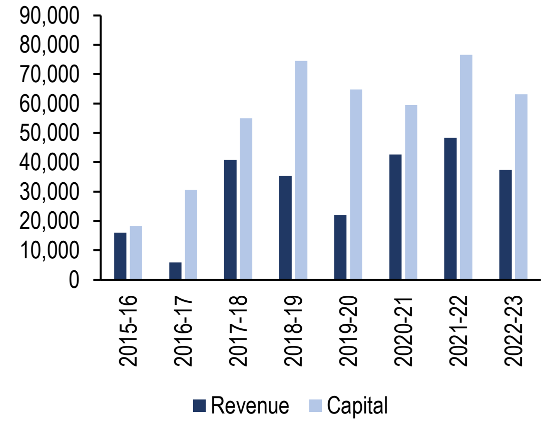


Note: BE is budget estimate and RE is revised estimate.
Sources: Union Budget Documents (various years); MoSPI; PRS.

Budget allocation lower than projected needs of the armed forces

The allocation made to the Ministry is also less than what is sought by the defence forces. The amount allocated to the Ministry each year is determined based on various needs of the forces such as acquisition of weaponry and payment of salaries and pensions. In 2022-23, the amount allocated to the armed forces was 28% lower than what was sought by the forces as part of their projected needs. The shortfall in allocation has been higher for the capital component of the budget as compared to the revenue component.

Figure 3: Shortfall in budget allocation versus projected needs (Rs crore)



Sources: 20th Report and 27th Report, Standing Committee on Defence; PRS.

In a memorandum submitted to the 15th Finance Commission, the Ministry of Defence sought adequate funding through alternate sources for meeting its increasing requirements.[3] The Ministry had pointed out that budgetary allocations have declined over the years and are inadequate to fund large defence acquisitions.[3] For the period 2021-26, the Ministry estimated to receive Rs 9.01 lakh crore for capital outlay against the defence plan projection of Rs 17.46 lakh crore (48% shortfall).[3] It was highlighted by the Ministry that consistent shortfalls in the defence budget over a long period has led to serious capability gaps, including compromising the operational preparedness of the three services.[3] Lack of adequate funds has forced the Ministry to manage its expenditure through ad-hoc mechanisms such as postponing procurements and delaying payments.[3]

The 15th Finance Commission recommended that the central government may constitute Modernisation Fund for Defence and Internal Security (MFDIS) to bridge the gap between projected budgetary requirements and budget allocation.[3] This fund will be non-lapsable. Its proceeds will be utilised for: (i) capital investment for modernisation of defence services, and (ii) capital investment and modernisation of central armed police forces and state police forces. The fund could have four specific sources of incremental funding: (i) transfers from Consolidated Fund of India, (ii) disinvestment proceeds of defence public sector enterprises, (iii) proceeds from monetisation of surplus defence land, and (iv) proceeds of receipts from defence land likely to be transferred to state governments and for public projects in future.[3] The Finance Commission estimated the indicative size of the fund at Rs 2,38,354 crore over 2021-26.[3] According to media reports, the Ministry of Finance has rejected the funding pattern of the fund as recommended by the 15th Finance Commission.[4] It is exploring new means of funding as it is of the opinion that putting money directly in a non-lapsable fund is against good parliamentary practice.[4]

The Standing Committee on Defence (2017) noted that creation of a non-lapsable defence capital fund account is an imperative need for improving operational preparedness of the armed forces.[5] Creating such a fund would ensure that procurement of equipment and ammunitions is not delayed due to lack of money.[5]

The Standing Committee on Defence (2022) was informed that the proposal to create a non-lapsable defence modernisation fund was under consideration by the central government.[6] A suitable mechanism for operationalising the fund was being worked out in consultation with the Ministry of Finance.[6] The Committee recommended expediting the creation of the fund so that defence procurement can be carried out without having to rely on supplementary or additional grants.

Composition of the defence budget

In 2023-24, the allocation made to the Ministry is 1.5% higher as compared to the revised estimates of 2022-23 (Table 2). This is significantly lower as compared to the growth in the total expenditure of the central government at 7.5% in 2023-24 over the revised estimates of 2022-23. Within the defence budget, salaries are estimated to increase by 3% while pension is estimated to decrease by 10% in 2023-24 as compared to the revised estimates of

2022-23. Salaries and pension account for 52% of the defence budget in 2023-24. This does not include salary of Rashtriya Rifles, National Cadet Corps (NCC), Joint Staff and Agnipath as detailed break-up of these expense heads is not provided. Capital outlay, which includes spending on acquisition of arms, ammunition, and other equipment, is estimated to increase by 8% in the same period. Other expenses include spending on transportation, Rashtriya Rifles, Joint Staff, Agnipath scheme, and other establishment expenditure of the Ministry.

Table 2: Defence budget allocation (in Rs crore)

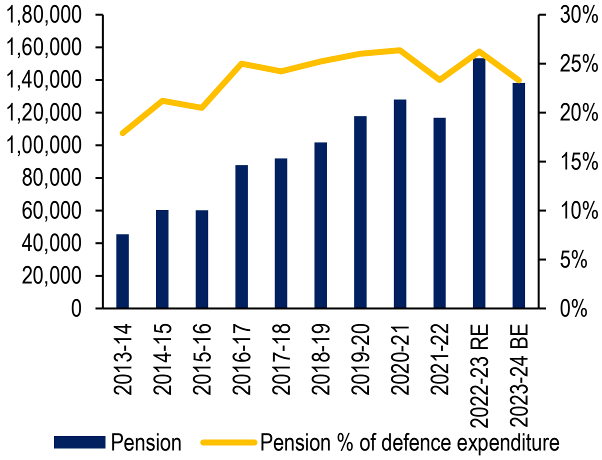
Major Head	Actuals 2021-22	RE 2022-23	BE 2023-24	% change 2022-23 RE to 2023-24 BE
Salaries	1,47,471	1,62,902	1,68,334	3%
Capital Outlay	1,44,786	1,57,979	1,71,375	8%
Pension	1,16,800	1,53,414	1,38,205	-10%
Maintenance	62,541	75,319	74,175	-2%
Other Expenses	29,083	35,177	41,449	18%
Total	**5,00,681**	**5,84,791**	**5,93,538**	**1%**

Note: Salaries include pay and allowances of the armed forces, auxiliary forces, civilians, research and development, and salary expenditure of the civil estimates. It does not include salaries of Rashtriya Rifles, NCC, Joint Staff, and Agnipath recruits as detailed breakup is not provided. Capital outlay includes capital expenditure of the Ministry and the armed forces. Maintenance includes expenditure on stores, works, repairs, and refits.
Sources: Expenditure Budget, Union Budget 2023-24; PRS.

More than 20% of the defence budget is spent on pension

Defence pension provide for pensionary charges for retired defence personnel of the three services (including civilian employees) and employees of Ordnance Factories. It covers payment of service pension, gratuity, family pension, disability pension, commuted value of pension, and leave encashment. The expenditure on defence pension has increased at an annual rate of 12% between 2013-14 and 2023-24. This is higher than the 9% annual growth in the total expenditure of the Ministry. In 2023-24, defence pension is estimated to be 10% lower as compared to the revised estimate of 2022-23. However, in 2022-23, pension expenditure was 28% higher at the revised estimate stage as compared to the budget stage. This was driven by payment of arrears of One Rank One Pension (OROP) of Rs 28,137 crore in 2022-23. Between 2014-15 and 2023-24, the spending on defence pension has been consistently higher than 20% of the total budget of the Ministry. In 2019-20 and 2022-23, 26% of the Ministry's budget was spent of pension expenditure.

Figure 4: Spending on defence pension (Rs crore)



Note: BE is budget estimate and RE is revised estimate.
Sources: Union Budget Documents (various years); PRS.

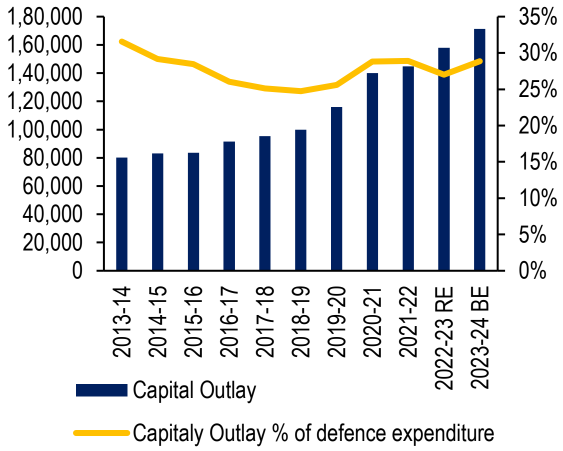
In November 2015, the government decided to implement OROP with benefits effective from July 1, 2014.[7] Under this framework, soldiers of the same rank who have retired after serving for the same length of service will receive the same pension. This applies irrespective of the date and year of their retirement. The pension under OROP is revised after every five years.[7] Almost Rs 57,000 crore has been spent under OROP since its implementation.[7] In December 2022, the Union Cabinet approved the revision of pension under OROP with effect from July 1, 2019.[7] The annual expenditure for implementing the revised pension was estimated at around Rs 8,450 crore.

The 15th Finance Commission recommended that the Ministry should take steps to reduce salaries and pension liabilities.[3] The Ministry has been examining various reforms in defence pension including: (i) bringing service personnel currently under the old pension scheme into the New Pension Scheme, (ii) increasing retirement age of personnel below officer ranks, and (iii) transfer of retired personnel to other services. Also, the recently implemented Agnipath scheme for recruiting soldiers, sailors, and airmen into the armed forces may help in reducing pension expenditure in the long term (see page 19).

Capital outlay has remained below 30% of the defence budget

One of the consequences of high spending on defence pension could be the lower spending on capital outlay. Capital outlay for defence includes expenditure on construction work, machinery, and equipment such as tanks, naval vessels, and aircrafts. It also includes capital expenditure on research and development and construction of border roads. In 2013-14, 32% of the defence budget was spent on capital outlay. This share has declined and between 2014-15 and 2023-24 less than 30% of the defence budget involved spending on capital outlay. In 2023-24, the Ministry is estimated to spend 29% of its budget on capital outlay as compared to 27% in 2022-23.

Figure 5: Expenditure on capital outlay (Rs crore)



Note: BE is budget estimate and RE is revised estimate.
Sources: Union Budget Documents (various years); PRS.

The Standing Committee on Defence (2021) had observed that the ideal ratio of revenue expenditure to capital outlay was 60:40.[8] In 2023-24, Navy and Air Force are estimated to spend over half of their budget allocation on capital expenditure.

Table 3: Revenue and capital expenditure of the armed forces in 2023-24 (Rs crore)

Forces	Revenue	Capital	Ratio (in%)
Army	3,03,748	37,342	89:11
Navy	42,722	56,341	43:57
Air Force	56,454	58,269	49:51

Note: Spending on Army includes Jammu and Kashmir Light Infantry and spending on Navy includes Coast Guard.
Sources: Expenditure Budget, Union Budget 2023-24; PRS.

Table 4: Capital outlay on the armed forces (Rs crore)

Forces	Actuals 2021-22	RE 2022-23	BE 2023-24	% change 2022-23 RE to 2023-24 BE
Army	25,131	32,598	37,342	15%
Navy	45,029	47,727	52,805	11%
Air Force	53,217	53,871	58,269	8%
Coast Guard	3,189	3,300	3,536	7%
Total	**1,26,566**	**1,37,497**	**1,51,951**	**11%**

Note: Capital outlay on Army and Air Force includes assistance for prototype development. BE is budget estimate and RE is revised estimate.
Sources: Expenditure Budget, Union Budget 2023-24; PRS.

Capital outlay on the armed forces and the coast guard is estimated to increase by 11% in 2023-24 over the revised estimate of 2022-23. In 2022-23, the capital outlay for Army and Navy was broadly in line with the budget estimates while capital outlay for the Air Force saw a 5% decline at the revised estimate stage. In 2023-24, capital outlay of the army is estimated to increase 15% over the revised estimate of 2022-23. This is followed by the Navy at 11% and the Air Force at 8%.

Committed liabilities

Note that capital acquisition of the armed forces consists of two components: (i) committed liabilities, and (ii) new schemes. Committed liabilities are payments anticipated during a financial year in respect of contracts concluded in previous years (as acquisition is a complex process involving long gestation periods). New schemes include new projects which are at various stages of approval and are likely to be implemented in future. Data related to committed liabilities has not been publicly disclosed for years after 2019-20.

Table 5: Committed liabilities and modernisation budget (Rs crore)

Year	Committed liabilities	Modernisation budget	Shortfall (in %)
2016-17	73,553	62,619	15%
2017-18	91,382	68,965	25%
2018-19	1,10,044	73,883	33%
2019-20	1,13,667	80,959	29%

Note: Figures for committed liabilities have not been publicly disclosed after 2019-20.
Sources: 3rd Report, Capital Outlay on Defence Services, Procurement Policy and Defence Planning, Standing Committee on Defence, December 2019; PRS.

The Standing Committee on Defence (2019) expressed concern over the shortage in allocation to meet committed liabilities expenditure.[9] The Committee observed that inadequate allocation for committed liabilities could lead to default on contractual obligations.[9] It observed that if India were to default on payments, it will not go down well in international markets.[9] The Committee has repeatedly recommended the Ministry to create a dedicated fund for committed liabilities and new schemes.[6,8] So far, these funds have not been created. In 2022, the Committee noted that having a separate fund would ensure that there are no difficulties in meeting deadlines for making payment towards committed purchases of the armed forces.[6]

Defence services

In 2023-24, the allocation for the three defence services (including pension) is Rs 5,54,875 crore which is 93% of the total budget allocation of the Ministry. Out of this, Army accounts for 57% of the budget while Navy and Air Force make up 17% and 19% of the allocation respectively. The expenditure on Army, Navy, and Air Force is in the ratio 3.4:1:1.2. The army has the highest pension obligations among the three services. Excluding pension, the expenditure of Army, Navy, and Air Force is in the ratio 2.4:1:1.1 in 2023-24. The allocation towards Army is expected to be largely unchanged in 2023-24 over the revised estimate of 2022-23 while for Navy and Air Force it is estimated to increase by 6% and 2%, respectively.

Table 6: Defence budget allocation (Rs crore)

Major Head	Actuals 2021-22	RE 2022-23	BE 2023-24	% change 2022-23 RE to 2023-24 BE
Army	2,85,278	3,41,221	3,41,090	0%
Navy	80,740	93,244	99,062	6%
Air Force	98,024	1,12,071	1,14,723	2%
Other	36,638	38,256	38,663	1%
Total	**5,00,681**	**5,84,791**	**5,93,538**	**1%**

Note: Allocation for Army includes Jammu and Kashmir Light Infantry and for the Navy includes Coast Guard. RE is revised estimate and BE is budget estimate.
Sources: Expenditure Budget, Union Budget 2023-24; PRS.

Army: Substantial expenditure on salaries and pension leave little room for spending on modernisation

Table 7: Breakup of the Army Budget in 2023-24 (Rs crore)

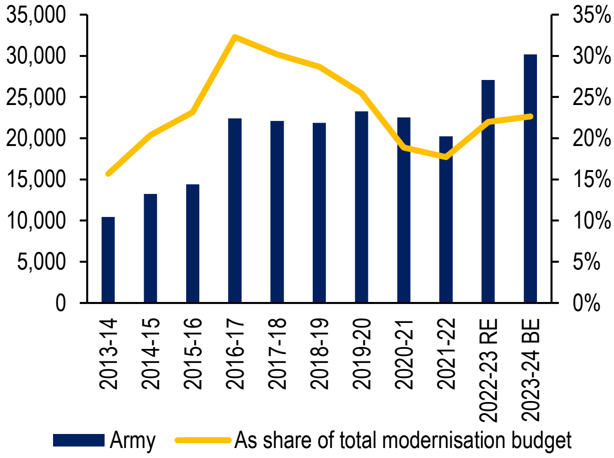
Head	Amount Allocated	% of service budget
Salaries	1,18,889	35%
Pension	1,19,300	35%
Modernisation	30,163	9%
Maintenance	35,475	10%
Other forces	14,036	4%
Agnipath	3,800	1%
Miscellaneous	19,426	6%
Total	**3,41,090**	**100%**

Note: Salaries include salary for civilians and auxiliary forces. Modernisation funds for the Army is calculated from the following heads of the capital outlay: (i) Aircraft and Aeroengine, (ii) Heavy and Medium Vehicles, (iii) Other Equipment, (iv) Rolling Stock, (v) Rashtriya Rifles, and (vi) assistance for prototype development. Other forces include revenue expenditure on Rashtriya Rifles, NCC, and Jammu and Kashmir Light Infantry.
Sources: Expenditure Budget, Union Budget 2023-24; PRS.

The Army is the largest of the three forces, both in terms of its budget as well as the number of personnel. As of July 2022, the Army has an authorised strength of 13.03 lakh personnel (including officers and soldiers).[10] In 2023-24, Rs 3,41,090 crore has been allocated for the Army out of which almost 70% is budgeted to be spent on salaries and pension. Note that the salary component given in Table 7 above does not include the expenditure on salary for Rashtriya Rifles, NCC, Agnipath scheme, and Jammu and Kashmir Light Infantry as detailed breakup of their allocation is not available. If the salary expenditure on these forces is included, Army's total spending on salaries will be even higher.

Modernisation involves acquisition of state-of-the art technologies and weapons systems to upgrade and augment defence capabilities of the forces. Substantial expenditure on salaries and pension reduces the funds available for modernisation of the Army. In 2023-24, 9% of the Army's budget will be spent on its modernisation. After 2016-17, there has been a decrease in the modernisation funds allocated to the Army as a share of the total modernisation funds of the three forces. In 2023-24, Army has been provided 23% of modernisation funds among the defence services.

Figure 6: Expenditure on modernisation of Army (Rs crore)



Note: RE is revised estimate and BE is budget estimate.
Sources: Union Budget Documents (various years); PRS.

The Standing Committee on Defence (2018) had noted that modern armed forces should have one-third of its equipment in the vintage category, one-third in the current category, and one-third in the state-of-the-art category.[11] However, Indian Army had 68% of its equipment in the vintage category, 24% in the current category, and 8% in the state-of-the-art category.[11] The Committee also noted that over the years, the Army has accumulated a substantial deficiency of weapons, stores, and ammunition. It found that adequate attention has been lacking with respect to both policy and budget for modernising the aging armoury.[11]

Navy: Significant increase in funds allocated for modernisation over last decade

Table 8: Breakup of the Navy budget in 2023-24 (Rs crore)

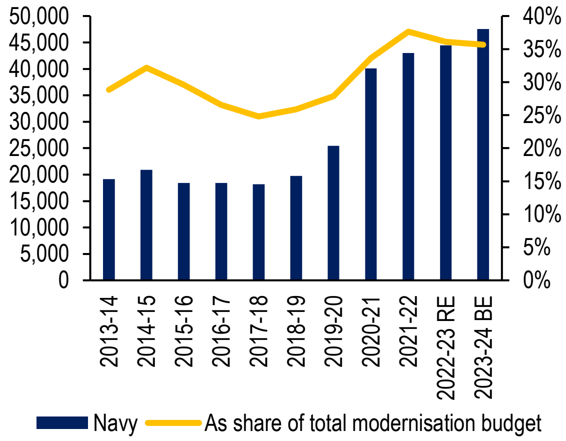
Head	Amount Allocated	% of service budget
Salaries	12,775	13%
Pension	6,776	7%
Modernisation	47,515	48%
Maintenance	13,599	14%
Other Revenue Spending	7,883	8%
Agnipath	300	0.3%
Miscellaneous	10,214	10%
Total	**99,062**	**100%**

Note: Salaries include salary for civilians. Modernisation funds for the Navy is calculated from the following heads of the capital outlay: (i) Aircraft and Aeroengine, (ii) Heavy and Medium Vehicles, (iii) Other Equipment, (iv) Naval Fleet, and (v) Naval Dockyards and Projects. Other revenue spending comprises revenue expenditure on Joint Staff and Coast Guard.
Sources: Expenditure Budget, Union Budget 2023-24; PRS.

The Navy has been allocated Rs 99,062 crore in the budget for 2023-24 (including the expenditure on pension and coast guard). Almost half of the budget has been allocated for modernisation of the Navy. Within modernisation, Rs 24,200 crore has been allocated for the naval fleet and Rs 6,725 crore has been budgeted to be spent on naval dockyard/projects. The expenditure on naval dockyard/projects is estimated to increase by 49% in 2023-24 over the revised estimates of 2022-23.

Modernisation expenditure of the Navy has increased at an annual rate of 10% between 2013-14 and 2023-24. This has been driven by a sharp increase in the expenditure on modernisation in 2019-20 (29% year-on-year increase) and 2020-21 (58%). In July 2021, the Ministry of Defence issued a request for proposal for acquiring six conventional submarines under Project 75 (India).[12] The project is estimated to cost over Rs 40,000 crore.[12] This led to the Navy's share in the total modernisation expenditure of the defence services increase to 38% in 2021-22. In 2023-24, this share is estimated to be 36% of the overall modernisation budget.

Figure 7: Expenditure on modernisation of Navy (Rs crore)



Note: RE is revised estimate and BE is budget estimate.
Sources: Union Budget Documents (various years); PRS.

Air Force: Lowest growth in modernisation expenditure among the three forces

The Air Force has been allocated Rs 1,14,723 crore in 2023-24 (including pension for retired personnel). This is an increase of 2% over the revised estimate of 2022-23. Allocation for modernisation accounts for 48% of the Air Force's budget in 2023-24.

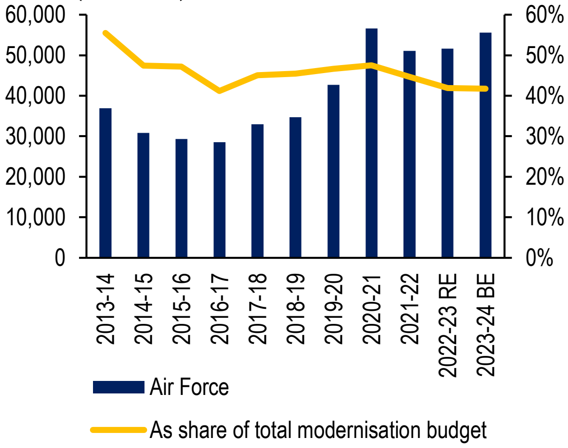
The annual growth rate of expenditure for modernisation of the Air Force was the lowest among the three forces. Between 2013-14 and 2023-24, the modernisation expenditure of the Air Force is expected to increase annually at 4%. However, the modernisation expenditure of the Air Force has consistently been the largest among the three forces. Between 2013-14 and 2023-24, more than 41% of the modernisation budget was allocated to Air Force.

Table 9: Breakup of the Air Force budget in 2023-24 (Rs crore)

Head	Amount Allocated	% of service budget
Salaries	22,795	20%
Pension	12,109	11%
Modernisation	55,586	48%
Maintenance	20,497	18%
Agnipath	166	0.1%
Miscellaneous	3,570	3%
Total	**1,14,723**	**100%**

Note: Salaries include salary for civilians. Modernisation funds for the Air Force is calculated from the following heads of capital outlay: (i) Aircraft and Aeroengine, (ii) Heavy and Medium Vehicles, (iii) Other Equipment, (iv) special projects, and (v) assistance for prototype development.
Source: Union Budget 2023-24; PRS.

Figure 8: Expenditure on modernisation of Air Force (Rs crore)



Note: RE is revised estimate and BE is budget estimate.
Sources: Union Budget Documents (various years); PRS.

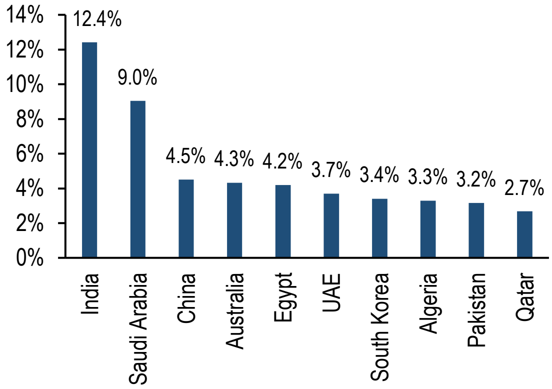
In the past, the CAG has raised issues in relation to the capital acquisition process of the IAF.[13] In its report (2019), the CAG examined 11 contracts of capital acquisition signed between 2012-13 and 2017-18, with a total value of approximately Rs 95,000 crore. It found that the current acquisition system was unlikely to support the operational preparedness of the IAF and recommended that the Ministry of Defence undertake structural reforms of the entire acquisition process.[13] The Estimates Committee (2018) noted that there should be 70% serviceability of aircrafts since aircrafts have to undergo standard maintenance checks.[14] However, as of November 2015, the serviceability of aircrafts was 60%.[14] Serviceability measures the number of aircrafts that are mission capable at a point in time.

Domestic production of defence equipment

India continues to rely significantly on imports for defence equipment

According to data maintained by SIPRI, India was the largest importer of arms between 2011-2021 followed by Saudi Arabia, China, and Australia. It accounted for 12% of the total volume of arms imported in the period from 2011 to 2021. The Standing Committee on Defence (2022) expressed concerns over India's increasing import of arms and equipment.[6] Between 2017-18 and 2021-22 (up to December 2021), 87 out of the 239 contracts for acquisition of military hardware worth Rs 1.18 lakh crore have been signed with foreign vendors including USA, Russia, Israel, and France.[6] The defence equipment imported during this period includes helicopters, aircrafts, missiles, rifles, simulators, and ammunition.

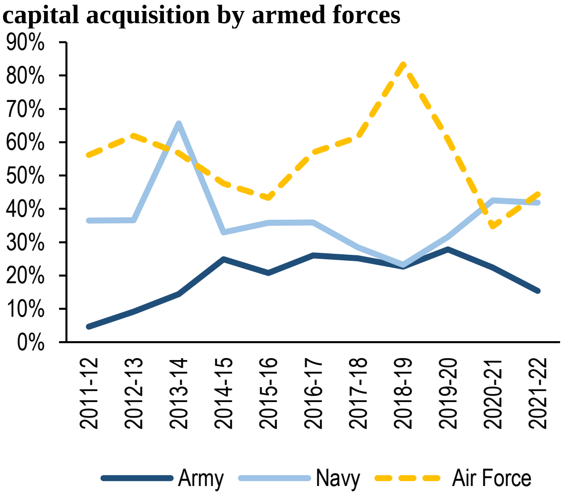
Figure 9: Top 10 importers of arms between 2011-2021 (as % of global imports)



Sources: SIPRI; PRS.

Between 2011-12 and 2020-21, imported capital acquisition by the defence services increased at an annual rate of 7.2% while capital equipment from indigenous sources increased at an annual rate of 9.7%.[6] In 2020-21, 35% of the total capital acquisition was made from foreign sources as compared to 40% in 2011-12. In 2021-22 (up to December 2021), India had imported 39% of its capital acquisition needs for the defence services.

Figure 10: Share of spending on imports for capital acquisition by armed forces



Note: Data for 2021-22 is up to December 2021.
Sources: 28th Report: Capital Outlay on Defence Services, Procurement Policy, Defence Planning and Married Accommodation Project, Standing Committee on Defence, 2022; PRS.

However, there is significant variation in the import dependence of the three defence services over the last decade. This could be because warships and planes are more capital intensive in nature and hence may require to be imported if domestic supplies are not available. Between 2011-12 and 2020-21, the average annual increase in expenditure on imported capital equipment for the army was 29% as compared to 6% from domestic sources. For the Navy, spending on imported capital equipment increased at an average annual rate of 11% as compared to 8% from indigenous sources.

The Standing Committee on Defence (2022) noted that although procurement from foreign vendors is less than from their Indian counterparts, still the value of imports has been constantly increasing since 2016-17.[6] It recommended that Defence Public Sector Undertakings (DPSUs), Defence Research and Development Organisation (DRDO) and private industries work in tandem to produce not only import substitute equipment but also expand the export potential so that India becomes an exporter of defence equipment. The Estimates Committee (2018) noted that dependence on foreign suppliers, especially for military hardware, makes India's security vulnerable as during emergency situations the supplier may not provide the required weapons or spare parts.[14]

Table 10: Enhancement in indigenous content under DAP 2020

Category	DPP-2016	DAP-2020
Buy (Indian-IDDM)	40% or more	50% or more
Buy (Indian)	40% or more	50% or more (for indigenous design)
Buy and Make (Indian)	50% or more of 'Make' part	50% or more of 'Make' part
Buy (Global-Manufacture in India)	-	50% or more
Buy (Global)	-	30% or more (for Indian vendor)

Note: IDDM is indigenously designed, developed, and manufactured. Buy and Make category refers to an initial procurement of equipment from a foreign vendor, followed by transfer of technology. DPP is Defence Procurement Procedure.
Sources: Press Information Bureau; PRS.

In order to reduce import dependence, the central government has notified three positive indigenisation lists comprising of 310 items which will be placed under staggered import embargo and procured from indigenous sources.[15] In addition, DPSUs have released three positive indigenisation lists for 1,238 items out of which 266 items have so far been indigenised.[16] The Defence Acquisition Procedure (DAP), 2020 seeks to enhance indigenous content in the manufacturing of defence equipment.[17] DAP is applicable for the acquisition of capital goods and services. It also provides for leasing of assets as another category of acquisition which can substitute huge initial capital outlays with periodical rental payments.[17] Among the categories listed in Table 10, Buy (Indian-IDDM) is given the highest priority in procurement. This is followed by Buy (Indian) and Buy and Make (Indian).[18]

Over the last few years, there has been a significant increase in defence exports which has been primarily led by the private sector.[19] Between 2016-17 and 2021-22, India's defence exports increased at an average annual rate of 53%. The share of the private sector in defence exports increased sharply at an average annual rate of 114%. The Ministry of Defence has set a target of achieving defence exports worth Rs 35,000 crore by 2024.[20]

Table 11: Exports of defence products (Rs crore)

Year	Total Exports	Exports by Private Sector	% share
2016-17	1,521	194	13%
2017-18	4,682	3,163	68%
2018-19	10,746	9,813	91%
2019-20	9,116	8,008	88%
2020-21	8,435	7,271	86%
2021-22	12,815	8,800	69%

Sources: Starred Question No. 198, Lok Sabha, Ministry of Defence; PRS.

Defence Personnel

Recruitment in the armed forces is primarily done under two broad categories: (i) officers, and (ii) Personnel Below Officer Rank (PBOR). PBORs are referred to as Junior Commissioned Officers (JCO)/Other Ranks (OR) in the Army while in the Navy and Air Force they are categorised as Sailors and Airmen respectively. There are multiple sources of recruitment for both officers and PBORs in the armed forces. For instance, to join as an officer in the army, candidates can be selected through the National Defence Academy, Indian Military Academy, or the Short Service Commission.[21]

Service tenure of majority of recruits under Agnipath will be significantly shorter compared to regular cadre

The Report of the Group of Ministers on National Security (2001), had observed that there was a need to have a younger profile for the armed services so that they are at their fighting best at all times.[22] The Kargil Review Committee (1999) had recommended that in order to have a young and fit army, the minimum service period to be eligible for pension should be reduced from 17 years to seven to 10 years.[22]

In June 2022, the Union Cabinet approved the Agnipath scheme for recruitment to the armed forces.[23] Henceforth, Agnipath will govern enrolment under the armed forces for the PBOR category.[23] Candidates recruited under the scheme will serve for four years and will form a separate rank under the armed forces, known as Agniveers. From each batch of Agniveers, up to 25% of the personnel will be enrolled in regular cadre of the armed forces. According to the Ministry of Defence, recruitment of personnel under the Agnipath scheme will enhance the youthful profile of the armed forces.[23] It would help in reducing the average age profile of the armed forces by around four to five years.[23] According to the current sanctioned strength (as of July 2022), JCO/OR/sailors/airmen make up 95%, 87%, and 92% of the total sanctioned strength of personnel in the Army, Navy, and Air Force respectively. However, when compared to PBOR personnel of various ranks, the service tenure of 75% of Agniveers is quite short.

Table 12: Retirement of JCOs/ORs (in years)

Rank	Army		Navy		Air Force	
	Term	*Retiring age*	*Term*	*Retiring age*	*Term*	*Retiring age*
Sepoy/ equivalent	19-22	42-48	15	52	17-22	52
Naik/ equivalent	24	49	19-22	52	19-24	49-52
Havildar/ equivalent	26	49	25-28	52	25-28	49-52
Naib Subedar/ equivalent	28	52	30-32	52	28-33	52
Subedar/ equivalent	30	52	34-35	57	30-35	52-57
Subedar Major/ equivalent	34	54	37	57	33-37	54-57

Note: JCO- Junior Commissioned Officers; OR- Other Ranks.
Sources: Report of the Seventh Central Pay Commission, November 2015; PRS.

While the impact of the Agnipath scheme on the operational preparedness of the armed forces may not be clear currently, it may help reduce the pension expenditure in the long run. As at least 75% of the Agniveers will not get any pensionary benefits, it may help reduce expenditure on personnel. After the expiry of four years, the people leaving the armed forces will get a Seva Nidhi package of Rs 11.7 lakh.[23]

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Demand for Grants 2023-24 Analysis
Road Transport and Highways

The Ministry of Road Transport and Highways formulates and administers policies for road transport, and transport research. It is also involved with the construction and maintenance of the National Highways (NHs) through the National Highways Authority of India (NHAI), and the National Highway and Infrastructure Development Corporation Limited (NHIDCL). It deals with matters relating to road transport, safety and vehicle standards, through the implementation of the Motor Vehicles Act, 1988. This note looks at the proposed expenditure of the Ministry for 2023-24, and some issues in the sector.

Overview of finances

The total expenditure of the Ministry in 2023-24 is estimated at Rs 2,70,435 crore. This is 25% higher than the revised estimates for 2022-23. The highest expenditure (60% of the total expenditure) is towards NHAI. In 2023-24, NHAI is allocated Rs 1,62,207 crore, all of which is budgetary support.

NHAI has a high debt burden due to increased borrowings in the past few years. Upon the recommendations of several Committees, the Ministry has increased the budgetary allocation towards NHAI, and reduced its need to borrow from the market. However, the existing debt needs to be serviced. About 9% of the Ministry's allocation for 2023-24 will be used to service debt in the year.

Table 1: Budget Allocation for the Ministry of Road Transport and Highways (in Rs crore)

	Actuals 21-22	RE 22-23	BE 23-24	% change (BE over RE)
NHAI	57,081	1,41,606	1,62,207	14.5%
Roads and Bridges	66,237	74,984	1,07,713	43.6%
Total	**1,23,551**	**2,17,027**	**2,70,435**	**24.6%**

Note: BE – Budget Estimate; RE – Revised Estimate.
Sources: Demand for Grants 2023-24; Ministry of Road Transport and Highways; PRS.

Capital expenditure for 2023-24 is estimated at Rs 2,58,606 crore, while revenue expenditure is estimated at Rs 11,829 crore. The proportion of capital expenditure in total expenditure has increased from the revised estimates of 2022-23, from 95% to 96%.

Announcements in the 2023-24 Budget Speech

An Infrastructure Finance Secretariat will be established to assist stakeholders and encourage private investment in infrastructure such as roads, railways and power.

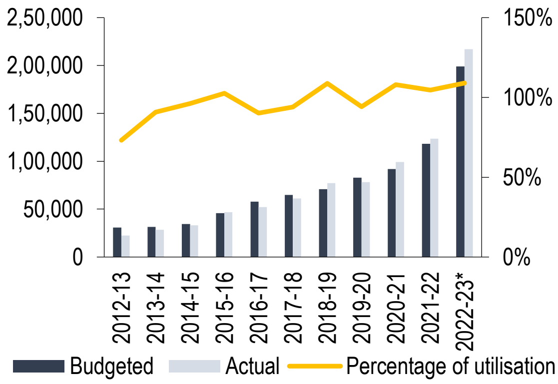
Particularly vulnerable tribal groups (PVTGs) will be provided with facilities such as road and telecom connectivity, safe housing, and clean drinking water under the Pradhan Mantri PVTG Development Mission.

Critical transport infrastructure projects for last and first mile connectivity for coal, steel, fertiliser and food grain sectors have been identified. They will be taken up on priority with investment of Rs 75,000 crore, of which Rs 15,000 crore will come from private sources.

Fund Utilisation

In the past several years, the Ministry has been spending almost all of the funds allocated to it. Since 2018-19 onwards (except for 2019-20), the Ministry has been spending more than the amount allocated to it at the budget stage. Between 2012-13 and 2022-23, the amount allocated to the Ministry increased by 21%, while the actual expenditure increased by 25%.

Figure 1: Utilisation of funds by the Ministry of Road Transport and Highways (in Rs crore)



*Actual expenditure for 2022-23 refers to revised estimates.
Sources: Demand for grants of the Ministry for various years; PRS.

Issues to consider

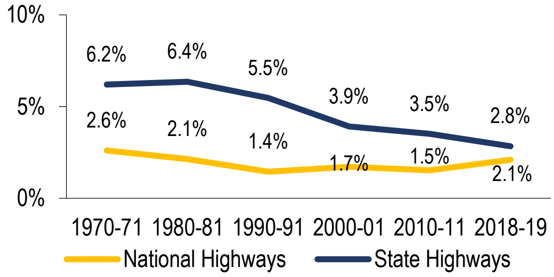
Improving road network

As of 2013, 90% of the passenger traffic and 67% of the freight traffic in the country was carried on the road network.[1] The Indian network of roads comprises National Highways (NHs), State Highways, District Roads, Rural Roads, Urban Roads and Project Roads. As of March 2019, 71% of all roads were rural roads, while NHs were 2%. District roads formed 10% of all roads, and urban roads 9%.[1] NHs include roads that connect major ports, neighbouring countries, capitals of states, and roads required for strategic considerations. The Ministry of Road Transport and Highways is responsible for the construction and maintenance of NHs. It may also designate any road as an NH.

The National Transport Development Policy Committee (2013) observed that instead of looking at roads in isolation, they must be looked at as an integrated system of transport.[2] This implies ensuring that the primary road network (NHs) connects to major ports, railway stations, airports, and capital cities. The Ministry seeks to improve road network and connectivity by upgrading state highways to national highways, improving construction of national highways, and creating multimodal transportation networks.

Road length: In 2021-22, the total road length was 63 lakh kilometres, which has increased at an average annual rate of 3.7% from 2015.[3] During this period, the length of NHs and rural roads increased by at an annual average rate of 7.8% each. Between 1970-71 and 2018-19, the share of NHs in total roads has decreased from 2.6% to 2%. However, there has been a marginal increase in the share from 2011 onwards (see **Figure 2**). The length of NHs (in kilometres) has increased at a pace of 4% between 1970-71 and 2018-19.[4]

Figure 2: Share of national and state highways in total roads

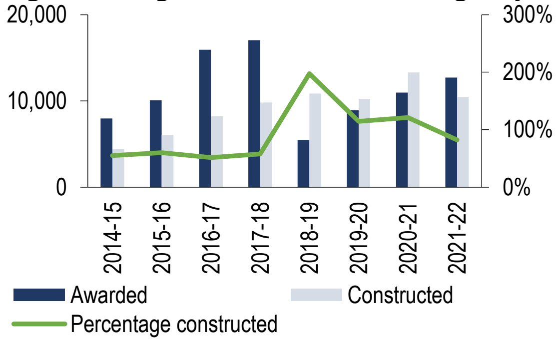


Sources: Basic Road Statistics 2018-19; PRS.

The share of state highways in total highways has reduced from 6% in 1970-71 to 3% in 2018-19.[4] This may be because several state highways have been notified as NHs.[4] State highways typically link important cities, towns, tourist places, minor ports, and connect them to NHs. These are constructed and managed by state governments through state public works departments.

Construction of NHs: The Ministry targeted to construct 12,200 km of NHs in 2022-23, of which 5,774 km (47%) has been constructed as of December 2022.[5] As part of the Ministry's target to construct 60,000 km of NHs between 2019-20 and 2023-24, it envisaged to construct 13,000 km in 2023-24. However, as of February 9, 2023 the target has not been finalised.[5] Between 2014-15 and 2017-18, the Ministry missed its annual NH construction targets by about 45% (See **Figure 3**). However, from 2018-19 onwards, the targets have been lowered while the Ministry has exceeded the revised targets. In 2021-22, the Ministry missed its construction target by 18%. Note that the targets may have declined since NHAI is focusing more on widening existing highways, than constructing new expressways.

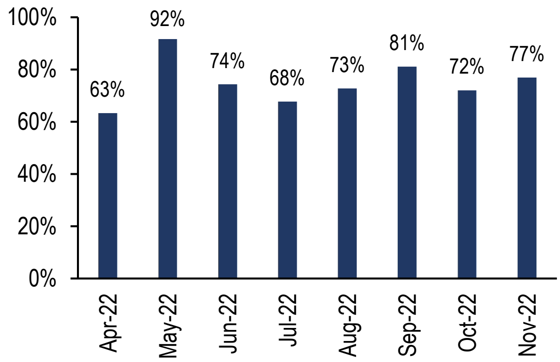
Figure 3: Progress on construction of highways



Sources: Standing Committee on Transport (2021); PRS.

Road widening/upgrading: Between April 2022 and November 2022, NHAI widened/upgraded 2,060 km of highways against a target of 2,743 km (75%). Monthly targets for road widening were missed for all months between April-November 2022 (See **Figure 4**).

Figure 4: Percentage of road widening targets met in 2022



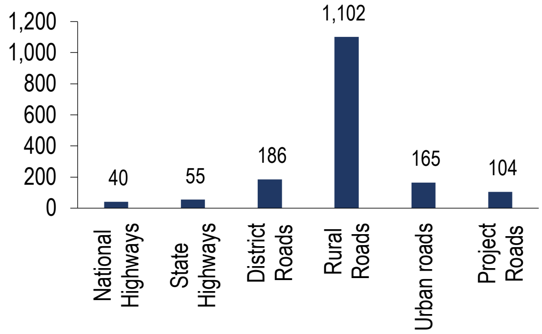
Sources: Programme Implementation Reports 2022; PRS.

Conversion of roads into NHs: NHAI notifies several state highways as NHs, and takes it upon itself to maintain and widen these roads. The criteria for declaring state roads as NHs include: (i) roads running through the length and breadth of the country, (ii) roads connecting adjacent countries or state capitals or major ports, (iii) strategic roads in hilly or isolated areas.[6]

As of February 2023, 1.45 lakh km of state roads have been notified as NHs.[7] In 2022-23, about 3,639 km of state roads have been notified as NHs so far.[8]

Road Density is defined as the average road length per 1,000 sq km. It indicates how much of a given area is connected by road. Road density in India has increased by 4.4% between 2011-12 and 2018-19. Among all roads, rural roads have the highest density, followed by district roads (see **Figure 5**). In 2018-19, for every 1,000 sq km, there were rural roads of length 1,102 km. In comparison, there were 40 km of NHs for every 1,000 sq km.

Figure 5: Road density for various categories of roads (2018-19; in km per thousand sq km)



Sources: Basic Roads Statistics 2018-19; PRS.

There is regional variation in road density across states. States such as Delhi (10,904 km per 1,000 sq km), Kerala (6,690), Assam (5,088), and Goa (5,051) have high road density. States such as Jammu and Kashmir, Arunachal Pradesh, Mizoram, and Rajasthan have lower road density.

Bharatmala Pariyojana

Bharatmala is an umbrella programme for developing NHs to improve the movement of freight and passengers by road. It seeks to bridge critical infrastructure gaps in the highway infrastructure. It seeks to develop 50 economic corridors and provide connectivity to 550 districts, and improve the average speed of road travel.

As of 2021-22, 1,266 km of road has been built.[3] This includes coastal and port connectivity roads, expressways, national corridors, and economic corridors. Cumulatively, 4,752 km of road length has been completed under Bharatmala Phase – I.[3] The Scheme is implemented by NHAI, National Highways and Infrastructure Development Corporation, and the Roads Wing of the Ministry.

Expenditure for Bharatmala is met from various funds meant for NHAI. In 2023-24, Rs 42,772 crore worth of spending is meant to be met from these funds.

Roads in north-eastern regions: Connectivity in hilly regions such as north-eastern states in India is a challenge. The Ministry develops road network in north-eastern states under the Special Accelerated Road Development Programme (SARDP-NE).[9] The programme seeks to provide connectivity to backward and remote areas and ensure that headquarters in the north-eastern region seek to be connected by at least two-lane highway standards. The average road density in north-eastern states is 2,259 km per thousand sq km.[4] The rural network in north eastern states is relatively better compared to other categories of road. Among the north-eastern states, Sikkim has the highest proportion of surfaced roads (76%) followed by Mizoram (67%).[4]

Movement of freight by road: The National Transport Development Policy Committee (2013) observed that roads are a preferred mode of transport for carrying small loads over short distances to remote or easily accessible destinations. For example, it is preferable to transport foodgrain by road, across distances of about 200 km. At distances greater than 200 km, rail is a preferred mode. This is true despite accounting for delays at intermodal nodes where grain is transferred from/to trucks.[2]

In India, passengers and freight transported by road have increased between 2011-12 and 2017-18 (see **Figure 6**). The amount of freight transported by road has increased by 9.7%, while the number of passengers has increased by 13%.[1] In 2020, roads carried 71% of all freight, compared to the 18% carried by rail.[10]

Figure 6: Freight and passenger movement by road

Note: Freight is in billion tonne kilometre and passengers are billion kilometres.
Sources: Road Transport Yearbook 2018-19; PRS

PM Gati Shakti

The PM Gati Shakti National Master Plan (NMP) was launched in October 2021 to provide for coordinated development of transport. It seeks to create a system for interconnected and multimodal transportation networks. It is expected that this would lead to economic development, improved trade competitiveness, promotion of exports and employment generation.

Different infrastructure sector projects such as National Highways, Railways, Waterways, or Telecom that cater to development requirements are envisaged to be developed in synergy. The NMP will rely on data on geographical features and land records for planning and implementation.

In order to reduce complexities involved in integration of networks and avoid duplication of effort NMP lays down an implementation framework. The framework consists of: (i) Empowered Group of Secretaries (headed by the Cabinet secretary), to review and monitor implementation of the scheme along with ensuring logistical efficiency, (ii) Network Planning Group (consisting of heads of network planning wings of infrastructure ministries), to assist the empowered group of secretaries, and (iii) Technical Support Unit (consisting of domain experts from infrastructure sectors), responsible for overall integration of networks and enhancing optimisation.

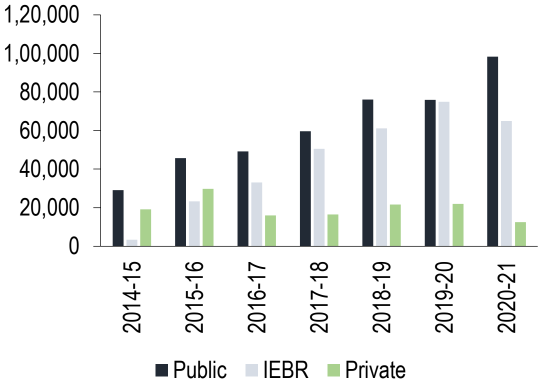
No separate funds are allocated under Gati Shakti. Funds are allocated projects-wise, as per the requirements, and within the sanctioned project costs.

Financing road infrastructure

Investment in road infrastructure is long-term, and returns are typically seen several years after construction. Currently roads are financed through government and private sources. Funding from government sources includes budgetary allocations, which are financed from taxes, cesses, or dedicated road funds. Under private financing, typically the private developer builds a road, and in return has the right to collect toll for a specified period of time. The developer is responsible for the maintenance of roads during this period. Most national highway projects are implemented under public private partnership. Variants under this model include: (i) Build Operate Transfer (Toll), (ii) Build Operate Transfer (Annuity), and Hybrid Annuity Model (See Annexure). Hybrid Annuity Model was introduced to increase improve project implementation, and revive private sector interest. As of 2019, 44% of all road projects were built under the HAM model.[11]

Publicly funded projects are usually given to contractors under various contract models such as the Engineering Procurement Construction (EPC) or Item Rate contract. Under EPC, the maintenance period of a project (built by a contractor) is about four years. Under the item rate contract, a project designed by the government, and executed by the contractor. The contractor is responsible for correcting defects for a period of 1-3 years. **Figure 7** indicates investment sources for road construction for the past six years. During this period, private investment has been low, and public investment and extra-budgetary borrowing is high.

Figure 7: Investment in roads (in Rs crore)



Note: IEBR: Internal and Extra-Budgetary Resources
Sources: 317th Standing Committee Report (2022); PRS.

Funds under the Ministry

The Ministry manages its finances through various funds meant for different purposes (types of roads). These include the Central Road and Infrastructure Fund (CRIF), Permanent Bridge Fee Fund (PBFF), National Investment Fund and Monetisation of National Highways Fund. Until 2022-23, a majority of the Ministry's expenditure was managed through transfers from the CRIF. However, in 2023-24 allocation for CRIF has reduced by almost 100%. (See **Table 2**).

Table 2: Funds managed by the Ministry

	Actuals 21-22	RE 22-23	BE 23-24	% change BE over RE
CRIF	39,410	1,13,600	1,400	-99%
PBFF	12,670	18,006	20,807	16%
NIF	8,430	10,700	10,565	-1%
NHF	5,000	10,000	10,000	0%

Note: CRIF – Central Road and Infrastructure Fund; PBFF – Permanent Bridge Fee Fund; NIF – National Investment Fund; NHMF – Monetisation of NHs Fund.
Sources: Demand for Grants 2023-24, Ministry of Road Transport and Highways; PRS.

CRIF was established to develop and maintain NHs and state highways. It is a non-lapsable fund, financed by the road and infrastructure cess which is imposed on manufacture and imports of petroleum products. The amount is released to the NHAI and various state/UT governments for developing infrastructure. The reduction in allocation through CRIF may be on account of a 58% decrease in the collection of road and infrastructure cess at the revised stage in 2022-23.[12]

The PBFF is funded by revenue collected through: (i) fees levied for use of certain bridges on NHs, (ii) national highway toll, and (iii) revenue share received on some PPP projects. These funds are released to NHAI. In 2023-24, Rs 21,460 crore is budgeted as revenue from fees and tolls, 8% greater than the revised estimates for 2022-23.

The National Investment Fund receives proceeds from disinvestments. It is used to fund special road development projects in the north-east.[13] In 2023-24 transfer from NIF is estimated at Rs 10,565 crore, same as the budget estimates for 2022-23.

The National Highways Fund is financed by monetising certain public-funded national highway projects. This includes transferring maintenance of certain stretches to private contractors on a long-term basis. In 2023-24, Rs 10,000 crore is estimated to be transferred from NHF, lower than the budget estimate of Rs 20,000 in 2022-23.

Expenditure by NHAI

NHAI's expenses are primarily met through the funds mentioned above. It may also raise funds through market borrowings and as loans from multilateral agencies. These are used for: (i) acquiring land, (ii) project expenditure, and (iii) repaying loans and interest payments.

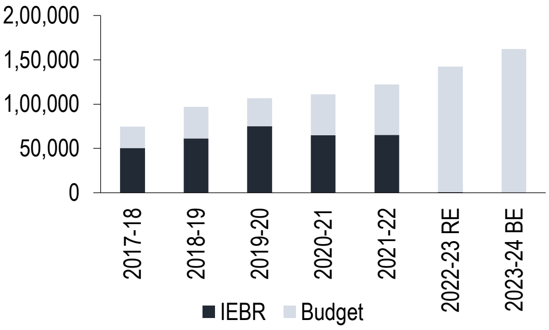
Increased budgetary allocation to NHAI

Institutions like NHAI raise sources through internal and extra-budgetary resources (IEBR) by appropriating surplus toll revenues, or through lines of credit. In 2022-23, noting the rising debt burden of NHAI, the government increased its budgetary allocation and reduced its dependence on IEBR. In 2023-24 NHAI has been allocated Rs 1,62,207 crore, 15% more than the revised estimates for 2022-23. As of March 2022, NHAI's total outstanding debt was Rs 3,48,522 crore.

The Standing Committee on Transport (2022) noted that although the budgetary allocation to NHAI has increased, it may not be enough to meet the investment requirements for developing NHs.[14] It recommended the Ministry to resolve the apprehensions of the private sector and encourage them to invest in infrastructure.[14]

Between 2017-18 and 2019-20, the amount raised by NHAI from extra budgetary sources formed a majority of its funding (See Figure 7). From 2022-23 onwards, almost all of NHAI's finances come from budgetary allocation. The total money spent by NHAI between 2017-18 and 2023-24 is estimated to increase by 14%.

Figure 8: Amount raised by NHAI through budgetary allocation and internal and extra budgetary resources (in Rs crore)



Sources: Expenditure Budget for various years; PRS.

The Standing Committee on Transport (2016) had observed that several long-term loans disbursed for the road sector are turning into non-performing assets. Project bids are often made without proper study and are awarded in a hurry. This results in stalling of projects, and concessionaires leave midway. There are several factors that affect the implementation of NH construction. These include: (i) pre-construction activities, (ii) fund mobilisation capacity of contractors, and (iii) climatic conditions like monsoons. The Comptroller and Auditor General of India (2016) had also noted some procedural inefficiencies with NHAI. For instance, it was unable to earn toll on projects due to delay in approvals, operations and procedural lapses.[15]

Table 3: Funds required for debt servicing of NHAI (in Rs crore)

Year	Debt Repayment	Interest payment as a % of total repayment
2020-21	25,497	74%
2021-22	40,191	59%
2022-23	31,282	79%
2023-24	24,189	132%
2024-25	30,552	78%

Sources: Rajya Sabha Question No. 2017, August 2022; PRS.

Initiatives such as streamlining the land acquisition process, improving cash flow to contracting agencies, securitisation of road sector loans, termination of stuck projects, and revamping dispute resolution are being undertaken to complete stalled projects.[16] For projects that are stalled due to the contractor, penal action is taken as per the contract.

The Committee on Revisiting and Revitalising the PPP Model of Infrastructure Development (2015) recommended setting up an independent regulator for the roads sector to encourage private participation and regulate their activity.[17] It had also noted that service delivery, such as constructing roads meant for citizens is the responsibility of the government, and should not be evaded through PPPs.

Investment Infrastructure Trusts

An Investment Infrastructure Trust (InvIT) is a collective investment vehicle that pools funds from long-term investors to acquire income-generating infrastructure from developers. InvITs invest in Special Purpose Vehicles through equity or debt instruments. In 2019, NHAI was authorised to set up InvITs for monetising completed NHs.[18]

As of November 2021, NHAI's InvIT was listed on Indian stock exchanges, and Rs 8,011 crore was raised from investors and banks. The Canda Pension Plan Investment Board and Ontario Teachers' Pension Plan Board have invested with each of them holding 25% units.[3]

Under the current tax laws, interest and dividend income earned by InvITs and distributed to investors is taxed from the investors. However, loan repayment distributions to investors are not taxed, despite those amounting to their income.[19] The Ministry of Finance noted that the current special tax does not seek to exempt tax at two levels. Hence from 2023-24 onwards, income received as debt repayment will be taxed from an InvIT investor.

As per the National Monetisation Plan, 5,000 km of road worth Rs 30,000 crore was to be monetised during 2021-22.[3] NHAI has monetised 390 km of road through InvITs. About 450 km of road has been bid out through Toll Operate Transfer (TOT).

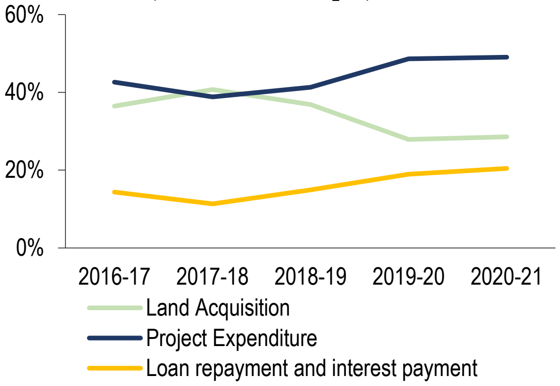
Cost of land acquisition

In the past five years, the land acquisition cost of NHAI has reduced, while the project expenditure costs have been rising. Although the share of loan repayment is lower than other costs, it rose by 38% between 2016-17 and 2020-21. Land acquisition costs may have reduced since several states have agreed to bear at least 25% of the land acquisition costs for projects executed through NHAI. For instance, Kerala has agreed for such an arrangement. States such as Andhra Pradesh, Telangana and Madhya Pradesh have also proposed similar land sharing arrangements.[20]

Although the share of land acquisition costs has reduced, delay in projects due to land acquisition persists. As of January 1, 2023 the Ministry of Statistics and Programme Implementation was monitoring 724 projects related to road transport.

Of these, 428 have been delayed, and 105 have cost over-runs.[21]

Figure 9: Category-wise share of expenditure of NHAI funds (% of total receipts)



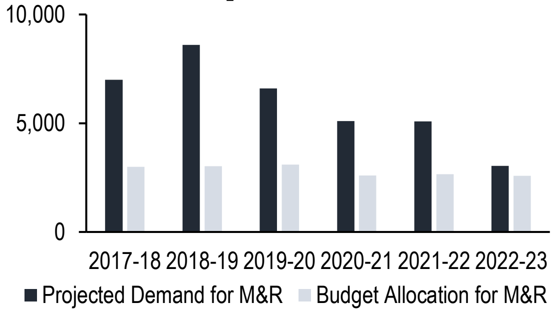
Sources: NHAI Annual Reports for various years; PRS.

Maintenance and Repair of Highways

The onus of maintaining public funded projects primarily falls on the Ministry or NHAI or state public works departments. The Standing Committee on Transport (2020) noted that the amount of funds allocated for maintaining NHs is miniscule, given the vast length of highways across the country.[22] Several committees, including NITI Aayog, have recommended that maintaining existing roads should be prioritised over constructing new NHs.[23] It also recommended that 10% of the Ministry's budget be spent on maintenance of roads. Further, it has been recommended that the Ministry be allocated 100% of its demand for maintenance and repair. **Figure 10** indicates the allocation for maintenance against the demand by the Ministry.

In 2023-24, the Ministry has been allocated Rs 2,600 crore for maintaining highways (1% of the Ministry's budget). Between 2017-18 and 2022-23, allocation for maintenance has remained fairly constant, while the proportion of allocation with respect to demand has increased. This is because demand itself by the Ministry for maintenance has reduced.

Figure 10: Demand and budgetary allocation for maintenance and repair

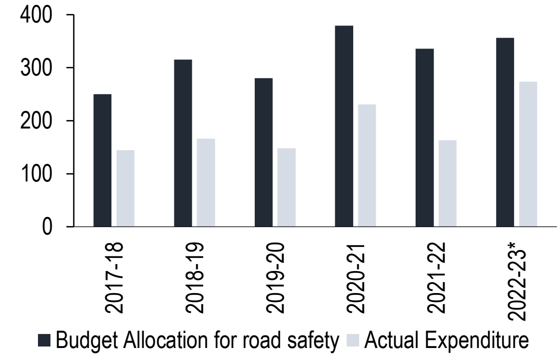


Sources: Standing Committee Reports for various years; PRS.

Road Safety

In 2023-24, the Ministry has allocated Rs 330 crore for road safety, 20% greater than the revised estimates for 2022-23. Between 2017-18 and 2022-23, the Ministry has underutilised road safety funds by about 41%.

Figure 11: Underutilisation of funds for road safety



Note: 2022-23 actual expenditure refers to revised estimates
Sources: Budget documents for various years; PRS.

Allocation towards road safety provides for safety programmes, relief support for accident victims, strengthening public transport, research and development, and setting up of facilities on NHs. The 2023-24 allocation for road safety is 0.1% of the Ministry's budget. However, revised estimates in 2022-23 are greater than the actual expenditure in the past five years.

The Standing Committee on Transport (2020) suggested that the Ministry seek higher fund allocation towards road safety, and driver training programmes.[22] In 2021, there were 4.1 lakh road accidents, of which 1.5 lakh were fatal.[24] The number of road accidents increased by 13% from 2020 to 2021. The increase may be due to a low base, i.e., reduced accidents during COVID when mobility was restricted. Compared to 2019, road accidents decreased by 8%.[28] However, fatalities increased by 2%. Further, 31% of all accidents took place on NHs. In 2021, the major cause of all road accidents on NHs was over-speeding (74%), followed by driving on the wrong side (4%). Note that 41% of all accidents of NHs involved a two-wheeler vehicle.[28]

As per the World Road Statistics, 2018, India ranks first in the number of road accident deaths (among 199 countries reported), followed by China, and the US. The United States has a longer road network than India (66 lakh km). As per the WHO Global Report on Road Safety 2018, about 11% of the accident-related deaths in the world occur in India.[25] The Motor Vehicles (Amendment) Act, 2019 seeks to prevent road accidents. It provides for penalties for road traffic violations, electronic monitoring, and greater penalties for underage driving.[26] In 2021, the Ministry stated that implementation of the Act has led to improved road safety.[3]

The Standing Committee (2021) observed that the number of ambulances (111), patrol vehicles (509), tow away cranes (443) available with the Ministry are not commensurate with the size of the NH network in India.[22] In September 2021, the central government constituted the National Road Safety Board, which will advise the central and state governments on all aspects of road safety and traffic management.[27] The Ministry has notified several Rules to implement provisions of the Act, such as: (i) protection of Good Samaritans, (ii) conditions for states to levy higher penalties than those in the Act, and (iii) amendments to obtaining driving licenses, among others.[28]

There are several best practices followed by different countries to minimise road accidents and their risks. For instance, Sweden has a road safety policy based on the principles that: (i) human life is paramount, (ii) providers of services are responsible for the safety of the system, and (iii) road transport systems must minimise the opportunity for human error.[2] As per the policy, the Swedish Road Administration is responsible for road safety. The policy helped in upgrade single lane roads to 2+1 lanes with central cable barriers. The Australian safety system focuses enforcement and penalties to deter users from breaking rules.[2] It also encourages high quality active and passive safety systems in vehicles to reduce impact forces on occupants and those who are struck.

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Annexure: Road Transport and Highways

Types of Public Private Partnership Models:

- **Build Operate Transfer (Toll):** The developer is responsible for: (i) designing and developing the project, (ii) conducting operation and maintenance during the entire concession period. The developer also has the right to collect toll during the specified period.
- **Build Operate Transfer (Annuity):** This model is the same as BOT (Toll), except that the developer receives payment in annuity (by the government) in return for developing and maintain a road. The government has the right to collect toll, after a section is open for commercial operation.
- **Hybrid Annuity Model (HAM):** Under this model, the government or its executing agency pays 40% of the project cost as a grant to the private developer. The private developer invites bids for the 60%, which is paid back as annuity over 15 years. The repayment includes interest, operations and management, and return on equity. The government has the right to collect toll during the maintenance period. This model is widely used for financing NHs in India.

Table 4: Use of NHAI funds (in Rs crore; 2016-17 to 2020-21)

Year	Land Acquisition	Project Expenditure	Loan repayment and interest payment	Others	Total
2016-17	17,823	20,843	5,130	7,010	**50,806**
2017-18	32,143	30,648	14,612	8,946	**86,349**
2018-19	36,048	40,380	14,612	6,685	**97,726**
2019-20	28,542	49,785	19,420	6,319	**1,04,065**
2020-21	35,858	61,484	25,633	2,375	**1,25,350**

Sources: Annual Reports of NHAI; PRS.

Table 5: Utilisation of funds by the Ministry of Road Transport and Highways (in Rs crore)

Year	Budgeted	Actual	Percentage of utilisation
2012-13	30,798	22,537	73%
2013-14	31,302	28,400	91%
2014-15	34,345	33,048	96%
2015-16	45,752	46,913	103%
2016-17	57,976	52,232	90%
2017-18	64,900	61,015	94%
2018-19	71,000	77,301	109%
2019-20	83,016	78,249	94%
2020-21	91,823	99,159	108%
2021-22	1,18,101	1,23,551	105%
2022-23*	1,99,108	2,17,027	109%

Note: Actual expenditure for 2022-23 refers to revised estimates.
Sources: Expenditure budget of various years; PRS.

Table 6: State-wise density of NHs (as on March 31, 2019)

State/UT	Existing NH length (km)	% of NH	Length of existing NH in km/ 1000 sq km	Length of existing NH in km/ lakh population
Maharashtra	17,757	13.4%	57.7	15.8
Uttar Pradesh	11,737	8.9%	49.2	5.9
Rajasthan	10,342	7.8%	30.2	15.1
Madhya Pradesh	8,772	6.6%	28.5	12.1
Karnataka	7,335	5.5%	38.2	12.0
Andhra Pradesh	6,913	5.2%	41.8	13.8
Tamil Nadu	6,742	5.1%	51.8	9.3
Gujarat	6,635	5.0%	33.8	11.0
Odisha	5,762	4.4%	37.0	13.7
Bihar	5,358	4.0%	56.9	5.2
Assam	3,909	3.0%	49.8	12.5
Telangana	3,795	2.9%	33.1	10.8
West Bengal	3,664	2.8%	41.3	4.0
Chhattisgarh	3,606	2.7%	26.7	14.1
Jharkhand	3,367	2.5%	42.2	10.8
Punjab	3,274	2.5%	65.0	11.8
Haryana	3,166	2.4%	71.6	12.5
Uttarakhand	2,949	2.2%	52.8	29.2
Himachal Pradesh	2,607	2.0%	46.8	38.0
Arunachal Pradesh	2,537	1.9%	30.3	183.5
Jammu & Kashmir	2,423	1.8%	10.9	19.3
Kerala	1,782	1.3%	45.8	5.3
Manipur	1,750	1.3%	78.4	64.3
Nagaland	1,548	1.2%	93.4	78.1
Mizoram	1,423	1.1%	67.5	130.4
Meghalaya	1,156	0.9%	51.5	39.0
Tripura	854	0.6%	81.4	23.3
Sikkim	463	0.4%	65.2	76.2
A & N Islands	331	0.3%	40.1	87.0
Goa	293	0.2%	76.8	20.1
Delhi	157	0.1%	105.9	0.9
Dadra & Nagar Haveli	31	0.02%	63.7	9.0
Daman & Diu	22	0.02%	196.4	9.1
Puducherry	27	0.02%	54.3	2.2
Chandigarh	15	0.01%	134.0	1.4
TOTAL	**1,32,502**	**100%**	**40.2**	**11.0**

Sources: Ministry of Road Transport and Highways; PRS.

Table 7: Domestic sales of automobiles (in lakhs)

	Passenger Vehicles	Commercial Vehicles	Three wheelers	Two wheelers	Quadricycles	Total
2016-17	30,47,582	7,14,082	5,11,879	1,75,89,738	-	2,18,63,281
2017-18	32,88,581	8,56,916	6,35,698	2,02,00,117	-	2,49,81,312
2018-19	33,77,389	10,07,311	7,01,005	2,11,79,847	627	2,62,66,179
2019-20	27,73,519	7,17,593	6,37,065	1,74,16,432	942	2,15,45,551
2020-21	27,11,457	5,68,559	2,19,446	1,51,20,783	-12	1,86,20,233
2021-22	30,69,499	7,16,566	2,60,995	1,34,66,412	124	1,75,13,596
Total	**1,82,68,027**	**45,81,027**	**29,66,088**	**10,49,73,329**	**1,681**	

Sources: SIAM; PRS.

Table 8: Length of roads between 2015 and 2019 (in km)

	2015	2016	2017	2018	2019
NHs	97,991	1,01,011	1,14,158	1,26,350	1,32,499
State Highways	1,67,109	1,76,166	1,75,036	1,86,908	1,79,535
District Roads#	11,01,178	5,61,940	5,86,181	6,11,268	6,12,778
Rural Roads	33,37,255	39,35,337	41,66,916	44,09,582	45,22,228
All Roads	**54,72,144**	**56,03,293**	**58,97,671**	**62,15,797**	**63,31,757**

Sources: Basic Road Statistics 2018-19; PRS.

Demand for Grants 2023-24 Analysis
Railways

The Railways finances were presented on February 1, 2023, by the Finance Minister Ms. Nirmala Sitharaman along with the Union Budget 2023-24. Indian Railways is a commercial undertaking of the central government.[1] The Ministry of Railways administers Indian Railways and policy formation through the Railway Board.

Expenditure of Railways is financed through: (i) its internal resources (mainly freight and passenger revenue), (ii) budgetary support from the central government, and (iii) extra-budgetary resources (primarily borrowings but also includes institutional financing and public-private partnerships). Railways' working expenses (salaries, pension, and asset maintenance) are met through its internal resources. Railways generate some surplus, which is not enough to cover its capital expenditure plans (such as construction of lines and procurement of wagons). Capital expenditure is supported by the grant from the central government and extra-budgetary resources. This note looks at the proposed expenditure of Railways for 2023-24, and the state of its finances over the last few years.

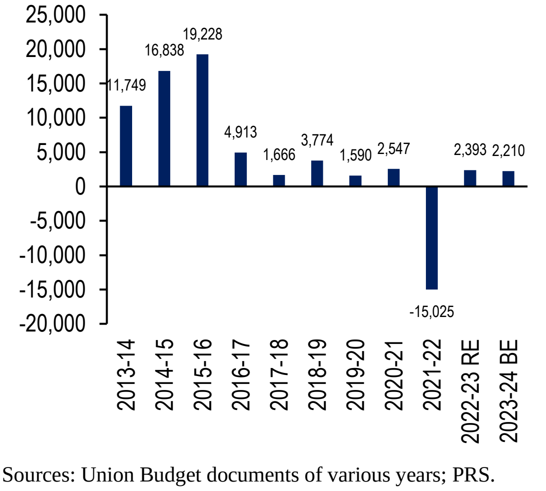
Highlights

- **Revenue**: Railways' internal revenue for 2023-24 is estimated at Rs 2,65,000 crore, an increase of 9% over the revised estimates of 2022-23. In 2022-23, revenue is estimated to be 1% higher than the budget estimate (see Table 1 on next page).
- **Traffic revenue**: In 2023-24, traffic revenue is estimated to be Rs 2,64,600 crore, comprising 99.8% of the total revenue. 68% of the traffic revenue is estimated to come from freight services (Rs 1,79,500 crore), and another 26% from passenger services (Rs 70,000 crore). Both passenger and freight revenue are estimated to increase by 9% over the previous year.
- **Revenue Expenditure**: The total revenue expenditure in 2023-24 is projected to be Rs 2,62,790 crore, an increase of 9% over revised estimates of 2022-23. Expenses towards salaries and pension are estimated to comprise 64% of the total revenue expenditure.
- **Capital expenditure** in 2023-24 is estimated at Rs 2,60,200 crore, an increase of 6% over the previous year. There is a significant change in the pattern of financing capital expenditure. In 2023-24, 92% of capital expenditure is estimated to be financed through budgetary support from the central government and 7% from extra budgetary resources. In comparison, in 2022-23, their contributions are estimated at 65% and 33%, respectively.
- **Operating Ratio**: Operating Ratio is ratio of working expenses to the receipts from traffic. A lower ratio implies better profitability and availability of resources for capital spending. In 2023-24, the Railways' operating ratio is estimated to be 98.45%. This is marginally higher than operating ratio for 2022-23 as per revised estimates (98.22%). In 2021-22, operating ratio was 107.39%.

Diminishing revenue surplus

In recent years, Railways' revenue earnings have barely been able to keep up with its revenue expenditure (Figure 1). Between 2013-14 and 2023-24, Railways' revenue expenditure is estimated to grow at an annualised rate of 7.2%, faster than its revenue receipts (annual growth of 6.3%). Revenue expenditure includes spending on items such as salaries, pension, fuel, and maintenance of assets. In 2023-24, as per budget estimates, Railways is expected to observe a marginal surplus of Rs 2,210 crore (which would finance less than 1% of its capital expenditure).

Figure 1: Railways' Revenue Surplus (Rs crore)



Sources: Union Budget documents of various years; PRS.

In 2021-22, Railways observed a revenue deficit of Rs 15,025 crore. In 2019-20 and 2020-21 (COVID year), Railways managed to observe a revenue surplus by reducing the appropriation towards pension fund. The gap in resources for pension for these years was filled through a special loan of Rs 79,398 crore from the central government in 2020-21. During these three years, Railways' passenger

Table 1: Overview of Railway Receipts and Expenditure for 2023-24 (Rs crore)

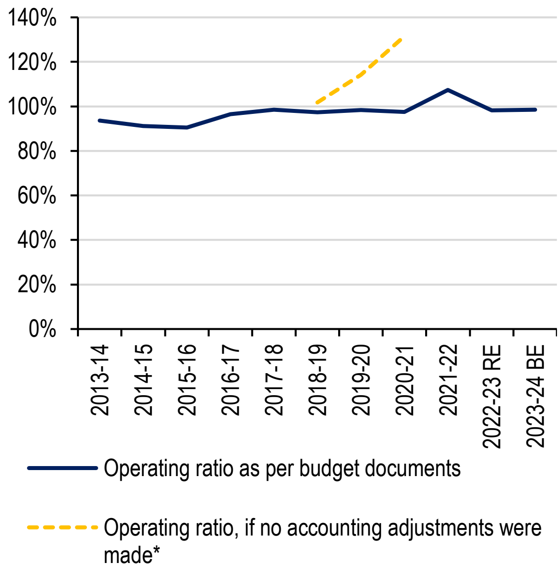
		2021-22 Actuals	2022-23 BE	2022-23 RE	% Change (2022-23 BE to 2022-23 RE)	2023-24 BE	% Change (2022-23 RE to 2023-24 BE)
	Receipts						
1	Passenger Revenue	39,214	58,500	64,000	9%	70,000	9%
2	Freight Revenue	1,41,096	1,65,000	1,65,000	0%	1,79,500	9%
3	Other Traffic Sources	10,896	16,100	13,693	-15%	15,100	10%
4	**Gross Traffic Receipts (1+2+3)**	**1,91,206**	**2,39,600**	**2,42,693**	**1%**	**2,64,600**	**9%**
5	Miscellaneous	161	400	200	-50%	400	100%
6	**Total Internal Revenue (4+5)**	**1,91,367**	**2,40,000**	**2,42,893**	**1%**	**2,65,000**	**9%**
7	**Budgetary Support from Government**	**1,17,276**	**1,37,300**	**1,59,300**	**16%**	**2,40,200**	**51%**
8	**Extra Budgetary Resources**	**71,066**	**1,01,500**	**81,700**	**-20%**	**17,000**	**-79%**
9	**Total Receipts (6+7+8)**	**3,79,709**	**4,78,800**	**4,83,893**	**1%**	**5,22,200**	**8%**
	Expenditure						
10	Ordinary Working Expenses	1,56,506	1,70,000	1,81,000	6%	1,88,574	4%
11	Appropriation to Pension Fund	48,100	60,000	56,000	-7%	70,516	26%
12	Appropriation to Depreciation Reserve Fund	0	2,000	1,000	-50%	1,000	0%
13	**Total Working Expenditure (10+11+12)**	**2,04,606**	**2,32,000**	**2,38,000**	**3%**	**2,60,090**	9%
14	Miscellaneous	1,785	2,640	2,500	-5%	2,700	8%
15	**Total Revenue Expenditure (13+14)**	**2,06,392**	**2,34,640**	**2,40,500**	**2%**	**2,62,790**	**9%**
16	**Total Capital Expenditure**	**1,90,267**	**2,45,800**	**2,45,300**	**0%**	**2,60,200**	**6%**
17	**Total Expenditure (15+16)**	**3,96,659**	**4,80,440**	**4,85,800**	**1%**	**5,22,990**	**8%**
18	**Net Revenue (6-15)**	**-15,025**	**5,360**	**2,393**	**-55%**	**2,210**	**-8%**
19	**Operating Ratio**	**107.39%**	**96.98%**	**98.22%**		**98.45%**	

Note: RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Profile, Union Budget 2023-24; PRS.

services were disrupted due to COVID-related restrictions, which led to lower revenue than usual. A large part of Railways' costs is committed in nature, which cannot be rationalised in the short term. Hence, over last three years, Railways had to depend on budgetary support from the government and borrowings to finance its recurring expenses.

Deterioration in Operating Ratio: Operating ratio represents the ratio of working expenses (such as fuel and salaries) to traffic earnings. A higher ratio indicates poorer ability to generate a surplus. As per actuals presented in the budget document, operating ratio was 107.4% in 2021-22. This implies that in 2021-22, Railways spent Rs 107 to earn Rs 100 from traffic operations. If accounting adjustments were to be ignored, operating ratio of Railways has been higher than 100% between 2018-19 and 2020-21. CAG observed that if advances for the next financial year were not accounted as receipts, operating ratio in 2018-19 would have been 101.8%, instead of 97.3%. Similarly, in 2019-20 and 2020-21, operating ratio would have been 114.2% and 131.6%, respectively, if the apportionment for pension fund was as per the requirement. For administrative purposes, Railway is divided into zones. As per CAG, nine of these 17 zones have observed an operating ratio of more than 100% in all five years between 2016-17 and 2020-21 (see Table 12 in annexure).

Figure 2: Operating Ratio



Note: *In 2018-19, certain advances for 2019-20 were included in receipts. In 2019-20 and 2020-21, less than required amount was apportioned to pension fund.
Sources: CAG, Union Budget documents of various years; PRS.

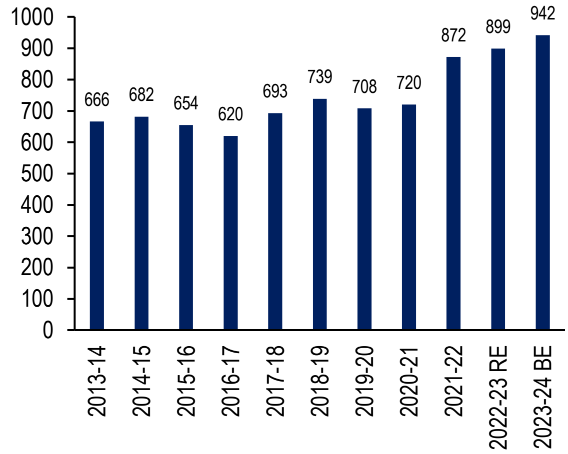
Inability to generate a significant surplus has required Railways to rely on budgetary support from the central government and extra budgetary resources for capacity augmentation and investments. This has in turn required it to set aside earnings for servicing debt, the liability for which is on a rise. Inadequate surplus has also led to less than required provisioning for replacement of old assets and safety-related works. In the following sections, we discuss these challenges and implications in further detail.

Modest growth in traffic volume

Railways' primary source of earnings is operation of freight and passenger services. In 2023-24, 94% of revenue receipts are expected from these operations, with freight's contribution at 68% of revenue receipts. While freight traffic is estimated to grow at 5% over the revised estimates for 2022-23, passenger traffic is estimated to grow at 11%.

Over the last decade, both rail-based passenger and freight traffic have grown at a modest rate. Between 2013-14 and 2023-24, freight traffic is expected to grow at an annualised rate of 3.5%. Passenger traffic in 2023-24 is expected to remain lower than the levels observed between 2013-14 and 2016-17. This is mainly due to lower traffic estimated in the second class (ordinary). Excluding this class, passenger traffic is estimated to grow at an annualised rate of 2% between 2013-14 and 2023-24.

Figure 3: Freight Traffic Volume (in Billion Net Tonnes Kilometre)



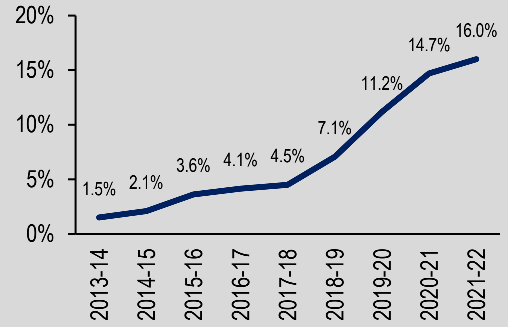
Sources: Union Budget Documents of various years; PRS.

In 2017-18, Railways' modal share in freight transport is estimated at 28%, down from 30% in 2011-12.[2,3] The reasons for a lower share include: (i) inadequate capacity augmentation leading to unmet demand and sub-optimal speed, (ii) higher tariffs, (iii) negligible diversification in freight basket, and (iv) competition from road which provides better end-to-end connectivity.[4]

Railways' share in freight of cars rises

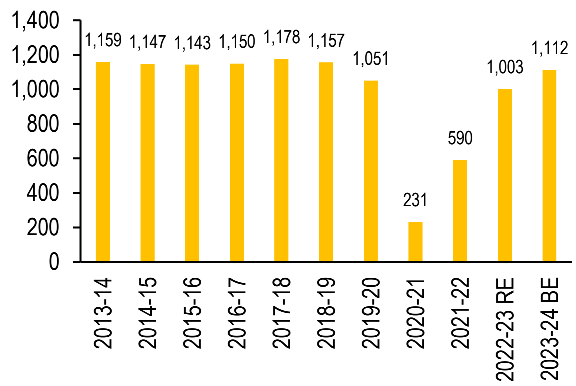
Railways' freight services are used to transport cars from factories to the point of distribution. Railways' share in the total domestic freight of cars has seen a significant increase in recent years.[5] It increased from 1.5% in 2013-14 to 16% in 2021-22.[5]

Figure 4: Railways' share in freight of cars



Sources: "Indian Railways registers growth in automobile traffic", Press Information Bureau, Ministry of Railways, September 12, 2022; PRS.

Figure 5: Passenger Traffic Volume (in Billion Passenger Kilometre)



Sources: Union Budget Documents of various years; PRS.

The Draft National Rail Plan envisages increasing the modal share to 45% by 2050.[2] For this target, it has proposed an investment plan worth Rs 38 lakh crore for the period between 2021-22 and 2050-51.[2]

Railways classifies its network into: (i) high-density network routes (HDN) and (ii) highly-utilised network routes (HUN).[2] HDN routes comprise 16% of the total network and carry 41% of the total traffic.[2] HUN routes comprise 35% of the total network and carry 40% of the total traffic.[2] As per the Draft National Rail Plan, about 80% of HDN routes and 48% of HUN routes see above 100% capacity utilisation, implying significant network congestion.[2] As per the plan, the current average speed for Railway freight is about 25 km per hour.[2] This is targeted to be raised to about 50 km per hour with development of dedicated freight corridors and increasing number of lanes in existing network.[2]

Table 2: 80% of HDN and 48% of HUN routes at over 100% capacity (2017-18)

Network Type	Capacity Utilisation			
	<70%	70%-100%	100%-150%	>150%
High-Density Network (HDN)	2%	18%	58%	22%
Highly Utilised Network (HUN)	24%	36%	35%	13%
Others	69%	22%	9%	0%

Sources: Draft National Rail Plan, Ministry of Railways; PRS.

Freight concentrated in few bulk goods

Most of the freight traffic of railway comes from a few bulk goods such as coal, iron, and cement. The freight basket has remained largely unchanged over the last 15 years (Table 3). Coal freight alone constitutes more than 40% of the traffic volume and traffic revenue. This dependence may present a challenge for Railways in the long-run, as India aims to transition away from coal as the main source of power generation.

Table 3: Composition of freight traffic volume (in Net Tonne Kilometre terms)

Commodity	2010-15 Average	2015-20 Average	2022-23 RE	2023-24 BE
Coal	43%	41%	43%	43%
Iron and Steel	13%	15%	14%	15%
Cement	9%	9%	9%	9%
Container Service	7%	7%	7%	8%
Foodgrains	10%	8%	9%	7%
Fertilizers	6%	6%	5%	5%
Petroleum, Oil, and Lubricant	4%	4%	3%	3%
Other Goods	8%	8%	10%	10%

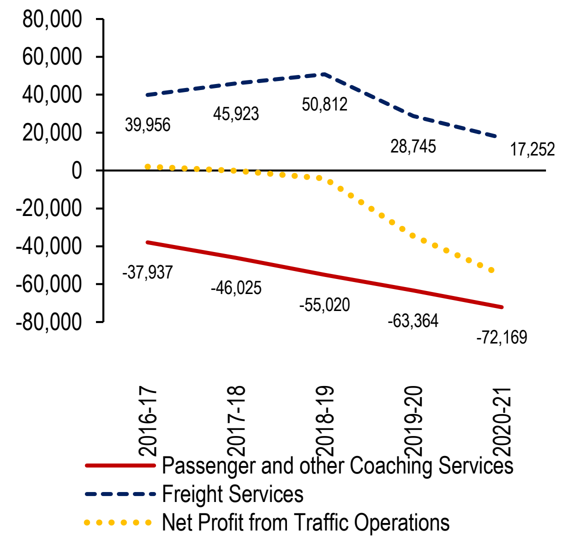
Sources: Union Budget Documents of various years; PRS.

Persistent losses in passenger services

Railways is estimated to earn about 26% of its revenue in 2023-24 from passenger services. Passenger traffic is categorised into suburban and non-suburban traffic. Suburban trains are passenger trains that help move passengers within cities and suburbs. Majority of the passenger revenue (96% in 2023-24) comes from the non-suburban traffic (or the long-distance trains).

As can be seen in Figure 6, losses in operation of passenger services have been increasing in recent years. After 2016-17, the profit from freight have not been enough to cover the widening losses from passenger services. In 2019-20, for earning one rupee from passenger and other coaching services, Railways spent about two rupees and 10 paise. Except AC 3 tier and AC chair car, all other classes of passenger services have observed losses in every year between 2017-18 and 2020-21 (Table 4).

Figure 6: Profit (+)/Losses (-) from passenger and other coaching services vis-a-vis freight services (Rs crore)



Sources: CAG; PRS.

NITI Aayog (2016) had observed that cross-subsidisation of passenger services by freight services has resulted in higher freight tariffs.[6] In 2018, NITI Aayog highlighted higher freight tariffs as one of the reasons for a sub-optimal share of Railways in freight.[7] Losses in passenger services are primarily caused due to: (i) passenger fares being lower than the costs, and (ii) concessions to various categories of passengers (senior citizens, National award winners etc.).[6] Railways classifies these provisions as social service obligations.[6] The Standing Committee on Railways (2020) had recommended that both freight and passenger fares should be rationalised prudently.[8] It observed that any fare increase needs to take into account the competition from other transport modes such road and air.[8] The Committee recommended that the social service obligations of Railways should be revisited.[8] Budget support is provided only for losses on strategic lines. In 2023-24, this contribution is estimated at Rs 2,216 crore.

Table 4: Profit (+) /Loss (-) from various classes of passenger services (Rs crore)

Class	2017-18	2018-19	2019-20	2020-21
AC-1st Class	-165	-249	-403	-719
AC 2 Tier	-604	-908	-1,378	-2,995
AC 3 Tier	**739**	**318**	**65**	-6,500
AC Chair Car	**98**	**243**	-182	-1,079
Sleeper Class	-11,003	-13,012	-16,056	-20,134
Second Class	-11,524	-13,214	-14,457	-17,641
Ordinary Class	-16,568	-19,124	-20,450	-11,438
EMU Suburban Services	-6,184	-6,754	-6,938	-7,799

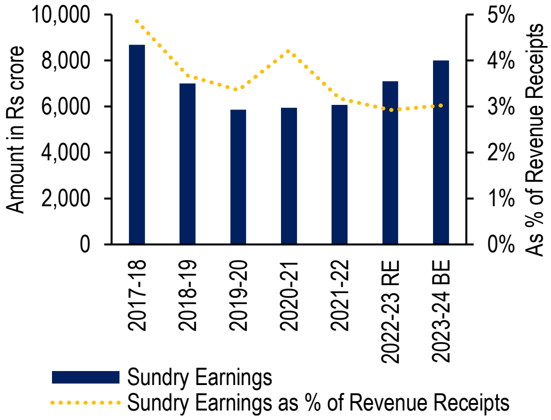
Sources: CAG; PRS.

Declining share of non-fare revenue

Other than revenue from operation of passenger and freight services, Railways' revenue includes: (i) sundry earnings including earning from renting, leasing of buildings, catering services, and advertisements, and (ii) miscellaneous receipts including sale of tender documents, liquidated damages, and receipts by Railway Recruitment Board. Till 2016-17, dividends from public sector undertakings of Railways used to be part of sundry earnings of Railways. From 2017-18, it is credited to the general revenue of the central government.

In 2023-24, Railways is estimated to have sundry earnings of Rs 8,000 crore, an increase of 13% over the revised estimates for 2022-23. In 2023-24, sundry earnings are estimated to comprise 3% of revenue receipts, significantly lower than 2017-18 and 2018-19 (4.9% and 3.7% respectively). CAG (2022) observed that there is a considerable scope for increasing revenue generation from advertisements and commercial utilisation of railway land.[9] In September 2022, the Union Cabinet approved revisions to Railways' land policy to encourage long-term leasing for logistics-related activities.[10]

Figure 7: Sundry earnings over the years

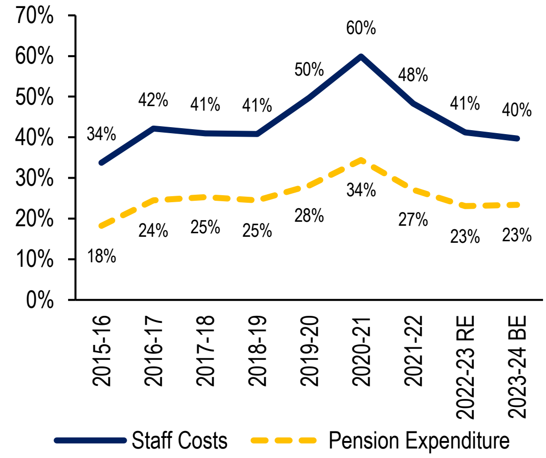


Sources: Union Budget Documents of various years; PRS.

High salary and pension burden

Revenue expenditure of Railways include spending on fuel, maintenance of assets, salaries and pension. A considerable portion of Railways' revenue is spent towards payment of salaries and pension, which are difficult to rationalise in short term. In 2023-24, Railways is estimated to spend Rs 1,05,235 crore on salaries and Rs 62,000 crore on pension. These expenses are estimated to increase by 5% and 11% over the previous year, respectively. Owing to revisions as per the 7th Pay Commission recommendations, spending towards salaries and pension saw a significant increase in 2016-17 (Figure 8). Since then, spending towards these items as a percentage of revenue receipts has ranged between 63%-75%, except in 2020-21 (COVID year).

Figure 8: Expenditure on salaries and pension as % of revenue receipts



Sources: Union Budget Documents of various years; PRS.

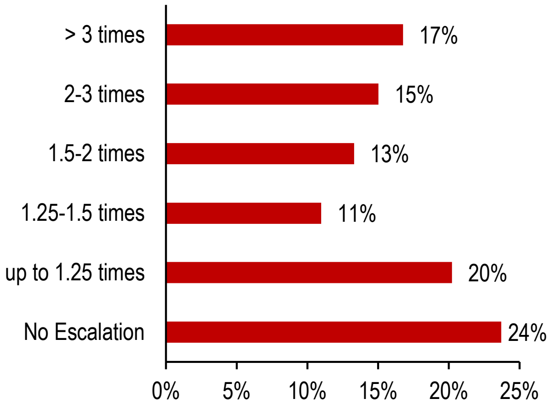
The Committee on Restructuring Railways (2015) had observed that the Railways' expenditure on staff is extremely high and unmanageable.[11] As of March 2021, Railways has a total of 15.14 lakh sanctioned posts, out of which around 2.94 lakh posts are lying vacant, i.e., there is a vacancy of about 19%.[12] If all of these posts were to be filled, staff costs for Railways would be higher than the current level.

As of March 2021, Railways has 15.54 lakh pensioners.[13] The number of pensioners is higher than the number of current employees. The Standing Committee on Railways (2017) had observed that the pension bill may increase further in the next few years, as about 40% of the Railways staff was above the age of 50 years in 2016-17.[14] The Standing Committee on Railways (2020) noted that the new pension scheme implemented in 2004 to reduce the pension bill will show results only around 2034-35.[8] The Standing Committee (2022) recommended that central government should consider providing support for pension expenditure from general revenue till 2034-35.[15]

Infrastructure projects see significant delays and cost escalation

Infrastructure development projects by Railways often see delay in completion and cost escalation. This shows inefficiency in project execution, which has a negative impact on budgetary requirements as well as operations. As of December 2022, out of 173 ongoing projects worth Rs 150 crore or above, 76% have seen cost escalation.[16] The cumulative sanctioned costs of these 131 projects was Rs 1.94 lakh crore, which escalated to Rs 4.52 lakh crore (about 2.3 times).[16] This also includes the two dedicated freight corridor projects (eastern and western), whose revised cost together is Rs 1.02 lakh crore, an increase of 263% over the sanctioned cost (Rs 28,181 crore).[16]

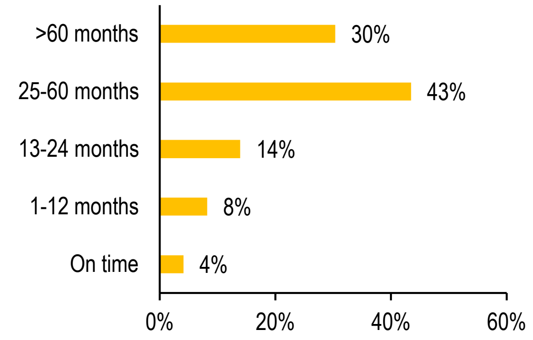
Figure 9: Cost escalation in ongoing projects worth Rs 150 crore or above (as of December 2022)



Note: Data corresponds to 173 ongoing projects.
Sources: 445th Flash Report on Central Sector Projects, Infrastructure and Project Monitoring Division; MoSPI; PRS.

One of the key reasons for cost escalation is delay in completion. Out of 122 ongoing projects for which timeline-related data is available, 96% projects are delayed.[16] 74% of these projects were delayed by more than 24 months.[16] Average delay in these projects is about 64 months.[16]

Figure 10: Time overrun in ongoing projects worth Rs 150 crore or above (as of December 2022)



Note: Data corresponds to 122 ongoing projects.
Sources: 445th Flash Report on Central Sector Projects, Infrastructure and Project Monitoring Division; MoSPI; PRS.

Budget support and extra budgetary resources help sustain investments

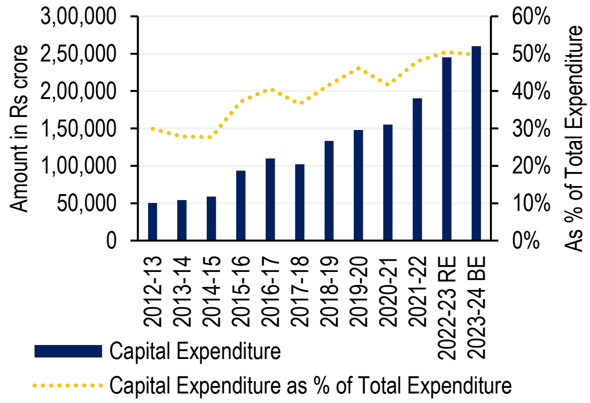
Railways' capital expenditure includes investments for constructing new lines, procuring wagons, doubling of lines, and renewing tracks. In 2023-24, Railways' capital expenditure is targeted at Rs 2.6 lakh crore, an increase of 6% over the previous year (Table 5). The share of capital expenditure in total expenditure of Railways has consistently increased in recent years, despite low revenue surplus (Figure 11). This increase has been funded through budgetary support from the central government and extra budgetary resources.

Table 5: Capital expenditure for 2023-24 (Rs crore)

	2021-22 Actuals	2022-23 Revised	2023-24 Budget	% Change (22-23 RE to 23-24 BE)
Gross Budgetary Support	1,17,276	1,59,300	2,40,200	51%
Extra Budgetary Resources	71,066	81,700	17,000	-79%
Internal Resources	1,925	4,300	3,000	-30%
Total	**1,90,267**	**2,45,300**	**2,60,200**	**6%**

Sources: Expenditure Profile, Union Budget 2023-24; PRS.

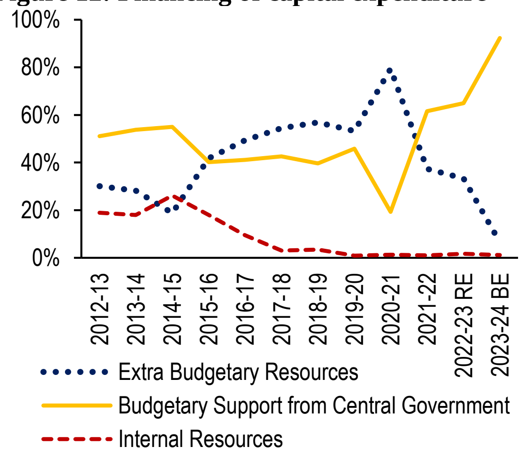
Figure 11: Capital expenditure over the years



Sources: CAG, Union Budget Documents of various years; PRS.

Extra budgetary resources include: (i) borrowings through Indian Railway Finance Corporation (IRFC), and (ii) borrowings from banks, institutional finance, and external investments. Investments are in the form of public-private partnership, joint ventures, and purchase of equity and bonds by private sector. Extra budgetary resources funded more than 50% of capital expenditure between 2017-18 and 2020-21. This reliance has increased debt servicing obligation of Railways (discussed in the next section in detail).

Figure 12: Financing of capital expenditure



Sources: CAG, Union Budget Documents of various years; PRS.

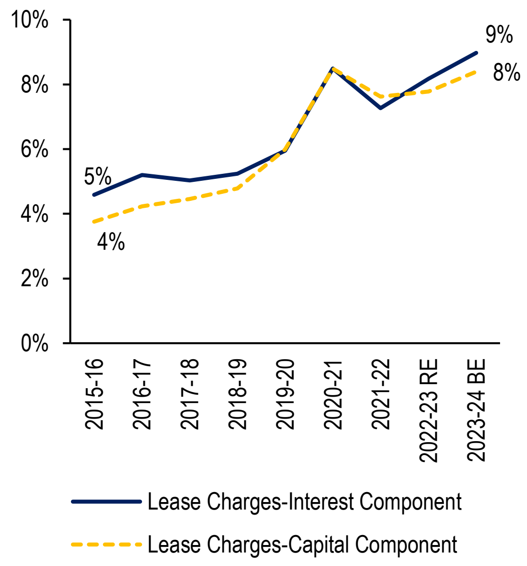
From 2021-22 onwards, the budgetary support has been increased significantly. This has been made possible with the central government incurring a much higher fiscal deficit than the usual (above 6% of GDP).[17] In 2023-24, 92% of capital expenditure will be financed through budgetary support (Rs 2,40,200 crore), up from 65% in 2022-23 (Rs 1,59,300 crore). Correspondingly, extra budgetary resources have been scaled back. Funds from extra budgetary resources are estimated at Rs 17,000 crore in 2023-24, a decrease of 79% from the previous year.

Rise in liability for lease charges

Extra budgetary resources include funds raised through IRFC. IRFC borrows from market and follows a leasing model to finance the rolling stock assets. Since 2015-16, IRFC has also been utilised for project financing.[9] Lease charges have both interest and principal components. Increasing lease charges payment obligation is crowding out the space for productive expenditure.

Between 2015-16 and 2023-24, the interest payment obligation is expected to increase at an annualised rate of 15% and principal repayment obligation at 17%. During the same period, revenue receipts are expected to grow at a much lower rate, i.e., 6%. In 2023-24, Railways is estimated to spend Rs 23,782 crore towards the interest component, and Rs 22,229 crore towards the principal component. Together, these payments are estimated to be 17% of revenue receipts, a sharp rise from 9% of revenue receipts in 2015-16.

Figure 13: Payment of lease charges as % of revenue receipts



Sources: Union Budget Documents of various years; PRS.

Table 6: Payment of lease charges (Rs crore)

	2021-22 Actuals	2022-23 Revised	2023-24 Budget	% Change (22-23 RE to 23-24 BE)
Capital Component	14,581	18,898	22,229	18%
Interest Component	13,896	19,855	23,782	20%
Total	**28,477**	**38,753**	**46,011**	**19%**

Sources: Expenditure Profile, Union Budget 2023-24; PRS.

Shortage of funds for essential provisions

Railways operates various funds to earmark surplus resources for certain purposes. For instance, Depreciation Reserve Fund is for replacement and renewal of assets and Capital Fund is to finance capital works and repayment of principal component of lease charges. Diminishing revenue surplus has meant that these funds do not get adequate provisions (Table 11 in annexure). These purposes are then met either from general revenue of the central government or extra budgetary resources. This has also led to postponement of critical works.

Huge backlog in replacement of old assets

At the end of 2020-21, value of old assets pending to be replaced from Depreciation Reserve Fund is Rs 94,873 crore.[9] This includes: (i) Rs 58,459 crore on track renewals and (ii) Rs 26,493 crore on rolling stock.[9] CAG (2022) observed that given the backlog and depleting surplus, the replacement and renewal of assets could become a burden for the central government.[9]

Servicing of lease charges from general revenue

Due to inadequate funds in the capital fund, the principal component of lease charges is being paid from budgetary support. CAG (2022) observed that ideally, this expenditure should be met from Railways' internal resources.[9] CAG (2019) had observed that if obligations towards IRFC have to be met from budgetary support, the government might as well borrow directly from the market, as the cost of borrowings would be lower.[18] In 2023-24, no extra budgetary resources have been estimated to be raised through IRFC.

Inability in meeting committed funds for safety-related works

Rashtriya Rail Sanraksha Kosh was set up for five years from 2017-18 for financing critical safety related works.[8] The fund was to have a corpus of one lakh crore rupees.[8] Railways was to apportion Rs 5,000 crore in each of these five years, however, it did not meet this obligation in any year

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[2] The Draft National Rail Plan, Ministry of Railways, December 2020, http://indianrailways.gov.in/NRP-%20Draft%20Final%20Report%20with%20annexures.pdf.

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[5] "Indian Railways registers growth in automobile traffic", Press Information Bureau, Ministry of Railways, September 12, 2022, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1858765.

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[13] Pensioner Portal, Ministry of Personnel, Public Grievances, & Pensions, as accessed on February 10, 2023, https://pensionersportal.gov.in/dashboard/CGP/RPT_CGP.aspx.

[14] "13th Report: Demands for Grants (2017-18) - Ministry of Railways", Standing Committee on Railways, March 10, 2017, https://loksabhadocs.nic.in/lsscommittee/Railways/16_Railways_13.pdf.

[15] "11th Report: Demand for Grants (2022-23) - Ministry of Railways", Standing Committee on Railways, March 2022, https://loksabhadocs.nic.in/lsscommittee/Railways/17_Railways_11.pdf.

[16] 445th Flash Report on Central Sector Projects, Infrastructure and Project Monitoring Division, Ministry of Statistics and Programme Implementation, http://www.cspm.gov.in/english/flr/FR_Dec_2022.pdf.

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Annexure: Railways

Table 7: Freight traffic details (traffic volume in million NTKM; earnings in Rs crore)

Commodity	2021-22		2022-23 Revised		2023-24 Budget		% change (2022-23 RE to 2023-24 BE)		% share in 2023-24 BE	
	Earning	Volume	Earning	Volume	Earning	Volume	Earning	Volume	Earning	Volume
Coal	65,856	3,27,754	82,752	3,88,536	89,875	4,08,474	9%	5%	50%	43%
Other Goods	10,018	78,877	11,996	88,565	13,227	94,530	10%	7%	7%	10%
Cement	10,605	81,476	12,397	80,080	14,073	88,000	14%	10%	8%	9%
Containers service	6,275	66,622	7,263	63,520	8,514	71,918	17%	13%	5%	8%
Food grains	10,661	97,076	10,592	79,850	8,479	61,880	-20%	-23%	5%	7%
Iron ore	13,093	66,123	11,923	53,851	14,101	61,717	18%	15%	8%	7%
Pig iron and Finished steel	9,125	60,238	9,911	52,756	11,865	61,140	20%	16%	7%	6%
Fertilizers	5,428	44,530	6,447	44,787	6,755	45,430	5%	1%	4%	5%
Petroleum, Oil, and Lubricant	5,822	31,359	6,337	31,131	6,739	32,050	6%	3%	4%	3%
Raw materials for steel plants	2,406	17,761	2,632	15,431	2,902	16,470	10%	7%	2%	2%
Miscelleneous revenue	1,809	-	2,750	-	2,967	-	8%	-	2%	-
Total	**1,41,096**	**8,71,816**	**1,65,000**	**8,98,507**	**1,79,500**	**9,41,609**	**9%**	**5%**	**100%**	**100%**

Note: NTKM – Net Tonne Kilometre (One NTKM is when one tonne of goods is carried for a kilometre).
RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Profile; Union Budget 2023-24; PRS.

Table 8: Passenger traffic details (traffic volume in million PKM; earnings in Rs crore)

	2021-22		2022-23 Revised		2023-24 Budget		% change (2022-23 RE to 2023-24 BE)		% share in 2023-24 BE	
	Earning	Volume	Earning	Volume	Earning	Volume	Earning	Volume	Earning	Volume
Suburban	**1,370**	**69,798**	**2,265**	**1,13,425**	**2,619**	**1,31,893**	**16%**	**16%**	**4%**	**12%**
Non-Suburban	**37,844**	**5,20,418**	**61,735**	**8,89,083**	**67,381**	**9,80,440**	**9%**	**10%**	**96%**	**88%**
Second Class (M E)	7,170	1,58,819	17,174	3,80,434	19,027	4,24,847	11%	12%	27%	38%
Sleeper Class (M E)	12,849	2,25,637	15,753	2,76,630	17,028	3,01,415	8%	9%	24%	27%
AC 3 Tier	12,225	90,488	19,310	1,42,725	21,156	1,57,619	10%	10%	30%	14%
Second Class (Ordinary)	400	18,355	983	45,129	1,058	48,970	8%	9%	2%	4%
AC 2 Tier	3,385	18,536	5,446	29,779	5,855	32,272	8%	8%	8%	3%
AC Chair Car	1,163	6,602	1,912	10,834	1,999	11,421	5%	5%	3%	1%
AC First Class	496	1,537	880	2,726	962	3,006	9%	10%	1%	0%
Executive Class	140	368	241	634	257	680	6%	7%	0%	0%
Sleeper Class (Ordinary)	3	39	6	90	6	97	7%	8%	0%	0%
First Class (Ordinary)	4	27	11	84	12	95	12%	13%	0%	0%
First Class (M E)	11	10	20	18	19	18	-1%	0%	0%	0%
Total	**39,214**	**5,90,216**	**64,000**	**10,02,508**	**70,000**	**11,12,333**	**9%**	**11%**	**100%**	**100%**

Note: PKM – Passenger Kilometre (One PKM is when a passenger is carried for a kilometre).
RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Profile; Union Budget 2023-24; PRS.

Table 9: Details of capital expenditure (Rs crore)

Head	2021-22 Actuals	2022-23 BE	2022-23 RE	2023-24 BE	% change from 22-23 RE to 23-24 BE
New Lines (Construction)	21,245	26,324	26,000	31,850	22%
Gauge Conversion	2,837	3,475	3,829	4,600	20%
Doubling	32,219	37,150	42,492	30,749	-28%
Traffic Facilities-Yard Remodeling and Others	2,675	3,045	4,739	6,715	42%
Rolling Stock	41,406	38,887	59,994	47,510	-21%
Leased Assets-Payment of Capital Component	14,581	22,188	18,898	22,229	18%
Road Safety Works-Road Over/Under Bridges	4,222	6,500	5,999	7,400	23%
Track Renewals	14,082	12,077	13,620	17,297	27%
Electrification Projects	6,961	7,695	8,022	8,070	1%
Other Electrical Works incl. TRD	627	650	676	1,650	144%
Workshops Including Production Units	2,668	2,045	2,671	4,601	72%
Staff Welfare	473	495	463	629	36%
Customer Amenities	1,995	2,700	3,824	13,355	249%
Investment in Govt. Commercial Undertaking - Public Undertaking/JVs/SPVs	25,751	38,687	28,981	34,354	19%
Metropolitan Transport Projects	2,515	1,998	3,533	5,000	42%
Others	5,621	6,884	6,858	7,192	5%
EBR- Partnership	10,388	35,000	14,700	17,000	16%
Total	**1,90,267**	**2,45,800**	**2,45,300**	**2,60,200**	**6%**

RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Profile; Union Budget 2023-24; PRS.

Table 10: Physical target and achievement for capital expenditure

Head	2021-22			2022-23			2023-24	% change from 22-23 RE to 23-24 BE
	Revised Target	Achievement	In %	Budget Target	Revised Target	% change	Budget Target	
Construction of New Lines (Route Kms)	300	289	96%	300	200	-33%	600	200%
Gauge conversion (Route Kms)	500	636	127%	500	100	-80%	150	50%
Doubling of Lines (Route Kms)	1,600	1,984	124%	1,700	2,200	29%	2,800	27%
Rolling Stock								
(i) Diesel Locomotives	*0*	*100*	-	*100*	*100*	*0%*	*100*	*0%*
(ii) Electric Locomotives	*1,091*	*1,110*	*102%*	*1,290*	*1,290*	*0%*	*1,290*	*0%*
Coaches	*8,115*	*7,151*	*88%*	*7,551*	*7,520*	*0%*	*6,978*	*-7%*
Wagons (vehicle units)	*9,600*	*8,386*	*87%*	*13,000*	*21,000*	*62%*	*26,000*	*24%*
Track renewals (Track Kms)	3,600	4,275	119%	3,700	4,200	14%	4,800	14%
Electrification Projects (Route Kms)	6,000	6,366	106%	6,500	6,500	0%	6,500	0%

Sources: Expenditure Profile; Union Budget 2023-24; PRS.

Table 11: Apportionment to various funds (Rs crore)

Year	Capital Fund	Debt Service Fund	Depreciation Reserve Fund	Development Fund	Rashtriya Rail Sanraksha Kosh
2013-14	500	165	7,900	3,075	-
2014-15	6,233	57	7,775	1,375	-
2015-16	5,798	3,488	5,600	1,220	-
2016-17	2,398	0	5,200	2,515	-
2017-18	0	0	1,540	1,506	0
2018-19	0	0	300	750	3,024
2019-20	0	0	400	1,389	201
2020-21	0	0	200	1,547	1,000
2021-22	0	0	0	0	0
2022-23 RE	1,300	0	1,000	1,093	0
2023-24 BE	0	0	1,000	1,210	1,000

RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Profile; Union Budget 2023-24; PRS.

Table 12: Zone-wise operating ratio (in %)

Zone	2016-17	2017-18	2018-19	2019-20	2020-21
Central	**105**	**111**	**105**	**105**	**126**
East Central	**102**	98	98	**102**	89
East Coast	54	52	52	51	47
Eastern	**165**	**181**	**186**	**170**	**175**
Metro Rail/Kolkata	**260**	**278**	**248**	**216**	**678**
North Central	71	67	68	74	79
North Eastern	**197**	**202**	**205**	**188**	**203**
North Western	95	**108**	**106**	**113**	**107**
Northeast Frontier	**130**	**169**	**161**	**152**	**139**
Northern	**119**	**117**	**132**	**155**	**154**
South Central	86	83	80	88	**101**
South East Central	56	56	56	54	46
South Eastern	73	76	73	65	57
South Western	**120**	**129**	**133**	**124**	**138**
Southern	**148**	**161**	**153**	**146**	**219**
West Central	74	75	68	71	68
Western	**103**	**108**	**102**	**115**	**128**
Overall	**96.5**	**98.4**	**97.3**	**98.4**	**97.5**

Note: Figures have been rounded off.
Sources: CAG; PRS.

Demand for Grants 2023-24 Analysis
Food and Public Distribution

The Ministry of Consumer Affairs, Food and Public Distribution has two Departments: (i) Food and Public Distribution, and (ii) Consumer Affairs. Allocation to the Ministry accounts for 5% of the budget of the central government in 2023-24.[1]

The **Department of Consumer Affairs** is responsible for spreading awareness among consumers about their rights, protecting their interests, implementing standards, and preventing black marketing.[2] In 2023-24, the Department has been allocated Rs 251 crore, a 14% increase over the revised estimate of 2022-23.[3] However, the allocation to the Department has declined by 87% in 2022-23 at the revised estimate stage as compared to the budget estimate stage.

The **Department of Food and Public Distribution** is responsible for ensuring food security through procurement, storage, and distribution of food grains, and for regulating the sugar sector.[4] In 2023-24, the Department has been allocated Rs 2,05,514 crore (almost the entire allocation of the Ministry).[5] This is a decrease of 31% as compared to the revised estimate of 2022-23.

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

Department	2021-22 Actuals	2022-23 Revised	2023-24 Budgeted	% change 2023-24 BE over 2022-23 RE
Food & Public Distribution	3,04,361	2,96,304	2,05,514	-31%
Consumer Affairs	2,211	220	251	14%
Total	**3,06,571**	**2,96,523**	**2,05,765**	**-31%**

Sources: Expenditure Budget, Union Budget 2023-24; PRS.

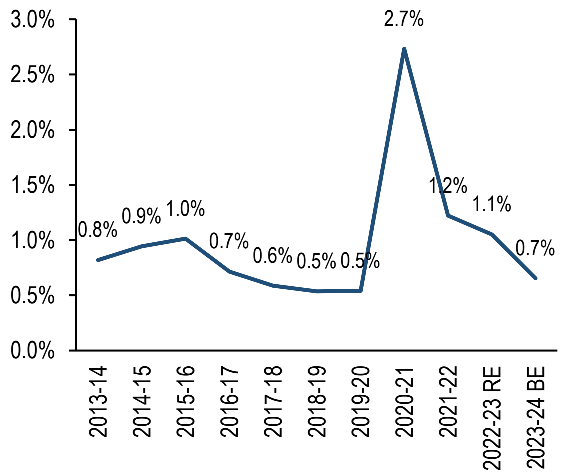
This note examines the allocation to the Department of Food and Public Distribution. It also discusses the broad issues in the sector and key observations and recommendations made in this regard.

Overview of Finances

Food subsidy is the largest expenditure by the Department of Food and Public Distribution. 96% of the Department's allocation in 2023-24 is towards food subsidy (see Table 7 in the Annexure for more details). The subsidy is provided to the Food Corporation of India (FCI) and states for procuring food grains from farmers at government notified prices and selling them at lower subsidised prices (known as Central Issue Prices), under the National Food Security Act (NFSA), 2013. The Act mandates coverage of up to 75% of the population in rural areas and 50% in urban areas.[6,7] Beneficiary households under the Act are divided into Antyodaya Anna Yojana (AAY, i.e., the poorest of poor families) and priority households. AAY households are eligible to receive 35 kg of foodgrains per month and priority households are eligible to receive 5 kg of foodgrains per person per month at subsidised prices.

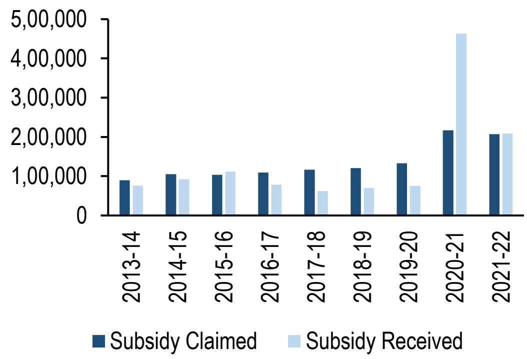
The subsidy also covers the storage cost incurred by FCI in maintaining buffer stocks in order to ensure food security in the country. Figure 1 shows the expenditure on food subsidy during 2013-14 to 2023-24 as a percentage of GDP. The spending on food subsidy as a percentage of GDP decreased between 2013-14 (0.8%) and 2019-20 (0.5%). However, this downward trend was driven by releasing less subsidy than what was originally claimed by the FCI.[8]

Figure 1: Expenditure on food subsidy (as % of GDP)



Note: RE is revised estimate; BE is budget estimate.
Sources: Union Budget Documents; MoSPI; PRS.

Figure 2: Subsidy claimed by FCI vs released by government (Rs crore)



Sources: FCI; PRS.

The amount of unpaid subsidy to the FCI had steadily increased over the last few years. While the central government released less than claimed subsidy, it provided loans to the FCI through the National Small Savings Fund (NSSF). In the budget for 2021-22, the central government made provisions to repay the loans taken from NSSF and clear the past dues of the FCI. As a result, the expenditure on food subsidy increased sharply in 2020-21 to 2.7% of GDP. Between 2020-21 and 2022-23, food subsidy also included expenditure on account of Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY). Under the scheme, 5 kg additional foodgrains were allocated per person per month free of cost to eligible beneficiaries at an expense of Rs 3.9 lakh crore.[9] In December 2022, the Union Cabinet decided to provide foodgrains under NFSA free of cost to the eligible beneficiaries. This would be applicable for a one-year period from January 1, 2023.[10]

Table 2: Foodgrain allocation and expenditure under PMGKAY

Phases	Foodgrains allocated (lakh metric tonnes)	Expenditure (Rs crore)
Apr 20–Jun 20	120	44,834
Jul 20-Nov 20	201	68,351
May 21-Jun 21	80	26,602
Jul 21-Nov 21	199	67,266
Dec 21-Mar 22	159	53,344
Apr 22-Sep 22	239	85,838
Oct 22-Dec 22	120	44,763
Total	**1,118**	**3,90,998**

Sources: Unstarred Question No. 1994, Rajya Sabha; PRS.

Components of food subsidy

Expenditure on food subsidy can be classified under the following three heads (break-up in Table 3):

- **Subsidy to FCI:** The Food Corporation of India (FCI) receives subsidy for procuring food grains from farmers at government notified prices and selling them at lower subsidised prices. It also receives subsidy for the storage cost incurred in maintaining buffer stocks.
- **Subsidy to states:** Under the decentralised procurement scheme, states may choose to undertake the operations of procurement, storage, and distribution on behalf of FCI. In such cases, states are provided with subsidy.
- **Sugar subsidy:** Under this, one kg of sugar per family per month is provided at subsidised rates to families covered under the Antyodaya Anna Yojana. This is less than 0.2% of the total subsidy bill.

In addition, Rs 7,425 crore has been allocated as assistance to states for intra-state movement of foodgrains and margins of fair price shop dealers. In the budget for 2023-24, the subsidy allocated to the FCI and states is expected to be 36% and 17% lower as compared to the revised estimate of 2022-23, respectively.

Table 3: Break-up of food subsidy (Rs crore)

Subsidy	2021-22 Actuals	2022-23 Revised	2023-24 Budgeted	% change in 2023-24 BE over 2022-23 RE
Subsidy to FCI	2,08,929	2,14,696	1,37,207	-36%
Subsidy to states (decentralised procurement)	79,790	72,283	59,793	-17%
Sugar subsidy	250	216	350	62%
Total	**2,88,969**	**2,87,194**	**1,97,350**	**-31%**

Sources: Expenditure Budget, Union Budget 2023-24; PRS.

Issues in the Sector

Coverage under NFSA

The NFSA provides that subsidised foodgrains be provided to up to 75% of the rural population and up to 50% of the urban population (as per the census).[6] On an average, it covers 67% of the total population of the country. As per the 2011 census, the number of eligible beneficiaries covered under NFSA is around 80 crore. Who should receive food subsidy has been a key question. On one hand there have been suggestions to identify beneficiaries as per the latest population figures to increase coverage. On the other hand, experts have suggested to reduce the coverage under NFSA while increasing the entitlements for priority households.

The next decadal census was to be conducted in 2021. However, due to the COVID-19 pandemic, it has been postponed until further orders.[11] In the backdrop of this delay and the increase in population during the intervening period, the number of people getting food subsidy under NFSA may be less than 67% of the population. According to the population estimates prepared by the National Commission on Population, India’s population as on March 1, 2021 is expected to be 136 crore as compared to 121 crore in 2011.[12] Going by this estimate, the number of people who are eligible to be covered under NFSA would be around 91 crore which is more than the current number of beneficiaries receiving subsidised foodgrains.

In July 2022, the Supreme Court observed that the central government should come with a formula or policy such that the benefits under NFSA are not restricted as per the 2011 census.[13] The Court noted that the ‘Right to Food’ is a fundamental right under Article 21 of the Constitution. It recommended that the central government may use projections of population increase during 2011-2021 to ensure more needy people are covered under NFSA.[13] Note that certain states run an expanded version of the PDS. According to the central government, more than six crore state ration cards exist which cover another 25 crore people over and above the NFSA mandate.[14]

Various experts have noted that the coverage of NFSA is high, but the allocation to priority households is low. In 2011-12, the per capita consumption of cereals in rural areas was 11.2 kg and in urban areas was 9.3 kg.[15] Compared to this, under NFSA, priority households are entitled to receive 5 kg of foodgrains (primarily rice and wheat) per person per month. In the last two years, some of the consumption gap was being met through the additional allocation of foodgrains under PMGKAY, which was discontinued in December 2022.

The High Level Committee on Restructuring of Food Corporation of India (2015) had recommended that the central government should rethink the coverage of population under NFSA.[16] It noted that allocating 5 kg foodgrains per person to priority households made them worse off compared to the earlier framework of targeted PDS under which they were entitled to 7 kg of foodgrains per person.[16] It had recommended reducing the overall coverage for NFSA to around 40% of the population. This would cover all families below the poverty line and some families above that. At the same time, it recommended increasing the allocation of foodgrains to priority households to 7 kg per person.

Free provision of foodgrains under NFSA is against long-standing recommendation of revision of CIP

Under the National Food Security Act, 2013, food grains are allocated to the beneficiaries at the Central Issue Price (CIP). These prices have not changed since July 1, 2002.[17] The Standing Committee on Food, Consumer Affairs and Public Distribution (2017) noted that the food subsidy bill has increased due to increase in MSP of wheat and rice with respect to the CIP, increased off take of food grains under targeted PDS, and implementation of NFSA in all states/UTs.[18] The Economic Survey 2020-21 noted that the central government's food subsidy bill is becoming unmanageably large.[19]

Table 4: Central Issue Price (in Rs per kg)

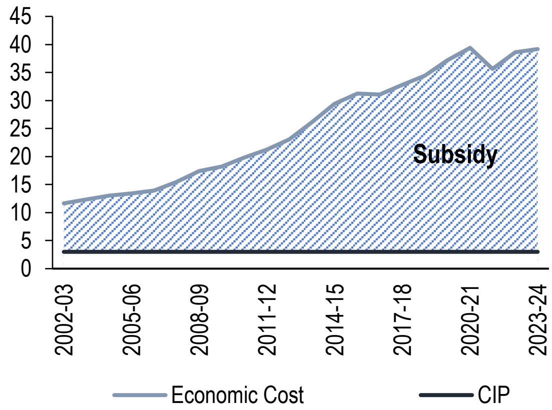
Food grain	NFSA	BPL	APL
Rice	3.00	5.65	7.95
Wheat	2.00	4.15	6.10

Note: BPL – Below Poverty Line, APL – Above Poverty Line.
Sources: FCI; PRS.

Food subsidy has three elements: (i) consumer subsidy, (ii) cost of maintaining buffer stock, and (iii) subsidy on coarse grains, regularisation of FCI's operational losses and other non-plan allocation to states.[20] Consumer subsidy is the difference between the economic cost and CIP. Economic cost includes cost of procurement, acquisition, and distribution. In 2002-03, from when the CIP has been effective, the economic cost of rice was Rs 11.7 per kg and for wheat it was Rs 8.8 per kg.[20] In 2023-24, the economic cost of rice is estimated to be Rs 39.2 per kg while that for wheat is estimated at Rs 27 per kg.[20] The NFSA provides that the CIP may be periodically revised by the central government in a manner such that it does not exceed the minimum support price for rice, wheat, and coarse grains.[6]

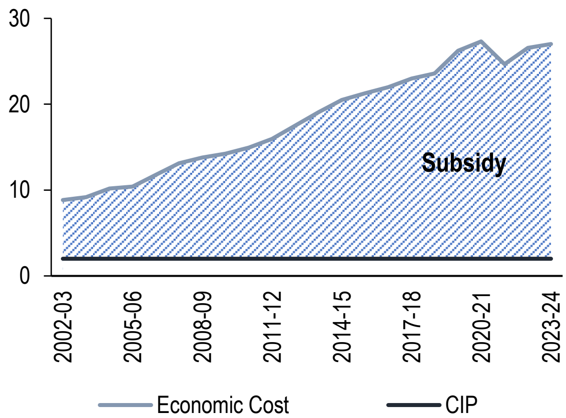
In 2023, the central government will provide free foodgrains to all eligible beneficiaries under the NFSA.[10] This distribution of foodgrains has now been renamed as PMGKAY (after the scheme which ran from April 2020 to December 2022).[21] The free distribution of foodgrains under NFSA is against the recommendations given in the past with respect to the revision of the CIP.

Figure 3: Subsidy on a kg of rice (in Rs/kg)



Note: Figures for 2022-23 are revised estimates and 2023-24 are budget estimates.
Sources: FCI; PRS.

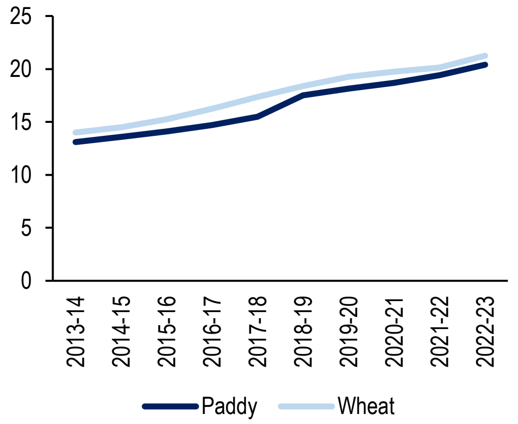
Figure 4: Subsidy on a kg of wheat (in Rs/kg)



Note: Figures for 2022-23 are revised estimates and 2023-24 are budget estimates.
Sources: FCI; PRS.

The Economic Survey 2020-21 noted that while it is difficult to reduce the economic cost of food management, there is a need to consider revising CIP to reduce food subsidy bill. The 15th Finance Commission observed that the increase in economic cost of food grains will need to be partially offset by increasing CIP of subsidised foodgrains.[22] Increase in expenditure on food subsidy may hinder investments in the agriculture and food sector.[16] One recommendation has been to provide foodgrains at the prevailing subsidised rates only to the AAY households.[16] However, the prices for priority households must be linked to MSP. The rise in economic costs is driven by periodic increases in MSP (Figure 5).

Figure 5: Increase in MSP of paddy and wheat (in Rs/kg)



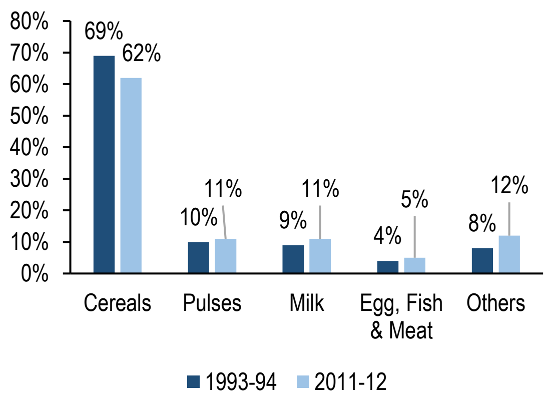
Sources: Commission for Agricultural Costs and Prices; PRS.

Distribution of commodities under NFSA may not cater to nutritional requirements of the beneficiaries

According to the National Family Health Survey – 5, 50% of the women and 48% of the men surveyed between the ages of 15-49 reported consuming pulses or beans daily.[23] Around 49% of the respondents reported consuming milk or curd daily.[23] One of the reforms prescribed under NFSA includes diversifying the commodities distributed under PDS over a period of time.[6] However, foodgrains distributed under PDS primarily include only cereals (rice, wheat, and coarse grains). This has not changed since the Act was implemented in 2013 despite certain structural changes in consumption patterns of people.

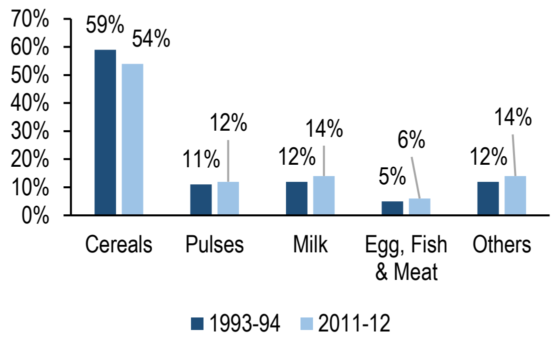
Between 1993-94 and 2011-12, the amount of protein intake by consuming cereals decreased in both rural areas and urban areas.[24] There was an increase in the share of proteins consumed through items such as pulses, milk, and egg, fish and meat.[24]

Figure 6: Protein intake in rural areas



Sources: Nutritional Intake in India 2011-12, NSSO; 15th Finance Commission; PRS.

Figure 7: Protein intake in urban areas



Sources: Nutritional Intake in India 2011-12, NSSO; 15th Finance Commission; PRS.

Moreover, while cereals or foodgrains contain only 10% protein, their share as a percentage of total protein intake in rural and urban areas was more than 50% in 2011-12.[24] Other sources of consumption such as pulses, milk, fish, and meat contain more than 20% protein but account for only 15% of total protein intake in India.[24]

Pulses under PMGKAY: Pulses can be a better source of protein as compared to cereals and can help improve nutrition intake for NFSA beneficiaries. Under the first phase of the PMGKAY between April to June 2020, the central government distributed one kg of pulses per household per month free of cost for NFSA beneficiaries.[25] Between July to November 2020, one kg of chana was provided free of cost per family per month to beneficiaries covered under the NFSA. However, the allocation of pulses was not continued after that under PMGKAY.

Between 2011-12 and 2021-22, the domestic production of pulses has increased at an annual rate of 5% as compared to the increase of 2% in the total production of foodgrains.[26] However, India continues to be import dependent for meeting its domestic needs for consumption of pulses. India's import dependency for pulses in 2020-21 was 9% which is estimated to decline to 3.6% by 2030-31.[27] This is in contrast to wheat and rice where the domestic production is more than sufficient to meet the domestic consumption demand. As long as India continues to be import dependent for meeting its consumption needs for pulses, it may be challenging to include them as one of the commodities given under NFSA.

Delivery of food subsidy

Leakages in PDS: Leakages refer to food grains not reaching the intended beneficiaries. Note that recent data on leakages is not publicly available. The latest available data is for 2011. According to the 2011 data, leakages in PDS were estimated to be 46.7%.[16,28] Leakages may be of three types: (i) pilferage or damage during transportation of food grains, (ii) diversion to non-beneficiaries at fair price shops through issue of ghost cards, and (iii) exclusion of people entitled to food grains but who are not on the beneficiary list.[29,30]

Exclusion errors occur when entitled beneficiaries do not get food grains. It refers to the percentage of poor households that are entitled to but do not have PDS cards. Exclusion errors had declined from 55% in 2004-05 to 41% in 2011-12.[31] Inclusion errors occur when those who are ineligible get undue benefits. Inclusion errors had increased from 29% in 2004-05 to 37% in 2011-12.[31]

Considering the significant leakages under the PDS, the High-Level Committee (2015) had recommended the incorporation of Aadhaar and biometric authentication.[16] In February 2017, the Ministry made it mandatory for beneficiaries under the National Food Security Act, 2013 to use Aadhaar as proof of identification for receiving food grains.[32] However, non-linking of Aadhaar with ration cards is not a ground for cancellation of ration cards.[33] The deadline for applying for Aadhaar enrolment in order to avail subsidised food grains or cash transfer of food subsidy has been extended several times and currently stands at March 31, 2023.[34] According to the central government, due to measures such as digitisation of ration cards, deduplication, and identification of fake/ineligible ration cards, states/UTs have cancelled about 4.28 crore bogus cards between 2014 to 2021.[33] As on February 4, 2022, 93.5% of the ration cards have been seeded with Aadhaar (of at least one member of the household).[35]

Note that beneficiaries may face issues with Aadhaar authentication while availing PDS benefits. According to the data submitted by UIDAI to the Supreme Court, the Aadhaar authentication failure rate (across all purposes) was 8.5% for iris scans and 6% for fingerprints.[36] In its judgement, the Court held that services cannot be denied to beneficiaries due to Aadhaar authentication failure.[36]

Table 5: States where complete FPS automation is pending

State/UT	Total FPS	Operational ePoS	% FPS Automation
Andaman and Nicobar Islands	464	445	96%
Assam	33,987	19,078	56%
Chhattisgarh	12,304	12,004	98%

Sources: 18th Report, Standing Committee on Consumer Affairs, Food and Public Distribution, 2022; PRS.

Automation of fair price shops (FPS) by installing electronic point of sale devices (ePoS) has been another reform which has been suggested to address leakages in PDS. This helps in transparent distribution of food grains after unique identification of beneficiaries.[37] In addition to this, ePoS devices also upload the electronic records of sale transactions to centralised servers in states/UTs.[37]

As on February 2, 2022, 97% of all FPSs have operationalised ePoS.[35]

In May 2022, the Department of Food and Public Distribution revised the central assistance paid to states/UTs for meeting, among other expenses, the margins paid to FPS dealers.[38] Under the revised norms, the margin of FPS dealers have been increased from 70 paise per kg to 90 paise per kg in general category states and from Rs 1.43 per kg to Rs 1.8 per kg in north-eastern, Himalayan, and island states.[38]

However, certain ground surveys have indicated that Aadhaar based authentication and automation of FPSs have led to problems of exclusion. For instance, a study in rural Jharkhand (2017) found that certain households were unable to pass the biometric authentication test and were hence unable to timely access their food entitlements.[39] Certain households with elderly couples reported issues with fingerprint recognition. The survey also found that quantity fraud (providing less than entitled foodgrains to beneficiaries) persisted even after the implementation of PoS devices.[39]

Direct Benefit Transfer (DBT): The NFSA provides that one of the reforms in targeted PDS is the introduction of schemes such as cash transfer and food coupons.[6] The High-Level Committee on FCI (2015) had observed that a majority of the rural population covered under NFSA are farmers or people working on farms.[16] This implies that the government often procures, stores, and distributes grains to the same persons that they are buying grains from at MSP.[16] The Committee recommended that it would be better to provide cash subsidy to such farmers and farm workers. This was seen to reduce the subsidy expenses of the central government while at the same time improve the effective subsidy support received by the beneficiaries.[16] The Committee estimated that this would save around Rs 30,000-35,000 crore for the central government. It recommended giving cash transfers indexed to inflation.[16]

In September 2015, the central government started pilot projects for providing food subsidy through cash transfers. This is being implemented in Chandigarh, Puducherry and urban areas of Dadra and Nagar Haveli.[40] According to the central government these pilot projects aim to: (i) reduce the need for physical movement of foodgrains, (ii) provide greater autonomy to beneficiaries to choose their consumption basket, and (iii) reduce leakages and improve targetting.[40] However, even after seven years of starting the pilot projects, the uptake of DBT across states has been limited. The government of Puducherry had sought an exemption from the DBT scheme under NFSA.[41] However, its request was turned down by the Centre.[41] A DBT pilot project started in the Nagri block of Jharkhand was discontinued in 2018, 10 months after it was launched.[42] According to news reports, a social audit of the scheme had revealed that some beneficiaries took more than four days in accessing the ration after receiving the money.[42] Moreover, some beneficiaries also had to borrow money in order to be able to buy rations.[42]

One Nation One Ration Card (ONORC): In order to facilitate nationwide portability of NFSA entitlements, the central government has implemented the ONORC. Under the scheme, NFSA beneficiaries have the choice to lift their entitled foodgrain from any FPS across the country with their existing ration card.[43] It is being implemented in all states/UTs. Between August 2019 and November 2022, more than 93 crore portability transactions were carried out under ONORC. However, only 0.6% of these accounted for inter-state transactions while the remaining were intra-state transactions.[43] Bihar accounts for 31% of the total portability transactions, followed by Andhra Pradesh at 12% and Rajasthan at 11%.[43]

Procurement of foodgrains

There are two broad procurement systems: (i) centralised and (ii) decentralised.[44] Under the centralised procurement system, foodgrains are procured either directly by the FCI or by state government agencies (at MSP). Foodgrains procured by state agencies are handed over to FCI for storage, distribution, or transportation. Under decentralised procurement, state government/agencies procure, store, and distribute rice/wheat/coarse grains within the state. The excess stocks of rice and wheat are handed over to FCI in the central pool. The expenditure incurred by the states and its agencies are reimbursed by the central government. At present, 15 states undertake decentralised procurement for rice while eight states undertake the decentralised procurement of wheat.[35]

Table 6: Procurement of rice and wheat for central pool (in lakh metric tonnes)

Year	Rice	Wheat
2015-16	342.18	280.88
2016-17	381.06	229.61
2017-18	381.74	308.24
2018-19	443.99	357.95
2019-20	518.26	341.32
2020-21	602.45	389.92
2021-22	575.88	433.44
2022-23	434.83*	187.92

Note: *Rice procurement data up to January 31, 2023.
Sources: FCI; PRS.

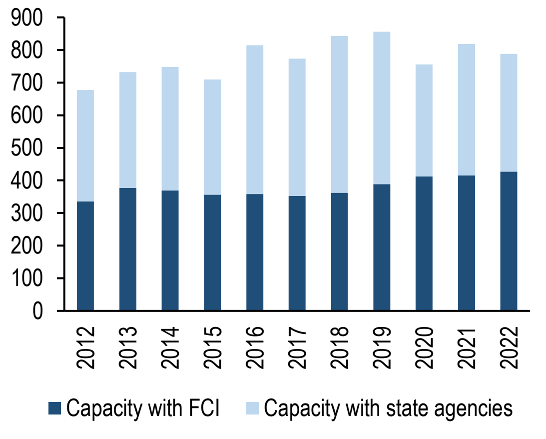
In 2022-23, the wheat procurement for the central pool was 57% less as compared to the procurement in 2021-22.[45] This was driven by lower domestic production of wheat and sale of wheat by farmers in the open market to benefit from higher prices in the aftermath of geo-political tensions.[46] As a result of the lower procurement of wheat in 2022-23, the stock of wheat in the central pool as on January 1, 2023 was 171.7 lakh metric tonnes.[47] While this was above the foodgrain stocking norms of 138 lakh metric tonnes for wheat as on January 1 of each year, the actual stock in the central pool was the lowest since 2017.[47,48]

Decentralised procurement: The Standing Committee on Food, Consumer Affairs, and Public Distribution (2022) noted that after 24 years of starting decentralised procurement, the scheme has not been implemented by all states/UTs.[35] The Department had informed the Committee that since decentralised procurement involves the state governments to make arrangement for funds, storage, and manpower, they hesitate to adopt it.[35] Decentralised procurement of foodgrains is considered to be more effective as it does not require FCI to take over the stock of foodgrains and then release it to states.[35] The Standing Committee recommended that all states/UTs should adopt the decentralised procurement of foodgrains. This would ensure the effective implementation of NFSA and make available foodgrains suited to local tastes for distribution under PDS.[35] The Committee had recommended the central government to help states in adopting decentralised procurement.

Storage Capacity

In 2023-24, the central government has allocated Rs 104 crore for creation of storage capacity through FCI and state governments.[5] FCI has its own network of storage infrastructure. Further, it also hires additional storage facilities from Central Warehousing Corporation and state warehousing corporations.[49]

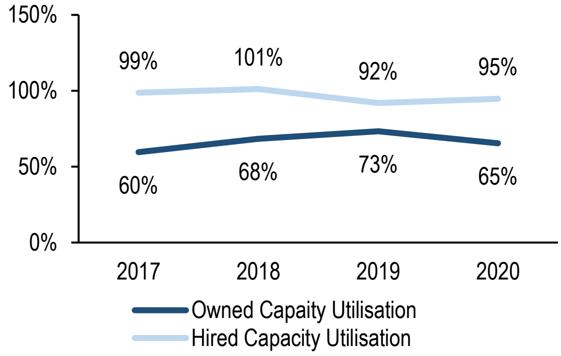
Figure 8: Storage capacity for central pool stocks (in lakh metric tonnes)



Note: Data as on April 1 of each year.
Sources: FCI; PRS.

The existing storage facilities are primarily conventional godowns where the foodgrains are stacked in bags.[49] During peak procurement periods, FCI also uses cover and plinth (CAP) facilities for short-term storage of foodgrains.[49] As on April 1, 2022, the storage capacity with FCI for central pool stocks was 427 lakh metric tonnes.[50] The High Level Committee (2015) had recommended that CAP storage should be gradually phased out with no grain stocks remaining in CAP for more than three months.[16] The Committee also recommended to replace CAP storage with silo bag technology and conventional storages wherever it was possible.

Figure 9: Hired and owned storage capacity utilisation of FCI



Note: Data as on June 1 of every year. Data for covered and CAP storage.
Sources: 13th Report, Standing Committee on Food, Consumer Affairs and Public Distribution, 2021; PRS.

The Standing Committee (2021) noted that the utilisation of hired storage capacity is much higher than the storage capacity owned by FCI.[49] The Committee recommended that godowns should be hired only when it is absolutely necessary. [49] It recommended that FCI should utilise its own storage capacity to the maximum to save funds spent on renting storage space.[49] The Standing Committee (2021) was informed that storage capacity is hired only when there is absolute necessity for it.[49] This is the reason that hired capacity is utilised fully. Also, hired storage facility allows more flexibility in responding to changes in procurement pattern or change in offtake of food grains.[49]

The Standing Committee (2022) noted that physical and financial targets for construction of godowns was not met between 2019-20 and 2021-22.[35] In 2021-22, against a target of 30,020 metric tonnes storage in north-eastern states, 20,000 metric tonnes was constructed up to February 8, 2022.[35] In other states, no construction of godowns could be completed in 2021-22 against a target of 26,220 metric tonnes. The reasons for not meeting construction targets of godowns was cited to be: (i) COVID-19 related lockdowns, (ii) inability of state governments to timely hand over land parcels in the north east, (iii) local interference and law and order situation, and (iv) difficult geographical terrain.[35] The Committee noted that inadequate storage space hampers the efficiency of the PDS. It recommended improving the pace of construction of storage godowns going ahead in both north eastern and other states.[35]

Sugarcane

The Department is also responsible for formulation of policies and regulations for the sugar sector. This includes fixing the Fair and Remunerative Price (FRP) of sugarcane which is payable to farmers by sugar factories, training in sugar technology, and regulation of supply of free sale sugar. As of December 16, 2022, Rs 5,143 crore were pending in dues to sugarcane farmers for the sugar seasons (October-September) up to 2021-22.[51] According to the Department, domestic production in excess of demand leads to an accumulation of sugar stock.[35] In a normal sugar season, the production of sugar is around 310-320 lakh metric tonnes against domestic consumption of about 260 lakh metric tonnes.[35] This causes blockage of funds and adversely affects the liquidity of sugar mills, thereby leading to accumulation of arrears to sugarcane farmers.

Ethanol Blending Programme: The central government has been implementing the ethanol blended petrol (EBP) programme to increase the value addition in sugar industry and clear the arrears of sugarcane farmers.[52] The National Biofuel Policy, 2018, mandated 10% blending of ethanol into motor fuel by 2022 and 20% by 2030.[35] The target of achieving average 10% blending was achieved in June 2022.[53] The original target has been revised to achieve 20% blending by 2025-26.[35] In order to utilise the excess stock of sugarcane, the central government has permitted the production of ethanol from sugarcane juice, molasses (by-product in the production of sugar), sugar, and sugar syrup.[35] The ethanol supplied to oil marketing companies (OMCs) has increased from 38 crore litre in ethanol supply year (December-November) 2013-14 to over 452 crore litre in 2021-22.[53]

Sugarcane prices: Certain state governments fix their own State Advised Price (SAP) at levels higher than the FRP announced by the central government. This causes further strain on the financial health of the sugar mills.[54] A Task Force on Sugarcane and Sugar Industry (2020) recommended that sugarcane prices must be linked to sugar prices.[54] Increases in FRP should be kept moderate and state announcing SAP should also bear the additional costs associated with it.[54] The Task Force recommended a staggered payment mechanism for sugarcane. However, it should be ensured that the entire dues to the farmers are cleared within two months.[54] The central government also fixes the minimum selling price for white/refined sugar. This was increased from Rs 29 per kg to Rs 31 per kg with effect from February 14, 2019.[55] The task force had recommended increasing the minimum selling price of sugar to Rs 33 per kg with it being reviewed six months after notification.[54] It observed that raising the selling price would help sugar mills to cover their production and maintenance costs

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Annexure: Food and Public Distribution

Table 7: Allocation to major heads of expenditure under the Department in 2023-24 (Rs crore)

	2021-22 Actuals	2022-23 Budgeted	2022-23 Revised	2023-24 Budgeted	% change in 2023-24 BE over 2022-23 RE
Food subsidy	2,88,969	2,06,831	2,87,194	1,97,350	-31%
Subsidy to Food Corporation of India (FCI)	2,08,929	1,45,920	2,14,696	1,37,207	-36%
Subsidy to states (decentralised procurement)	79,790	60,561	72,283	59,793	-17%
Sugar subsidy payable under PDS	250	350	216	350	62%
Assistance to state agencies for intra-state movement of food grains and for margin of fair price shops' dealers	6,000	6,572	6,572	7,425	13%
Investment in equity capital of FCI	2,500	1,900	1,900	-	-100%
Scheme for providing assistance to Sugar Mills for expenses on marketing costs and costs of transport on export of sugar	3,478	-	21	-	-100%
Scheme for Assistance to Sugar Mills for 2019-20 season	2,121	-	15	-	-100%
Scheme for extending financial assistance to sugar mills for enhancement and augmentation of ethanol production capacity	160	300	260	400	54%
Department	**3,04,361**	**2,15,960**	**2,96,304**	**2,05,514**	**-31%**

Sources: Demand No. 15, Department of Food and Public Distribution, Expenditure Budget, Union Budget 2023-24; PRS.

Table 8: Procurement, offtake, and stocks of food grains (in million tonnes)

Year	Procurement			Offtake			% Offtake	Stocks		
	Rice	Wheat	Total	Rice	Wheat	Total		Rice	Wheat	Total
2004-05	24.7	16.8	41.5	23.2	18.3	41.5	100%	13.3	4.1	18.0
2005-06	27.6	14.8	42.4	25.1	17.2	42.3	100%	13.7	2.0	16.6
2006-07	25.1	9.2	34.3	25.1	11.7	36.8	107%	13.2	4.7	17.9
2007-08	28.7	11.1	39.9	25.2	12.2	37.4	94%	13.8	5.8	19.8
2008-09	34.1	22.7	56.8	24.6	14.9	39.5	70%	21.6	13.4	35.6
2009-10	32.0	25.4	57.4	27.4	22.4	49.7	87%	26.7	16.1	43.3
2010-11	34.2	22.5	56.7	29.9	23.1	53.0	93%	28.8	15.4	44.3
2011-12	35.1	28.3	63.4	32.1	24.3	56.4	89%	33.4	20.0	53.4
2012-13	34.0	38.2	72.3	32.6	33.2	65.9	91%	35.5	24.2	59.8
2013-14	31.9	25.1	56.9	29.2	30.6	59.8	105%	30.5	17.8	49.5
2014-15	32.0	28.1	60.2	30.7	25.2	55.9	93%	23.8	17.2	41.3
2015-16	34.2	28.1	62.3	31.8	31.8	63.7	102%	28.8	14.5	43.6
2016-17	38.1	22.9	61.0	32.8	29.1	61.9	101%	29.8	8.1	38.0
2017-18	38.2	30.8	69.0	35.0	25.3	60.3	87%	30.0	13.2	43.4
2018-19	44.4	35.8	80.2	34.4	31.5	65.9	82%	39.8	17.0	56.8
2019-20	51.8	34.1	86.0	34.4	26.4	60.8	71%	49.1	24.7	73.9
2020-21	60.1	39.0	99.1	56.3	36.8	93.1	94%	49.8	27.3	77.9
2021-22	58.1	43.3	101.4	53.3	49.1	102.3	101%	54.9	19.0	74.4

Note: Total stocks include coarse cereals.
Sources: Handbook of Statistics on Indian Economy, Reserve Bank of India; PRS.

Table 9: Status of end-to-end computerisation of PDS operations

State/UT	Digitisation of Ration Cards	Aadhaar Seeding with Ration Cards	Online Allocation of Food grains	Computerisation of Supply Chain
Andhra Pradesh	100%	100%	Implemented	Implemented
Arunachal Pradesh	100%	60%	Implemented	-
Assam	100%	47%	Implemented	Implemented
Bihar	100%	100%	Implemented	Implemented
Chhattisgarh	100%	100%	Implemented	Implemented
Goa	100%	98%	Implemented	Implemented
Gujarat	100%	99%	Implemented	Implemented
Haryana	100%	100%	Implemented	Implemented
Himachal Pradesh	100%	100%	Implemented	Implemented
Jharkhand	100%	98%	Implemented	Implemented
Karnataka	100%	100%	Implemented	Implemented
Kerala	100%	100%	Implemented	Implemented
Madhya Pradesh	100%	100%	Implemented	Implemented
Maharashtra	100%	100%	Implemented	Implemented
Manipur	100%	99%	Implemented	-
Meghalaya	100%	28%	Implemented	Implemented
Mizoram	100%	97%	Implemented	Implemented
Nagaland	100%	90%	Implemented	Implemented
Odisha	100%	99%	Implemented	Implemented
Punjab	100%	100%	Implemented	Implemented
Rajasthan	100%	100%	Implemented	Implemented
Sikkim	100%	100%	Implemented	Implemented
Tamil Nadu	100%	100%	Implemented	Implemented
Telangana	100%	100%	Implemented	Implemented
Tripura	100%	100%	Implemented	Implemented
Uttar Pradesh	100%	100%	Implemented	Implemented
Uttarakhand	100%	100%	Implemented	Implemented
West Bengal	100%	80%	Implemented	Implemented
Andaman and Nicobar Islands	100%	100%	Implemented	Implemented
Chandigarh	100%	100%	NA	NA
Dadra and Nagar Haveli and Daman and Diu	100%	100%	Implemented	Implemented
Delhi	100%	100%	Implemented	Implemented
Jammu and Kashmir	100%	100%	Implemented	Implemented
Ladakh	100%	99%	Implemented	Implemented
Lakshadweep	100%	100%	Implemented	NA
Puducherry	100%	98%	NA	NA
Total	**100%**	**93.5%**	**34**	**31**

Sources: 18th Report, Standing Committee on Food, Consumer Affairs, and Public Distribution (2022); PRS.

Table 10: Outstanding dues of sugarcane farmers (Rs crore)

State	2017-18 and earlier	2018-19	2019-20	2020-21	2021-22	Total Arrears
Andhra Pradesh	1	22	36	0	4	63
Bihar	18	50	39	4	0	111
Chhattisgarh	0	0	0	0	0	0
Gujarat	54	0	0	0	6	60
Haryana	0	0	0	0	48	48
Karnataka	3	4	0	0	0	7
Madhya Pradesh	8	0	0	0	5	13
Maharashtra	205	45	0	68	71	390
Odisha	3	0	0	0	0	3
Punjab	0	0	31	6	7	44
Tamil Nadu	1,380	73	0	0	221	1,674
Telangana	0	0	0	0	0	0
Uttar Pradesh	137	0	0	9	2,406	2,552
Uttarakhand	36	108	0	0	34	178
Total	**1,845**	**303**	**106**	**88**	**2,802**	**5,143**

Sources: Unstarred Question No. 1215, Rajya Sabha, December 16, 2022; PRS.

Demand for Grants 2023-24 Analysis
Home Affairs

The Ministry of Home Affairs is the nodal ministry for matters concerning internal security, central armed police forces, border management, disaster management, census, and centre-state relations. Article 355 of the Constitution enjoins the Union to protect every state government against internal disturbance.[1] The Ministry of Home Affairs is empowered to extend manpower, financial support, guidance and expertise to state governments for maintenance of security.[2] In addition, the Ministry makes certain grants to union territories (UTs), since they are not covered by the Finance Commission's recommendations on devolution and, thus, do not receive any share in central taxes.

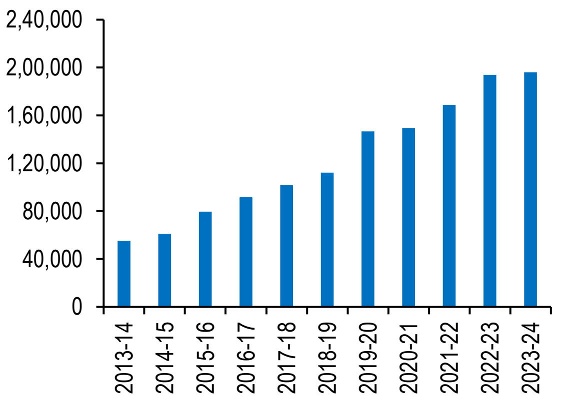
This note analyses the expenditure trends and budget proposals for the Ministry of Home Affairs for 2023-24, and discusses issues across the sectors administered by the Ministry.

Overview of Finances

In 2023-24, the Ministry of Home Affairs has been allocated Rs 1,96,035 crore. This is an increase of 1.1% over the revised estimates for 2022-23 (Rs 1,93,912 crore). The budget for the Ministry constitutes 4.4% of the total expenditure budget of the union government in 2023-24, and is the fifth highest allocation across ministries.

Since 2019, expenditure of the Ministry also includes grants to the newly formed UTs of Jammu and Kashmir, and Ladakh. The average annual growth rate in expenditure over the last ten years has been 43%.

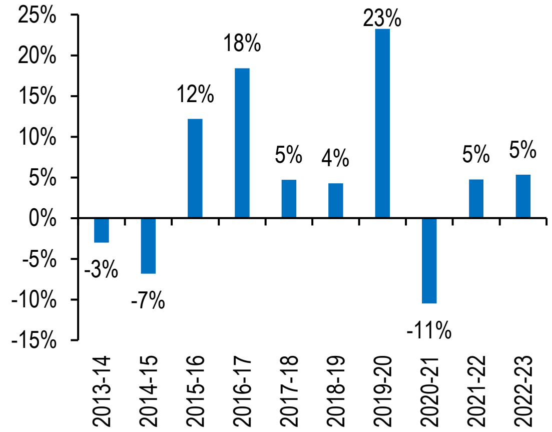
Figure 1: Expenditure of the Ministry of Home Affairs (2012-24) (in Rs crore)



Note: Figures for 2022-23 are Revised Estimates and for 2023-24 are Budget Estimates.
Source: Union Budgets 2014-15 to 2023-24; PRS.

Figure 2 shows the percentage of utilisation of funds allocated to the Ministry between 2012-13 and 2022-23. The expenditure of the Ministry in 2021-22 was nearly 5% higher than the budgetary estimate. The expenditure of the Ministry has been higher than the budgeted expenditure in all years since 2015-16. The exception was 2020-21, when the actual expenditure was 11% lower than the allocation. This was due to the onset of the COVID-19 pandemic and a shift in expenditure priorities.[3]

Figure 2: Budget estimates v/s actual expenditure (2013-23) (in Rs crore)



Note: Figures for 2022-23 are Revised Estimates.
Source: Union Budgets 2013-14 to 2023-24; PRS.

Of the Ministry's total budget for 2023-24, (i) 65% of the expenditure is on police, (ii) 31% is on grants to UTs, and (iii) 4% is on miscellaneous items such as disaster management, rehabilitation of refugees and migrants, and conducting the Census. Table shows the allocations to these three heads.

Table 1: Ministry of Home Affairs budget estimates (2023-24) (in Rs crore)

Major Head	2021-22 Actuals	2022-23 Revised	2023-24 Budget	% Change (BE 2023-24/ RE 2022-23)
Police	1,06,622	1,19,070	1,27,757	7%
UTs	56,490	69,040	61,118	-11%
Others	5,679	5,802	7,160	23%
Total	**1,68,791**	**1,93,912**	**1,96,035**	1.1%

Note: BE – Budget Estimates, RE – Revised Estimates.
Expenditure under 'Others' includes disaster management and administrative matters.
Source: Union Budget 2023-24; PRS.

Police: Expenditure on police includes allocation towards the Central Armed Police Forces, the Intelligence Bureau, and the Delhi Police. For 2023-24, Rs 1,27,757 crore has been allocated towards police. This is an increase of 7% over the revised estimates for 2022-23.

Grants and loans to UTs: In 2023-24, Rs 61,118 crore has been allocated towards grants and loans for the administration of UTs. This is a decrease of 11% from the revised estimates for 2022-23 (Rs 69,040 crore). The decrease in allocation is largely due to a 20% reduction in allocation to Jammu and Kashmir. The allocation to the UTs of Jammu and Kashmir, and Ladakh (both formed after the reorganisation of the former state of Jammu and Kashmir in 2019) is 68% of the total amount allocated to all UTs.

Other items: Other expenditure items of the Ministry include disaster management, rehabilitation of refugees and migrants, and administrative matters. In 2023-24, these items have been allocated Rs 7,160 crore. This is 23% higher than the revised estimates for 2022-23 (Rs 5,802 crore). This is primarily on account of increase in allocation towards the Census and the office of the Registrar General of India, from Rs 520 crore (at the revised estimate stage) in 2021-22 to Rs 1,565 crore in 2023-24.

Analysis of key areas of expenditure

Police

In 2023-24, Rs 1,27,757 crore has been budgeted for police expenditure. This includes allocations to various police organisations, including: (i) the Central Armed Police Forces, primarily responsible for border protection and internal security, (ii) Delhi Police, responsible for maintenance of law and order in Delhi, and (iii) Intelligence Bureau, the nodal agency for collection of domestic intelligence. Funds are also allocated for modernisation of police, and border infrastructure.

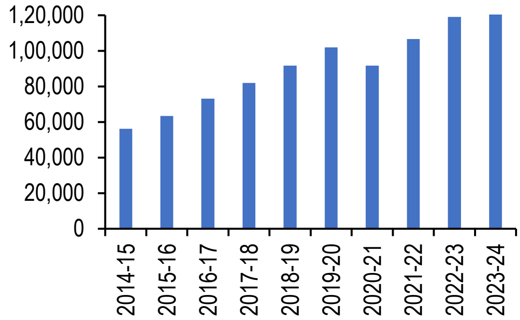
Table 2: Major expenditure items under police (in Rs crore)

	2020-21 Actual	2022-23 RE	2023-24 BE	% Change*
Central Armed Police Force	81,235	90,870	94,665	4%
Delhi Police	11,131	11,618	11,662	0%
Police Infrastructure	2,839	2,188	3,637	66%
Intelligence Bureau	2,569	3,022	3,418	13%
Modernisation of police	3,307	2,432	3,750	54%
Border Infrastructure	2,662	3,739	3,545	-5%
Others**	2,879	5,201	7,080	36%
Total	**1,06,622**	**1,19,070**	**1,27,757**	**7%**

Note: * % change refers to change (2023-24 BE/ 2022-23RE)
**Includes schemes, such as safety of women and Land Port Authority of India.
BE – Budget Estimates, RE – Revised Estimates.
Source: Home Affairs Demand for Grants 2023-24; PRS.

The total budget for police in 2023-24 has increased by 7% over the revised estimates for 2022-23. Over the last ten years (2014-24), expenditure on police has increased at an average annual rate of 11%.

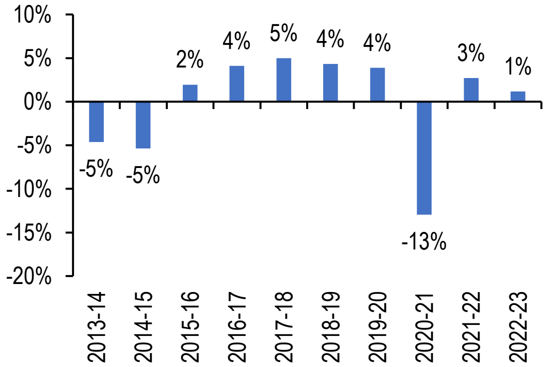
Figure 3: Expenditure on police (2014-24) (in Rs crore)



Note: Revised Estimates used for 2022-23 and Budget Estimates for 2023-24. Actuals used for all other years.
Source: Union Budgets 2015-16 to 2023-24; PRS.

Figur shows the percentage of utilisation of the amount budgeted for police from 2013-23. Since 2015-16, the actual expenditure on police has been higher than the budget estimate, except in 2020-21, when spending was 13% lower than the budget.

Figure 4: Budget estimates v/s actual expenditure on police (2012-22) (in Rs crore)



Note: Figures for 2022-23 are Revised Estimates.
Source: Union Budgets 2013-14 to 2023-24; PRS.

Central Armed Police Forces

The Central Armed Police Forces (CAPFs) comprise seven forces: (i) the Central Reserve Police Force (CRPF) which assists in internal security and law and order, (ii) Central Industrial Security Force (CISF) which protects vital installations (such as airports) and public sector undertakings, (iii) the National Security Guard (NSG) which is a special counter-terrorism force, and (iv) four border guarding forces, namely, the Border Security Force (BSF), the Indo-Tibetan Border Police (ITBP), the Sashastra Seema Bal (SSB), and the Assam Rifles (AR). Though the AR functions under the administrative control of the Home Affairs Ministry, its operational control lies with the Ministry of Defence.[4] The AR, ITBP, SSB, and BSF are the Border Guarding Forces (see **Table 13** in the Annexure).

The CAPFs have been allocated Rs 94,665 crore in 2023-24. This accounts for 74% of the expenditure on police, and is 4% higher than the revised estimates for 2022-23 (Rs 90,870 crore). Of this, the highest expenditure is towards the CRPF, which will receive 34% (Rs 31,772 crore) of the total allocation for CAPFs, followed by the BSF, which will receive 26% (Rs 24,771 crore) of the allocation.

In 2023-24, out of the total spending on CAPFs, only 2% is on capital expenditure, while the remaining 98% is on revenue expenditure. This is in line with the average trend in the last ten years with capital expenditure staying within the 1% to 2% band every year. Capital expenditure includes spending on procuring machinery, equipment, and vehicles. Revenue expenditure includes salaries, arms and ammunition, and clothing. Note that the capital component does not include funds for construction.

Vacancies

As of January 2023, there is a 9% vacancy in the CAPF and AR as against the actual strength.[5] As of January 01, 2021, SSB reported the highest vacancy against actual strength at 23% (see **Table 3**).[6]

The Standing Committee on Home Affairs (2018) highlighted that there was a lack of estimation of future vacancies, leading to delays in recruitments. The Committee has recommended that the Ministry proactively identify and assess vacancies to recruit personnel on time.[7] The Ministry has decided to reserve 10% of vacancies for ex-Agniveers in the recruitment to the post of constable/rifleman in the CAPF and AR.[8] Further, a provision has been made for relaxation in the upper age limit and exemption from the Physical Efficiency Test.

Table 3: Vacancies in CAPFs as on 01.01.2021

CAPFs	Sanctioned Strength	Actual Strength	% Vacancies
CRPF	3,24,723	2,96,393	10%
BSF	2,65,173	2,36,158	12%
CISF	1,63,313	1,39,192	17%
SSB	97,244	78,809	23%
ITBP	88,439	82,930	7%
AR	66,411	58,121	14%
NSG	10,844	9,369	16%
Total	**1,016,695**	**901,310**	**11%**

Note: CRPFs is Central Reserved Police Forces, BSF- Border Security Forces, CISF- Central Industrial Security Forces, SSB- Sashastra Seema Bal, ITBP- Indo-Tibetan Border Police, AR- Assam Riffles, and NSG- National Security Guards.
Source: Data on Police Organisations as on January 01, 2022, Bureau of Police Research and Development; PRS.

In January 2016, 33% posts at constable level were reserved for women in the CRPF and CISF. Further, around 14-15% of constable posts were reserved for women in the border guarding forces.[9] However, as of January 2023, the total strength of women personnel in the CAPF was 3.8% against the total sanctioned strength.[10] The Standing Committee on Home Affairs (2022) recommended the Ministry to take concrete steps in increasing the representation of women by conducting fast track recruitment drives for women in CISF and CRPF.12 Further, the Committee recommended the need to create separate arrangements in border outposts to attract women recruits. Vacancies for women in CAPFs are given in **Table 4.**

Table 4: Women in CAPF

Force	Sanctioned strength	Strength of women personnel	% of total strength
CRPF	2,96,393	9,454	3.2%
BSF	2,36,158	7,391	3.1%
CISF	1,39,192	9,320	6.7%
ITBP	82,930	2,518	3.0%
SSB	78,809	3,610	4.6%
AR	58,121	1,858	3.2%
Total	**8,91,603**	**34,151**	**3.8%**

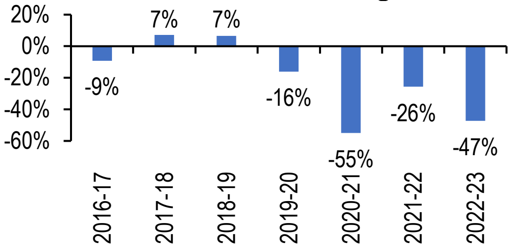
Note: CRPF – Central Reserve Police Force; BSF – Border Security Force; CISF – Central Industrial Security Force; AR – Assam Rifles; ITBP – Indo-Tibetan Police Force; SSB – Sashastra Seema Bal; NSG – National Security Guard.
Source: Unstarred Question No. 1698, Rajya Sabha, Ministry of Home Affairs, August 02, 2022; PRS.

Living conditions

The Standing Committee on Home Affairs (2022) has observed that certain CRPF camps in Jammu and Kashmir were functioning from rented accommodation. It noted that the housing problem was due to shortage of accommodation facilities and lack of availability of lands.[11] Further, the Committee highlighted that the living conditions were not conducive and needed to be addressed urgently. As of February 2022, the housing satisfaction level in CAPFs was 47% as against authorised dwelling units.11 In the Ministry's reply it was stated that a committee would be constituted to review the conditions of CRPFs camps, which are functioning from rented accommodation.[12]

About 17% of the 23,456 houses under construction for CAPFs as of March 2021 were completed by April 2022.[12] In 2023-24, Rs 3,367 crore has been budgeted for building projects for CAPFs and Central Police Organisations. Since 2019-20, there has been underutilisation of funds for building projects. In 2021-22, the actual expenditure (Rs 2,459 crore) on building projects was 26% less than the budgeted estimate (Rs 3,306 crore).

Figure 5: Utilisation of funds for building projects for CAPFs and Central Police Organisation



Note: Revised Estimates used for 2022-23. Actuals used for all other years.
Source: Union Budgets 2017-18 to 2023-24; PRS.

Fencing of border areas

Proper management of the border is critical for maintaining national security.[13] The Indo-Bangladesh border is India's longest border at 4,097 km. The fencing work across the Indo-Bangladesh border has not been completed with about 24% of the border being unfenced.[14] Further, the state of Mizoram has only half of its total international border with Bangladesh fenced (see **Table 5**). According to the Ministry, the fencing of the border is set to be complete by March 2024. The Ministry has cited difficult terrain, land acquisition problems, short working seasons, protests, and objections by Border Guard Bangladesh as reasons for incompletion.

The Standing Committee on Home Affairs (2022) highlighted that only 50% of the revised estimates for 2021-22 had been utilised till December 31, 2022.[11]

Table 5: Fencing of the Indo-Bangladesh Border (in km)

State	Total International Border	Area fenced	Balance length	% of border unfenced
Assam	263	210	53	20%
W. Bengal	2,217	1,638	579	26%
Meghalaya	443	326	117	26%
Mizoram	318	155	163	51%
Tripura	856	794	62	7%
Total	**4,097**	**3,123**	**973**	**24%**

Source: Unstarred Question No. 2437, Rajya Sabha, Ministry of Home Affairs, March 11, 2021; PRS.

In 2023-24, Rs 3,545 crore has been budgeted for border infrastructure and management. This is a decrease of 5% from the revised estimates for 2022-23 (Rs 3,739 crore). This includes allocations for maintenance of border works, border check posts and outposts, and capital outlay for various items including barbed wire fencing, construction of roads, and hi-tech surveillance on the Indo-Bangladesh and Indo-Pakistan borders.

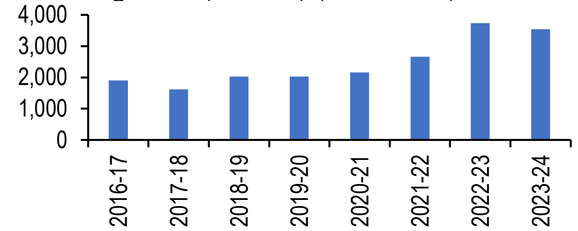
Table 6: Expenditure related to border infrastructure and management (in Rs crore)

	2021-22 Actuals	2022-23 RE	2023-24 BE	% Change (BE 2023-24/ RE 2022-23)
Maintenance and Border Check post	284	268	351	31%
Capital Outlay	2,378	3,471	3,194	-8%
Total	**2,662**	**3,739**	**3,545**	-5%

Note: BE – Budget Estimates, RE – Revised Estimates.
Source: Union Budget 2023-24; PRS.

Between 2015-16 and 2023-24, the expenditure on border infrastructure and management has increased at an average annual growth rate of 8%, with a significant decrease in 2021-22 (**Figure 6**).

Figure 6: Expenditure on border infrastructure and management (2015-24) (in Rs crore)



Note: Revised Estimates used for 2022-23 and Budget Estimates used for 2023-24. Figures for all other years are actuals.
Source: Union Budgets 2017-18 to 2023-24; PRS.

Delhi Police

An amount of Rs 11,662 crore has been allocated to the Delhi Police in 2023-24. This is a 0.4% increase over the revised estimates for 2022-23.

Vacancies

As on July 15, 2022, Delhi Police reported a vacancy of 15% as against the actual strength.[15]

Table 7: Vacancies in Delhi Police (2015-22)

Force	Sanctioned strength	Actual strength	% of vacancies
2015	82,242	77,083	7%
2016	82,242	76,348	8%
2017	84,417	82,979	2%
2018	86,531	74,712	16%
2019	91,963	82,190	12%
2020	91,962	82,195	12%
2021*	94,353	80,074	18%
2022**	94,255	82,264	15%

Note: *as on March 15, 2021. ** as on July 15, 2022.
Source: Bureau of Police Research and Development; Starred Question No. 302, Rajya Sabha, March 24, 2021, Unstarred Question No. 1476, Lok Sabha, July 26, 2022; PRS.

Since 2018, the vacancy rate in the Delhi Police has been higher than 10% of the sanctioned strength. Vacancies in the Delhi Police force varies across different ranks. For instance, as of February 2022, 26% of the sanctioned strength for constable posts are vacant.[16] The Standing Committee on Home Affairs (2021) observed that women were not adequately represented in the Delhi Police.[17] In 2015, the central government had approved 33% reservation for women in direct recruitment in non-gazetted posts from constable to sub-inspector.[18]

As of February 2022, women personnel made up for 13% (10,205 personnel) of the actual strength in the police force.[19] The highest percentage of women police personnel in a state/UT as against actual strength is in Chandigarh (22%) followed by Tamil Nadu (19.3%).[20] Meanwhile, Kerala and Andhra Pradesh reported 7% and 6% of women police personnel, respectively. As of January 2021, there were 251 persons per Delhi police personnel. Delhi Police had more than the national average of 656 people per police personnel. Delhi Police is one of the largest metropolitan police forces in the world.[21] The strength of the Delhi Police follows the recommendations of the Srivastava Committee to address the population of the city and the rising problems of policing.[21]

Poor logistical management

An effective communication and technology system is imperative for supporting police personnel in performing their duties. According to a Comptroller and Auditor General of India report (2020), between April 2018 and March 2019, the percentage of functional CCTV cameras ranged between 55%-68%.[22] During the same period, the number of CCTV cameras which could be monitored at the Integrated Command, Control, Coordination, and Communication Centre ranged from 22% to 48%. Surveillance footage from the remaining cameras was not available due to network related issues or faulty cameras. Additionally, the report observed that Delhi Police was using a 20-year-old trunking system (APCO) beyond its normal span of 10 years.

The 15th Finance Commission recommended that the Ministry allocate Rs 100 crore per annum for improved communication systems and technology upgradation of the police personnel from the Modernisation Fund for Defence and Internal Security (MFDIS).[23] In 2023-24, Rs 1,019 crore was allocated to the modernisation of traffic and network communication for the Delhi Police.[24] This was 265% more than the revised estimates of 2022-23 (Rs 385 crore).

Standards of Living

The Mooshahary Committee (2005) had recommended that 100% family accommodation should be provided for all non-gazetted ranks of police personnel.[25] As of August 2019, Delhi Police had only 15,360 quarters available for allotment to its force of over 80,000 personnel.[22] Out of these quarters, about 10% were not being allotted for lack of basic facilities or were declared dangerous. The Standing Committee on Home Affairs (2022) observed that the housing satisfaction rate for Delhi Police was 20%.[11] Further, only Rs 52 crore had been used of the revised estimates (Rs 150 crore) for 2021-22 allocated for residential buildings for Delhi Police. The 15th Finance Commission recommended that the Ministry allocate Rs 500 crore for redeveloping/improving the residential facilities for police personnel in Delhi from the MFDIS.23

In 2023-24, an amount of Rs 270 crore has been allocated for infrastructural projects for the Delhi Police. The budgetary allocation is a 4% increase from the revised estimates (Rs 259) for 2022-23. Since 2018-19, the actual expenditure on police infrastructure for Delhi Police has been higher than the budget estimate. The only exception was the financial year 2020-21 where the budget estimate was higher than the actual expenditure. Figure 9 in the Annexure shows the utilisation of funds on infrastructural projects for the Delhi Police between 2016-17 and 2022-23.

Modernisation of Police Forces

'Police' and 'Public order' are state subjects as per the Seventh Schedule to the Constitution of India.[26] However, due to financial constraints on states the Ministry has been supplementing the resources and efforts to the states since 1969-70.[27] For 2023-24, the central government has made allocations towards four items related to modernisation of police forces. These are: (i) the Crime and Criminal Tracking Network and Systems (CCTNS) scheme; (ii) Special Infrastructure Scheme (SIS) for Left Wing Extremist (LWE) Areas; (iii) Narcotics Control Bureau; and (iv) Modernisation of Forensic Capacities.

In 2023-24, Rs 3,800 crore has been allocated for modernisation of police forces, which is a 56% increase from the revised estimates for 2022-23 (**Table 8**). There has been a 73% increase in allocation towards the Modernisation of State Police Forces Scheme and the CCTNS scheme.

Note that the central government has approved continuation of the umbrella scheme for modernisation of police forces with a central outlay of Rs 26,275 crore for the period 2021-22 to 2025-26.[28] This includes Rs 4,846 crore for modernisation of state police forces, and Rs 18,839 crore for security related expenditure for the UT of Jammu and Kashmir, insurgency-affected north eastern states, and areas affected by left wing extremism.[28]

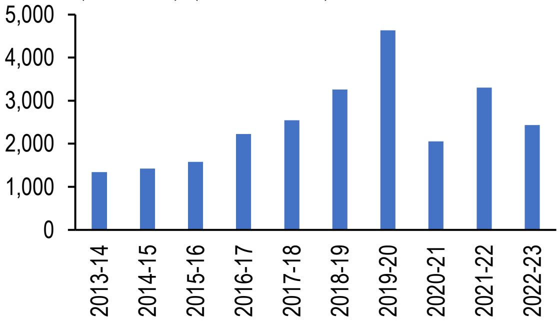
Table 8 Expenditure related to modernisation of police (in Rs crore)

Major Head	2021-22 Actuals	2022-23 RE	2023-24 BE	% Change (RE 22-23 to BE 23-24)
SRE and SIS for LWE areas	3,136	2,025	2,781	37%
Modernisation of State Police Forces and CCTNS	170	153	264	73%
Narcotics Control Bureau	-	5	5	-
Modernisation of forensic capacities	-	250	750	200%
Total	**3,306**	**2,433**	**3,800**	**56%**

Note: BE – Budget Estimates, RE – Revised Estimates.
Source: Union Budget 2023-24; PRS.

Between 2011-12 and 2023-24, the expenditure on modernisation of police forces has increased at an average annual rate of 15%, despite a reduction in the last three years (**Figure 7**). In 2019-20, states were released Rs 781 crore for the modernisation of police forces.[29] About 62% of the funds released were underutilised in 2019-20. Out of the total released funds, Rs 120 crore was released to some states for better performance incentives. Andhra Pradesh, Tamil Nadu, and Gujarat were some of the states that received better performance incentives.[29]

Figure 7 Expenditure on modernisation of police forces (2013-23) (in Rs crore)



Note: Revised Estimates used for 2021-22 and Budget Estimates used for 2023-24. Actuals used for all other years.
Source: Union Budgets 2015-16 to 2023-24; PRS.

Modernisation of Forensic Capacities

The Modernisation of Forensic Capacities Scheme is aimed to assist States/UTs to develop and modernise quality forensic science facilities and facilitate availability of trained manpower.[30] In 2023-24, Rs 700 crore has been allocated for the modernisation of forensic capacities, which is a 180% increase from the revised estimates for 2022-23. The key challenges faced by the Forensic Science Laboratories (FSL) include: (i) increasing capacities in FSL for timely investigation, (ii) upgrading technologies, (iii) availability of trained manpower, and (iv) and ensuring quality assurance and control.[30]

One of the functions of a forensic laboratory is to provide forensic crime case analytical support to the investigating agencies and the judiciary.[31] Forensic laboratories conduct DNA-based forensic investigation on crimes such as, homicide, sexual assault, and robbery.[32] The Standing Committee on Education, Women, Children, Youth, and Sports (2021) noted that law enforcement agencies failed to ensure timely justice against crimes against women.[33] The Committee noted that accessibility to forensic capacities would increase the conviction rate by building a stronger case against perpetrators.

Currently, there are six Central Forensic Laboratories (CFL) of the Directorate of Forensic Science Laboratories.[34] An additional CFL is under the control of the Central Bureau of Investigation in Delhi. As of July 2022, there are 32 State Forensic Laboratories, 81 Regional Forensic Science Laboratories, and 529 Mobile Forensic Science Vehicles with states and union territories.[30]

Forensic labs are not uniformly distributed across states/UTs. For instance, Uttar Pradesh and Bihar have four and two functional regional forensic science laboratories, respectively. Andhra Pradesh and Tamil Nadu have five and ten, respectively.[20]

The Committee on Home Affairs (2022) recommended that the Ministry should set up one forensic laboratory in every state capital within a two-year timeframe and every city with a population over one million persons.[11]

Lack of cyber crime cells

Under the Police Modernisation Scheme, the Ministry is supporting the establishment of Cyber Crime Police Station and Cyber Crime Investigations and Forensic Training Facilities in each State/UT. The Standing Committee on Home Affairs (2022) noted the rising rate of cyber crimes in the country.[11] In 2021, there were 52,430 cyber crime cases reported, which was a 5.5% increase from 2020.[35]

The Committee highlighted that certain states, such as Rajasthan, Goa, and Punjab, do not have a single cyber crime cell. As of January 2021, there were 466 cyber crime cells and 202 cyber crime police stations in the country.[6] Only three cyber crime police stations were located across the union territories (two in J&K and one in Puducherry). Jammu and Kashmir does not have a single cyber crime cell. Further, a Comptroller and Audit General Report (2020) observed that out of the 142 personnel deployed in the Delhi Police Cyber Crime Unit, only five had technical qualification and 35 personnel had general proficiency in computers.[22]

The Committee recommended the Ministry to coordinate with states to set up cybercrime cells in every district. Further, it recommended that the cybercrime cells should set up separate cells to monitor different kinds of cybercrimes, such as social media crime and dark web monitoring cells.

Increase in narcotics trafficking

There has been an increase in the narcotics trafficking and illegal substance abuse in the country.[36,11] India is vulnerable as a transit point for drug trafficking due to its geographical location, between the Golden Crescent and Golden Triangle.[37] The Golden Crescent (Afghanistan-Pakistan-Iran) and Golden Triangle (Thailand-Laos-Myanmar) are major opium producing regions of the world. According to the Ministry of Social Justice and Empowerment, the consumption of drugs has increased from 2004 to 2019.[38] The United Nations Office on Drug and Crime (UNODC) World Drug Report 2022, ranked India in the top five countries for the quantity of cannabis, opium, heroine, and morphine seized.[39] The Standing Committee on Home Affairs (2022) noted that along with arresting the people for drug consumption; it would important to also break the supply chain network of drugs. It recommended that the NCB coordinate with state NCBs and other concerned agencies to counter the growing problem of drug trafficking, particularly from across the borders.[11]

As of January 2021, there were 66 special police stations for narcotics and drug control.[6] Bordering states such as Punjab and West Bengal do not have a special police station for narcotics and drug control. In 2023-24, five crore rupees had been allocated to the Narcotics Control Bureau under the Centrally Sponsored Schemes.

Disaster management

The Ministry of Home Affairs is the nodal ministry for handling all types of disasters other than drought (which is handled by the Ministry of Agriculture).[40] Disaster management includes capacity building, mitigation, and response to natural calamities and man-made disasters.

Currently, the central and state governments share costs for disaster management initiatives. The cost-sharing pattern between centre and states is: (i) 90:10 for north-eastern and Himalayan states, and (ii) 75:25 for all other states. In 2021, the 15th Finance Commission recommended retaining this pattern.[23]

Table 9: Expenditure on major items related to disaster management (in Rs crore)

Department	2021-22 Actuals	2022-23 RE	2023-24 BE	% Change (BE 2023-24/ RE 2022-23)
National Disaster Response Force	1,305	1,419	1,601	13%
National Cyclone Risk Mitigation Project	170	166	110	-34%
Disaster management infrastructure	128	92	142	54%
Other schemes	238	106	252	138%
Total	**1,841**	**1,782**	**2,105**	18%

Note: BE – Budget Estimates, RE – Revised Estimates.
Source: Union Budget 2023-24; PRS.

National Disaster Response Force

The National Disaster Response Force (NDRF) is a specialised force responsible for disaster response and relief. For 2023-24, NDRF has been allocated Rs 1,601 crore, which is 13% higher than the revised estimates for 2022-23.

As on January 2021, the sanctioned strength of the NDRF is 18,555 personnel, with a vacancy rate of 34%.[6] The Standing Committee on Home Affairs (2018) noted that there was a standard operating procedure for deployment of the National Disaster Response Force during a disaster, according to which states can requisition for forces. However, states may be unable to make optimal assessment of the requirements, which could lead to competing demands for mobilisation of forces in disaster-stricken areas.

National Cyclone Risk Mitigation Project

The National Cyclone Risk Mitigation Project (NCRMP) was launched by the Ministry of Home Affairs with the aim of minimising vulnerability in states/UTs that are prone to cyclone hazards. Key objectives of the project include: (i) improving early warning dissemination systems, and (ii) construction and maintenance of cyclone shelters.[41]

The Ministry of Earth Sciences stated that there was a decrease in the frequency of cyclonic storms in the Bay of Bengal and an increasing trend in the Arabian Sea.[42] However, coastal vulnerability continues over the Bay of Bengal region with about 60 to 80% of cyclones causing loss of life and property.[42]

For 2023-24, a budgetary allocation of Rs 110 crore has been made towards this project. This is a 34% decrease from the revised estimates for 2022-23. The decrease of funds from the NCRMP does not factor in the overall rise of cyclone and coastal vulnerability in India.

National Disaster Response Fund

Section 44 of the Disaster Management Act, 2005 mandates the creation of a National Disaster Response Fund and State Disaster Response Funds.[43] The central government supplements the efforts of state governments by providing logistic and financial support in case of natural disasters of severe nature.[44] Allocations to the National Disaster Response Fund are made by the Ministry of Finance, though it is administratively controlled by the Ministry of Home Affairs. The National Disaster Response Fund is financed through the National Calamity Contingency Duty (NCCD) imposed on specified goods under central excise and customs.[45] For the year 2023-24, a budgetary allocation of Rs 8,780 crore has been made to the fund.

Table 10: Budget allocation for National Disaster Response Fund (in Rs crore)

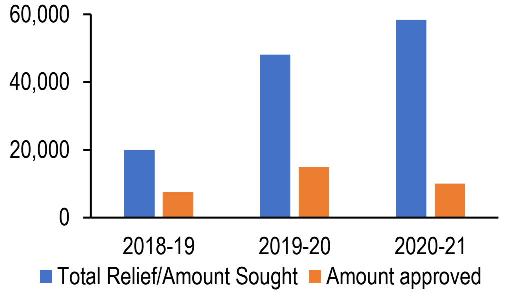
Department	2021-22 Actuals	2022-23 Revised	2023-24 Budget	% Change (BE 2023-24/ RE 2022-23)
National Disaster Response Fund	6,130	8,000	8,780	10%

Note: Allocation to the National Disaster Response Fund is made by the Ministry of Finance.
BE – Budget Estimates, RE – Revised Estimates.
Source: Union Budget 2023-24; PRS.

The 15th Finance Commission has recommended that the allocation for the National Disaster Risk Management Fund (NDRMF) be Rs 68,463 for the duration of 2021-26.[23] The National Disaster Response Fund would get 80% of the total allocation of the NDRMF. Further, central assistance to states should be provided on a graded cost-sharing pattern. States must contribute: (i) 10% of assistance for grants of up to Rs 250 crore, (ii) 20% of assistance for grants of Rs 250-500 crore, and (iii) 25% of assistance for grants of over Rs 500 crore. The 15th Finance Commission also recommended replacing the existing system of damages caused by natural calamities with a two-stage assessment. The two-stage assessment would assess: (i) initial humanitarian need for response and relief assessment, and (ii) a post-disaster needs assessment (PDNA) for recovery and rehabilitation.

There is a large gap between the relief/amount sought by state government from the National Disaster Response Fund and the amount allocated to them.[46] In all years between 2018-19 and 2020-21, the amount approved from the National Disaster Response Fund accounted for less than half of the amount sought by states. In 2020-21, the amount approved made up for 17% of the amount sought (see **Figure 8**).

Figure 8: Amount approved from National Disaster Response Fund between 2018-19 and 2020-21 (in Rs crore)



Source: Unstarred Question No. 1986, Rajya Sabha, Ministry of Home Affairs, December 15, 2021; PRS.

Evolving demands of climate change

The Intergovernmental Panel on Climate Change (2022) identified India as one of the most vulnerable countries to climate change.[47] There has been an increase in the observed natural disasters like cyclones and floods.[48] Further, about 89% of India's land mass is prone to earthquakes of different intensities.[49] The impact of climate change and various kinds of natural disasters are expected to continue as a challenge for India in the future. The 15th Finance Commission noted that India has experienced a large-scale of different climate disasters from floods in Uttarakhand and Bihar to cyclones in Odisha and Bengal.[23] Therefore, the question of fund allocation needs to be addressed considering the changing demands of states.

The Standing Committee on Finance (2019) noted the wide gap between the funds sought by affected states and those released by the central government.[50] The Committee recommended an annual increase of 15% in the total corpus of SRDF, for the period 2020-25. The 15th Finance Commission replaced the expenditure-drive methodology for allocation of funds to states to address the disparity in allocations. The new methodology assesses a combination of: (i) capacity (expenditure), (ii) risk exposure (area and population), (iii) and hazard and vulnerability (risk index). For the year 2023-24, there has been a 10% increase in the budgetary allocation for National Disaster Response Fund from the revised estimates of 2022-23 (**Table 10**). However, the percentage of funds released from the National Disaster Response Fund may not adequately address the rapidly changing climate challenges that face the country.

Grants to UTs

For 2023-24, Rs 61,118 crore has been allocated towards grants and loans for the administration of UTs. This is a decrease of 11% from the revised estimates for 2022-23 (Rs 69,040 crore). Of the total allocation, the highest share is for the UTs of Jammu and Kashmir (58%), and Ladakh (10%). These two UTs were formed after the reorganisation of the former state of Jammu and Kashmir in 2019. Allocation towards each of the UTs is shown below.

Table 11: Expenditure related to Union Territories (in Rs crore)

Union Territory	2021-22 Actuals	2022-23 RE	2023-24 BE	% Change (RE 22-23 to BE 23-24)
Ladakh	5,060	5,958	5,958	0%
Jammu and Kashmir	34,746	44,538	35,581	-20%
Andaman and Nicobar	5,718	5,508	5,987	9%
Chandigarh	4,433	5,131	5,436	6%
Dadra and Nagar Haveli & Daman and Diu	2,375	2,475	2,475	0%
Puducherry	1,880	3,130	3,118	0%
Lakshadweep	1,248	1,322	1,395	5%
Delhi	1,029	977	1,168	20%
Total	**56,490**	**69,040**	**61,118**	**-11%**

Note: BE – Budget Estimates, RE – Revised Estimates.
Source: Union Budget 2023-24; PRS.

Census

In 2023-24, the Census, Survey, and Statistics Registrar of India was allocated Rs 1,565 crore. This is an increase of 180% over the revised estimates of 2022-23 (Rs 553 crore).

As of February 2023, the 16th Census of India has not taken place. In December 2022, the government stated that the reason for the postponement of the Census 2021 was the outbreak of the COVID-19 pandemic.[51]

Since the Census of 1881, censuses have been undertaken without interruption once every decade.[52] Several schemes and determining eligibility of beneficiaries depends on Census data. For instance, the National Food Security Act, 2013 determines the number of eligible beneficiaries based on the latest census figures. These figures have not been updated since 2011 and may be leading to the exclusion of potential beneficiaries.[53]

Further, Article 82 of the Constitution provides for the delimitation of Lok Sabha constituencies.[54] Currently, the number of seats for each state is based on the Census of 1971 and will be readjusted next based on the first census after 2026. If the census is not published till 2026, then this census will be the basis of readjustment.

Table 12: Expenditure related to Census (in Rs crore)

	2021-22 Actuals	2022-23 RE	2023-24 BE	% Change (BE 2023-24/ RE 2022-23)
Census	505	553	1,565	183%

Note: BE – Budget Estimates, RE – Revised Estimates.
Source: Union Budget 2023-24; PRS.

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[16] Unstarred Question No. 858, Rajya Sabha, Ministry of Home Affairs, February 09, 2022, https://pqars.nic.in/annex/256/AU858.pdf.

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Annexure: Home Affairs

Table 13: Expenditure on the Central Armed Police Forces in the last ten years (in Rs crore)

Department	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
CRPF	12,747	14,327	16,804	18,560	21,974	25,133	24,410	27,307	29,325	31,772
BSF	11,687	12,996	14,909	16,019	18,652	20,254	19,322	21,491	22,718	24,771
CISF	4,955	5,662	6,563	7,614	9,115	10,421	11,218	11,373	12,202	13215
SSB	3,148	3,418	4,045	4,641	5,420	6,382	6,017	6,940	7,654	8,329
ITBP	3,399	3,773	4,641	5,078	5,699	6,625	6,143	6,965	7,461	8,097
AR	3,450	3,848	4,724	5,031	5,694	5,632	5,499	6,046	6,658	7,052
NSG	527	569	697	968	1,007	1,114	930	1,151	1,293	1,287
Departmental Accounting	74	78	92	95	110	111	112	122	132	142
Total	**39,988**	**44,669**	**52,474**	**58,007**	**67,670**	**75,672**	**73,650**	**81,396**	**87,444**	**94,665**

Note: Revised Estimates used for 2021-22, and Budget Estimates used for 2023-24; actuals used for all other years.
CRPF – Central Reserve Police Force; BSF – Border Security Force; CISF – Central Industrial Security Force; AR – Assam Rifles; ITBP – Indo-Tibetan Police Force; SSB – Sashastra Seema Bal; NSG – National Security Guard.
Source: Union Budgets 2015-16 to 2023-24; PRS.

Table 14: Vacancies in CAPFs (2013-21) (in lakhs)

Year	Sanctioned strength	Actual strength	Vacancies (in %)
2013	9.1	8.3	9%
2014	9.3	8.7	6%
2015	9.5	8.9	7%
2016	9.7	9.0	7%
2017	10.8	9.2	15%
2018	9.9	9.3	6%
2019	10.1	9.2	9%
2020	10.2	9.1	10%
2021	10.2	9.0	11%

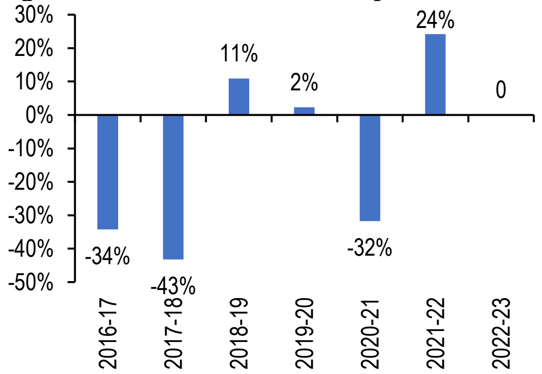
Note: Figures for each year are as of January 1 of that year.
Source: Bureau of Police Research and Development; PRS.

Table 15: State-wise releases from NDRF in 2021-22 (as on December 9, 2021) (in Rs crore)

State	Releases from NDRF	% of total releases
Gujarat	1,000	28%
Jharkhand	200	6%
Karnataka	629	18%
Maharashtra	701	20%
Odisha	500	14%
Tamil Nadu	214	6%
West Bengal	300	8%
Total	**3,544**	

Source: Unstarred Question No. 2668, Lok Sabha, December 14, 2021; PRS.

Figure 9: Utilisation of funds for police infrastructure for Delhi Police



Note: Revised Estimates used for 2022-23.
Source: Union Budgets 2017-18 to 2023-24; PRS

Demand for Grants 2023-24 Analysis

Rural Development

The Ministry of Rural Development aims to improve the quality of life in rural India and acts as the nodal agency for most development and welfare activities in rural areas of the country.[1] The Ministry comprises of two Departments, the Department of Rural Development and the Department of Land Resources. The Department of Rural Development aims to enhance livelihood opportunities, provide social assistance to vulnerable sections, and develop infrastructure for rural growth.[1] The Department of Land Resources aims to ensure sustainable development of rainfed cultivable and degraded lands, and optimise the use of land resources in the country.[2]

This note looks at the proposed expenditure for the Ministry of Rural Development for 2023-24, financial trends, and related issues with the Ministry's schemes and programmes.

Union Budget Highlights 2023-24

In 2023-24, the Ministry of Rural Development has been allocated Rs 1,59,964 crore in 2023-24.[3,4] The Department of Rural Development has been allocated Rs 1,57,545 crore, 13% less than the revised estimates of 2022-23. The Department of Land Resources has been allocated Rs 2,419 crore, which is a 92% increase over the revised estimates of 2022-23.

Table 1: Budgetary Allocation to the Ministry of Rural Development (in Rs crore)

Department	21-22 Actuals	22-23 RE	23-24 BE	% Change*
Rural Development	1,60,433	1,81,122	1,57,545	-13%
Land Resources	1,210	1,260	2,419	92%
Total	1,61,643	1,82,382	1,59,964	-12%

Note: BE is budget estimate and RE is revised estimate.
*% change is change in 2023-24 BE over 2022-23 RE.
Sources: Demands for Grants of the Ministry of Rural Development 2023-24; PRS.

Policy Announcements in the Budget Speech 2023-24

- Rural women organised into self-help groups (SHGs) will be empowered through the formation of large producer collectives. They will be provided raw materials and support to scale up operations.[5]
- Outlay on the Pradhan Mantri Awas Yojana (rural and urban components taken together) increased by 66% to Rs 79,590 crore.

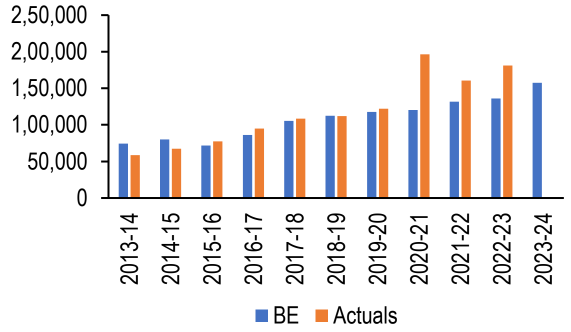
Department of Rural Development

Overview of Finances

The Department of Rural Development implements programmes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Gram Sadak Yojana (PMGSY), and Pradhan Mantri Awas Yojana-Gramin (PMAY-G).

Between 2013-14 and 2023-24, budgetary allocation to the Department has grown at an average annual rate of 8%. In 2020-21, allocation to the Ministry was increased significantly to provide more financial support during to the COVID-19 pandemic. This increased allocation was largely towards MGNREGS and welfare schemes, such as the direct benefit transfer to women account holders under Pradhan Mantri Jan Dhan Yojana.[6]

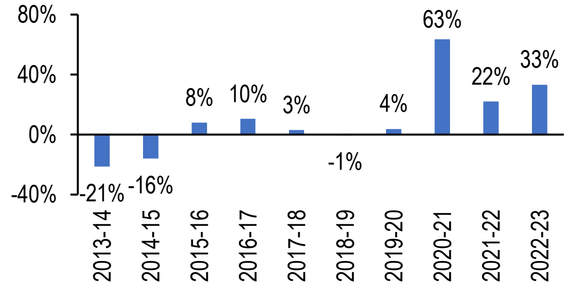
Figure 1: Expenditure between 2013-14 and 2023-24 (in Rs crore)



Note: BE is budget estimate; actual figure for 2022-23 is revised estimate. Source: Demands for Grants of the Ministry of Rural Development for various years; PRS.

Since 2015-16, actual expenditure for this Department has been higher than the budget estimates except in the year 2018-19. Since 2020-21, the actual expenditure has been more than 20% higher than the budget estimates. This is mainly due to expenditure on MGNREGS, which is a demand-based scheme.

Figure 2: Increase of actual expenditure over budget estimates



Source: Demands for Grants of the Ministry of Rural Development for various years; PRS.

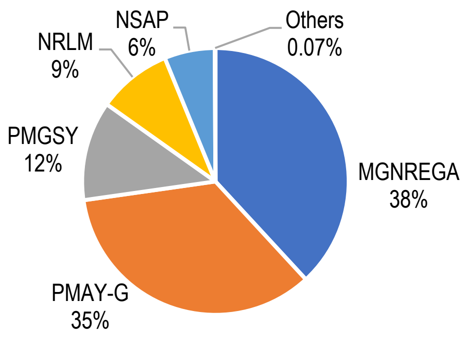
Major schemes under the Department

In 2023-24, MGNREGS (38%) and PMAY-G (35%) together account for almost 75% of the budgetary allocation. This is followed by PMGSY (12%), National Rural Livelihood Mission (NRLM, 9%), and the National Social Assistance Programme (NSAP, 6%).

Allocation to the MGNREGS has declined by 33% as compared to the revised estimates of 2022-23. For most other schemes, barring PMAY-G and NRLM, allocations remain constant when compared with the revised estimates of 2022-23. The Shyama Prasad

Mukherjee Rurban Mission (SPMRM), which was set to end in March 2022, has not been allocated any funds in this financial year.[7]

Figure 3: Top expenditure heads (as a % of total allocation)



Note: Others include Central Sector Schemes, establishment expenditure, and other central sector expenditure. Source: Demand for Grants of the Department of Rural Development, 2023-24; PRS.

Table 2: Allocation to key schemes

Scheme	21-22 Actuals	22-23 RE	23-24 BE	% Change from 22-23 RE to 23-24 BE
MGNREGS	98,468	89,400	60,000	-33%
PMAY-G	30,057	48,422	54,487	13%
PMGSY	13,992	19,000	19,000	0%
NRLM	9,383	13,336	14,129	6%
NSAP	8,152	9,652	9,636	0%
SPMRM	150	989	0	-
CSS	205	126	113	-10%

Note: CSS – Central Sector Schemes. Source: Demands for Grants of the Department of Rural Development, 2023-24; PRS.

Key Issues and Analysis

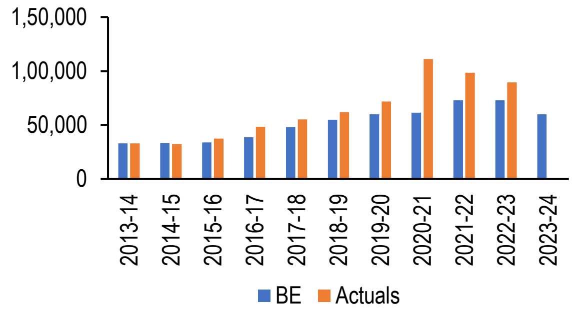
Mahatma Gandhi National Rural Employment Guarantee Scheme

The National Rural Employment Guarantee Act, 2005 provides for the enhancement of livelihood security of rural households by providing at least 100 days of guaranteed work to every household every year.[8] The provisions of the Act are operationalised through the MGNREGS.[9] The scheme covers the entire country, except for those districts with 100% urban population. Works permitted under the scheme are related to watershed development, water conservation, agriculture, rural sanitation, flood management, etc.[10]

Reduction in Budgetary Allocation; Demand for work expected to decrease

Rs 60,000 crore has been allocated for MGNREGS in 2023-24.[3] This is 33% lower than the revised estimates of 2022-23. However, actual expenditure on the scheme being higher than what was budgeted has been a consistent trend since 2015 (**Figure 4**). Despite this, in successive years, the budget estimates have been lower than the revised estimates of the previous year. The decline in allocation in 2023-24 could be indicative of the expectation that the pandemic induced job demand might have eased off. The Ministry of Rural Development has clarified that additional funds will be released for wage and material payments under the scheme whenever it is required.[11]

Figure 4: Allocation to MGNREGA (in Rs crore)



Note: BE - Budget estimate. Source: Demands for Grants of the Department of Rural Development for various years; PRS.

Table 3: Change in expenditure on MGNREGS between budget estimates and actuals (in Rs crore)

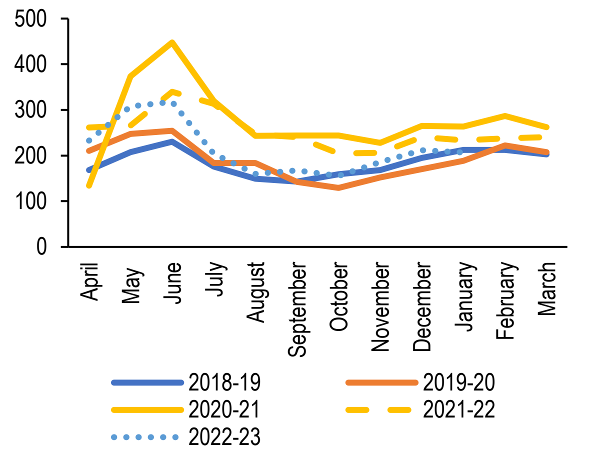
Year	BE	Actual	% increase of actual over BE
2015-16	33,713	37,341	11%
2016-17	38,500	48,215	25%
2017-18	48,000	55,166	15%
2018-19	55,000	61,815	12%
2019-20	60,000	71,687	19%
2020-21	61,500	1,11,170	81%
2021-22	73,000	98,468	35%
2022-23	73,000	89,400	22%
2023-24	60,000	-	-

Note: BE is budget estimate; actual figure for 2022-23 is the revised estimate. Source: Demands for Grants of the Department of Rural Development for various years; PRS.

MGNREGS is a demand-driven scheme. Demand is higher during the summers and lower during harvests (**Figure 5**). Between 2018-19 and 2019-20, the demand for work remained largely the same, and peaked in 2020-21. The 15th Finance Commission noted that the slowdown in primary sectors, trade, and aggregate demand during the COVID-19 pandemic period severely hit rural economies.[12] This was reflected in the increased demand for work under the scheme during the pandemic. Since then, demand for work has decreased. Between July and December 2022, demand reached pre-pandemic levels. The Economic Survey 2022 noted that monthly year-on-year demand for work decreased in 2021-22 and 2022-23.[13] It also noted that the decrease in demand for work was due to normalisation of the rural economy as a result of resurgence of agriculture.

As of February 20, 2023, 6.66 crore households have demanded employment under the scheme in 2022-23.[14] Of this, employment has been offered to 6.65 crore households (99.8% of households that demanded employment), and 5.87 crore households have availed employment (88% of households that demanded employment). 8.25 crore persons have availed of employment under the scheme.

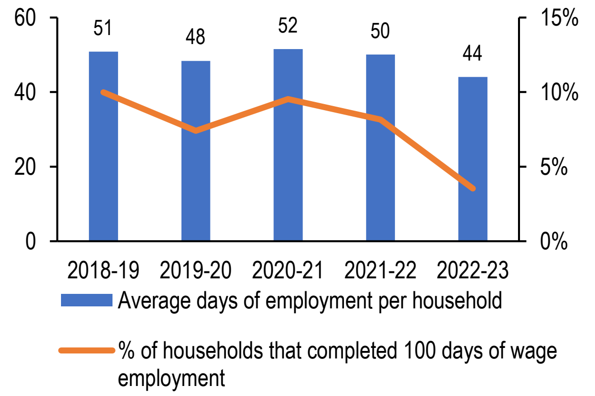
Figure 5: Monthly work demand pattern (number of households in lakhs)



Source: Work Demand Pattern, MGNREGA Dashboard, accessed on February 20, 2023; PRS.

Despite the statutory guarantee of 100 days of wage employment, not all households avail work for 100 days. Over the last five years, the number of days of employment per household has averaged around 51 days.[15] During the same time, the proportion of households that completed 100 days of wage employment has not crossed 10%.

Figure 6: Average days of employment provided per household



Source: MGNREGA Dashboard, accessed on February 9, 2023; PRS.

Aadhar Based Payment System now mandatory

Under MGNREGS, payments to workers are directly credited to their bank accounts.[16] This could be through bank/Post Office account details, or using the beneficiary's Aadhar number. To avail of the Aadhar Based Payment System (ABPS), Aadhaar cards have to be linked to the beneficiary's bank account and NREGS job card. After linking, the card is authenticated. Only those beneficiaries who are successfully authenticated are eligible for ABPS. The Ministry of Rural Development also decided that all payments to NREGS beneficiaries would be made through ABPS from February 1, 2023. However, as of February 20, 2023, only 44% of total workers are eligible for ABPS.[17] Around 5 crore workers have not been successfully authenticated. If all future payments are made only through the ABPS, a large number of workers would need to be authenticated to ensure that they get paid.

Pradhan Mantri Awas Yojana – Gramin

PMAY-G was launched in 2016 with the aim of providing 'Housing for All' by 2022. The scheme has been extended till 2024.[18] As of February 20, 2023, 2.15 crore houses have been constructed, against a target of 2.94 crore houses. **Table 4** shows the house completion target and achievement for each financial year from 2016-17. However, a CAG audit (2020) of the scheme showed that 31% (183 houses out of 590 audited houses) were not being used for residential purposes.[19]

Table 4: Houses constructed under PMAY-G (in lakhs)

	Year	Target	Achievement	% Completed
Phase I	2016-17	42.2	32.1	76%
	2017-18	31.5	44.5	142%
	2018-19	25.1	47.3	188%
Phase II	2019-20	57.9	21.9	38%
	2020-21	43.1	35.3	82%
	2021-22	71.4	43.8	61%
	2022-23	22.8	34.8	153%

Source: PMAY-G Dashboard, accessed on February 20, 2023; PRS.

Disparity in completion rate across states

The average time taken to complete one house is 282 days.[20] This figure varies across states, from 163 days in Arunachal Pradesh to 771 days in Lakshadweep. In nine states, the average completion time is greater than a year. Odisha has an average completion time of 269 days, one of the lowest among states.[20] The state government is providing an incentive of Rs 20,000 to beneficiaries who complete construction within four months from the release of the first instalment, and Rs 10,000 to those who complete construction within six months.[21] The Standing Committee (2022) recommended that states take similar measures to reduce completion time, and hence achieve the targets set for each year.[21]

Poor uptake of loan scheme

Under PMAY-G, beneficiaries can avail of a home loan from financial institutions for up to Rs 70,000, with an interest subsidy of 3%. However, the loan uptake has been low, as noted by the Standing Committee on Rural Development (2021).[22] Beneficiaries of PMAY-G are scattered across remote rural areas. Banking services are difficult to access in these areas, as there may be fewer bank branches. Accessing formal credit through banks and other financial institutions would require some collateral security. However, target beneficiaries under the scheme are those who do not have pucca houses. It is unlikely that they would have significant assets which could be pledged as collateral. Non-banking finance companies and housing finance companies also charge higher interest rates on loans. The Committee (2023) urged the Ministry to launch an attractive loan product with minimum collateral and low interest rates.[21]

Pradhan Mantri Gram Sadak Yojana

Rural road networks facilitate the growth of rural market centres and rural hubs.[12] PMGSY, launched in December 2000, aims to provide all-weather connectivity to eligible rural habitations.[23] Upgradation of existing rural roads in districts where all eligible roads have all-weather connectivity is also covered under the scheme. The scheme has been allocated Rs 19,000 crore in 2023-24, which is the same as the budget allocation and revised estimate for 2022-23. While the budget allocation has remained around Rs 19,000 crore since 2017-18, the actual expenditure has been lower (**Table 5**).

Table 5: Fund utilisation for PMGSY (in Rs crore)

Year	Budget Estimate	Actuals	% Utilisation
2016-17	19,000	17,923	94%
2017-18	19,000	16,862	89%
2018-19	19,000	15,414	81%
2019-20	19,000	14,017	74%
2020-21	19,500	13,688	70%
2021-22	15,000	13,992	93%
2022-23	19,000	19,000	100%
2023-24	19,000	-	-

Note: Actual figure for 2022-23 is revised estimate. Source: Demands for Grants of the Department of Rural Development for various years; PRS.

There are four verticals under PMGSY.[24] Phase I targets habitats with population more than 250 people. Its tenure was extended till September 2022. Phase II, launched in 2013, targets the upgrade of 50,000 km of roads, which form through routes and rural links. Phase III, launched in 2019, aims to consolidate 1.2 lakh km of roadways through rural links. This phase will end in March 2025. The Road Connectivity Project for Left Wing Extremism Affected Areas (RCPLWEA) was launched as a separate vertical in 2016, and will be implemented till March 2023.

PMGSY aimed to connect 1.64 lakh eligible habitations.[25] As on February 17, 2023, 99% of rural habitations have been covered under PMGSY. 92% of sanctioned roads have also been completed.[26] However, the CAG (2016) had noted that in several states, works were shown as completed without providing complete connectivity to habitations.[27]

Table 6: Road length sanctioned and completed under PMGSY (in km)

Vertical	Sanctioned	Completed	% Completed
PMGSY-I	6,45,390	6,36,602	99%
PMGSY-II	49,873	48,896	98%
PMGSY-III	99,319	50,727	51%
RCPLWEA	12,100	6,944	57%
Total	**8,06,681**	**7,43,168**	**92%**

Sources: PMGSY Dashboard as accessed on February 17, 2023; PRS.

Issues in the tendering/contracting process

The CAG (2016) and the Standing Committee on Rural Development (2021) have flagged several issues in the tendering and contracting process of roads built under PMGSY.[27,28] The Standing Committee (2021) noted the issue of down-tendering in PMGSY. Bidders quote up to 25-30% less than the minimum bid amount to win the tender. To maximise profits, contractors may then construct roads that do not meet technical specifications or are of poor quality. The CAG (2016) also noted that the execution of roads with lower specifications would affect their long-term sustainability.[27] The Department responded that measures have been taken to prevent down-tendering. If any inconsistencies are noticed with the bid of the successful bidder, they may be asked to produce a detailed price analysis. Since state governments are responsible for the tendering process, they have also been encouraged to ask for performance guarantees, if the bid is below a certain threshold.[29]

As per the Standard Bidding Document for PMGSY, the contractor may subcontract part of the construction work (up to 25% of the contract price), and part or full maintenance work on the road.[30] However, the contractor will be held responsible for all work undertaken on the project. The Standing Committee noted that since sub-contractors are not held accountable for their work, they may not be concerned with the durability and quality of construction.[28]

Maintaining quality of roads

Roads constructed under PMGSY are covered by five-year maintenance contracts. During this time, contractors are responsible for road maintenance. Following this, state governments are responsible for their upkeep.[12] Roads and bridges constructed under PMGSY are tested for quality while construction is in progress, post construction, and during the maintenance phase. Between April 2022 and February 2023, 10% of completed road projects have been found to be of unsatisfactory quality.[31] 7% of ongoing projects and 18% of projects under maintenance were also found to be unsatisfactory.

The Standing Committee (2022) noted that there were several lacunae in the monitoring mechanism set up to oversee maintenance of roads in the first five years.[29] They pointed out that contractors resort to cosmetic patchwork before they hand over the assets to state governments. They recommended that specific teams be formed, which would undertake periodic physical inspection of roads.[29]

The 15th Finance Commission noted that once state governments take over PMGSY roads, there are inter-state disparities in the level of maintenance.[12] The 15th Finance Commission recommended that such variations should be minimised. This could be achieved by extending the maintenance clause beyond five years. Different states have also taken unique measures to improve road maintenance (**Table 7: Models adopted by various states to improve road maintenance**).

Table 7: Models adopted by various states to improve road maintenance

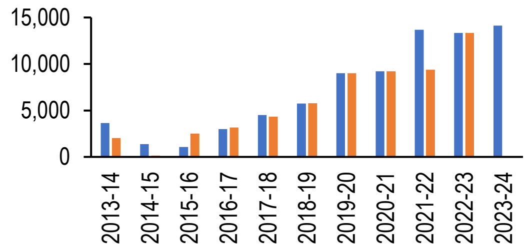
States	Model Adopted
Chhattisgarh, Rajasthan	Zonal maintenance contracts are signed with contractors
Uttar Pradesh, Madhya Pradesh, Uttarakhand	SHGs made responsible for road maintenance
Madhya Pradesh, Punjab, Rajasthan	Mandi cess used for road maintenance

Source: 15th Finance Commission Report, Vol III; PRS.

National Rural Livelihood Mission

The Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM) aims to reduce poverty by enabling poor households to access gainful employment, and by ensuring universal financial inclusion.[32] The scheme involves social mobilisation through self-help groups (SHGs), promotion of SHG federations, creation of community funds, and access to credit and financial services.[29] The budgetary allocation to NRLM has increased at an average annual rate of 33% between 2013-14 and 2023-24.

Figure 7: Budgetary allocation and actual expenditure on NRLM (in Rs crore)



Source: Demands for Grants of the Department of Rural Development, 2023-24; PRS.

Table 8: Progress made on SHG-Bank Linka and providing credit to SHGs

	Target		Achievement		% Achievement	
Year	SHG	DA	SHG	DA	SHG	DA
2017-18	20.7	31.0	27.5	62.2	133%	201%
2018-19	31.0	50.7	31.4	61.5	101%	121%
2019-20	30.9	67.1	34.2	70.9	111%	106%
2020-21	32.3	73.8	47.8	84.6	148%	115%
2021-22	37.3	97.2	42.9	120.3	115%	124%
2022-23	42.7	139.6	42.6	120.3	100%	86%

Note: DA is disbursed amount in Rs thousand crore. Source: DAY-NRLM Bank-Linkage Dashboard, accessed on February 20, 2023; PRS.

National Social Assistance Programme

The National Social Assistance Programme was introduced in 1995, with the aim of supporting citizens who are destitute, aged, sick, or disabled.[33] It comprises of five sub-schemes, (i) Indira Gandhi National Old Age Pension Scheme (IGNOAPS), (ii) Indira Gandhi National Widow Pension Scheme (IGNWPS), (iii) Indira Gandhi National Disability Pension Scheme (IGNDPS), (iv) National Family Benefit Scheme, and the (v) Annapurna scheme. The scheme extends across rural and urban areas, and is implemented by states.[33] The 15th Finance Commission recommended that states coordinate with the Union Ministry of Finance to work out a minimum uniform standardised annual per capita amount to be spent on social security across the country.[12]

Rs 9,636 crore has been allocated to the NSAP in 2023-24. This includes Rs 6,634 crore for the old age pension scheme, Rs 659 crore for the National Family Benefit Scheme, Rs 2,027 for the widow pension scheme, Rs 290 crore for the disability pension scheme, and Rs 10 crore for the Annapurna scheme.[3]

Table 9: Fund utilisation under NSAP (in Rs crore)

Year	Budget Estimates	Actuals	% Utilisation
2014-15	10,618	7,084	67%
2015-16	9,074	8,616	95%
2016-17	9,500	8,854	93%
2017-18	9,500	8,694	92%
2018-19	9,975	8,418	84%
2019-20	9,200	8,692	94%
2020-21	9,197	42,443	461%
2021-22	9,200	8,152	89%
2022-23	9,652	9,652	100%
2023-24	9,636	-	-

Source: Demands for Grants of the Department of Rural Development for various years; PRS.

Under IGNOAPS, senior citizens below the poverty line are entitled to a monthly pension of Rs 200 up to 79 years of age and Rs 500 thereafter.[33] Despite NSAP being a 100% centrally sponsored scheme, states/UTs have added to the quantum of central assistance from their own resources.[29] This ranges from Rs 50 to Rs 2,300. The Standing Committee on Rural Development (2021) recommended that this amount be increased.[28] In 2022, the Department of Rural Development stated that the final decision on increasing the central assistance is contingent on consultation with States.[29]

Overview of Finances: Department of Land Resources

The Department of Land Resources aims to ensure sustainable development of rainfed and degraded land, and implement a modern land record management system.[34]

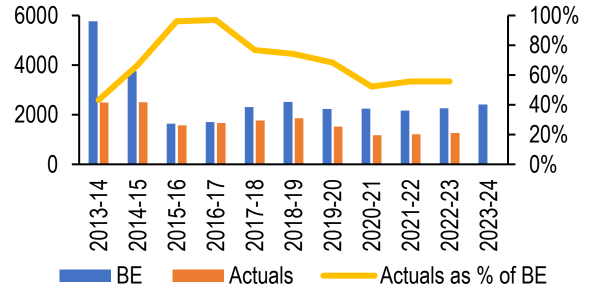
Table 10: Budgetary Allocation to the Department of Land Resources (in Rs crore)

Major Head	21-22 Actual	22-23 RE	23-24 BE	% change
PMKSY-WDC	941	1,000	2,200	120%
DILRMP	250	239	196	-18%
Secretariat	19	21	23	13%
Total	**1,210**	**1,260**	**2,419**	**92%**

Note: BE is budget estimate, RE is revised estimate; % change refers to the % increase of 2023-24 BE over 2022-23 RE. Source: Demands for Grants of the Department of Land Resources, 2023-24; PRS.

In 2023-24, the Department of Land Resources has been allocated Rs 2,419 crore.[4] This is a 92% increase over the revised estimates of 2022-23, mostly on account of a 120% increase in allocation to watershed development. Between 2013-14 and 2023-24, budgetary allocation for the Department has decreased by an average annual rate of 8%. Since 2013-14, actual spending by the Department of Land Resources has been less than the budget estimates for that year. In 2013-14, actual expenditure was 57% less than the budget estimate. Since 2020-21, actual expenditure has been at least 40% less than the budget estimate.

Figure 8: Budgetary allocation and actual expenditure on Department of Land Resources



Source: Demands for Grants of the Department of Land Resources of various years; PRS.

The Standing Committee on Rural Development noted that the reduction in the budgetary allocation to the Department at the revised estimate stage reflects faulty budgetary planning.[35] This has had a cascading impact, leading to a reduced level of expenditure under the schemes implemented by the Department. Funds are transferred from the Centre to States/UTs after the submission of release proposals by States/UTs. Incomplete or delayed proposals lead to lower release of Central funds. They recommended that measures be taken to improve collaboration between the Centre and States/UTs to address these issues.[36]

Major schemes under the Department

The department implements two major schemes, (i) the Digital India Land Records Modernisation Programme (DILRMP), and (ii) Pradhan Mantri Krishi Sinchai Yojana – Watershed Development Component (PMKSY - WDC).[2]

The Integrated Watershed Management Programme has the objective of improving the productive potential of rainfed/degraded land, and improving the efficiency of watershed projects.[37] It was amalgamated into the Krishi Sinchai Yojana (Watershed Development Component) in 2015-16. Projects taken up under this scheme include ridge area treatment, drainage line treatment, soil and moisture conservation, rain-water harvesting, and pasture development.

Key Issues and Analysis

Unspent balances

The Standing Committee on Rural Development (2022) noted high unspent balances under the PMKSY-WDC scheme.[35] The COVID-19 pandemic, heavy rains, and delayed transfer of Central funds to State Level Nodal Agencies are cited as reasons for such high unspent balance.[35,36] The Committee also noted that States/UTs are slow in the implementation of projects. This has led to the accumulation of unspent balances, and the surrendering of funds without utilisation. The Committee recommended that the implementation of the scheme be monitored more consistently. Similar unspent balances have also been noted in the DILRMP.

Table 11: Unspent balances in schemes of the Department of Land Resources

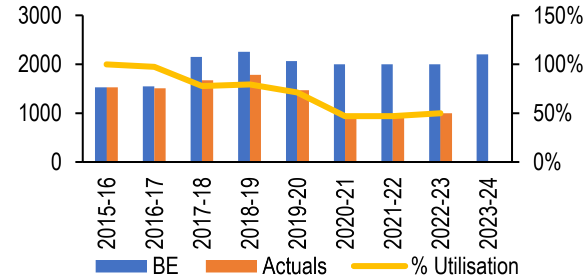
Year	PMKSY-WDC	DILRMP
2019-20	2255	399
2020-21	1833	493
2021-22	1325*	537**

*Till December 31, 2021; **Till January 5, 2022
Source: Report 23, Standing Committee on Rural Development; PRS.

Pradhan Mantri Krishi Sinchai Yojana – Watershed Development Component

Expenditure on PMKSY-WDC is estimated to be Rs 2,200 crore in 2023-24, a 120% increase over the revised estimate of 2022-23. Since 2015-16, allocation to the scheme has grown at an average rate of 4%. However, fund utilisation has declined during this time. In 2015-16 and 2016-17, actual expenditure was between 97%-99% of the budget estimate. However, this declined to 47% in 2021-22. In 2022-23, it is expected to be 50% of the budget estimate.

Figure 9: Allocation, expenditure, and fund utilisation on PMKSY-WDC



Note: % Utilisation is mapped to the right axis; 'Actual' figure for 2022-23 is the revised estimate. Source: Demands for grants of the Department of Land Resources for various years; PRS.

Incomplete projects under PMKSY-WDC 1.0

PMKSY-WDC has been implemented in two phases.[35] PMKSY-WDC 1.0 functioned from 2009-10 to 2014-15, and PMKSY-WDC 2.0 is expected to function from 2021-22 to 2025-26. As of July 2022, 5,693 projects have been completed out of 6,382 projects sanctioned under PMKSY-WDC 1.0 (89%).[38] The Standing Committee on Rural Development (2022) noted that projects under PMKSY-WDC 1.0 remained incomplete even as the second phase of the scheme was launched.[35]

Digital India Land Records Modernisation Programme

DILRMP has been allocated Rs 196 crore in 2023-24, which is an 18% decrease from the allocation for 2022-23. Apart from three years between 2017-18 to 2019-20), fund utilisation has remained above 90%. In 2021-22, actual expenditure exceeded the budget estimates by Rs 100 crore.

Table 12: Budgetary allocation and fund utilisation under DILRMP (in Rs crore)

Year	BE	Actuals	% Utilisation
2016-17	150	139	92%
2017-18	150	93	62%
2018-19	250	68	27%
2019-20	150	44	29%
2020-21	239	225	94%
2021-22	150	250	167%
2022-23	239	239	100%
2023-24	196	-	-

Note: Actual figure for 2022-23 is the revised estimate. Source: Demands for Grants of the Department of Land Resources for various years; PRS.

DILRMP and SVAMITVA Scheme

SVAMITVA is a Central Sector Scheme implemented by the Ministry of Panchayati Raj. It aims to provide 'Record of Rights' to village house owners. Legal ownership rights will be issued after mapping land parcels using drone technology.[39] An expert committee constituted by the Ministry of Panchayati Raj recommended that the Ministry work together with the Department of Land Resources on implementing the two schemes.[40] Since the preparation of computerised land records falls under the ambit of DILRMP, funds for the preparation of record of rights should be provided under that scheme. They also recommended that all villages surveyed under SVAMITVA be prioritised under the DILRMP.

Slow progress of components

DILRMP has eight major components, including computerisation of land records; survey/resurvey; and updating of survey and settlement records, and computerisation of registration.[41] The Standing Committee on Rural Development (2022) noted that the different components under the scheme showed differing levels of completion.[35] The need for skilled manpower, delays by state governments, and lack of timely revision of rates in some components were cited as reasons for this. They recommended that implementation be accelerated, after resolving issues with state/UT governments.[35]

Table 13: Progress of activities under DILRMP

Activity (Unit)	Target	Achievement	% Achieved
Land record computerisation (lakh revenue villages)	6.57	6.22	95%
Automation of sub-registrar offices (number of sub-registrar offices)	5,268	4,910	93%
Integration of land records (number of sub-registrar offices)	5,268	3,993	76%
States for which record of rights is on the web	36	29	81%
Survey/re-survey (lakh revenue villages)	6.57	0.90	14%
Digitisation of cadastral maps (crore maps)	1.69	1.27	75%
Modern record rooms in tehsils (number of tehsils)	6,865	3,186	46%
Number of State Data Centres set up	36	24	67%
Textual and spatial data integration (lakh revenue villages)	6.57	4.13	63%

Source: DILRMP Dashboard, as of February 20, 2023; PRS.

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Demand for Grants 2023-24 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 farmer welfare and manages agriculture inputs, and (ii) Agricultural Research and Education, which coordinates and promotes agricultural research and education.[1] This note examines the budget allocations to the Ministry and its expenditure, and discusses issues in the agriculture sector.

Overview of finances

The Ministry has been allocated Rs 1,25,036 crore in 2023-24, 5% greater than the revised estimates for 2022-23.[2,3] The Ministry of Agriculture accounts for 2.8% of the total Union Budget. The increase in expenditure is on account of marginal increase in the allocation for schemes such as Modified Interest Subvention Scheme (5%) and the Pradhan Mantri Fasal Bima Yojana (10%).

Table 1: Budget Allocation for the Ministry of Agriculture and Farmers' Welfare (in Rs crore)

	21-22 Actuals	RE 22-23	BE 23-24	% change (RE to BE)
Farmers' Welfare	1,14,468	1,10,255	1,15,532	5%
Agriculture Research	8,368	8,659	9,504	10%
Ministry	**1,22,836**	**1,18,913**	**1,25,036**	**5%**

Sources: Demand for Grants 2023-24, Ministry of Agriculture and Farmers' Welfare; PRS.

77% of the Ministry's estimated expenditure is allocated towards three schemes (See **Table 2**). Allocation for Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), which is the largest scheme under the Ministry has remained the same as the revised estimates of 2022-23 at Rs 60,000 crore. Allocation has reduced from the actual expenditure of 2021-22 and budgeted expenditure for 2022-23.

Table 2: Allocation to major schemes (in Rs crore)

	Actuals 21-22	RE 22-23	BE 23-24	% change (BE over RE)
PM KISAN	66,825	60,000	60,000	0%
Interest Subsidy*	21,477	22,000	23,000	5%
Fasal Bima	13,549	12,376	13,625	10%

Note: *Interest subsidy for short term credit to farmers scheme was restructured in 2022 to the Modified Interest Subvention Scheme.
Sources: Demand for Grants 2023-24, Ministry of Agriculture and Farmers' Welfare; PRS.

Policy proposals in the Budget Speech

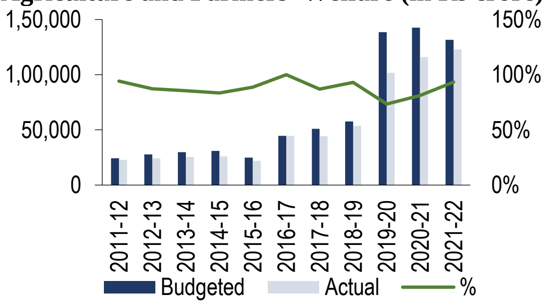
In her 2023-24 speech, the Finance Minister made the following proposals regarding agriculture:

- **Digital Public Infrastructure:** It will be built as an open source, open standard, and interoperable public good. This will enable inclusive, farmer-centric solutions through relevant information services for crop planning and health, and improved access to farm inputs, credit, and insurance.
- **Agriculture Accelerator Fund:** The Fund will be set-up to encourage agri-startups by young entrepreneurs in rural areas. It aims to bring modern technology to increase agricultural productivity and profitability.
- **Agriculture Credit:** The agriculture credit target will be increased to Rs 20 lakh crore with a focus on animal husbandry, dairy, and fisheries.
- **PM Matsya Sampada Yojana:** A new scheme with a targeted investment of Rs 6,000 crore has been launched to enable activities of fishermen and fish vendors and improve value chain efficiencies.
- **Storage:** A plan will be implemented to set up decentralised storage capacity to help farmers store their produce and realize realise remunerative prices through sale at appropriate times.
- **Cooperatives:** The government will also facilitate setting up of multipurpose cooperative societies, primary fishery societies, and dairy cooperative societies in uncovered panchayats and villages in the next five years.

Utilisation of Funds

In the past 10 years, fund utilisation of the Ministry has been above 70%. The Ministry was able to utilise 100% of the allocated funds in 2016-17. Allocation to the Ministry increased by 141% in 2019-20 on account of PM-KISAN. 48% of the allocation to the Ministry in 2023-24 is towards PM-KISAN. However, utilisation of funds reduced from 93% in 2018-19 to 73% in 2019-20. Utilisation was 93% in 2021-22.

Figure 1: Fund utilisation by the Ministry of Agriculture and Farmers' Welfare (in Rs crore)



Sources: Expenditure Budget for various years; PRS.

Rashtriya Krishi Vikas Yojana (RKVY) scheme was introduced in 2007 to ensure holistic development of agriculture and allied sectors.[4] It is a centrally sponsored scheme that enables states to choose agriculture development activities as per their plans.[4] It was restructured under the 2022-23 budget to subsume other schemes such as the Pradhan Mantri Krishi Sinchai Yojna-Per Drop More Crop, Paramparagat Krishi Vikas Yojna, National Project on Soil and Health Fertility, Rainfed Area Development and Climate Change, Sub-Mission on Agriculture Mechanization including Management of Crop Residue.[5] In 2023-24, Rs 7,150 has been allocated under RKVY for transferring to states/UTs. The allocation for 2023-24 is 2% greater than the revised estimates for 2022-23. Between 2019-20 and 2021-22, projects worth Rs 518 crore have been approved across 18 states under the Scheme.[6]

Issues to consider

The agricultural sector faces several issues such as low growth, high incidence of indebtedness among farmers, high cost of inputs, fragmented landholdings, and a lack of capital investments in the sector. In the 2016-17 Union Budget the government announced that farmer incomes will be doubled by 2022-23, from 2015-16 levels.[7]

Doubling of farmers' income

A committee was formed to recommend strategies for achieving the target which submitted its report in September 2018.[8] It recommended that policy focus must shift away from just increasing farm output, since increased output may not always lead to an increase in farmers' income. It noted that input prices, the level of input used, and the price of the output also has an impact of farmer incomes.[9] Hence it recommended that with an increase in the level of output, the cost of production be reduced, remunerative prices for agricultural produce be ensured, and sustainable technology be used.[9] The Ministry has several schemes in place such as PM-KISAN to provide income support to farmers, the Pradhan Mantri Fasal Bima Yojana which seeks to provide crop insurance, and the Pradhan Mantri Krishi Sinchayee Yojana, which promotes micro-irrigation techniques. Efforts have been made to improve access to agricultural credit, and improve agricultural markets through digitalisation, introduction of contract farming, and promoting Farmer Producer Organisations (FPO).

In the absence of recent data, it is unclear whether farmer incomes have doubled in 2022-23. Note that the latest farmer income data is as per 2018-19 (See **Table 3**). The average monthly income of an agricultural household was Rs 8,059 in 2015-16, which increased to Rs 10,218 in 2018-19.[9,10]

Table 3: Average monthly income of agricultural households

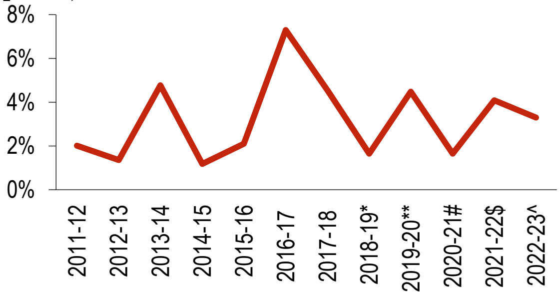
Year	Average monthly income per agricultural household
2002-03	2,115
2012-13	6,426
2015-16	8,059
2018-19	10,218
2022-23	NA

Note: Income for 2015-16 is derived from the annual income (at current prices) reported by the Committee on Doubling Farmers' Income. Sources: MOSPI; Committee on Doubling Farmers' Income, 2017; PRS.

In the absence of data, agricultural GDP may be examined to understand income growth. Agricultural GDP indicates the total income generated from producing agricultural goods and services. For farmer incomes to double, agricultural GDP should also have doubled, provided the number of farmers remained the same.

Between 2015-16 and 2022-23, the agricultural gross value added (GVA) at current prices (i.e., including inflation), doubled from Rs 25 lakh crore to Rs 51 lakh crore (11% growth).[11] Note that, agricultural GVA (at current prices) has doubled every eight years in the past 30 years.[11] In real terms, i.e., adjusting for inflation, agricultural GVA grew by 1.3 times. Agriculture growth has been volatile in real terms and the sector is estimated to grow at 3% in 2022-23 as compared to 4% in 2021-22.

Figure 2: Agricultural growth (at constant prices) has been volatile

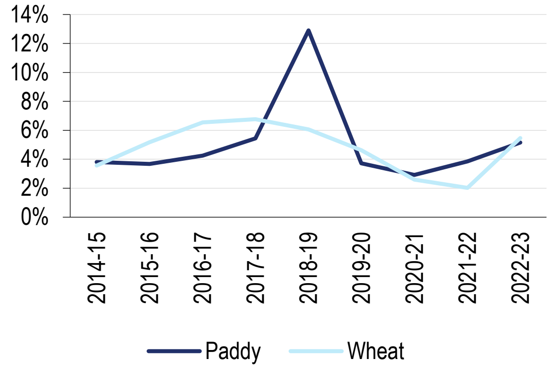


Notes: * Third revised estimates; ** Second revised estimates; # First revised estimates; $ Provisional estimates; ^ Advance estimates. Growth includes agriculture, forestry, fishing, and mining and quarrying.
Sources: Economic Survey of India 2022-23; PRS.

Minimum Support Prices

The government has taken several measures to improve agricultural marketing and ensuring remunerative prices to farmers. These include procuring certain crops at the Minimum Support Price (MSP). Factors such as the cost of production, price trends, and ensuring a 50% margin over the cost of production are used to determine the MSP for a season. Wheat MSP for 2023-24 is fixed at Rs 2,125 per quintal.[12] The cost of cultivating wheat for the year is Rs 1,065. Paddy MSP for 2022-23 is fixed at Rs 2,040 per quintal, whose cost of cultivation is Rs 1,360.[13]

Figure 3: Percentage increase in Minimum Support Price of paddy and wheat



Sources: Commission for Agricultural Costs and Prices; PRS.

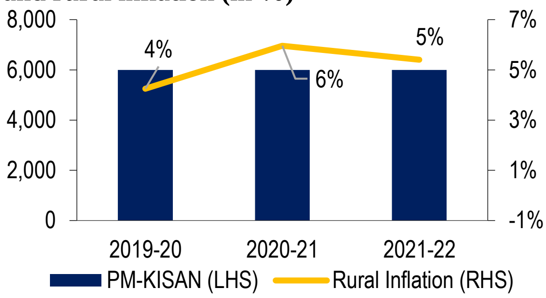
The National Commission on Farmers (2006) had recommended that MSP be at least 50% greater than the weighted cost of production. The Ministry adopted that recommendation in 2018-19, and MSP for all kharif and rabi crops was increased to reflect a return of at least 50% of the cost of production.[14] The Ministry also fixes a Fair and Remunerative Price (FRP) for the purchase of sugarcane by sugar mills. FRP for 2022-23 was fixed at Rs 305 per quintal.[15]

Income support through transfers

To supplement the financial needs of farmers, they are being provided with income transfers. PM-KISAN is a direct benefit transfer scheme that was launched in February 2019.[16] It provides landholding farmer families with income support of Rs 6,000 per year (in three instalments of Rs 2,000).[17] In 2023-24, Rs 60,000 was allocated towards the scheme, same as the revised estimates for the previous year. The Scheme receives the highest allocation (48%) from the Ministry.

Constant income transfers with rising rural inflation: PM-KISAN was operationalised in December 2018 and aims to enable farmers to procure inputs to ensure crop health and yield.[17] It is currently applicable to all landholding farmer families irrespective of the size of landholdings. Between 2019-20 and 2021-22, the amount to be disbursed to each family has remained constant (Rs 6,000). However, during this period rural inflation was between 4-6%.[18] Rural inflation includes prices of vegetables, housing, and transport.

Figure 4: Transfers under PM-KISAN (in Rs) and rural inflation (in %)



Sources: Database on Indian Economy, Reserve Bank of India; Operational Guidelines, PM-KISAN; PRS.

In 2021-22, Rs 66,825 crore was spent on PM-KISAN. As per the revised estimates of 2022-23, only Rs 60,000 crore is estimated to be spent on the Scheme, lower than the budget estimates for the year at Rs 68,000 crore. **Table 4** indicates the expenditure on the scheme since its inception.

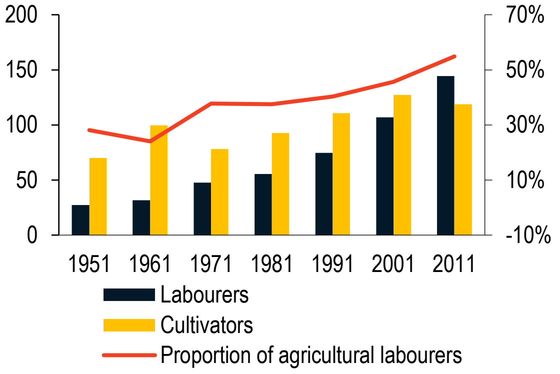
Table 4: Beneficiaries and amount released under PM-KISAN

Period	Number of beneficiaries (in lakh)	Actual Expenditure (in crore)
December 2018 – March 2019	316	6,322
April 2019 – July 2019	600	
August 2019 – November 2019	766	48,723
December 2019 – March 2020	820	
April 2020 – July 2020	927	
August 2020 – November 2020	972	61,927
December 2020 – March 2021	985	
April 2021 – July 2021	998	
August 2021 – November 2021	1,034	67,032
December 2021 – March 2022	1,041	

Sources: Lok Sabha Unstarred Question Nos. 1054 and 1150; PRS.

Agricultural labourers ineligible for transfers: Beneficiaries of the PM-KISAN scheme include only farmers that own cultivable land. The scheme does not cover agricultural labourers who form 55% of the agricultural workers in the country.[19] Agricultural **labourers** do not own land and work on another person's land. They earn income through wages or a share in the crop.[20] Agricultural **workers** include cultivators and labourers. The share of landless agricultural labourers in total agricultural workers has increased over the years from 28% in 1951 to 55% in 2011.[19] The Standing Committee on Agriculture (2020) noted that tenant farmers, who are a significant part of landless farmers in many states, do not receive income support benefits.[21] 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: Proportion of agricultural labourers rising



Sources: Agricultural Statistics at a Glance 2021; PRS.

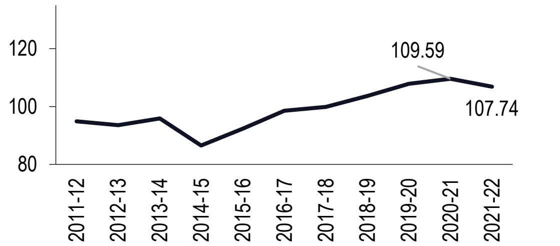
Farmer pensions

The Pradhan Mantri Kisan Maan Dhan Yojana (PMKMY), launched in 2019 is a central sector scheme to provide pensions to small and marginal farmers with cultivable land of up to two hectares.[22,23] Eligible beneficiaries are entitled to a monthly pension of at least Rs 3,000. As of November 2019, 18.8 lakh farmers have registered under the Scheme.[24] Farmers within the 18-40 age bracket are eligible under the Scheme. In 2023-24, the Scheme has been allocated Rs 100 crore, against the revised estimates of Rs 50 crore in 2022-23, implying coverage of less than 15,000 farmers. In 2021-22, the Ministry spent Rs 40 crore.

Climate change and agriculture

Agricultural output is vulnerable to changes in the climate as higher temperatures tend to reduce crop yields and increase pest infestations.[25] Rainfed agriculture is primarily impacted due to variability in the number of rainy days.[26] As per a study by the National Innovations in Climate Resilient Agriculture (NICRA), climate change is expected to affect yields of crops such as rice, wheat, and maize.[27] Studies on rice and wheat suggest that wheat is sensitive to rising maximum temperatures and heatwaves, while rice is vulnerable to increased minimum temperatures in the region.[27]

Figure 6: Wheat production (in million tonnes)



Sources: Department of Agriculture and Farmers' Welfare; PRS.

The total wheat production in the country has been steadily rising at 3% CAGR between 2014-15 and 2021-22.[28] As per the Indian Meteorological Department, certain areas in India experienced a heatwave in March 2022.[29] The maximum temperature was 33° Celsius, 2° greater than normal. As per a study by the US Foreign Agricultural Service, wheat yield in March 2022, in wheat growing areas was 11% lower than anticipated.[30] The report suggests that yield was not in line with the forecast as record high temperatures were observed during the grain filling (final) period for wheat.[30] Note that wheat production declined by two million tonnes in 2021-22.[31]

Similarly, in the first two weeks of October 2022, crops such as paddy, cotton, blackgram, vegetables, soybean, and bajra were affected across five states due to heavy rainfall.[32] In Andhra Pradesh, agricultural area of 7,178 hectares was affected due to heavy rains during this period. The National Innovations in Climate Resilient Agriculture (NICRA) project was launched in February 2011 to make Indian agriculture more resilient to changes in the climate.[33] NICRA conducts research on mitigation of climate impact on agriculture and field demonstrations of technologies.[34] In 2021-22 Rs 50 crore was budgeted for this initiative, of which Rs 47 crore was actually spent.[3]

The allocation declined to Rs 41 crore in 2022-23. From 2023-24 onwards, the NICRA project will be merged with the Natural Resource Management Institutes including Agro Forestry Research (NRAI), which examines farm productivity, profitability, and soil health deterioration.[3] The overall allocation to Natural Resources Management (which includes NRAI and NICRA) has increased from Rs 186 crore in 2022-23, to Rs 240 crore in 2023-24 (29% increase).

Stubble burning

Several agricultural practices also contribute to local air pollution. For instance, burning stubble in states such as Punjab, Haryana and Uttar Pradesh contributes to higher pollution levels in states such as Delhi.[35] Farmers choose to burn stubble, in order to clear the fields to sow Rabi crops.[35]

As per, the System of Air Quality and Weather Forecasting and Research portal, stubble burning was estimated to have contributed to the pollution levels between 2% to 44% for PM 2.5 levels in Delhi during October - November 2019.[36]

In order to control stubble burning, the government implements the Promotion of Agricultural Mechanisation for In-Situ Management of Crop Residue, a central sector scheme in Punjab, Haryana, Uttar Pradesh and Delhi.[36] Punjab provides compensation of Rs 100 per quintal to small and marginal farmers to manage paddy residue without burning stubble. Haryana provided Rs 100 per quintal as incentive to farmers who sold paddy in November 2019 without burning crop residue.[36]

Crop Insurance

The Pradhan Mantri Fasal Bima Yojana (PMFBY) and the Restructured Weather Based Crop Insurance Scheme (RWBCIS) were launched in

2016 to provide farmers with affordable crop insurance against non-preventable natural risks from pre-sowing to post-harvest stage.[37] Under PMFBY, farmers pay a premium of up to 2% (for Kharif crops), 1.5% (for Rabi crops), and 5% (for horticultural crops) of the sum insured. States (except for north-eastern states) and the central government share the premium burden equally. The scheme was made voluntary to farmers in 2020.

In 2023-24, Rs 13,625 crore is allocated to the scheme, 0.5% greater than the actual expenditure incurred in 2021-22. In 2022-23, Rs 15,500 crore was budgeted for the scheme, however estimated expenditure declined (by 20%) in the revised estimates to Rs 12,376 crore.

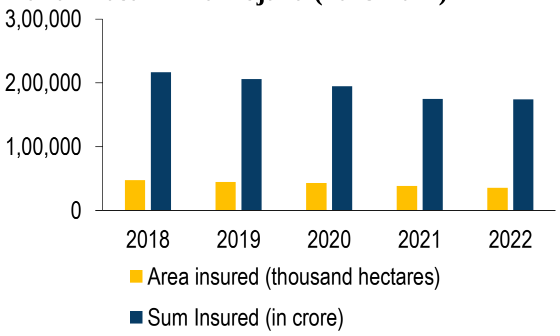
Table 1: Allocation towards Pradhan Mantri Fasal Bima Yojana (in Rs crore)

Actuals 21-22	BE 22-23	RE 22-23	BE 23-24	% change (BE 23-24 over RE 22-23
13,549	15,500	12,376	13,625	10%

Sources: Demand No. 1, Ministry of Agriculture and Farmers' Welfare; PRS.

Between 2018 and 2022, the number of farmers covered under the scheme reduced by 9%.[38] Similarly, the sum and area insured have also reduced by 7% and 5%.

Figure 7: Area and sum insured under Pradhan Mantri Fasal Bima Yojana (2018-2022)



Sources: Pradhan Mantri Fasal Bima Yojana Dashboard; PRS.

Delays in payment is one of the biggest challenges in implementing the scheme.[39] The Ministry noted that delay in settlement of claims takes place due to: (i) delay in release of state share of subsidy, and (ii) delay in sharing yield data by states to insurance companies.[40] The Committee added that delays may also occur due to yield-related disputes between insurance companies and states, and non-receipt of account details of farmers.[39] It recommended implementing a timeline for settlement of claims by insurance companies. Between 2016 to 2020, a total of Rs 4,602 crore of state subsidy was pending, against which claims of Rs 3,008 crore were also pending.

The Committee also noted that revisions in the scheme may lead state governments to withdraw from it. It recommended revising amendments that: (i) prohibit participation of those states which delay the release of subsidies, and (ii) mandate state governments to bear the entire subsidy for crops which have a greater-than-specified premium rate. The Ministry noted that several states have opted out of the scheme due to their inability to pay the state share of premium subsidy.

Some states have their own crop insurance schemes. For instance, Jharkhand has a crop relief scheme, where financial assistance is provided in case of crop damage, without the insurance premium component.[41] West Bengal also has its own crop insurance scheme that covers all farmers. It insures certain specified crops such as wheat, maize, moong, sugarcane, and paddy, with an indemnity of up to 90%.[42]

Anticipating the rise in demand for crop insurance due to the vulnerability of farming to climate change, the Ministry of Agriculture and Farmers' Welfare has noted that it may make necessary changes to PMFBYS.[43]

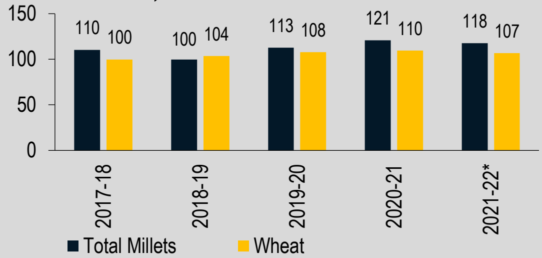
International Year of Millets

In India, millets are primarily a kharif crop, requiring less water and agricultural inputs than other similar staples. Total millet production in 2021-22 was 118 million tonnes, as compared to 107 million tonnes of wheat.[31]

The United Nations General Assembly declared 2023 as the 'Year of Millets' to promote their production and consumption.[44] India has taken several steps to promote the use of millets. For instance, it contributed USD five lakh to the FAO for the international year of millets.[45] Millet products and startups are being supported for enhancing the domestic consumption and export millets.[45]

The Production Linked Incentive Scheme for the Food Processing Industry was launched in March 2021.[46] It has an outlay of Rs 10,900 crore with manufacturing incentives for ready to eat foods which include millet-based products, marine products, and processed fruits and vegetables.[47]

Figure 8: Production of millets and wheat (in million tonne)



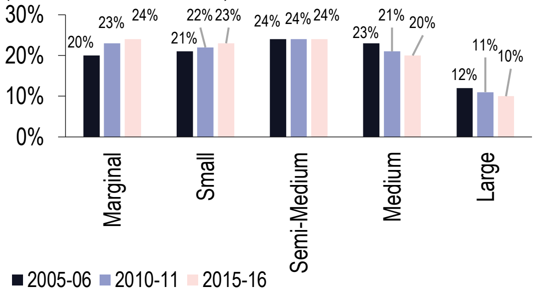
* Fourth Advance Estimates. Sources: Ministry of Agriculture and Farmers' Welfare; PRS.

Fragmented landholdings

With fragmentation of landholdings, and rise in the absolute number of agricultural workers, farm productivity may be impacted. India's agricultural sector is dominated by marginal and small farm holdings.[48] Over the past several decades, the number of farm holdings have increased while the area under farming has declined. This has led to a reduction in the average size of a landholding.[49] Area under farming has declined due to its diversion for non-agricultural purposes. [48]

Fragmented landholdings may affect agricultural growth as it implies reduced capital expenditure on a farm. Smaller farmers find it difficult to invest in tube wells, drip irrigation, bulk inputs or storage of produce.[21] Farm productivity may be improved through land consolidation. Between 2005-06 and 2015-16, the share of marginal and small landholdings has increased, while the proportion of medium and large landholdings has reduced (See **Figure 9**). Marginal landholdings have an area of less than one hectare. Between 1951 and 2011, the number of agricultural workers increased by 1.7%.[19] The Committee on Doubling Farmers' Income (2017) had recommended that to improve farm productivity, agricultural workers need to move out of the sector.

Figure 9: Category-wise share of landholdings (2005-06 to 2015-16)



Sources: Pocketbook of Agricultural Statistics 2020; PRS.

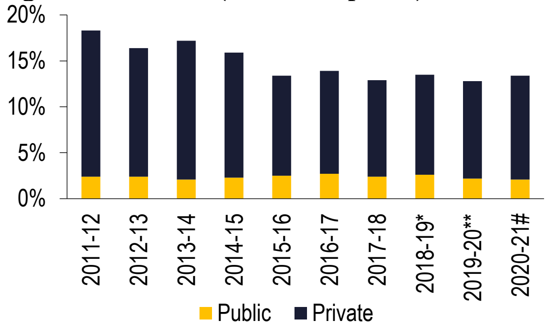
Land Reforms

The Committee on State Agrarian Relations and the Unfinished Task in Land Reforms (2017) noted that the need for land reforms is derived from the Constitutional mandate for equality, and the state's duty to ensure redistributive justice.[50] It also noted that smaller farms are more efficient in the utilisation of land, ensure food security, and rural employment. It recommended that land ceilings must be implemented with retrospective effect, and at most two acres of wet land and five acres of dry land be allotted.

The National Commission on Farmers (2004) (Chair: M.S. Swaminathan) noted that land is a shrinking resource in agriculture. In order to improve production of grains, fruits, and vegetables, productivity per unit of arable land must improve. It recommended that ceiling surplus land be redistributed and prime agricultural land not be diverted to the corporate sector for non-agricultural purposes. It also recommended establishing a system to regulate the sale of agricultural land, based on the quantum of land, nature of proposed use, and category of buyer.

Gross capital formation indicates the level of investment in building assets. The share of gross capital formation in agricultural output has reduced from 18% in 2011-12 to 14% in 2020-21. The share of private investment has been much greater than the share of public investment (See **Figure 10**).

Figure 10: Share of Gross Capital Formation in Agricultural GVA (at current prices)



* Third Revised Estimates ** Second Revised Estimates # First revised estimates. Sources: Agricultural Statistics at a Glance 2021; PRS.

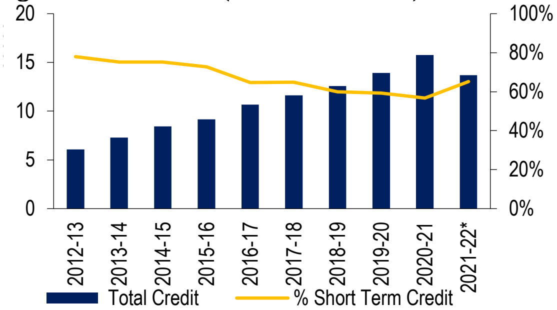
Agricultural Credit

Availability and accessibility to adequate, timely and low-cost credit is necessary for profitable farming.[51] The amount of institutional credit available to farmers has increased over the past few years. However, rural indebtedness has increased and loans are primarily being used to meet revenue expenditure in farming, or recurring household expenditure.

Over the past ten years, the total institutional credit availed by farmers has increased at CAGR 7.8%.[19] In 2021-22, the Ministry had targeted to provide Rs 16.5 lakh crore worth of credit to the farmers.[52] It exceeded its target by 13%. It aims to provide Rs 18.5 lakh crore as agricultural credit in 2022-23. As access to credit has increased, the proportion of short-term credit has been reducing since 2012-13 (See **Figure 11**). However, it rose from 57% in 2020-21 to 60% in 2021-22 (as of December 2022). A higher share of short-term credit indicates that farmers are borrowing to meet their recurring expenditure needs, rather than funding long-term investments.

Institutional credit refers to loans taken from commercial banks, regional rural banks, insurance companies, employers, or non-banking financial institutions.[53] Non-institutional credit refers to loan taken from landlords, agricultural moneylenders, friends and family, or professional moneylenders. A significant portion of the total credit is not being spent in asset creation.

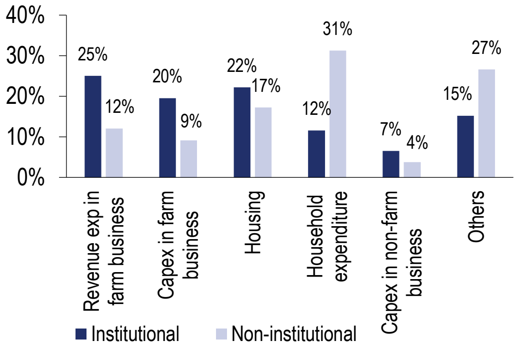
Figure 11: Flow of institutional credit availed by agricultural sector (in Rs lakh crore)



* As of December 12, 2021
Sources: Agricultural Statistics at a Glance (2021); PRS.

As of December 2019, 25% of institutional credit was used to meet revenue expenditure in farm business, while 20% was used for capital expenditure.[54] 31% of non-institutional credit was used to meet household expenditure, followed by loans for housing (17%).[54]

Figure 12: Purpose of agricultural loans



Sources: All India Debt and Investment Survey 2019; PRS.

Despite an increase in the availability of low-interest institutional credit, agricultural indebtedness has increased as compared to 2003.[54] As of December 2019, half of all agricultural households are indebted, with an average outstanding loan of Rs 74,121.

Table 2: Incidence of indebtedness in agricultural households

Year	Number (in lakh)	% indebted	Average outstanding loan amount
2003	894	49%	12,585
2013	902	52%	47,000
2019	930	50%	74,121

Sources: Situation Assessment Survey for various years; PRS.

Schemes for agricultural credit

The government launched the Interest Subvention Scheme in 2006-07, to provide short term agricultural loans up to three lakhs at an annual interest rate of 7% for farmers engaged in agriculture and allied activities.[55] Additional 3% subvention is also provided for prompt and timely repayment of loans. The scheme was modified in 2022.[56] Under the modified scheme, lending institutions such as public sector banks, regional rural banks, or cooperative banks are provided with 1.5% interest subvention from 2022-23 to 2024-25.

Table 3: Allocation towards agricultural credit schemes (in Rs crore)

	Actuals 21-22	RE 22-23	BE 23-24	% change (BE over RE)
Interest Subsidy*	21,477	22,000	23,000	5%

Note: The interest subsidy for short term credit to farmers scheme was restructured in 2022 to the Modified Interest Subvention Scheme.
Sources: Demand for Grants 2023-23, Ministry of Agriculture and Farmers' Welfare; PRS.

In 2015, the Committee on Medium-Term Path on Financial Inclusion under the Reserve Bank of India (RBI) observed that the scheme is for short-term crop loans, and hence it discriminates against long-term loans.[57] Short term crop loans are used for pre-harvest activities such as weeding, sorting, harvesting, and transporting. Long-term loans are taken to invest in agricultural machinery and equipment, or irrigation. The Committee stated that the scheme does not incentivise long-term capital formation, which is essential to boost productivity in the sector.

Table 4: Funds allocated and released under the Interest Subvention Scheme (in Rs crore)

Year	Allocated	Released	% of funds released
2016-17	15,000	13,397	89%
2017-18	15,000	13,046	87%
2018-19	15,000	11,496	77%
2019-20	18,000	16,219	90%
2020-21	21,175	17,790	84%
2021-22*	19,468	8,223	42%

* As of January 20, 2022
Sources: Expenditure Budget of various years; 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.

The Kisan Credit Card scheme was introduced in 1998 to enable farmers to purchase agricultural inputs such as seeds, fertilisers, or pesticides.[58] It was extended in 2004 to meet the needs of farmers in allied and non-farm activities as well. The Revised Kisan Credit Card Scheme (2020) seeks to provide banking credit through a single window to meet needs such as: (i) short term credit requirement for cultivation of crops, (ii) post-harvest expenses, (iii) produce marketing loan, (iv) working capital to maintain farm assets, and (v) consumption requirements of a farmer household.

Small and marginal farmers, share-croppers, tenant farmers, and self-help groups are eligible as scheme beneficiaries. In 2022-23, as on November 11, 2022, 377 lakh applications have been sanctioned with a credit limit of Rs 4 lakh crore.[59]

Table 5: Number of beneficiaries under Kisan Credit Card Scheme

Year	Number of cards issued (in lakh)	Amount sanctioned (in crore)
2019-20	109	36,350
2020-21	82	2,34,420
2021-22	75	3,19,751
2022-23	48	2,17,710

Note: Amount for 2019-20 does not include data of scheduled commercial banks as the data was not maintained at the time. Data for 2022-23 is as of September 2022.
Sources: Lok Sabha Unstarred Question No. 1051, answered December 13, 2022; PRS.

Inputs for production

Fertiliser subsidy and soil health

The Ministry of Chemicals and Fertilisers is responsible for the production, distribution and pricing of fertilisers. However, the Ministry of Agriculture and Farmers' Welfare is responsible for assessing its requirements.[60] The Agriculture Ministry is also responsible for promoting balanced use of fertilisers, i.e., ensuring that various nutrients and micronutrients are used in proper combinations. Three major nutrients used in fertilisers include Nitrogen (N), Phosphorous (P) and Potash (K).

Fertiliser subsidy: Fertilisers are subsidised through a urea subsidy (which contains nitrogen) and a nutrient-based subsidy for P and K fertilisers. Subsidy is provided to fertiliser manufacturers and importers so that farmers can directly purchase them at subsidised rates.[60] In 2023-24, Rs 1,75,103 crore was budgeted for fertiliser subsidies 22% less than the revised estimates of 2022-23. However, the subsidy for 2023-24 is 66% greater than the budget estimates for 2022-23.

In 2022-23, Rs 1,05,222 crore was budgeted for fertiliser subsidies, which increased to Rs 2,25,222 crore (114% increase) at the revised stage. In November 2022, the central government increased the subsidy rates for nutrient-based fertilisers for the Rabi season 2022-23 (October 1, 2022 to March 31, 2023). The increase was mainly on account of increased subsidy to indigenous urea, which was driven by an increase in international prices of fertilisers.

Fertiliser imports: The Ministry of Chemicals and Fertilisers noted that the international prices of raw materials and fertilisers have been increasing for the past year and a half, making imports costly.[61] About 25-30% of urea is imported annually.[62] Between January 2021 and December 2021, the international price of urea increased from 300 USD per metric tonne to 1,000 USD per metric tonne due to supply disruptions led by sanctions on Russia and export restrictions by China.[65,63] As a result, a larger amount of money is being spent to import the same amount of fertilisers, which has led to an increase in the fertiliser subsidy.

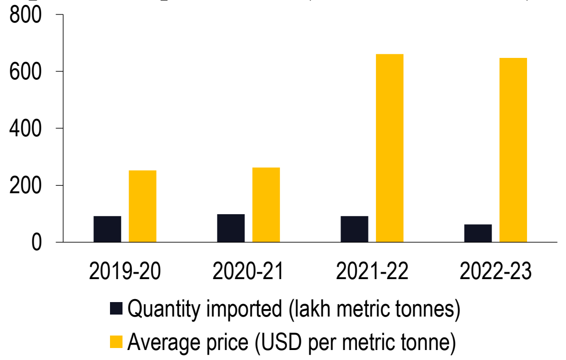
Table 6: Allocation towards fertiliser subsidy (in Rs crore)

Subsidy	BE 22-23	RE 22-23	BE 23-24	% change (RE 22-23 over BE 23-24)
Urea Subsidy	63,222	1,54,098	1,31,100	-15%
Nutrient based subsidy	42,000	71,122	44,000	-38%
Total Subsidies	**1,05,222**	**2,25,222**	**1,75,103**	**-22%**
Of which imports	37,390	67,927	49,500	73%

Sources: Demand for Grants 2023-24, Ministry of Chemicals and Fertilisers; PRS.

Fertiliser imports: The Ministry of Chemicals and Fertilisers noted that the international prices of raw materials and fertilisers have been increasing for the past year and a half, making imports costly.[64] About 25-30% of urea is imported annually.[65] Between January 2021 and December 2021, the international price of urea increased from 300 USD per metric tonne to 1,000 USD per metric tonne due to supply disruptions led by sanctions on Russia and export restrictions by China.[65,66] As a result, a larger amount of money is being spent to import the same amount of fertilisers, which has led to an increase in the fertiliser subsidy.

Figure 13: Import of urea (2019-20 to 2022-23)



Note: Data for 2022-23 is up to December 2022.
Sources: Lok Sabha Unstarred Question 439; PRS.

Import dependence: The Standing Committee on Chemicals and Fertilisers (2021) had observed that 25% of urea, 90% of phosphatic fertilisers, and 100% of potassic fertilisers are imported.[67] India is dependent on imports of different fertilisers due to the non-availability or scarce availability of resources. To cushion the effects of fluctuations in international prices, the Committee recommended the Ministry to: (i) diversify import sources by signing long-term agreements through PSUs, and (ii) monitor international prices and maintain a buffer stock to control for sudden fluctuations.[65]

The Standing Committee (2020) also noted the increase in expenditure on fertiliser subsidies over the years.[68] It noted that while it is necessary to provide the subsidy, it is also the government's responsibility to contain this expenditure by adopting innovative ways without increasing the prices.[68] The Committee recommended that the government should take all possible steps to reduce its expenditure on subsidy by: (i) modernising fertiliser manufacturing plants, (ii) adopting best practices of manufacturing and strict energy norms, and (iii) building a strong research and development base for continuously upgrading the manufacturing technology, so as to reduce the manufacturing cost.[68]

Table 7: Approved subsidy rates for Rabi season (October 2022 - March 2023)

Nutrient	Subsidy (in Rs/kg)		% change
	2021-22	2022-23	
Nitrogen	18.79	98.02	422%
Phosphorous	45.32	66.93	48%
Potash	10.11	23.65	134%
Sulphur	2.37	6.12	158%

Sources: Press Information Bureau; PRS.

Soil Health: While examining the system of fertiliser subsidy, the Standing Committee on Chemicals and Fertilisers (2020) observed that agricultural productivity increased tremendously due to fertiliser subsidy, and helped ensure food security.[68] However, large amounts of subsidy has led to negative effects such as over-use and imbalanced use, which results in the degradation of soil. The Soil Health Card scheme was launched in 2015 to provide farmers with information regarding the quality of soil.[69] The Cards provide farmers with recommendations on appropriate nutrient dosage to improve soil health and fertility.[70]

This scheme has now been merged with the Rashtriya Krishi Vikas Yojana, an umbrella scheme for ensuring holistic development in agriculture.[2] As per the Ministry of Chemicals and Fertilisers, the possibility of excessive use of fertilisers generally arises when it is applied without proper assessment of: (i) the nutrient requirement of a crop, (ii) contribution of nutrients from soil and other sources, (iii) nutrient use efficiency of the fertilizers, and (iv) mode, method and time of applications. As per a study by the National Productivity Council (2017) on soil testing infrastructure, using fertiliser sand micronutrients based on Soil Health Card recommendations resulted in 8-10% savings and a 5-6% overall increase in the yield of crop.[71]

In order to prevent over-use of fertilisers, the Standing Committee on Chemicals and Fertilisers (2020) recommended that farmers must get the fertiliser subsidy directly in their bank accounts.[68] It noted that several manufacturing plants were operating with old technology which led to inefficiencies. The cost of such inefficiencies is being borne by the government through subsidies. It recommended that a direct transfer of subsidy would lead to a system where manufacture and import of fertilisers takes place as per market forces.[68] In October 2016, the Department of Fertilisers has implemented Direct Benefit Transfer (DBT) project for fertiliser subsidy payment. Under the fertilizer DBT system, 100% subsidy on various fertiliser grades is released to fertiliser companies on the basis of actual sales made by the retailers to the beneficiaries.[72] A Nodal Committee has been constituted in June, 2020 to formulate a policy for implementing Direct Cash Transfer of Fertiliser Subsidy to farmers. Two meetings were held in 2020.[72]

Irrigation

A significant portion of Indian agricultural is rainfall dependant. Current sources of irrigation such as tubewells and canals lead to wastage of water. Further, water intensive crops such as sugarcane are being grown in water-scare areas. The Ministry has launched the Pradhan Mantri Krishi Sinchayee Yojana to promote micro-irrigation techniques.

As of 2018-19, 51% of the country's net sown area was under irrigation.[19] As of 2018-19, major irrigation sources include tubewells (49%) and other wells (15%), and canals (23%). 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. 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.

The Pradhan Mantri Krishi Sinchai Yojana was launched in 2015 to increase the coverage of the area under irrigation. The Ministry implemented the 'Per Drop More Crop' component until 2021-22 under the scheme to increase water efficiency through micro-irrigation and other interventions. The component of the scheme now continues under Rashtriya Krishi Vikas Yojana, an umbrella scheme for farmer welfare, for 2022-23. Between 2013 and 2021, 60 lakh hectares of area has been covered under micro-irrigation.

Several crops such as paddy and sugarcane are grown in districts that face a scarcity of water. For example, Maharashtra (which is one of the highest producers of sugar) faces groundwater stress and lacks perennial sources of irrigation.[73,74] Other states which also produce sugar such as Karnataka and Tamil Nadu lack proper irrigation channels. In these states, sugarcane cultivation takes place in districts where the groundwater level is categorised semi-critical. The Swaminathan Commission on

Farmers noted that land-use must be designed such that crops that are high value, but require low water must be encouraged in water scarce areas.

Power subsidies for farm use

Water intensive crops such as sugarcane and paddy require pumped irrigation. In order to reduce irrigation costs, electricity is subsidised in many parts of the country. In certain states, the supply of electricity for agriculture is totally free, without consumption limits. The Standing Committee on Water Resources (2022) noted that subsidised electricity encouraged farmers to grow water-intensive crops in water-scarce areas.[75] For instance, 73% of the rechargeable groundwater area in Punjab is categorised as over-exploited (2022).[76,77] Note that Punjab budgeted Rs 6,395 crore as expenditure on power subsidies in 2022-23.[78]

Such subsidises also impact government finances. Power subsidy is provided in various ways: (i) directly transferring funds from the government to distribution companies (discoms) and (ii) by charging certain consumers higher (cross subsidy) than the cost of supply. In the past few years discoms have reported persistent losses, and have been bailed out by the state and central governments. Between 2017-18 and 2020-21, they accumulated losses worth three lakh crore rupees. Schemes such as the Ujwal Discom Assurance Yojana (UDAY), the liquidity infusion scheme (2020) and revamped distribution sector scheme (2022) were introduced to provide discoms with financial assistance. Reasons such as inadequate metering, delays in receiving government subsidy, inadequate recovery of fixed costs, and high cross subsidy components may have contributed to losses. Direct transfers to discoms contributed to 20% of discoms' revenue in 2020-21.[79] However, the release of such subsidy has witnessed delays.

To ensure competition in power distribution, the Electricity Act, 2003 specifies that cross subsidy be within a specified limit, and that it be reduced over the years.[80] To address the question of affordable electricity for farmers and a cost-reflective pricing mechanism, direct benefit transfer (DBT) of subsidy has been proposed.[81] A DBT seeks to address some issues with targeting and disbursement. Under a DBT model, farmers would have to pay for their power consumption, and a commensurate subsidy will be transferred to their bank accounts.

Agricultural Marketing

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. 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.[82] The Standing Committee on Agriculture (2019) observed issues with the implementation of APMC laws and that they need urgent reforms.[82] Issues identified by the Committee include: (i) most APMCs have a limited number of traders operating, which leads to cartelisation and reduces competition, and (ii) undue deductions in the form of commission charges and market fees. Traders and commission agents organise themselves into associations, which does not allow easy entry of new persons into market yards, stifling competition.[82]

Parliament enacted laws three laws in September 2020 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.[83,84,85] The laws were repealed through the Farm Laws Repeal Bill, 2021 following large protests by farmers and a stay implemented by the Supreme Court.[86]

Electronic National Agricultural Market

The National Agricultural Market (e-NAM) scheme was launched in 2015 to provide farmers with remunerative prices for their produce through a transparent online competitive bidding system.[87] e-NAM is envisaged as a national trading portal to create a unified market for agricultural commodities. States who wish to integrate their mandis with e-NAM are required to reform their APMC Acts to: (i) allow for a single trading license across the state, (ii) create a single point levy of market fee, and (iii) provide for e-auction and e-trading as a mode of price discovery.

e-NAM will be implemented by the Small Farmers' Agribusiness Consortium.[88] The e-NAM portal seeks to integrate markets across the country and provide more options to buyers and sellers. Registration of farmers and sellers, weighing, quality checks, auctions, and transactions will take place online. The Standing Committee on Agriculture (2022) observed whether all states/UTs can be integrated with the e-NAM platform, and recommended the Ministry to facilitate their integration.[89] As of November 30, 2022, 1,260 mandis across 25 states/UTs have been integrated with the portal.[90] The government provides training to farmers, traders, and APMC officials for using the portal. The government provides assistance of up to Rs 75 lakh for each mandi to create infrastructure for cleaning, sorting, and packaging.[91]

As per a field study conducted in 10 mandis in Karnataka, only selected commodities on selected days of the week are traded on the platform.[92] Commission agents are registered as traders and there have been several power cuts. The study noted that unification of the market has not taken place as despite having a national trading license, a trader has to arrange for storage and transport of the commodities. Small farmers are reluctant to part with their produce for quality checks.[92] However, it noted that the e-NAM portal has made trading transparent, and has saved farmers' time.

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. Small and marginal farmers (who hold a majority of the agricultural landholdings in the country) face various issues in selling their produce in APMC markets such as inadequate marketable surplus, long distances to the nearest APMC markets, and lack of transportation facilities. There are several suggestions for reforming APMCs. These include digitalising the marketing process, contract farming, and promoting a futures market.

The central government released the model Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act 2017 in April 2017.[93] The model Act seeks to provide farmers with marketing channels other than the APMC. APMCs will be made responsible for: (i) ensuring payment to farmers on the same day, (ii) publicising the rates of agricultural produce brought into the market area for sale, and (iii) setting up public private partnerships for managing agricultural markets. Further, it has a provision to directly sell farm produce through a contract, without routing it through a notified market. As of November 2019, Arunachal Pradesh has adopted the model Act, while Uttar Pradesh, Chhattisgarh, and Punjab have adopted several provisions of the Act.[94] Studies have noted that contract farming may provide benefits in terms of yield, prices, and incomes. However, it may exclude small farmers as contracting corporations demand large tracts of land. Under the APMC Act of Haryana, a contracted price cannot be lower than the MSP of the preceding year, which affects price discovery proposed by the arrangement.[95,96]

An agricultural commodities exchange backed by a warehouse receipt system is expected to improve the efficiency in agricultural marketing. The National Commodity and Derivatives Exchange Limited (NCDEX) is an agricultural derivative exchange, incorporated in 2003.[97] Commodities such as soya oil, chana, jute, rubber, and turmeric are traded on NCDEX. As per the Standing Committee on Food, Consumer Affairs and Public Distribution (2010), futures markets lead to reducing seasonal price variations and help the farmer in realising a better price at the time of the harvest.[98] It allows a farmer to postpone the sale of his product as well, and moderate market arrivals. In 2021-22, NCDEX delivered 4.72 lakh tonnes of commodities, and represents 4 lakh farmers.[99]

Agriculture Infrastructure Fund: The scheme was approved in July 2020 and it seeks to provide a medium to long term debt financing facility for creating port-harvest management infrastructure. The size of the Fund is one lakh crore rupees, and loans up to two crore rupees will receive annual interest subvention of 3% (for up to seven years).[100]

Eligible beneficiaries under the scheme initially included entities such as primary agricultural credit societies, marketing cooperative societies, and farmer producers' organisations. Eligibility was extended to state agencies/APMCs, national and state federations of cooperatives, federations of farmers producers' organisations and federations of self-help groups in 2021.

The scheme has been allocated Rs 500 crore in 2023-24, 233% greater than the revised estimates of 2022-23. The scheme was allocated Rs 500 crore in 2022-23 as well. As of January 2023, the Fund has 59,144 registered beneficiaries. Rs 10,082 crore has been disbursed since August 2020 across 16,000 projects.

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.[82] 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. 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. As of April 2022, infrastructure has been developed in 1,351 village haats under MGNREGS.[101] Subsequently, these haats will be linked to the e-NAM platform.

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Demand for Grants 2023-24 Analysis
Education

In India, both the central and state governments have responsibility for education.[1] Both central and state governments operate schools and higher education institutions (HEIs). The Ministry of Education formulates and implements national policies, develops plans to improve access to education and provides for scholarships.

The Ministry of Education has two departments: (i) the Department of School Education and Literacy, and (ii) the Department of Higher Education. The Department of School Education is responsible for schools such as Kendriya Vidyalayas, and Navodaya Vidyalayas. It also funds certain schemes implemented by states such as Samagra Shiksha, which seeks to improve access to schools and overall learning outcomes, and the National Mid-Day Meal Programme. The Department of Higher Education funds central universities, IITs, NITs, IISERs, IIMs, and Schools of Planning and Architecture, among others. It also funds the higher education regulators, UGC and AICTE. The Department also supports research and innovation in higher education, and provides scholarships for higher education. This note examines the allocation to the Ministry in 2023-24, and overall financing issues in the education sector.

Overview of finances

In 2023-24, the Ministry of Education has been allocated Rs 1,12,899 crore.[2] This is an increase of 13% over revised estimates for 2022-23. The Department of School Education and Literacy has been allocated Rs 68,805 crore (61% of the Ministry's expenditure). This is an increase of 16.5% over the revised estimates of 2022-23. The Department of Higher Education has been allocated Rs 44,095 crore (39% of the Ministry's expenditure), an increase of 8% over the revised estimates of 2022-23.

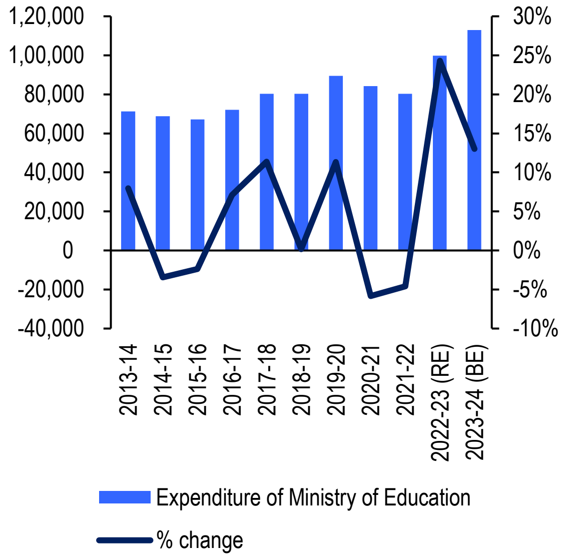
Table 1: Expenditure of Ministry of Education (Rs crore)

	2021-22 Actuals	2022-23 RE	2023-24 BE	% change, 22-23 RE to 23-24 BE
School Education	46,822	59,053	68,805	16.5%
Higher Education	33,531	40,828	44,095	8.0%
Total	**80,352**	**99,881**	**1,12,899**	**13.0%**

Note: BE – Budget Estimate; RE – Revised Estimates.
Sources: Demand Numbers 25 and 26, Expenditure Budget 2023-24; PRS.

Since 2013-14, allocation towards the Ministry of Education has increased at an annual average rate of 4.7%. There was a decline in the expenditure of the Ministry in 2020-21 and 2021-22, which could be due to the COVID-19 pandemic. The revised estimates for 2022-23 are 24% higher than actuals for 2021-22 (low base).

Figure 1: Expenditure of the Ministry of Education over the last decade (in Rs crore)



Note: RE is Revised Estimate, BE is Budget Estimate
Sources: Union Budgets, 2015-16 to 2023-24; PRS.

Announcements in Budget Speech 2023-24

In her Budget Speech, the Finance Minister made the following announcements related to the education sector:

Teacher Training: Teacher training will be re-envisioned through innovative pedagogy, continuous professional development, surveys, and ICT implementation. The District Institutes of Education and Training will be developed as vibrant institutes of excellence for this purpose.

Libraries: A National Digital Library will be set up for facilitating availability of quality books across geographies, languages, genres and devices. States will be encouraged to set up physical libraries at panchayat and ward levels and provide infrastructure for accessing the National Digital Library.

Higher education: Three centres of excellence for Artificial

In 2023-24, the Samagra Shiksha Abhiyaan is estimated to receive the highest allocation under the Ministry, at Rs 37,453 crore (33% of the Ministry's expenditure). This scheme funds schools run by states. This is followed by allocation towards autonomous bodies under the Department of School Education and Literacy at Rs 14,391 crore (13% of total allocation to the Ministry). These include Kendriya Vidyalayas and Navodaya Vidyalayas. PM POSHAN, which provides mid-day meals in schools, has been allocated 10% of the Ministry's budget.

Table 2: Main heads of expenditure under the Ministry of Education (2023-24 Budget Estimates, Rs crore)

Major Heads	2023-24 BE	% share of total
Samagra Shiksha	37,453	33%
Autonomous Bodies	14,391	13%
PM POSHAN	11,600	10%
Universities	11,529	10%
IITs	9,662	9%
UGC and AICTE	5,780	5%
NITs and IIEST	4,821	4%
PM SHRI	4,000	4%
Others	13,664	12%
Total	**1,12,899**	**100%**

Note: Autonomous bodies include those under the Department of School Education - Kendriya Vidyalaya Sangathan, Navodaya Vidyalaya Samiti.
Sources: Demand Number 25 and 26, Expenditure Budget 2023-24; PRS.

Health and Education Cess

In 2018-19, a 4% Health and Education Cess on income was introduced, replacing two prior cesses, the Primary Education Cess and the Secondary and Higher Education Cess.[3] The Prarambhik Shiksha Kosh (PSK) is a non-lapsable reserve fund created to receive proceeds from the Primary Education Cess, in 2005.[4] It is currently used for the Samagra Shiksha Abhiyan and the Pradhan Mantri Poshan Shakti Nirman (PM POSHAN).[2]

Similarly, a reserve fund called the Madhyamik and Ucchatar Shiksha Kosh (MUSK) was created to receive proceeds from the Secondary and Higher Education Cess, in 2017.[5] For 2023-24, transfers from this fund are proposed to be made to (i) Sarva Shiksha Abhiyan, (ii) National Means cum Merit Scholarship Scheme, (iii) the Kendriya Vidyala Sanghatan, and (iv) the Navodaya Vidyalaya Samiti.[2] Under the Department of Higher Education, it will be allocated towards PM Uchchatar Shiksha Protsahan (PM-USP) Yojna, which integrates current Interest Subsidy and Guarantee Fund contribution schemes and scholarships for higher education.[2]

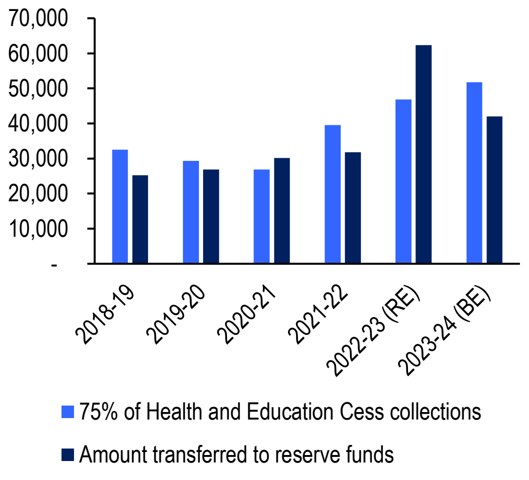
Historically, collections of the Primary Education Cess were underutilised, as observed by the then-Standing Committee on Human Resource Development in 2018.[6] Collections of the Primary Education Cess between 2004-05 and 2016-17 amounted to Rs 1,92,770 crore, of which Rs 13,113 crore (6.8%) was not utilised.[6]

In 2018-19 and 2019-20 the Comptroller and Auditor General (CAG) found that no principles had been applied for the sharing of collections of the Health and Education cess (Rs 41,309 crore) between the education and health sectors.[7,8] Though proceeds had been allocated for transfer in 2018-19 and 2019-20 (Rs 12,608.98 crore and Rs 14,460 crore, respectively), no transfer was made to MUSK since it had not been made operational.[7,8] However, in both years, cess collections were directly spent on heads that were intended to be supported from the fund.[7,8] This amounted to Rs 11,632 crore in 2018-19, and Rs 974 crore in 2019-20. In 2019-20, Rs 28,920 crore was allocated for the PSK, but only Rs 26,848 crore was transferred.[8] In 2020, the CAG concluded that there was no mechanism to ensure that cess collections would be appropriately utilised.[7]

In 2020-21, cess collections amounted to Rs 35,821, from which Rs 20,567 crore was allocated towards MUSK. However, the CAG found that no transfer was made since the accounting procedure for the fund had not yet been finalised.[9] The Ministry of Finance ordered that 75% of cess collections are to be utilised in the education sector from that year.[9]

Data from budget documents reveals that for four of six years for which the cess has been collected, including 2023-24 budget estimates, the amount transferred to both education reserve funds is less than 75% of the cess collections (See Figure 2).[10] However, as per revised estimates for 2022-23, the amount transferred to the reserve funds is higher than the 75% share of cess collections in that year.

Figure 2: Health and Education Cess receipts (75% to be used for health schemes) and allocation towards the education sector (under PSK and MUSK) (in Rs crore)



Source: Receipt Budget 2023-24; Demand No. 25, Expenditure Budget 2023-24; Demand No. 26, Expenditure Budget 2023-24

As per revised estimates for 2022-23, Rs 24,350 crore will be transferred to MUSK, and Rs 38,000 crore will be transferred to PSK. Budget estimates for 2023-24 are lower; PSK will receive Rs 30,000 crore, and MUSK will receive Rs 12,000 crore.

Overall investment in education falls short of policy targets

Back in 1964-66, the Education Commission had undertaken a broad review of education in India and set a target of investing 6% of India's GDP towards education, from both central and state governments.[11] This target has been retained in multiple successive National Policies on Education, including the National Education Policy, 2020 (NEP).[12] However, this target has never been met. In 2022-23, states and centre together estimated to spend about Rs 7.6 lakh crore on education, which is about 2.9% of India's GDP.[13] Overall allocation towards education has been around 2.8% to 2.9% of the GDP since 2015.[13] This is low in comparison to countries such as Brazil (6.0% in 2019), South Africa, (6.6% in 2021), Indonesia (3.5% in 2020).[14]

The 15th Finance Commission had also noted that poorer states such as Bihar, Jharkhand and Uttar Pradesh lag in their key human development parameters related to education. Their per capita expenditure on education remains low. For example, in 2022-23 (budget estimates) Uttar Pradesh spent Rs 3,205 per capita on education, Bihar spent Rs 3,245 and Jharkhand spent Rs 3,626. The average per capita expenditure by larger states on education that year was about Rs 5,300. In 2022-23, states on average spent about 14.8% of their budget on education.

Department of School Education and Literacy

In 2023-24, the Department of School Education has been allocated Rs 68,805, which is an increase of 17% over the revised estimate for 2022-23. In 2020-21, and 2021-22, the actual expenditure of the Department declined due to the COVID-19 pandemic during which schools were shut.

In 2023-24, majority of the Department's allocation (54%) is towards the Samagra Shiksha Abhiyaan at Rs 37,453 crore. Autonomous bodies under the Department will receive Rs 14,391 crore, 21% of the Department's expenditure. This includes bodies such as the Kendriya Vidyalaya Sanghatan (KVS), the Navodaya Vidyalaya Samiti (KVS), and CBSE. The Pradhan Mantri Poshan Shakti Nirman (PM-POSHAN) programme is estimated to receive Rs 11,600 crore, which accounts for 10% of the Department's estimate. Table 3 shows the key expenditure heads for the department.

Table 3: Major heads of expenditure under the Department of School Education and Literacy (Rs Crore)

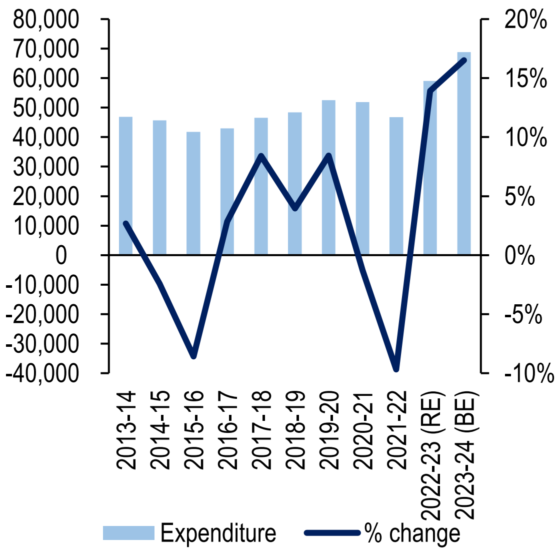
Major Heads	Actual 2021-22	2022-23 RE	2023-24 BE	% Change (RE to BE)
Samagra Shiksha	25,061	32,152	37,453	16%
Autonomous Bodies*	10,933	12,859	14,391	12%
PM POSHAN**	10,231	12,800	11,600	-9%
PM SHRI***	-	-	4,000	-
NCERT	320	405	519	28%
Others	25	537	478	-11%
National Means cum Merit Scholarship Scheme	252	300	364	21%
Total	**46,822**	**59,053**	**68,805**	**17%**

Note: * includes Kendriya Vidyalas, Navoldaya Vidyalayas, and CBSE; ** includes the Mid-day Meal Scheme; ***is allocated towards 15,000 schools of excellence under the NEP.

Sources: Expenditure Budget, 2023-24, PRS.

With regard to school education, the National Education Policy, 2020 (NEP) seeks to: (i) restructure curricula and pedagogy, including early childcare; (ii) set up and plan the achievement of targets for basic literacy and numeracy; and (iii) achieve universal access to education.[12]

Figure 3: Trends in the expenditure of the Department of School Education and Literacy over the last decade



Sources: Union Budgets, 2015-16 to 2023-24; PRS.

Samagra Shiksha Abhiyan

The Samagra Shiksha Abhiyan is the flagship scheme of the Department of School Education, and focuses on achieving universal access to school education as envisaged in the NEP. It subsumed (i) Sarva Shiksha Abhiyan, which sought to achieve universal primary education; (ii) the Rashtriya Madhyamik Shiksha Abhiyan, which targeted increasing enrolment in secondary education, and (iii) Teacher Education initiatives, which sought to improve and maintain the competency of teachers.[15]

A major part of the scheme is the upgradation of school infrastructure, ranging from educational facilities such as science labs, to facilities for health and hygiene such as drinking water taps and toilets.[15] Other infrastructural components are directed at improving physical accessibility, such as adding ramps.[15]

Key pedagogical components of the scheme include the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN) Bharat Mission, which seeks to achieve the NEP's goal of Foundational Literacy and Numeracy (FLN).[15,16] The National Initiative for School Heads and Teachers Holistic Advancement (NISHTHA), is a teacher training programme under the scheme, which has expanded online due to the COVID-19 pandemic.[16] The Scheme provides support for differently abled children in the form of accessible course material such as Braille textbooks, and monetary support for children with special needs.[16] The Scheme also funds monitoring of the progress of educational achievement through the National Achievement Survey and a study of FLN, the Foundational Learning Study (FLS).[16] The scheme has been allocated Rs 37,453 crore in 2023-24.

PM Schools for Rising India (PM-SHRI)

Under this scheme, 14,500 PM-SHRI schools are intended to serve as exemplar schools in terms of NEP objectives.[17] The scheme will cover a five-year period from 2022-23 to 2026-27.[18] Over this period, it is estimated to have a total project cost of Rs 27,360 crore, of which Rs 18,128 crore will be contributed by the central government.[18] For 2023-24, the scheme has been allocated Rs 4,000 crore.[2]

Pradhan Mantri Poshan Shakti Nirman (PM-POSHAN)

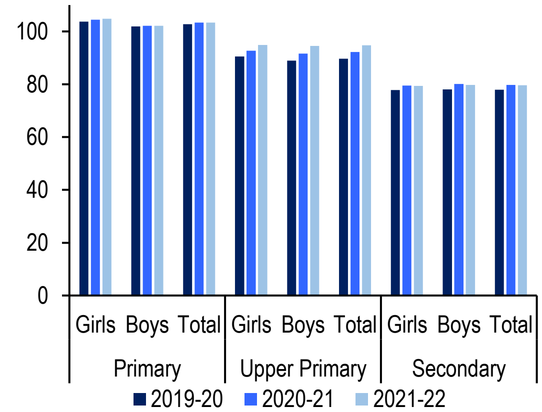
PM-POSHAN, previously the Mid-Day Meal Scheme, provides cooked mid-day meals to eligible children in schools operated or aided by central, state or local governments.[19] The scheme intends to improve nutritional status of children while encouraging them to participate in school education.[19] The scheme has statutory backing under Section 5 of the National Food Security Act, 2013.[20] The scheme has been allocated Rs 11,600 crore in 2023-24.

Participation in secondary school education continues to be low

One of the key concerns in the last three years has been the impact of the pandemic and ensuing school closures on enrolment of children in schools and the learning levels. Enrolment, referring to the participation of children in the school education system, has been a key issue which education policy has sought to address.12 Even with schools shutting down during the pandemic, enrolment at the primary level continues to be 103%.21

As per the Unified District Information System For Education Plus (UDISE+) statistics, which include schools managed by both governments and private entities, enrolment rates were higher in 2021-22 than in 2020-21.[21] Where age groups correspond to education levels in India, Gross Enrolment Ratio (GER) refers to the percentage of a given age group that is enrolled in school for a given education level.[21] Since children from both below and above a given age group may enrol for the corresponding education level, it is possible for GER to be greater than 100%. While GER is above 100% in primary education (for both boys and girls), it drops off sharply after the primary education level (see Figure 4). In 2021-22, GER is 103.4% at the primary level; it falls to 94.7% at the upper primary level (Classes 6-8), and falls further to 79.6% at the secondary level (Classes 9-10).[21]

Figure 4: Gross Enrolment Rates (GER) across education levels

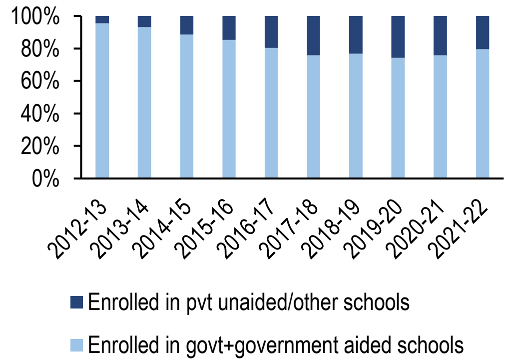


Sources: Chapter 6, Economic Survey 2022-23, Budget 2023-24; PRS.

Dropout rates measure the percentage of children who drop out from a given cohort, for a given year. Dropout rates increase with an increase in the level of education. While the dropout rate for secondary education have marginally reduced, it is still high as compared to primary and upper primary levels. In 2021-22, dropout rates were 1.5% for primary education, 3% for upper primary education, and 12.6% for secondary education.[21]

UDISE+ data shows that the percentage of children enrolled in government schools and government-aided schools increased during the pandemic, from 76% in 2019-20 to 79.6% in 2021-22 (Figure 5).[21]

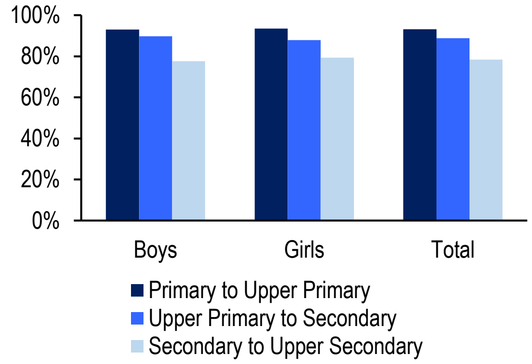
Figure 5: Timeline of enrolment in schools by management and funding



Source: UDISE+ Statistics, for years 2012-13 to 2022-21; PRS.

Transition rates illustrate the proportion of children that are able to transition from one education level to another. In 2021-22, 93% of children transition to upper primary school. Of those, 89% make it to secondary school. The transition rate from secondary to reach upper secondary education is 78% (see Figure 6).[21]

Figure 6: Transition rates by gender, for between all levels of school education.



Sources: UDISE+ Flash Statistics, 2021-22; PRS.

The 75th Round of the National Sample Survey, conducted between 2017 and 2018, reveals that the largest cause of female student drop outs is engagement in domestic activities (30.2%).[22] For male students, the largest cause is engagement in economic activities (36.9%).[22] This suggests continued correlation between dropout and socio-economic pressures forcing students to work.

One of the goals of PM-POSHAN is to create incentives that reduce dropout rates by reducing economic pressure and assuring a degree of food security.[19] PM-POSHAN has been allocated Rs 11,600 crore in 2023-24. This is 9% lower than the revised estimate for 2022-23.

In 2022, the Standing Committee on Education, Women, Children, Youth and Sports observed persistence of inequities in access to education between social groups.[23] It recommended that the Department of School Education and Literacy conduct a survey to identify districts in which dropout rates are higher (relative to the national average) among girls, as well as children of both genders belonging to Scheduled Castes and Scheduled Tribes.[23] This survey could then be used to draft an intervention plan to not only help the children complete their education, but also take vocational training. Financial assistance for out of school children of two thousand rupees per annum has been provided since 2021-22 to address this, and special training is provided to help them return to age-appropriate education levels.[24]

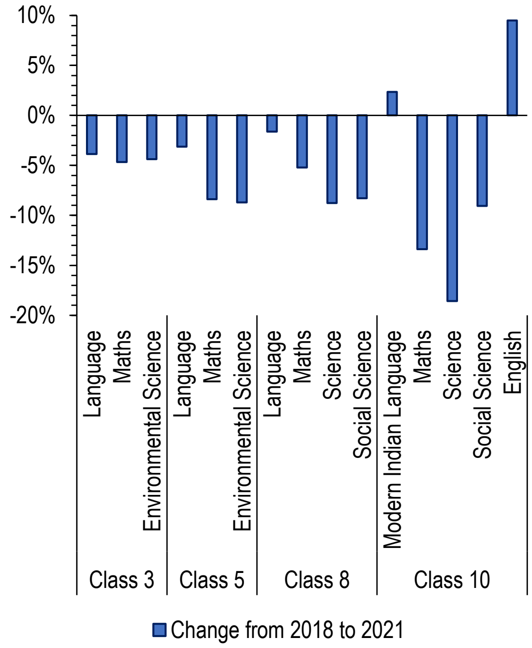
UDISE+ data shows that the percentage of children enrolled in government schools and government-aided schools increased during the pandemic, from 78% in 2019-20, to 83% in 2021-22.[21]

Pandemic had an impact on learning outcomes

While the pandemic did not significantly affect enrolment and dropout rates, it may have impacted learning outcomes. The National Achievement Survey (NAS) is conducted among students at Classes 3, 5, 8, and 10.[25,26] It measures learning ability in mathematics and languages, and also in physical and social sciences for older age groups. Scores are given on a scale from 0 to 500. The survey found that between 2018 and 2021, across all levels, scores declined in all subjects except Modern Indian Language and English for Class 10 (see Figure 7).[25,27]

NAS data also shows that there is significant variation between states. For example, some states score relatively high on Class 3 mathematics skills, such as Punjab (339) and Tamil Nadu (304); others score lower, such as Telangana (278) and Meghalaya (279).[25]

Figure 7: Percentage changes in All-India scores from NAS 2018 to NAS 2021



Sources: "National Achievement Survey National Report Card NAS 2021, Class III, V, VIII, &X", Ministry of Education; "Learning Achievement of Students, Class X (Cycle 2), NAS 2018", Ministry of Human Resources Development; "National Achievement Survey, Class: III, V and VIII, National Report to Inform Policy, Practices and Teaching Learning", Ministry of Human Resource Development; PRS.

NIPUN Bharat

To address issues of educational achievement, the NIPUN Bharat Mission was launched in July 2021.[28] It aims to achieve the NEP objective of universal foundational literacy and numeracy (FLN) among children up to Class 3 who have not achieved it, by 2026-27.[16] The Mission will involve setting of state-level and national targets for literacy and numeracy, and providing support in the form of funding and guidance to states, as well as development of curricula and digital tools.[16]

States will be responsible for annual plans, implementing the scheme and systems for monitoring progress, and overseeing appointment and training of sufficient teachers.[16] As of December 2022, a Foundational Learning Study had been conducted to ascertain the level of literacy and numeracy in primary school children, and online resources for teachers had been made available via a portal called 'DIKSHA'.[29] Further, almost 12 lakh teachers have undergone training under the Mission.[29] As of February 2023, all states had initiated in-person training except Andhra Pradesh, Chhattisgarh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Odisha, Punjab, and West Bengal.[30]

In 2023-24, the Ministry has allocated Rs 800 crore for Strengthening Teaching-Learning and Results for States. This seeks to support states in developing, implementing and improving interventions that help improve learning outcomes, and school to work transition strategies to improve labour outcomes. As per the revised estimates of 2022-23, this programme will receive an allocation of Rs 400 crore.

Many efforts to bridge the learning gap needed to be undertaken by state governments, due to inter-state variation in the severity of the pandemic, and variations in lockdown duration.[31] However, the National Council for Educational Research and Training (NCERT) developed alternative academic calendars to guide states in facilitating children's return to school.[32] NCERT also developed learning materials, such as "Vidya Pravesh" guidelines, to help children in pre-school attain the skills necessary to enter Class 1.[33] Other material was developed by NCERT to help bridge the learning gap among students who did not have access to digital devices, such as the "Students Learning Enhancement Guidelines".[34]

Schools still lack human and infrastructural capacity

In 2021-22, there were about 14.9 lakh schools in India.[13] While infrastructure in schools has improved over the years, some basic infrastructure is still lacking. As on 2021-22, 97.5% of the schools had a girl's toilet, and 96.2% schools had a boy's toilet. 87% of schools had a library/reading corner, and 89% of the schools have access to electricity. Only 47.5% of the schools had a computer, and 34% had internet.

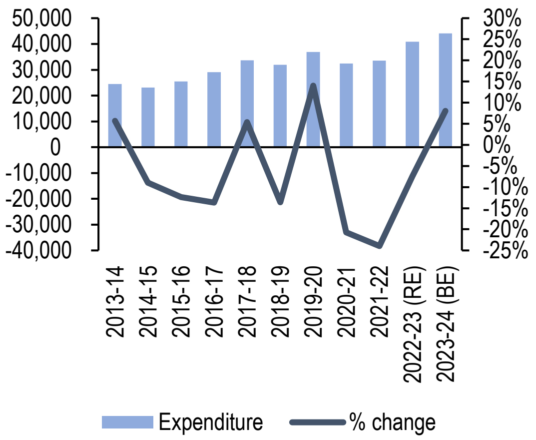
The primary responsibility of maintaining school infrastructure is with the state governments. However, the Ministry of Education launched the PM Schools for Rising India (PM SHRI) scheme in September 2022 to equip schools with modern infrastructure and showcase the implementation of the NEP.[18] The scheme will be implemented in 14,500 selected existing schools.[18] The scheme has been allocated Rs 4,000 crore in 2023-24.

The NEP has set a goal of having an average pupil-teacher ratio of 30:1.[12] Data from UDISE+ shows that at the all-India level, this target has been achieved, with a ratio of 26:1 in primary schools, 19:1 in upper primary schools, 17:1 in secondary schools, and 27:1 at the higher secondary level. Only Bihar and Delhi did not meet this target at the primary level (53:1 and 33:1 respectively), and only Delhi missed the target at the upper primary level (32:1). At the secondary level, Bihar and Jharkhand have ratios of 54:1 and 34:1 respectively. At the higher secondary level, six states have high ratios; these are Bihar (62:1), Jharkhand (57:1), Uttar Pradesh (38:1), Maharashtra (38:1), Odisha (35:1), and Andhra Pradesh (31:1).

Department of Higher Education

The Department of Higher Education has been allocated Rs 44,095 crore for 2023-24, an increase of 8% over the revised estimates for 2022-23. As with the Department of School Education, the actual expenditure by the Department of Higher Education also declined in the years 2020-21 and 2021-22.

Figure 8: Trends in the expenditure of the Department of Higher Education over the last decade



Note: Revised Estimate has been used for 2022-23; For 2023-24, % change in allocation is 2023-24 BE over 2022-23 RE.
Sources: Union Budgets, 2015-16 to 2023-24; PRS.

Expenditure towards the three largest components of the allocation to the Department are estimated to increase by less than 5% over revised estimates for 2022-23. The first of these are grants to central universities, which will receive an estimated Rs 11,529 crore (4% increase). The second is allocation for the Indian Institutes of Technology (IITs), which are estimated to receive Rs 9,662 crore (3% increase). Finally, statutory and regulatory bodies under the Department will receive an estimated Rs 5,780 crore (4% increase). These bodies include the University Grants Commission (UGC), which regulates universities (including setting standards) and allocates funds to them.[35] It also includes the All-India Council for Technical Education (AICTE), which regulates, funds, and plans the development of institutions for technical and management education.[36] Table 4 shows the key heads of expenditure for the department.

With regard to higher education, the NEP seeks to achieve the following: (i) establishment of at least one large multi-disciplinary higher education institution in every district, (ii) equitable access to higher education, (iii) an increase in research capacity and output, and (iv) expansion of vocational training.[12]

Table 4: Major heads of expenditure under the Department of Higher Education (Rs Crore)

Major Heads	Actual 2021-2022	2022-23 RE	2023-24 BE	% Change (RE to BE)
Grants to Central Universities	8,750	11,034	11,529	4%
Indian Institutes of Technology	8,082	9,345	9,662	3%
Statutory/Regulatory Bodies (UGC and AICTE)	5,029	5,551	5,780	4%
National Institutes of Technology (NITs) and IIEST	3,485	4,444	4,821	8%
Student Financial Aid	1,872	1,813	1,954	8%
World Class Institutions	1,046	1,200	1,500	25%
Indian Institute of Science, Education and Research (IISERs)	1,032	1,398	1,462	5%
Indian Institutes of Management	651	608	300	-51%
Indian Institutes of Information Technology(IIITs)	407	488	560	15%
Others	3,176	4,948	6,528	32%
Total	**33,531**	**40,828**	**44,095**	**8%**

Expenditure Budget, 2023-24, PRS.

Vacancies and shortfall in faculty positions

As of April 2022, there were 6,549 faculty positions vacant in central universities, a slight increase over April 2021 (6,136 vacancies) and April 2020 (6,318 vacancies).[37] Including other institutions under the central government, such as IITs, IIMs, and NITs, vacancies amounted to 13,812 vacant teaching posts. [38] The Standing Committee on Education, Women, Children, Youth and Sports recommended that special recruitment drives be conducted to recruit faculty.[38] It also recommended that the Department of Higher Education review the process of recruitment, assessment, and promotion of academic faculty, such that it rewards research contributions.[40]

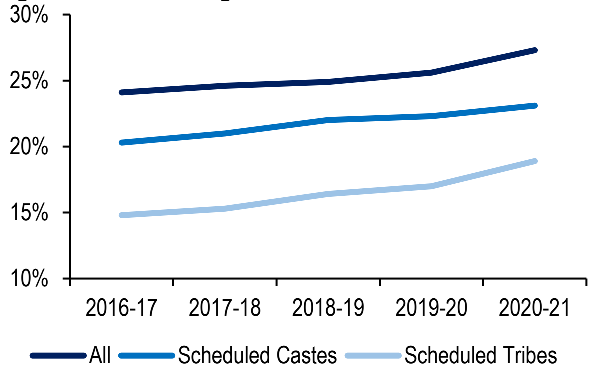
Socio-economic disparity in participation in higher education

The NEP sets a target of 50% GER in higher education, to be achieved by 2035.[12] As of 2020-21, GER in higher education (for the age group 18-23) is 27.3%.[39] GER in higher education has been gradually increasing; it was 25.6% in 2019-20, and 24.9% in 2018-19.[39] As on 2020-21, about 4.1 crore students were enrolled in higher education (2.1 crore male, and 2 crore female).[13]

However, there are disparities in GER across states. States with relatively high GER include Tamil Nadu (45.4%), Uttarakhand (42.8%), and Manipur (36.9%). States with relatively low GER include Jharkhand (12.4%), Nagaland (15.4%), and Chhattisgarh (14.1%).[39]

Enrolment rates also vary across social groups. Enrolment rates for people belonging to Scheduled Castes (SCs) and Scheduled Tribes (STs) are lower than the all-India GER. However, GER has been increasing for all groups over time (see Figure 9).

Figure 9: GER in higher education since 2016-17

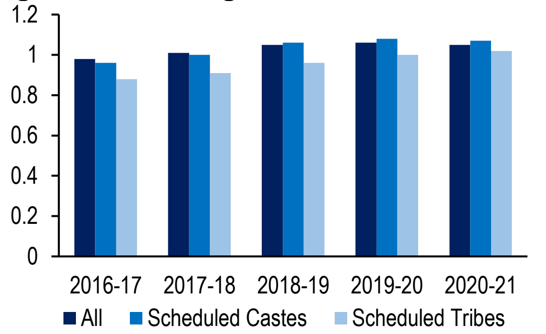


Source: All-India Survey of Higher Education 2020-21

AISHE data also reveals that gender disparity has reduced over time. The Gender Parity Index (GPI) is a measure for the average of the number of female students for every male student enrolled in higher education, such that a GPI of 1 means that equal numbers of men and women are enrolled. Across all students as well as for members of Scheduled Castes and Scheduled Tribes, GPI has improved from below 1 in 2016-17 to above one in 2020-21. (See Figure 10).

There is significant variation between states in the cost of education. Data from between June 2017- and July 2018 collected in the National Sample Survey shows that average annual expenditure towards technical or professional education can be as high as Rs 72,959 for Uttar Pradesh, and as low as Rs 20,656 for Assam, with Haryana and Himachal Pradesh being roughly in the middle with Rs 42,224 and Rs 40,774 respectively.

Figure 10: GPI in higher education since 2016-17



Source: All-India Survey of Higher Education 2020-21

In 2022, the Standing Committee on Education, Women, Children, Youth and Sports observed that student financial aid schemes were not sufficient to cover the cost of higher education.[38] This is because most expenditure from the scholarship is towards course fees.[38] The Committee recommended that the Department conduct a study of expenditure from scholarship allocations, as well as a comparative study of schemes offered by other departments and ministries to benefit members of Scheduled Castes, Scheduled Tribes. This study should be used to develop a coordination mechanism with these departments and ministries.[38]

In 2023-24, the allocation to Student Financial Aid under the Department is Rs 1,954 crore. This is an increase of 8% over the revised estimates of 2022-23. This includes an allocation to the PM Research Fellowship.

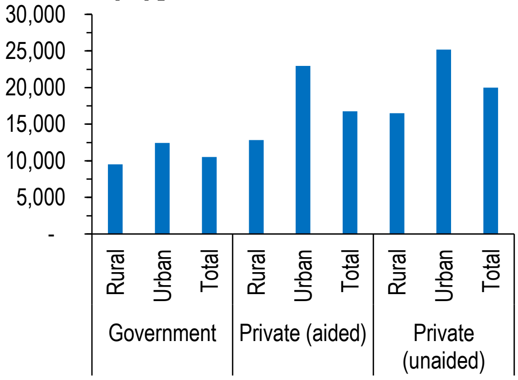
The largest component of student financial aid is the PM Uchchatar Shiksha Protsahan (PM-USP) Yojna, which has been allocated Rs 1,554 crore.[2] It subsumes three prior heads, the largest of which includes subsidies for interest payments for education loans, and a fund for guarantees against defaults. Other heads subsumed under PM-USP are scholarships for college and university students (scholarship is provided to 2% of students passing out from schools to pursue higher education), and special scholarships for students from Jammu and Kashmir.[2] The allocation for PM-USP is only 3% higher than the total of revised estimates for the subsumed heads.

Note that in 2022-23, the allocation for Student Financial Aid at the revised estimates stage (Rs 1,813 crore) is 13% lower than the budget estimate (Rs 2,078 crore). This is mostly due to a 24% decrease in interest subsidies and guarantee fund contributions.

More enrolment in private institutions which tend to be more expensive

As of 2020-21, 65% of college enrolments are in privately run colleges.[39] The 75th Round of National Sample Survey shows that higher education is more expensive in private institutions, at both the graduate and post-graduate level (2017-18). At the graduate level, average expenditure is (i) Rs 19,972 in unaided private institutions, (ii) Rs 16,769 in private institutions that receive government grants, and (iii) Rs 10,501 in institutions run by central, state, or local governments (see Figure 11).[22] Publicly funded and operated higher education institutes play a role in making higher education affordable. The Standing Committee on Education, Women, Children, Youth and Sports recommended auditing HEIs as per the standards applied to not-for-profit institutions and implementing policy measures to incentivise donations towards them.[40]

Figure 11: Average expenditure on higher education by type of HEI



Source: "Key Indicators of Household Social Consumption on Education in India, NSS 75th Round (2017-18)", Ministry of Statistics and Programme Implementation

After higher education – workforce participation and research

Employability

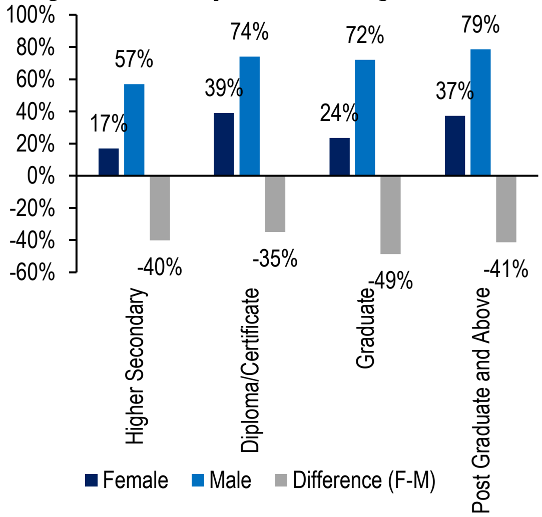
The Economic Survey 2022 noted that impetus must be given to education and skilling to match the requirements of modern industry. One of the goals under NEP is to integrate vocational education with general education and making vocational education more mainstream. Workforce participation rate refers to the percentage of the population aged 15 and above that are employed. With the NEP suggesting increasing the GER for higher education to 50%, which is almost twice as the current levels, employability and availability of jobs for these graduates remains a key challenge.

Data from the Annual Labour Force Participation Survey 2020-21 reveals that workforce participation rates for graduates, while improving over previous four years, are still low.[41] For graduates, workforce participation rate stands at 51.8% in 2020-21; this includes diplomas and certificate courses equivalent to graduate-level courses.[41] People whose highest level of education is a diploma or certificate course below graduate-level have the highest workforce participation rate of 64.2%.[41] People who have completed post-graduate study or above have a workforce participation rate of 59.4%.[41]

These disparities are more pronounced between genders. For example, the difference between workforce participation rates for females and males is 40% among people whose highest educational qualification is at the higher secondary level, but it widens to 49% for graduates (see Figure 12).

In 2021, the Standing Committee on Education, Women, Children, Youth and Sports recommended that UGC introduce an internship component in B.A., B.Sc., and B. Com courses to increase the employability of graduates.[42] The UGC subsequently published draft guidelines for research internships in May 2022, with the stated goal of promotion of research in higher education institutes as per the NEP.[43] The draft guidelines propose that internships may serve to improve either research aptitude or employability.[44]

Figure 12: Gender disparities in workforce participation rates, by educational qualification



Sources: Periodic Labour Force Survey (PLFS) – Annual Report [July 2020 – June 2021], Ministry of Statistics & Programme Implementation; PRS.

Other schemes to improve employability aim to do so by providing vocational training. The National Apprenticeship training scheme provides technically qualified youth, with engineering qualifications, diplomas, or vocational course graduates, with practical experience in a professional environment.[2,45] The scheme has been allocated Rs

440 crore in 2023-24 budget estimates, a 10% increase over revised estimated for 2022-23.

Research

Other policy efforts are directed at improving research skills. The Multidisciplinary Education and Research Improvement in Technical Education (MERITE) programme focuses on improving research skills and marketability in technical education.[46] Part of the goal of the programme is to improve access to technical education among members of socio-economically disadvantaged groups, such as people belonging to Scheduled Castes and Scheduled Tribes.[46] The programme will involve improving curricula, faculty training, and improving facilities (including digital infrastructure) in engineering colleges.[46] To encourage research, the scheme will create a competitive research fund, to encourage research on specific areas, such as climate change.[46] The programme is aided with borrowing from World Bank.[2] It is estimated to receive Rs 100 crore in 2023-24, and nine crore rupees in 2022-23 as per revised estimates.

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