UNION BUDGET

Analysis of Major Demands

2018-19

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Overview

All central government expenditure is authorised through the Union Budget every year. The Union Budget 2018-19 which was presented on February 1, 2018 proposes an expenditure of Rs 24,42,213 crore for the year. This amount will be funded through receipts (excluding borrowings) of Rs 18,17,937 crore and borrowings of Rs 6,24,276 crore.

Table 1: Budget at a Glance 2018-19 (Rs crore)

	Actuals 2016-17	Budgeted 2017-18	Revised 2017-18	Budgeted 2018-19	% change (RE 2017-18 to BE 2018-19)
Revenue Expenditure	16,90,584	18,36,934	19,44,305	21,41,772	10.2%
Capital Expenditure	2,84,610	3,09,801	2,73,445	3,00,441	9.9%
Total Expenditure	**19,75,194**	**21,46,735**	**22,17,750**	**24,42,213**	10.1%
Revenue Receipts	13,74,203	15,15,771	15,05,428	17,25,738	14.6%
Capital Receipts	65,373	84,432	1,17,473	92,199	-21.5%
Recoveries of Loans	17,630	11,933	17,473	12,199	-30.2%
Other receipts (including disinvestments)	47,743	72,500	1,00,000	80,000	-20.0%
Total Receipts (without borrowings)	**14,39,576**	**16,00,204**	**16,22,901**	**18,17,937**	12.0%
Revenue Deficit	3,16,381	3,21,163	4,38,877	4,16,034	-5.2%
% of GDP	**2.1**	**1.9**	**2.6**	**2.2**	
Fiscal Deficit	5,35,618	5,46,531	5,94,849	6,24,276	4.9%
% of GDP	**3.5**	**3.2**	**3.5**	**3.3**	
Primary Deficit	54,904	23,454	64,006	48,481	-24.3%
% of GDP	**0.4**	**0.1**	**0.4**	**0.3**	

Note: Budgeted estimates (BE) are budget allocations announced at the beginning of each financial year. Revised Estimates (RE) are estimates of projected amounts of expenditure/receipts until the end of the financial year. Actual amounts are audited accounts of expenditure and receipts in a year.
Sources: Union Budget 2018-19, Budget at a Glance; PRS.

Article 113(2) and 114 of the Constitution require all expenditure other than charged expenditure to be submitted in the form of Demand for Grants to Lok Sabha. After Lok Sabha authorises these demands, an appropriation Bill is required to be introduced and passed to permit expenditure out of the Consolidated Fund of India.

Post the introduction of the Union Budget 2018-19, all Demand for Grants have been referred to respective Departmentally Related Standing Committees for detailed examination. Six ministries accounting for 10.2% of the Budget have been selected for detailed discussion in Lok Sabha. These six ministries are: (i) Railways, (ii) Agriculture and Farmers Welfare, (iii) Social Justice and Empowerment, (iv) Health and Family Welfare, (v) Youth Affairs and Sports, and (vi) Road Transport and Highways. Demands for all other ministries will be guillotined, i.e., put to vote without discussion.

Expenditure by Ministries

The ministries with the 13 highest allocations account for 54% of the estimated total expenditure in 2018-19. Of these, the Ministry of Defence has the highest allocation in 2018-19, at Rs 4,04,365 crore (including pensions). It accounts for 17% of the total budgeted expenditure. Other Ministries with high allocation include: (i) Ministry of Consumer Affairs, Food and Public Distribution, (ii) Rural Development, (iii) Home Affairs, and (iv) Human Resource Development.

Table 2: Ministry-wise expenditure in 2018-19 (Rs crore)

	Actuals 2016-17	Budgeted 2017-18	Revised 2017-18	Budgeted 2018-19	% change (RE 2017-18 to BE 2018-19)
Defence	3,51,550	3,59,854	3,74,004	4,04,365	8.1%
Consumer Affairs, Food and Public Distribution	1,22,399	1,54,232	1,49,608	1,75,944	17.6%
Rural Development	96,728	1,07,758	1,10,874	1,14,915	3.6%
Home Affairs	91,618	97,187	1,02,391	1,07,573	5.1%
Human Resource Development	72,016	79,686	81,869	85,010	3.8%
Road Transport and Highways	52,232	64,900	61,000	71,000	16.4%
Chemicals and Fertilisers	65,529	70,578	65,934	70,587	7.1%
Agriculture and Farmers Welfare	44,500	51,026	50,264	57,600	14.6%
Railways	45,232	55,000	41,814	55,088	31.7%
Health and Family Welfare	38,995	48,853	53,294	54,600	2.5%
Housing and Urban Affairs	36,946	40,618	40,754	41,765	2.5%
Communication	36,269	36,237	36,308	39,551	8.9%
Petroleum and Natural Gas	30,231	29,158	33,195	31,101	-6.3%
Others	8,90,949	9,51,648	10,16,442	11,33,114	11.5%
Total Expenditure	**19,75,194**	**21,46,735**	**22,17,750**	**24,42,213**	10.1%

Note: Expenditure is net of recoveries such as fines, and ticket sales.
Sources: Expenditure Budget, Union Budget 2018-19; PRS.

Expenditure on Centrally Sponsored Schemes

Several government programs are implemented through schemes by the ministries. This year's budget has allocations for 28 centrally sponsored schemes amounting to 12.5% of the budget. The table below shows the allocations to the top 13 schemes accounting for 10.7% of the budget allocation.

Table 3: Allocations for centrally sponsored schemes in 2018-19 (Rs crore)

Scheme	Actuals 2016-17	Budgeted 2017-18	Revised 2017-18	Budgeted 2018-19	% change (RE 2018-19 to BE 2017-18)
MGNREGS	48,215	48,000	55,000	55,000	0.0%
Pradhan Mantri Awas Yojana (Rural+Urban)	27,122	32,000	33,698	34,000	0.9%
National Health Mission	22,870	27,131	31,292	30,634	-2.1%
Sarva Shiksha Abhiyan	21,685	23,500	23,500	26,129	11.2%
Integrated Child Development Services	15,893	20,755	19,963	23,088	15.7%
Pradhan Mantri Gram Sadak Yojana	17,923	19,000	16,900	19,000	12.4%
Swachh Bharat (Rural+Urban)	12,619	16,248	19,248	17,843	-7.3%
Pradhan Mantri Fasal Bima Yojana	11,052	9,000	10,698	13,000	21.5%
100 Smart Cities Mission + AMRUT	9,277	9,000	8,999	12,169	35.2%
Mid-Day Meal Programme	9,475	10,000	10,000	10,500	5.0%
Krishi Sinchayee Yojana	5,134	7,377	7,392	9,429	27.6%
National Rural Livelihood Mission	3,158	4,500	4,350	5,750	32.2%
Rashtriya Krishi Vikas Yojana	3,892	4,750	3,050	3,600	18.0%

Sources: Expenditure Budget, Union Budget 2018-19; PRS.

In this document, we take a close look at the allocations made by some of the large ministries. Further, we analyse the allocation trends over the years and the extent of their utilisation. We also examine the implementation of various schemes and policies and their resulting outcomes.

Demand for Grants 2018-19 Analysis
Defence

The Ministry of Defence frames policies on defence and security-related matters, and ensure its implementation by the defence services (i.e. Army, Navy and Air Force). In addition, it is responsible for production establishments such as ordnance factories and 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 allocations and expenditure trends in the Ministry. It also provides insights into key issues affecting the defence sector.

Overview of finances

In 2018-19, the Ministry of Defence has been allocated Rs 4,04,365 crore (including pensions) for expenditure across the various services, production establishments and research and development organisations. This forms 16.6% of the central government's budget of 2018-19 and 2.2% of India's estimated GDP. The allocation to defence Ministry is the highest allocation among all central ministries.

India's defence budget as a percentage of GDP has declined over the years

India's defence budget for 2018-19 continues to be 2.2% of GDP, which is similar to last year. In the last eight years, defence budget of the country as a proportion of GDP was highest in 2011-12, when it was 2.4% of GDP. The Standing Committee on Defence in its 2014 report had recommended that India's defence budget should be increased to about 3% of GDP. This would ensure adequate preparedness of the defence services.[1]

Table 1: Defence budget as share of GDP and total central government budget

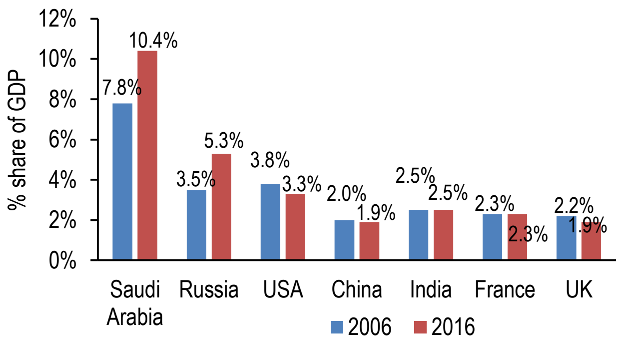
Year	Defence expenditure (Rs crore)	Share of GDP (%)	Share of central government budget (%)
2011-12	2,13,673	2.4%	16.4%
2012-13	2,30,642	2.3%	16.4%
2013-14	2,54,133	2.3%	16.3%
2014-15	2,85,005	2.3%	17.1%
2015-16	2,93,920	2.1%	16.4%
2016-17	3,51,550	2.3%	17.8%
2017-18	3,74,004	2.2%	16.9%
2018-19	4,04,365	2.2%	16.6%

Note: Figures for 2017-18 and 2018-19 are revised estimates and budget estimates, respectively.
Sources: Union Budget Documents; Central Statistics Office; PRS.

As a share of the total central government budget, the defence budget has been around 16%-18% between 2011-12 and 2018-19. However, this year the defence budget as a share of central government budget has seen a decline of 0.3%, from 16.9% last year to 16.6% this year.

According to the Stockholm International Peace Research Institute (SIPRI), India ranks fifth among countries on defence expenditure (in USD as a % of GDP).[2] Figure 1 compares India's defence expenditure with that of the top seven defence spenders (USA, China, Russia, Saudi Arabia, France, and UK). While Saudi Arabia's and Russia's defence expenditure as a share of GDP has increased, that of USA and UK has decreased. While China's defence expenditure as a share of GDP has marginally decreased, that of India and France has remained unchanged.

Figure 1: Defence expenditure as a share of GDP (%) across countries



Note: Includes expenditure on armed forces, central paramilitary forces, defence ministry and defence pensions.
Sources: Trends in World Military Expenditure 2016, Stockholm International Peace Research Institute; PRS.

Growth of 8% over last year's defence budget

The budget of Ministry of Defence is estimated to grow by 8.1% in 2018-19 over revised estimates of 2017-18. In earlier years, defence budget grew at 19% between 2015-16 and 2016-17, and at 4% between 2016-17 and 2017-18.

The 8% growth is primarily because of an increase in pensions and salaries of the defence services, and capital outlay. Pensions are expected to grow at 14.6% and salaries at 5.2%. Capital outlay is expected to grow at 8.7%. Capital outlay includes purchase of defence equipment, weaponry, aircrafts, naval ships and land for defence services, production establishments and research organisations.

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Table 2: Defence Budget Allocation (Rs crore)

Major Head	Actual 16-17	Revised 17-18	Budgeted 18-19	% change (RE to BE)
Salaries	86,945	97,989	1,03,096	5.2%
Capital Outlay	86,357	86,488	93,982	8.7%
Pensions	87,826	95,000	1,08,853	14.6%
Stores	42,633	38,972	40,573	4.1%
Others	47,790	55,555	57,861	4.2%
Total	**3,51,550**	**3,74,004**	**4,04,365**	**8.1%**

Note: Salaries and pensions are of the three services. Pensions include rewards. Capital outlay includes capital expenses for research and development and ordnance factories. Stores includes ammunition, repairs and spares. Others include administration expenses, construction of roads and bridges in border areas and housing. RE is revised estimate and BE is budget estimate.
Sources: Expenditure Budget, Union Budget 2018-19; PRS.

Revised Estimates of Expenditure in 2017-18 exceed the Budget Estimates by 4%

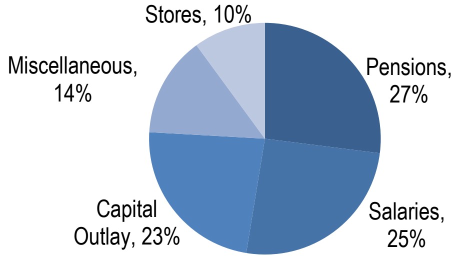
Revised estimates of 2017-18 indicate that the Ministry expects to spend Rs 3,74,004 crore, 4% more than what was budgeted for that year (Rs 3,59,854 crore). This is primarily due to the higher expenditure on salaries and pensions of Army, Navy and Air Force, and other expenses such as construction of roads and bridges in border areas and housing.

However, expenditure on defence stores has seen a decrease of 6%. Stores include ammunition, petrol, oil, rations, and spares that are key in maintaining defence capital, and ensuring preparedness of the defence forces. The expenditure on capital outlay is expected to be 100% according to the revised estimates of 2017-18.

Salaries and pensions comprise 52% of the budget

In 2018-19, salaries and pensions of the defence services form the largest portion of the defence budget (52% of the budget or Rs 2,11,949 crore). This is followed by expenditure on capital outlay (23% or Rs 93,982 crore). The remaining allocation is toward stores, administration of the defence services, construction of roads and bridges, and the Coast Guard organisation.

Figure 2: Composition of expenditure (%)

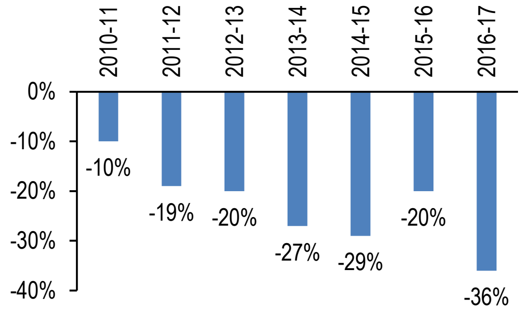


Sources: Expenditure Budget, Union Budget 2018-19; PRS.

Allocations do not meet the projected requirements of the defence services

Expenditure on the defence services is typically lower than the requirements projected by the defence services. For example, for 2015-16, Army, Navy, and Air Force projected their requirement of funds to be Rs 2,62,336 crore. Of this demand, a sum of Rs 2,27,874 crore was allocated, and of this, Rs 2,10,637 crore was spent.[3] This implies a shortfall of 20%.

Figure 3: Expenditure compared with Projected Requirements (% shortfall)



Note: Expenditure for 2016-17 is updated till December 2016.
Sources: 31st Report, Standing Committee on Defence, March 2017; PRS.

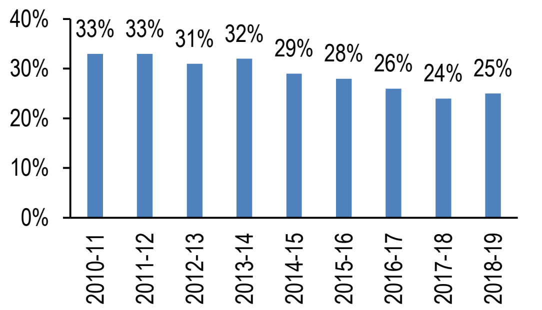
Consequently, the defence services have to reprioritise their activities and purchases according to the funds they receive. The Standing Committee has repeatedly noted that this affects expenses on stores (e.g. ammunition, repairs, fuel), and purchase of new defence machinery and equipment.[3,4,5] This is because other expenses like pays and pensions are committed liabilities of the government that cannot be defaulted upon.

Note that a 2015 CAG audit report has found that 50% of the ammunition stocks with Army were at critically low levels in 2012-13 (i.e., they would last for less than 10 days of intense conflict, while the requirement was to last for 40 days).[6] The situation has worsened since 2008-09, when about 15% of the stocks were at critically low levels.[6] The Standing Committee in 2016 noted poor capacity of shipyards to carry out maintenance of naval fleets. For example, in the case of INS Sindhukirti, one of the oldest operational submarines with Navy, repairs and upgradation took 10 years, from 2006 to 2016.[7]

Declining share of capital expenditure

In 2018-19, capital expenditure is budgeted at Rs 99,564 crore, and it accounts for 25% of the defence budget. Capital outlay includes expenditure on purchasing defence equipment, weaponry, aircrafts, naval ships, land, and construction of roads and bridges in border areas. This is significantly lower as compared to 2010-11 and 2011-12 when it used to be 33% of the defence budget. Note that in 2017-18, share of capital expenditure was the lowest in the last 10 years, at 24% (Rs 91,461 crore) of the defence budget.

Figure 4: Capital expenditure as a % of defence budget



Note: Figures for 2017-18 and 2018-19 are revised estimates and budget estimates, respectively.
Sources: Union Budget Documents 2010-11 to 2018-19; PRS.

The remaining defence expenditure is revenue expenditure which includes expenditure on salaries, pensions, stores required for running the defence services and maintenance of equipment and buildings. Share of revenue expenditure is typically high because the Indian defence forces are personnel-intensive, with a sanctioned strength of 14.8 lakh personnel.[8]

The dip in defence capital expenditure and the simultaneous increase in revenue expenditure from 2016-17 onward may be attributed to the increase in salaries and pensions. This was due to implementation of the One Rank One Pension scheme, and some recommendations of the Seventh Pay Commission (2016-17 onwards).[9]

The Standing Committee on Defence in 2017 noted that progressively, the budget for capital acquisitions for the services is declining in comparison to revenue allocations, thereby adversely affecting the modernisation process of our armed forces.[3]

Table 3: Ratio of revenue and capital expenditure of defence services (%)

	2016-17		2017-18		2018-19	
	Rev	Cap	Rev	Cap	Rev	Cap
Army	87	13	89	11	89	11
Navy	51	49	54	46	54	46
Air Force	49	51	51	49	51	49

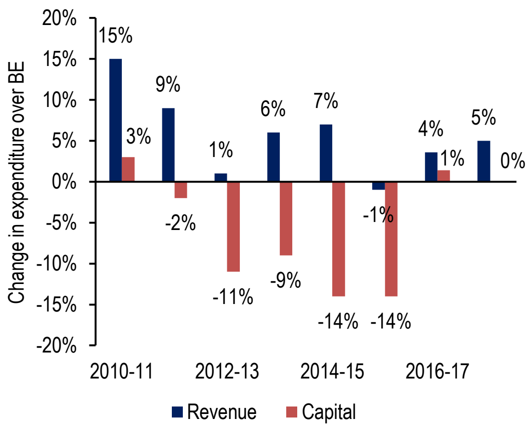
Note: Figures for 2017-18 and 2018-19 are revised estimates and budget estimates, respectively.
Sources: Expenditure Budget, Union Budget 2018-19; PRS.

Among the three defence services, Army's expenditure has the smallest capital component (11% of its expenditure is on capital under Budget 2018-19). The Standing Committee on Defence has noted that Army is operating with large scale vintage equipment.[5] Further, there is shortfall in number of bulletproof jackets, vehicles, small arms, infantry specialist weapons, surveillance equipment, communication equipment, radars and power generators.[5] Given there are ammunition shortfalls in Army as well (as previously mentioned), this may have serious implications for border security and defence preparedness.[6] In this context, the Standing Committee has recommended that it is essential to have a revenue capital ratio in favour of the capital segment to ensure all the services are in a war-ready mode.[10]

Change in spending of capital budget

From 2010-11 to 2015-16, underspending of capital budget has been observed. However, in 2016-17, the Ministry budgeted to spend Rs 90,210 crore and actually spent Rs 91,483 (1% greater than the budget estimate). In 2017-18, no underspending or overspending of capital budget is expected, at the revised estimate stage. However, there has been overspending on revenue items, above the budget estimates.

Figure 5: Difference between actual expenditure and budget estimates



Note: Figure for 2017-18 is revised estimate.
Sources: Union Budget Documents; PRS.

The Standing Committee on Defence has noted two key reasons behind actuals being lower than budget estimates for the capital segment. One, the Ministry of Finance imposes budgetary cuts at the revised estimates stage because of the overall resource constraints of the central government. This affects acquisition of new capital because revenue items like salaries and pensions are committed liabilities of the government. Two, there is an absence of proper planning in defence procurement, and delays in the procurement process, preventing optimum utilisation of the capital budget.[3,5]

In light of these trends, the Standing Committee in several of its reports has recommended the need for a non-lapsable and roll-on capital allocation.[3,10] This will allow unspent balances from a year to be carried over and added to the next year's capital budget. The Committee reiterated this recommendation in its 2017 report on 'Creation of Non-lapsable Capital Fund Account'.[11] Key observations and recommendations of the Committee in this respect include:

- The Committee noted that defence procurement and acquisition is a complex process and takes about five to ten years to materialise. Consequently, funds allocated for it in one financial year may not be completely utilised in that year itself. The Committee recommended that creation of a Non-lapsable Defence Capital Fund Account will ensure that the money allocated for a particular item is spent entirely on the specified item only, if not necessarily in the same financial year.
- It also stated that presently, lack of finance delays the procurement of equipment, and arms and ammunition. These delays affect the operational preparedness of defence forces.
- It also recommended appointment of an expert committee to monitor the progress of defence procurement and ensure compliance with time schedules across procurement contracts.
- Further, the Committee emphasised on need for outcome-oriented planning in defence, under which annual targets must be fixed and implemented for specified categories of defence assets (e.g. artillery and air defence guns, bulletproof jackets, submarines, aircraft, mid-air refuellers).

Note that internationally, defence services endeavour to maintain their capital outlay in the ratio 30:40:30, with 30% for state-of-the-art technology, 40% for current technology and 30% for technology that is becoming obsolete.[12] In India, the Ministry of Defence has stated that the reason behind not meeting this standard ratio is insufficient capital budget.

Significant expenditure on committed liabilities

Payments for purchase of defence assets are generally made over several years, in a phased manner. For example, purchase of defence aircraft may require an upfront payment of about 10%, and the remaining amount may be paid in a phased manner over subsequent years. The upfront payment may be called payment toward a new liability, while payments for contracts from previous years are referred to as committed liabilities. Typically, about 90% of the capital budget is spent on committed liabilities from previous years.

In 2016-17, the government estimated to spend Rs 8,590 crore on purchase of new defence equipment and machinery, i.e., about 12% of the capital budget.

Table 4: Allocation for committed and new liabilities (Rs crore)

Year	Committed Liabilities (CL)	New Liabilities	Total Capital Budget	CL as % of Capital Budget
2014-15	61,158	5,402	66,560	92%
2015-16	71,336	6,071	77,407	92%
2016-17	61,410	8,590	70,000	88%

Note: Capital Budget is a total of committed and new liabilities of the defence services and their joint staff. Data for 2017-18 is not available.
Sources: 22nd Report, Standing Committee on Defence, May 2016; PRS.

Note that there is a significant shortage of certain kinds of defence equipment and machinery. Navy has 138 vessels and 235 aircrafts, against its requirement of 212 vessels and 458 aircrafts.[7] Similarly, against Air Force's requirement of 45 fighter squadrons, it has 33 active fighter squadrons.[7] However, in September 2016, the government finalised an agreement with France for supply of direct flyaway of 36 Rafale aircraft between September 2019 and April 2022.[13] The Defence Minister in an answer to a question in Rajya Sabha stated that due to an inter-governmental agreement between India and France, more details on this deal could not be made available in the public domain.[14]

Further, with regard to Air Force, the Ministry of Defence has admitted that the rate at which the fighter aircrafts are retiring exceeds the rate at which their replacements are being inducted.[7] Old and obsolete equipment may pose a challenge for modernisation of the defence services.

Increasing import bill

India's defence requirements are met through both imports and domestic sources. However, there is greater reliance on imports. Currently, indigenous content in defence acquisition is about 35%.[15] Going forward, the target of the government is to achieve about 70% indigenisation in defence procurement by 2027.[15] It may be noted that India was the world's largest importer of arms between 2010-2014.[15] According to SIPRI, its share of international arms imports was 15% in this period.[15] Some of the countries from which India imports defence equipment are: Russia, USA, Israel and, France.[3] The kind of equipment imported includes aircrafts, unmanned aerial vehicles, helicopters, and ammunition.[3]

The Standing Committee on Defence in 2017 noted that India's defence import bill has been increasing over the years.[3] The Committee also observed that a substantial percentage of raw materials and parts used by Defence Public Sector Undertakings are procured from outside India. For example, the import component of equipment manufactured by

Hindustan Aeronautics Limited ranges from 44% to 60%, and Bharat Electronics Limited ranges from 36% to 44%.

Between 2013-14 and 2015-16, India signed 150 contracts, with a total value of Rs 1,36,664 crore.[3] Of these, 94 contracts worth Rs 82,980 crore were signed with Indian vendors and 56 contracts worth Rs 53,684 crore were signed with foreign vendors (including Russia (12 contracts), USA (13), Israel (10) and France (5)).

In March 2016, the government replaced the earlier guidelines regulating defence procurement with the Defence Procurement Procedure, 2016 to address delays and other issues in defence procurement.[16]

In January 2017, the Defence Acquisition Council cleared an amendment to the Defence Procurement Procedure 2016, related to the 'Make' procedure. Projects under this procedure should be indigenously designed and developed, with a minimum of 40% indigenous content.[17] The amendment, known as 'Make-II', seeks to simplify the procedure for indigenous manufacture and development of defence equipment.[18,19]

Salaries and Pensions

The two significant components of revenue expenditure in the defence budget are: (i) salaries (25% of the defence budget), and (ii) pensions (27%), of the three services. In 2018-19, budget for pensions is higher than that for salaries.

As Army is a personnel-intensive defence service, a significant part of both the salary and pensions budget is spent on its personnel (current and former). In 2018-19, of the salaries budget, 78% will be spent on Army, 6% on Navy and 16% on Air Force. Similarly, of the pensions budget, 88%, 4% and 8% will be spent on Army, Navy and Air Force, respectively.

Table 5: Allocation towards salaries and pensions (Rs crore)

	Actual 16-17	Revised 17-18	Budgeted 18-19	% change (RE to BE)
		Salaries		
Army	70,443	77,005	8,0945	5.1%
Navy	4,987	5,857	6,024	2.8%
Air Force	11,515	15,126	16,127	6.6%
Total	**86,945**	**97,989**	**1,03,096**	**5.2%**
		Pensions		
Army	77,658	83,722	95,949	14.6%
Navy	3,575	4,172	4,836	15.9%
Air Force	6,581	7,070	8,032	13.6%
Total	**87,814**	**94,964**	**1,08,818**	**14.6%**

Note: RE is revised estimate and BE is budget estimate.
Sources: Expenditure Budget, Union Budget 2018-19; PRS.

Salaries: In 2018-19, Rs 1,03,096 crore has been allocated for pays and allowances of the servicemen and servicewomen. This is an increase of 5.2% over the revised estimates of last year. The government accepted recommendations of the Seventh Pay Commission regarding increase in salaries and allowances for defence personnel in 2016.[9] However, it is unclear how much has been allocated for implementation of these recommendations so far.

As of August 2016, the sanctioned strength of the defence services is 14.8 lakh personnel.[8] However, there are 5% vacancies (73,402 vacancies) within the forces, with the Navy having maximum vacancies at 14%.

Table 6: Strength of defence services (2016)

	Authorised	Actual	Vacancies	% Vacancies
Army	12,52,090	12,00,255	51,835	4%
Navy	79,023	67,865	11,158	14%
Air Force	1,50,840	1,40,431	10,409	7%
Total	**14,81,953**	**14,08,551**	**73,402**	**5%**

Sources: Unstarred Question No. 4484, Lok Sabha, August 12, 2016; PRS.

Pensions: In 2018-19, Rs 1,08,818 crore has been allocated for pensions of ex-servicemen, an increase of 15% over the revised estimates of 2017-18. The increase in pensions is greater than the increase in salaries. This increase is due to the implementation of the One Rank One Pension Rule (OROP) being implemented by the government.

Under OROP, uniform pensions are being paid to armed forces personnel retiring at the same rank with the same length of service, irrespective of the date of retirement. Further, future increases in rates of pension will be automatically passed on to existing pensioners through a revision carried out every five years.

OROP is being implemented retrospectively from July 1, 2014. It covers 20,63,529 beneficiary pensioners. Upto September 2017, Rs 10,722 crores has been released to 20,42,892 defence forces pensioners / family pensioners on account of OROP in four instalments.[20]

Note that ex-servicemen associations have been demanding changes to the methodology of calculating pension, periodicity of its revision, coverage of ex-servicemen who take premature retirement under OROP, etc. The government had set up a judicial committee under Justice L. Narasimha Reddy to inquire into some of these anomalies of implementation. The committee submitted its report on October 26, 2016, but the report is not yet in the public domain.[21] The government constituted an internal Committee in July 2017 to examine the recommendations of the judicial committee with respect to feasibility and financial aspects.[20]

The CAG undertook an audit of disbursement of defence pensions. It submitted its report in July 2017 and observed certain deficiencies in the Pension Disbursement System.[22] These include: (i) incomplete accounting of pension expenditure; and (ii) inefficiencies in the pension authorisation process. It noted that transmission errors as well as other mistakes in banks, which account for nearly 75% of the pension disbursements, had resulted in numerous cases of underpayments and overpayments.

It recommended that Pension Payment Orders should be sent by the Pension Sanctioning Authorities directly to the Pension Disbursement Agencies, in electronic form.

Resettlement of Ex-Serviceman

The Standing Committee on Defence examined the issue of rehabilitation and welfare of ex-servicemen.[23] It noted that every year, nearly 60,000 armed forces personnel retire or are released from active service, and most of them are in the age bracket of 35-45 years. It highlighted that Directorate General Resettlement (DGR) under the Ministry of Defence currently does not have any powers to ensure that central government organisations that have not prescribed a certain percentage of vacancies for ex-servicemen do so. This was because directions of DGR are presently only executive in nature. It noted that reservations made for SCs, STs, OBCs, and Persons with Disability (PWD) are statutorily backed and consequently, implemented by all central government organisations.

The Committee recommended that the DGR should be re-structured and granted statutory powers. It also gave recommendations to increase: (i) percentage of reservation in specific grade services in central government jobs and (ii) re-settlement of ex-servicemen through skill development courses.

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Demand for Grants 2018-19 Analysis

Food and Public Distribution

The Ministry of Consumer Affairs and Public Distribution has two Departments: (i) Food and Public Distribution, and (ii) Consumer Affairs. The Ministry received the second highest budgetary allocation by the central government among all ministries.

Department of Consumer Affairs is responsible for spreading awareness among consumers about their rights, protecting their interests and preventing black marketing.[24] In 2018-19, the Department has been allocated Rs 1,785 core, which is 52% lower than the revised estimates of 2017-18.[25]

This note examines the allocations for the Department of Food and Public Distribution. It also looks at broad issues in the sector, along with key recommendations and observations made by expert committees.

Overview of Finances

Budget Estimates 2018-19
(Details in Annexure)

Table 7: Allocations for the Ministry (Rs crore)

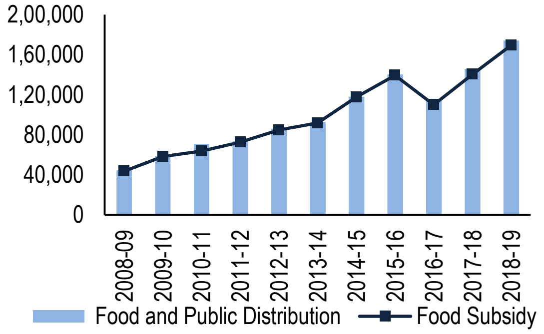
Department	2016-17 Actuals	2017-18 Revised	2018-19 Budgeted	% change in 2018-19 over 2017-18
Consumer Affairs	7,254	3,716	1,785	-52%
Food & Public Distribution	1,15,145	1,45,892	1,74,159	19.4%
Total	**1,22,399**	**1,49,608**	**1,75,944**	**17.6%**

Sources: Expenditure Budget, Union Budget 2018-19; PRS.

Department of Food and Public Distribution is responsible for ensuring food security through procurement, storage and distribution of food grains.[26] The Food Corporation of India (FCI) is responsible for some of these functions.[27] In 2018-19, the Department has been allocated Rs 1,74,159 crore, which is 99% of the Ministry's allocation.[25] Allocation to this Department accounts for 7.1% of the central government's budgeted expenditure.

Food subsidy has been the largest component of the Department's expenditure (96% in 2018-19).[25] This subsidy is given to FCI under the National Food Security Act, 2013 for the Targeted Public Distribution System (TPDS) or to states for the decentralised procurement of food grains. The National Food Security Act, 2013 is mandated to cover 75% of the population from rural areas and 50% from urban areas, and currently covers 81 crore people.[28,29] Figure 1 shows the total allocation for the Department over the past 10 years and its corresponding expenditure on food subsidy.

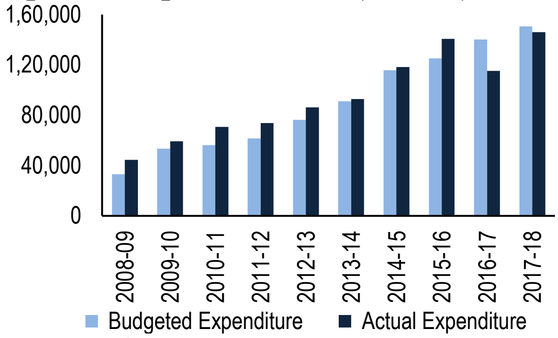
Figure 6: Allocation to the Department of Food and Public Distribution (Rs crore)



Note: Figures for 2017-18 are revised estimates; and for 2018-19 are budget estimate.
Sources: Expenditure Budget, Union Budgets 2007-08 to 2018-19; PRS.

As seen in Figure 2, over the last 10 years, the actual expenditure of the Department has been higher than the budget estimates for that year. However, this trend reversed in 2016-17 where the actual expenditure was 18% lower than the budget estimates.

Figure 7: Budgeted Vs Actuals (Rs crore)



Note: Figures for 2017-18 are revised estimates;
Sources: Expenditure Budget, Union Budgets 2008-09 to 2018-19); PRS.

Trends in expenditure on food subsidy

Food subsidy is the cost incurred and subsequently reimbursed by the Ministry for the procurement, storage and distribution of food grains in the country. This subsidy is the difference between the cost of procuring food grains and the price at which they are given to the beneficiaries (known as Central Issue Price).

As seen in Table 2, expenditure on food subsidy is classified under three heads: (i) subsidy to FCI for

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February 26, 2018

TPDS, (ii) subsidy to states for decentralised procurement, and (iii) sugar subsidy.

Table 2: Break-up of food subsidy (Rs crore)

Subsidy	2016-17 Actuals	2017-18 Revised	2018-19 Budgeted	% change in 2018-19 over 2017-18
Subsidy to FCI on food grains	78,335	1,01,982	1,38,123	35.4%
Subsidy to states on DCP	27,338	8,000	31,000	-18.4%
Sugar subsidy	4,500	300	200	-33.3%
Total	**1,10,173**	**1,40,282**	**1,69,323**	**20.7%**

Sources: Demand for Grants 2018-19, Department of Food and Public Distribution; PRS.

Sugar Industry: In 2018-19, Rs 200 crore has been allocated for the development of the sugar industry, which is 33% lower than the revised estimates of 2017-18. The allocated money is used to provide financial assistance to the sugar industry and facilitate payment to sugar cane farmers.

Note that as of March 2017, Rs 11,759 crore was outstanding against sugar mills for payment of dues to farmers.[30] State-wise details of the arrears can be found in Table 16 of the Annexure.

The expenditure on food subsidy has increased four-fold over the past 10 years, from Rs 43,751 crore in 2008-09 to Rs 1,69,323 crore in 2018-19. The Standing Committee on Food and Public Distribution noted that the reasons for the increase in food subsidy include an increase in the procurement cost of food grains, non-revision of the central issue price since 2002, and the implementation of the National Food Security Act, 2013 in all states, among others.[31] Table 3 looks at the expenditure on food subsidy over the last 10 years, and its share in the total Union Budget.

Table 3: Expenditure on food subsidy (2008 to 2018) (Rs crore)

Year	Food subsidy	% increase over previous year	% of total budget
2008-09	43,751	40%	4.9%
2009-10	58,443	34%	7.8%
2010-11	63,844	9%	5.3%
2011-12	72,822	14%	5.6%
2012-13	85,000	17%	6.0%
2013-14	92,000	8%	5.9%
2014-15	1,17,671	28%	7.1%
2015-16	1,39,419	18%	7.8%
2016-17	1,10,173	-21%	5.6%
2017-18	1,40,282	27%	6.3%
2018-19	1,69,323	21%	6.9%

Note: Figures for 2017-18 are revised estimates; and for 2018-19 are budget estimate.
Sources: Expenditure Budget, Union Budgets 2008-09 to 2018-19); PRS.

Issues

In this section, we examine some issues with the delivery of food subsidy, current challenges in PDS and discuss alternative subsidy systems proposed by various committees and experts over the years.

Provision of food subsidy

Targeted Public Distribution System (TPDS) sought to provide food security to people below the poverty line. Over the years, while the expenditure on food subsidy has increased, the ratio of people below the poverty line has reduced. (Table 4)

Table 4: Poverty ratio and number of poor persons

Year	Poverty Ratio (%)	No. of Poor (Crore)
1973-74	54.9%	32.1
1977-78	51.3%	32.9
1983-84	44.5%	32.3
1987-88	38.9%	30.7
1993-94	36.0%	32.0
2004-05	27.5%	30.2
2011-12	21.9%	26.9

Note: Figures from 1973 to 2004 have been computed using the Lakdawala Methodology, and figures for 2011-12 using the Tendulkar Methodology.
Sources: Planning Commission; PRS.

A similar trend can also be seen in the proportion of undernourished persons in India, which reduced from 24% in 1990 to 15% in 2014 (Table 5).

Table 5: Undernourishment data (1992-2015)

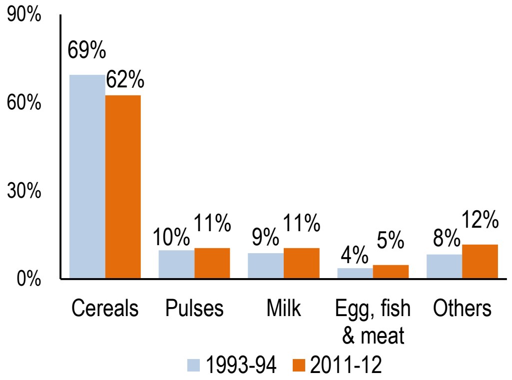
Year	Number of undernourished persons (crores)	Proportion of undernourished in total population (%)
1990-92	21	24%
2000-02	19	18%
2005-07	23	21%
2010-12	19	16%
2014-15*	20	15%

*Provisional data.
Sources: Food and Agriculture Organisation, 2015: Table 5.14, Chapter 5, Economic Survey 2015-16; PRS.

Nutritional balance: The National Food Security Act, 2013 guarantees five kg of food grains per person per month to entitled beneficiaries. Further, Antyodaya Anna Yojana households which constitute the poorest of the poor, are entitled to 35 kg per household per month.

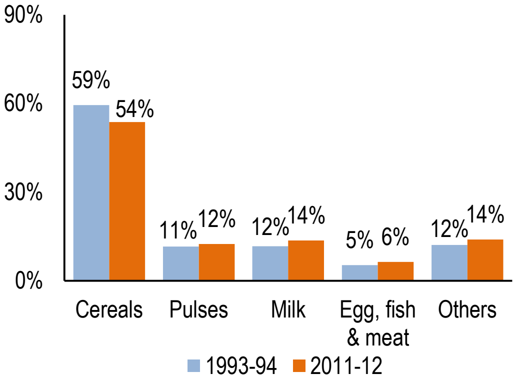
As can be seen in Figure 3 and Figure 4, there has been a change in the pattern of nutritional intake among people both in rural and urban areas.

Figure 3: Protein intake (%) in rural areas



Sources: "Nutritional intake in India 2011-12", NSSO; PRS.

Figure 4: Protein intake (%) in urban areas



Sources: "Nutritional intake in India 2011-12", NSSO; PRS.

Although, cereals or food grains contain only 10% protein, their share as a percentage of the total protein intake has been over 50% in both rural and urban areas.[32] However, other foods such as meat and pulses contain more than 20% protein but contribute to only 15% of the total protein intake of the country.[32]

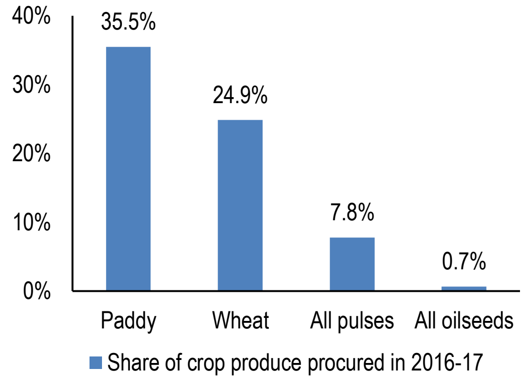
The share of cereals in food consumption has reduced by 7% in rural areas and 5% in urban areas, whereas that of milk, eggs, fish and meat has increased.[32] This indicates a reduced preference for wheat and rice, and a rise in preference towards other protein rich food items. The National Food Security Act, 2013 states that the central government and state governments should undertake steps to diversify commodities distributed under TPDS.[28]

More details related to the intake of calorie and nutrients by the rural and urban population can be found in Table 9 and Table 10 of the Annexure.

Imbalance in farm production: Minimum Support Price (MSP) is the price at which the government purchases a farmer's produce. Typically, the MSP is higher than the market price and seeks to incentivise farmers to grow crops on which the support is offered. Food grains for PDS are usually procured at the MSP. As a result, procurement under MSP has been restricted to wheat and paddy (rice) in a few states, to maintain a buffer stock for release under PDS.[33,34]

It has been argued that this skews the production of crops in favour of wheat and paddy, and does not offer an incentive for farmers to produce other items such as pulses.[42] The figure below shows the share of crop produce procured in 2016-17.

Figure 5: Share of crop procured in 2016-17 (%)



Sources: Committee on Doubling Farmers' Income 2017; Ministry of Agriculture and Farmers Welfare; PRS.

Revision of central issue price (CIP)

Under the National Food Security Act, 2013, food subsidy is given to beneficiaries at the CIP, which was last revised in 2002. CIP for wheat and rice can be found in Table 6.

Table 6: Central Issue Price (Rs/Kg)

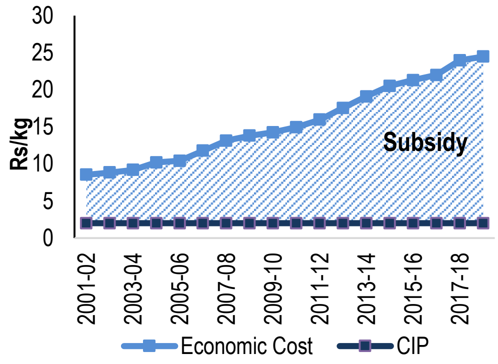
Commodity	AAY	BPL	APL
Rice	3.00	5.65	7.95
Wheat	2.00	4.15	6.10

Note: AAY-Antyodaya Anna Yojana, BPL-Below Poverty Line, APL-Above Poverty Line.
Sources: TPDS, Department of Food and Public Distribution.

In comparison to the CIP, the economic cost (including procurement, stocking, distribution) for wheat is Rs 24/kg and for rice is Rs 33/kg as of February 2018.[35] Food subsidy is calculated as the difference between the economic cost of procuring food grains, and their CIP.

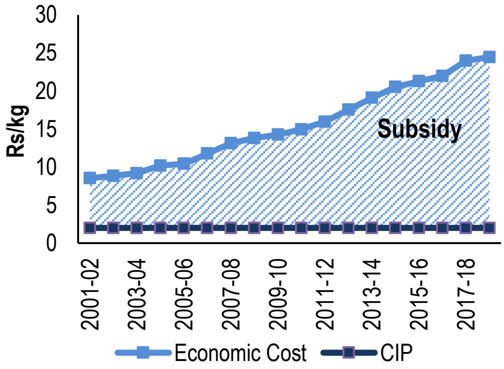
While the economic cost for rice has increased from Rs 1,098/quintal (approximately Rs 11/Kg) in 2001-02 to Rs 3,310 /quintal in 2018-19, and of wheat, from Rs 853/quintal to Rs 2,446/quintal over the same period, the CIP has not been revised.[35] This has led to an increasing gap between the economic cost and CIP, leading to an increase in expenditure on food subsidy.[42] Trends in economic cost, CIP and subsidies for wheat and rice can be found in Figure 6 and Figure 7 below.

Figure 6: Subsidy on a Kg of Wheat (Rs)



Sources: Food Corporation of India; PRS.

Figure 7: Subsidy on a Kg of Rice (Rs)



Sources: Food Corporation of India; PRS.

In 2017-18, the Ministry had stated that increasing the CIP could be one of the measures to bridge the gap between the funds it requires, and the funds it is actually allocated.[30] Details related to the procurement of food grains, off-take and stock can be found in of the Annexure.

Delivery of food subsidy

Leakages in PDS: Leakages refer to food grains not reaching intended beneficiaries. According to 2011 data, leakages in PDS were estimated to be 46.7% (see Table 11).[27,36]

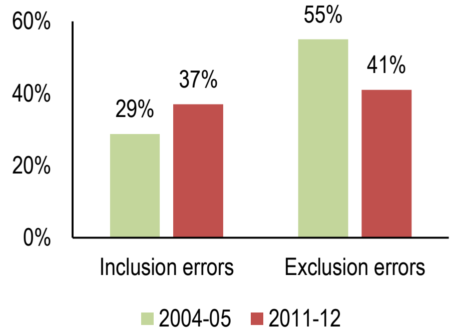
Leakages may be of three types: (i) pilferage or damage during transportation of food grains, (ii) diversion to non-beneficiaries at fair price shops through issue of ghost cards, and (iii) exclusion of people entitled to food grains but who are not on the beneficiary list.[37,38] Studies have shown that targeting mechanisms such as TPDS are prone to large exclusion and inclusion errors.[39]

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. As seen in Figure 8, exclusion errors declined from 55% in 2004-05 to 41% in 2011-12.

Inclusion errors occur when those that are ineligible get undue benefits. Inclusion errors increased from 29% in 2004-05 to 37% in 2011-12.

Declining exclusion errors and increasing inclusion errors are due to two reasons. First, increase in the coverage of TPDS has reduced the proportion of poor who do not have access to PDS cards. Second, despite a decline in poverty rate, the non-poor are still identified as poor by the government thus allowing them to continue using their PDS cards.[40]

Figure 8: Inclusion and exclusion errors (%)



Sources: Evaluation study on the role of PDS in shaping households and nutritional security in India, Niti Aayog, December 2016; PRS.

Note that under NFSA, states are responsible for identification of beneficiaries. In 2016, the Comptroller and Auditor General (CAG) found that this process had not been completed by the states, and 49% of the beneficiaries were yet to be identified.[41]

Alternative subsidy systems: Over the years, several solutions that have been suggested include: (i) DBT of food subsidy, and (ii) end to end computerisation of the entire system.[27,61]

The NFSA states that the centre and states should introduce schemes for cash transfers to beneficiaries.[28] Various experts and bodies have also suggested replacing TPDS with a Direct Benefit Transfer (DBT) system.[42,43] Advantages and disadvantages of these methods of delivering benefits have been discussed below.

- **TPDS:** TPDS assures beneficiaries that they would receive food grains, and insulates them against inflation and price volatility. Further, food grains are delivered through fair price shops in villages, which are easy to access.[44,45]

  However, high leakages have been witnessed in the system, both during transportation and distribution. These include pilferage and errors of inclusion and exclusion from the beneficiary list. In addition, it has also been argued that the distribution of wheat and rice may cause an imbalance in the nutritional intake.[28] Beneficiaries have also reported receiving poor quality food grains as part of the system.

- **Cash Transfers:** Cash transfers seek to increase the choices available with a beneficiary, and provide financial assistance. It has been argued that the costs of DBT may be lesser than TPDS, owing to lesser costs incurred on transport and storage. These transfers may also be undertaken electronically.[44,45]

  On the other hand, it has been argued that cash received as part of DBT may be spent on non-food items. Further, such a system may expose beneficiaries to inflation. In this regard, one may also consider the low penetration and access to banking in rural areas.[46]

In 2015, the Department released two notifications: The Cash Transfer of Food Subsidy Rules and The Food Security (Assistance to State Governments) Rules.[48,49] As per these notifications, the central government offers state governments two choices for reforming their respective PDS machinery: (i) replacing the existing PDS with DBT, or (ii) Fair Price Shop automation, which involves installation of Point of Sale devices, for authentication of beneficiaries and electronic capturing of transactions.

Evaluation Report on DBT in Food by Niti Aayog, July 2017 [47]

Since September 2015, DBT for food subsidy is being implemented in Puducherry, Chandigarh, and Dadra and Nagar Haveli.[50] In July 2017, Niti Aayog conducted an evaluation study of DBT in the three union territories. Key findings of the study include:

- On average, only two thirds of beneficiaries confirmed receiving the DBT benefits in their accounts. (67% in Chandigarh, 67% in Puducherry and 65% in Dadra and Nagar Haveli)
- On average, it costs beneficiaries more (in time and money) to access and redeem DBT amount than in collecting food rations from Fair Price Shops.
- Adding the time costs and expenses incurred in travel with the additional out of pocket spending on rations, 24% of beneficiaries cited DBT entitlement insufficiency as the biggest issue they faced.

So far, more than 2.9 lakh (54%) Fair Price Shops have been automated across the country.[50] Details regarding the status of computerisation of PDS can be found in **Table** of the Annexure.

The High-Level Committee on Restructuring of FCI in 2015 had suggested that switching to DBT for food subsidy would reduce the food subsidy bill of the government by more than Rs 30,000 crore.[51] While making this recommendation, the Committee illustrated this by taking the case of subsidy given on rice (Table 7). It assumed that as part of DBT, the government would transfer Rs 22/Kg for rice to a beneficiary.

Table 7: Illustration: subsidy given on Rice

1. CIP	Rs 3/Kg
2. MSP	Rs 20/Kg
3. Subsidy (3=2-1)	Rs 17/Kg
4.Cost to government (Subsidy + Costs on procurement, storage and distribution)	Rs 27/Kg
5. Cash subsidy to beneficiaries	Rs 22/Kg
6. Government saving (6=5-4)	Rs 5/Kg
7. Increase in beneficiary benefit (7=5-3)	Rs 5/Kg

Sources: High Level Committee Report on Reorienting FCI, January 2015; PRS.

Aadhaar: The Committee had also recommended the introduction of biometrics and Aadhaar to plug leakages in PDS. Such transfers could be linked to Jan Dhan account, and be indexed to inflation.[51] As of December 2017, 119 crore Aadhaar cards had been issued, covering 98% of the population.[52]

In February 2017, the Ministry made it mandatory for beneficiaries under NFSA to use Aadhaar as proof of identification for receiving food grains.[53] This is expected to facilitate the removal of bogus ration cards, check leakages and ensure better delivery of food grains.[27,54,55]

Note that as of July 2017, while 100% ration cards had been digitised, the seeding of these cards with Aadhaar was at 79%.[56] For details related to deleted ration cards due to detection of bogus, fake, and duplicate cards, see Table 13 of the Annexure.

Current challenges in PDS

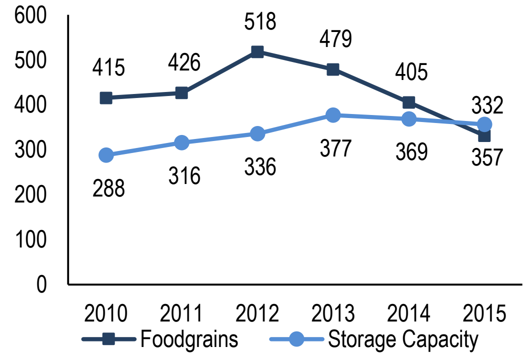
Storage: The Department allocates funds for the construction of godowns to increase storage capacity. This includes allocations for the Warehousing Development and Regulatory Authority (WADA). In 2018-19, Rs 60 crore has been allocated for storage and godowns, and Rs eight crore has been allocated to WADA.

As of December 2017, the total storage capacity in the country is 725 lakh tonnes, of which 359 lakh tonnes is with the FCI and 366 lakh tonnes is with the state agencies.[57] The total stock of food grains in the country as of July 2017 was 555 lakh tonnes.

The CAG in its performance audit found that the available storage capacity in states was inadequate for the allocated quantity of food grains.[58] For example, as of October 2015, of the 233 godowns sanctioned for construction in Maharashtra, only 93 had been completed. In Assam, although the storage capacity was enough for the state's allocation, the conditions of the godown were found to be too damp for storage. Some of the storage in Jharkhand was also found to be unfit, either because of its remote location or the damaged condition of the godowns.

The CAG also noted that in four of the last five years, the stock of food grains in the central pool had been higher than the storage capacity available with the FCI (see Figure 9).[46]

Figure 9: Stock and Capacity of FCI (lakh tonnes)



Sources: CAG Performance Audit on Preparedness for Implementation of National Food Security Act, 2013; PRS.

As seen in **Figure** , it was only in 2015 that the stock of food grains was lower than the storage capacity. According to the CAG, this was owing to an increase in procurement under Decentralised Procurement (DCP), and less food grains in the central pool.[46] Under DCP, the state governments undertake procurement, storage and distribution of food grains on behalf of the central government. The states are reimbursed by the centre for the expenditure incurred by them.[59]

The Standing Committee on Food, Consumer Affairs and Public Distribution has recommended increasing the procurement undertaken by states, and reducing the expenditure on centralised procurement by the FCI.[30] They noted that this would drastically reduce the transportation cost borne by the government as states would distribute the food grains to the targeted population within their respective states. As on December 2017, only 17 states have adopted decentralised procurement.[60]

Note that during 2018-19, while the food subsidy given to FCI has increased by 35% over the revised estimates of 2017-18, the allocation to states for DCP reduced by 18%.[25]

Fair Price Shops: It has been observed by various experts and the Ministry that the margins on which the Fair Price Shops operate are low.[61] Further, in the absence of economic viability, there may be cases where the dealer resorts to unfair practices. In order to make these shops viable, states have taken various steps:

- Chhattisgarh provided seed capital of Rs 75,000 to each fair price shop free of any interest for 20 years. It also increased the commission on food grains from Rs 8/quintal to Rs 30/quintal.
- States such as Assam and Delhi have permitted the sale of non-PDS items at these fair price shops. Such items include oil, potatoes, onion, tea, and mobile recharge coupons.

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Annexure

Detailed expenditure table

Table 8 provides an overview of expenditure on the major schemes of the Ministry, provided in the Demands for Grants (2018-19). In addition, major shifts in the budgetary allocation are shown in the last two columns.

Table 8: Major heads of allocation in the Department of Food and Public Distribution (in Rs crore)

Major Heads	Actual 2016-2017	Budget 2017-2018	Revised 2017-2018	Budget 2018-2019	% increase in 2018-19 (BE) over 2017-18 (RE)	Increase
Secretariat	50	55	65	64	-2%	1
National Sugar Institute, Kanpur	19	21	20	24	15%	3
Other Establishment Expenditure of Food, Storage and Warehousing	17	19	18	19	5%	1
Food Subsidy	1,10,173	1,45,339	1,40,282	1,69,323	21%	29,041
Of which:						-
Food Subsidy to FCI under NFSA	78,335	1,07,139	1,01,982	1,38,123	35%	36,141
Food Subsidy for DCP of Food grains under NFSA	27,338	38,000	38,000	31,000	-18%	7,000
Sugar Subsidy payable under PDS	4,500	200	300	200	-33%	100
Assistance to State Agencies for intra-state movement of food grains and FPS dealers margin under NFSA	2,500	4,500	4,500	4,000	-11%	500
Development of Sugar Industry	1,672	496	918	611	-33%	307
Strengthening of PDS Operations	57	-	30	41	39%	12
Storage and Godowns	12	60	53	60	14%	7
Warehousing Development and Regulatory Authority	15	15	7	8	21%	1
Other	589	-	0	10		
Total	**1,15,145**	**1,50,505**	**1,45,892**	**1,74,159**	**19%**	**28,267**

Sources: Expenditure Budget, Vol. 2, Union Budget 2018-19; PRS.

Table 9: Share of calorie intake from different food groups (%)

	Cereals	Pulses, nuts & oilseeds	Vegetables & fruits	Meats, eggs & fish	Milk & milk products	Miscellaneous food
Rural						
1993-94	71.0	4.9	2.0	0.7	6.2	2.4
1999-00	67.6	5.5	2.0	0.8	6.2	2.3
2004-05	67.5	5.0	2.2	0.8	6.4	3.0
2009-10	64.2	4.5	1.8	0.7	6.8	6.0
2011-12	61.1	5.2	1.9	0.8	7.1	7.0
Urban						
1993-94	58.5	6.1	3.3	1.0	8.0	5.6
1999-00	55.1	6.9	2.9	1.1	8.2	5.5
2004-05	56.1	6.7	3.2	1.1	8.6	5.3
2009-10	55.0	5.9	2.6	1.0	9.4	5.9
2011-12	51.6	6.4	2.6	1.1	9.1	8.6

Sources: Table T18, "Nutritional Intake in India, 2011-12", NSSO; PRS.

Table 10: Share of protein intake (%)

Year	Cereals	Pulses	Milk & milk products	Egg, fish & meat	Other food
			Rural		
1993-94	69.4	9.8	8.8	3.7	8.4
1999-00	67.4	10.9	9.2	4.0	8.4
2004-05	66.4	9.5	9.3	4.0	10.8
2009-10	64.9	9.1	10.0	4.0	12.0
2011-12	62.5	10.6	10.6	4.7	11.7
			Urban		
1993-94	59.4	11.5	11.7	5.3	12.1
1999-00	57.0	13.1	12.4	6.0	11.5
2004-05	56.2	11.0	12.3	5.5	15.0
2009-10	56.4	11.3	13.8	5.6	13.0
2011-12	53.7	12.4	13.6	6.4	13.9

Sources: Table T21, "Nutritional Intake in India, 2011-12", NSSO; PRS.

Table 11: Leakages in PDS for wheat and rice (in lakh tonnes)

State/UT	Total consumption from PDS	Offtake (2011-12)	Leakage	% leakage
Andhra Pradesh	36.1	40.7	4.6	11.3%
Arunachal Pradesh	0.8	1.0	0.2	20.0%
Assam	9.5	24.4	14.9	61.1%
Bihar	11.3	36.2	24.9	68.8%
Chhattisgarh	16.7	16.7	0.0	0.0%
Goa	0.4	0.8	0.4	50.0%
Gujarat	4.4	15.7	11.3	72.0%
Haryana	2.2	7.3	5.1	69.9%
Himachal Pradesh	4.9	6.3	1.4	22.2%
Jammu and Kashmir	8.8	9.1	0.3	3.3%
Jharkhand	3.1	12.4	9.3	75.0%
Karnataka	16.2	30.1	13.9	46.2%
Kerala	11.4	20.1	8.7	43.3%
Madhya Pradesh	15.5	30.7	15.2	49.5%
Maharashtra	19.3	42.7	23.4	54.8%
Manipur	0.0	2.0	2.0	100.0%
Meghalaya	0.8	2.5	1.7	68.0%
Mizoram	0.9	1.1	0.2	18.2%
Nagaland	0.1	2.0	1.9	95.0%
Odisha	15.4	24.4	9.0	36.9%
Punjab	3.4	8.7	5.3	60.9%
Rajasthan	10.1	29.8	19.7	66.1%
Sikkim	N/A	N/A	-	-
Tamil Nadu	39.5	45	5.5	12.2%
Tripura	2.7	3.3	0.6	18.2%
Uttar Pradesh	43.2	82.9	39.7	47.9%
Uttarakhand	4.6	6.6	2.0	30.3%
West Bengal	13.4	43.9	30.5	69.5%
Total	**295.5**	**554.5**	**259**	**46.7%**

Note: Data is from National Sample Survey, 2011-12.
Sources: Table 1, Working Paper 294, "Leakages from Public Distribution System", ICRIER, January 2015; PRS.

Table 12: Procurement, Offtake and Stocks of food grains (in million tonnes)

Year	Procurement			Offtake			% Offtake	Stocks		
	Rice	Wheat	Total	Rice	Wheat	Total		Rice	Wheat	Total
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	35.0	28.3	63.4	32.1	24.3	56.4	89%	33.4	20.0	53.4
2012-13	34.0	38.2	72.2	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%	30.6	17.8	49.5
2014-15	31.6	28.0	59.6	30.7	25.2	56.0	94%	23.8	17.2	41.3
2015-16	34.1	28.1	62.2	31.8	31.8	63.7	102%	28.8	14.5	43.6
2016-17	36.5	23.6	60.1	31.5	30.7	62.1	103%	28.8	14.5	43.6
2017-18	6.2	30.1	36.3	8.5	5.7	14.2	39%	27.7	30.1	57.8

Notes: Figures for stock as of August 2017. Offtake and stock numbers up to May 2017.
Sources: Reserve Bank of India; PRS.

Table 13: Status of operation of component one of end-to-end computerization of TPDS scheme

State/UT	Digitisation of Ration Cards	Aadhaar Seeding in Ration Cards	Online Allocation of Food grains	Computerization of Supply-chain	Transparency Portal	Online Grievance Redressal
Andhra Pradesh	100%	100%	Implemented	Implemented	Yes	Yes
Arunachal Pradesh	100%	45%	-	-	Yes	-
Assam	100%	0%	Implemented	-	Yes	Yes
Bihar	100%	69%	Implemented	Implemented	Yes	Yes
Chandigarh	100%	100%	NA	NA	Yes	Yes
Chhattisgarh	100%	100%	Implemented	Implemented	Yes	Yes
Goa	100%	91%	Implemented	Implemented	Yes	Yes
Gujarat	100%	95%	Implemented	Implemented	Yes	Yes
Haryana	100%	86%	Implemented	Implemented	Yes	Yes
Himachal Pradesh	100%	91%	Implemented	Implemented	Yes	Yes
Jammu and Kashmir	100%	45%	Up to TSOs	-	Yes	-
Jharkhand	100%	97%	Implemented	Implemented	Yes	Yes
Karnataka	100%	100%	Implemented	Implemented	Yes	Yes
Kerala	100%	98%	Implemented	-	Yes	Yes
Madhya Pradesh	100%	91%	Implemented	Implemented	Yes	Yes
Maharashtra	100%	87%	Implemented	Implemented	Yes	Yes
Manipur	100%	22%	Partial	-	Yes	Yes
Meghalaya	100%	0%	-	-	Yes	Yes
Mizoram	100%	45%	Implemented	-	Yes	Yes
Nagaland	100%	7%	-	-	Yes	Yes
Odisha	100%	88%	Implemented	Implemented	Yes	Yes
Punjab	100%	97%	Implemented	-	Yes	Yes
Rajasthan	100%	95%	Implemented	-	Yes	Yes
Sikkim	100%	82%	Implemented	-	Yes	Yes
Tamil Nadu	100%	100%	Implemented	Implemented	Yes	Yes
Telangana	100%	100%	Implemented	Implemented	Yes	Yes
Tripura	100%	98%	Implemented	Implemented	Yes	Yes
Uttar Pradesh	100%	77%	Implemented	-	Yes	Yes
Uttarakhand	100%	90%	Implemented	-	Yes	Yes
West Bengal	100%	62%	Implemented	Implemented	Yes	Yes
Andaman & Nicobar Islands	100%	100%	Implemented	Implemented	Yes	Yes
Dadra and Nagar Haveli	100%	96%	Implemented	Implemented	Yes	Yes
Daman and Diu	100%	100%	Implemented	Implemented	Yes	Yes
Delhi	100%	100%	Implemented	Implemented	Yes	Yes
Lakshadweep	100%	98%	-	NA	Yes	Yes
Puducherry	100%	100%	NA	NA	Yes	Yes
Total	**100%**	**79%**	**30***	**20**	**36**	**34**

Sources: Unstarred Q. No. 1464, Lok Sabha, Ministry of Consumer Affairs, Food and Public Distribution, Answered on July 24, 2017; PRS

Table 14: Minimum Support Prices fixed for paddy and wheat from 2006-07 to 2017-18 (in Rs/Quintal)

Crop	Paddy Common	% increase over last year	Wheat	% increase over last year
2006-07	580	1.8%	750	15.4%
2007-08	645	11.2%	1,000	33.3%
2008-09	850	31.8%	1,080	8.0%
2009-10	1,000	17.6%	1,100	1.9%
2010-11	1,000	0.0%	1,120	1.8%
2011-12	1,080	8.0%	1,285	14.7%
2012-13	1,250	15.7%	1,350	5.1%
2013-14	1,310	4.8%	1,400	3.7%
2014-15	1,360	3.8%	1,450	3.6%
2015-16	1,410	3.7%	1,525	5.2%
2016-17	1,470	4.3%	1,625	6.6%
2017-18	1,550	5.4%	1,735	6.3%

Note: Data includes bonus announced for the particular crop.
Source: Directorate of Economics and Statistics, Department of Agriculture and Co-operation; CCEA; PRS.

Table 15: Deleted Ration Cards (2013-2017)

States/UTs	Total Deleted Cards
Andhra Pradesh	11,55,661
Arunachal Pradesh	19,561
Assam	1,29,243
Bihar	41,369
Chandigarh	-
Chhattisgarh	12,38,000
Goa	1,57,461
Gujarat	1,60,685
Haryana	1,88,425
Himachal Pradesh	3,260
Jammu and Kashmir	55,344
Jharkhand	4,53,958
Karnataka	27,49,532
Kerala	-
Madhya Pradesh	4,18,509
Maharashtra	21,62,391
Manipur	336
Meghalaya	-
Mizoram	1,503
Nagaland	3,247
Odisha	6,86,211
Punjab	1,01,249
Rajasthan	14,66,629
Sikkim	12,840
Tamil Nadu	4,22,746
Telangana	20,97,564
Tripura	1,76,986
Uttar Pradesh	68,80,999
Uttarakhand	-
West Bengal	66,13,961
Andaman and Nicobar Islands	37
Dadra and Nagar Haveli	549
Daman and Diu	631
Delhi	64,090
Lakshadweep	1,390
Puducherry	95,393
Total	**2,75,59,760**

Sources: Unstarred Q. No. 632, Lok Sabha, Ministry of Consumer Affairs, Food and Public Distribution, Answered on Feb 6, 2018; PRS.

Table 16: Sugar Cane Arrears (As on January 31, 2017) (Rs crore)

State	Cane Price Arrears 2016-17	Cane Price Arrears 2015-16	Cane Price Arrears For 2014-15	Cane Price Arrears For 2013-14 & Earlier	Total Cane Price Arrears
Andhra Pradesh	215	22	16	-	253
Bihar	239	2	3	39	283
Chhattisgarh	24	1	-	-	25
Goa	2	-	-	-	2
Gujarat	455	14	-	14	482
Haryana	308	-	-	-	308
Karnataka	911	28	-	86	1,024
Madhya Pradesh	208	4	-	13	225
Maharashtra	363	70	140	69	642
Odisha	36	-	-	3	39
Puducherry	-	8	-	4	12
Punjab	322	-	-	-	322
Tamil Nadu	617	677	277	273	1,845
Telangana	115	2	-	-	117
Uttar Pradesh	5,305	368	45	108	5,826
Uttarakhand	284	45	-	25	354
West Bengal	-	-	1	-	1
Total	**9,403**	**1,241**	**482**	**633**	**11,759**

Sources: Report of the Standing Committee on Food and Public Distribution on Demand for Grants 2017-18; PRS.

Demand for Grants 2018-19 Analysis

Rural Development

The Ministry of Rural Development is responsible for development and welfare activities in rural areas. The Ministry has two departments: (i) rural development, and (ii) land resources.

The Ministry of Rural Development has the third highest ministry-wise allocation in the Union Budget 2018-19, of Rs 1,14,915 crore. This is an increase of Rs 4,041 crore (3.6%) over the revised estimates of 2017-18.

The **Department of Rural Development** under the Ministry is responsible for implementation of all major schemes in rural areas. These schemes are targeted at poverty reduction, employment generation, rural infrastructure, habitation development, and provision of basic services. In 2018-19, the Department has an allocation of Rs 1,12,404 crore, accounting for 97.8% of the Ministry's allocation.

The **Department of Land Resources** is primarily responsible for undertaking land reforms. It supports states in the implementation of the National Land Records Modernization Programme, and aims to increase productivity of land through the process of integrated watershed management. In 2018-19, the Department has an allocation of Rs 2,511 crore, which is 37.1% more than the revised estimates of 2017-18.

This note presents the detailed budgetary allocations to the Ministry of Rural Development, and analyses various issues related to the schemes implemented by the Ministry.

Allocation to the Ministry in 2018-19

In 2018-19, the Department of Rural Development has witnessed a 3% increase in funds from revised estimates of 2017-18. In 2017-18, the Department was allocated Rs 1,05,448 crore, which was revised upwards by Rs 3,594 crore in the revised estimates for that year.

On the other hand, the Department of Land Resources saw a 37% increase in allocation in 2018-19, from the revised estimates of 2017-18. In 2017-18, the budgeted expenditure of Rs 2,310 crore was decreased by Rs 478 crore at the revised estimates stage.

Table 1 shows the allocations to the Ministry of Rural Development over the past three years.

Table 8: Budgetary allocation to the Ministry of Rural Development (Rs crore)

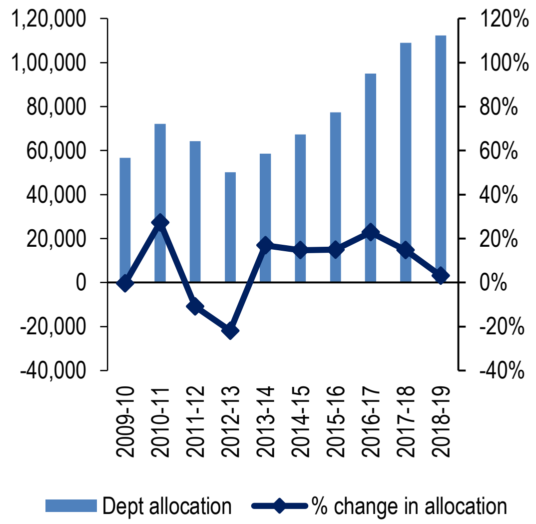
Department	Actuals 16-17	Revised 17-18	Budgeted 18-19	% change (RE to BE)
Rural Development	95,069	1,09,042	1,12,404	3.1%
Land Resources	1,658	1,832	2,511	37.1%
Total	**96,727**	**1,10,874**	**1,14,915**	**3.6%**

Note: BE is budget estimate and RE is revised estimate.
Sources: Demands for Grants 2018-19, Department of Rural Development and Department of Land Resources, Ministry of Rural Development; PRS.

Department of Rural Development

Over the past 10 years, the allocation to the Department of Rural Development has seen an annual average increase of 7%. Except in 2011-12 and 2012-13, when the allocation was reduced in comparison to the previous year, funds allotted to the Department have seen an increase over the years. In recent years, the highest increase in allocation was seen in 2016-17, when it was 23% in comparison to the previous year.

Figure 8: Expenditure by the Department of Rural Development over the years (Rs crore)



Note: Values for 2017-18 and 2018-19 are revised estimates and budget estimates respectively.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

Table 2 represents the budgetary allocation for major schemes under the Department of Rural Development.

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February 26, 2018

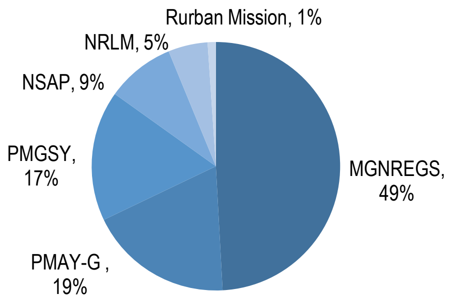
Table 9: Budgetary allocation to the Department of Rural Development (Rs crore)

Major Head	Actual 16-17	Revised 17-18	Budgeted 18-19	% change (RE to BE)
MGNREGS	48,215	55,000	55,000	0.0%
PMAY-G	16,071	23,000	21,000	-8.7%
PMGSY	17,923	16,900	19,000	12.4%
NSAP	8,854	8,745	9,975	14.1%
NRLM	3,158	4,350	5,750	32.2%
Rurban Mission	599	600	1,200	100.0%
Others	249	447	479	7.0%
Total	**95,069**	**1,09,042**	**1,12,404**	**3.1%**

Note: BE is budget estimate and RE is revised estimate.
Sources: Demands for Grants 2018-19, Department of Rural Development, Ministry of Rural Development; PRS.

- The funds for Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), which account for nearly half of the department's budget, have remained unchanged.
- The housing scheme, Pradhan Mantri Awaas Yojana- Gramin (PMAY-G) has seen a decrease in allocation by 8.7%.
- National Rural Livelihoods Mission (NRLM), which aims to provide sustainable livelihood opportunities, has seen an increase of 32.2%.
- Funding for the welfare scheme, the National Social Assistance Program (NSAP) has seen an increase of 14%, money allocated for the rural roads scheme, Pradhan Mantri Gram Sadak Yojana (PMGSY) has seen an increase of 12.4%.
- The allocation for Rurban Mission, which aims to develop village clusters into economically and socially sustainable spaces, has been doubled, over the revised estimates of last year, though on a small base.

Figure 9: Top expenditure heads in 2018-19, as a percentage of total departmental allocation



Sources: Demands for Grants 2018-19, Department of Rural Development, Ministry of Rural Development; PRS.

Figure 2 represents the composition of expenditure of the Department of Rural Development. In 2018-19, 49% of the Department's expenditure is estimated to be on the Mahatma Gandhi National Rural Employment Guarantee Scheme. This is followed by the rural component of Pradhan Mantri Awaas Yojana (19%), and Pradhan Mantri Gram Sadak Yojana (17%). Over the years, it has been observed that this split in the department's expenditure has remained the same.

Policy proposals in Union Budget 2018-19

The following provisions were made for the Ministry in the 2018-19 Budget speech:

- Under Phase III of Pradhan Mantri Gram Sadak Yojana, habitations will be connected to agricultural and rural markets, higher secondary schools, and hospitals.
- Under Pradhan Mantri Awaas Yojana - Gramin, 51 lakhs houses will be constructed in 2017-18 and 2018-19.
- Loans to Self Help Groups (SHGs) will increase to Rs 75,000 crore by March 2019. Allocation to National Rural Livelihood Mission (NRLM) has been increased substantially to Rs 5,750 crore.
- Women SHGs will be encouraged to take up organic agriculture in clusters under NRLM.

Table 3 below details out the policy proposals for rural development as highlighted in the budget speech of 2017-18 and their implementation status.[62]

Table 10: Policy proposals and their implementation status

Policy proposal	Implementation status
During 2017-18, five lakh farm ponds will be taken up. This will contribute to drought proofing of gram panchayats.	As against a target of five lakh farm ponds for 2017-18, 3.91 lakh farm ponds have been completed as on January 15, 2018.
Geo-tag and putting all MGNREGA assets and in public domain to established greater transparency.	As on January 15, 2018, 3.15 crore assets out of 3.29 crore completed works have been geo tagged.
Targets under PMGSY will be completed by 2019. Habitations with more than 100 persons in left wing extremism affected blocks will also be connected.	82% habitations have been connected so far. Habitations in left wing extremism affected blocks have also been undertaken in 9 states with a target of constructing 5,382 km.
51 lakh houses will be completed by March 2018 to complete the target of construction of one crore houses by March 2019.	As against the target for 2017-18, as on December 26, 2017, construction of 15.57 lakh rural houses has been completed.
Mason training will be provided to five lakh persons by 2022, with an immediate target of training at least 20,000 persons by 2017-18.	As on December 18, 2017, 5,107 candidates have been trained, and 1,057 candidates are undergoing training.

Sources: Implementation of Budget Announcements 2017-18; PRS.

Financial allocations to outcomes

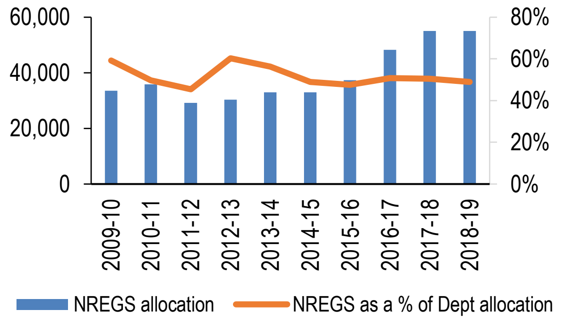
Mahatma Gandhi National Rural Employment Guarantee Scheme

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) was launched in 2005 through the Mahatma Gandhi National Rural Employment Guarantee Act, 2005.[63] The primary objective of the Act is to provide guaranteed 100 days of wage employment per year to each rural household. The Act specifies a list of works that can be undertaken to generate employment. These are related to water conservation, drought proofing, land development, flood control and protection works, among others. The scheme at present covers all districts of the country with the exception of those that have a 100% urban population.[64]

90% of MGNREGS funds come from the central government. The fund releases are made to the states after they submit their labour budgets, estimating the anticipated demand for works.[65] A minimum of 50% of MGNREGS works are to be executed by gram panchayats.

Budgeted versus actual expenditure: Figure 3 shows the expenditure on the scheme from 2009-10 to 2018-19. For most of these years, expenditure on the scheme has been more than 50% of the department's budget. During 2017-18, budgetary allocation for the scheme was increased by 15%, from budget estimates of Rs 48,000 crore to Rs 55,000 crore at the revised estimates stage. Its share of the department budget in 2018-19 is Rs 55,000 crore. The allocation to the scheme has steadily increased, but has remained constant in the past few years.

Figure 10: Expenditure on MGNREGS over the years (Rs crore)



Note: Values for 2017-18 and 2018-19 are revised estimates and budget estimates respectively.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

It may be pertinent to note that from 2009-10 to 2012-13, the scheme has witnessed under-spending. In 2013-14, the actual expenditure was almost similar to the budget estimates. However, in the last three years, the actuals in 2015-16 and 2016-17 and revised estimates in 2017-18 have exceeded the budget estimates.

Table 4 shows the trends in allocation and actual estimates of expenditure on NREGS over the past nine years.

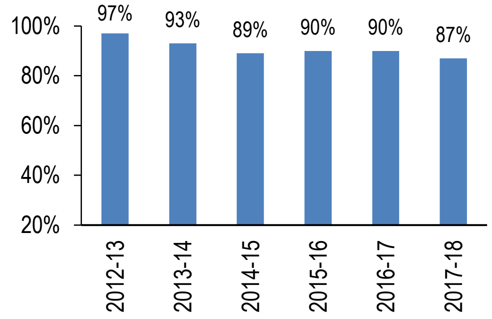
Table 11: Budgeted versus actual expenditure on MGNREGS (Rs crore)

Year	Budgeted	Actuals	% of budgeted
2009-10	39,100	33,539	86%
2010-11	40,100	35,840	89%
2011-12	40,000	29,212	73%
2012-13	33,000	30,273	92%
2013-14	33,000	32,992	100%
2014-15	34,000	32,977	97%
2015-16	34,699	37,341	108%
2016-17	38,500	48,215	125%
2017-18	48,000	55,000	115%

Note: The 'utilised' figure for 2017-18 is the revised estimate.
Sources: Union Budgets 2009-10 to 2017-18; PRS.

Demand for work: MGNREGS is a demand driven scheme. The proportion of households that demanded employment saw an increase of 15% from 2014-15 to 2015-16, and an increase of 1% from 2015-16 to 2016-17. However, the proportion of households that received employment has seen a decrease, from 97% in 2012-13 to 90% in 2016-17. Over the years, work demanded under the scheme has remained stable. However, demand in employment has seen a decrease of 4% this year. Till February 2018, 87% of these households have been provided with employment.

Figure 11: No. of households provided employment (as a % of households that demanded employment)



Note: Data for 2016-17 is updated till February 20, 2017.
Sources: NREGS MIS Reports from 2012-13 to 2016-17; PRS.

The Comptroller and Auditor General (CAG) of India in 2013 carried out a performance audit of the scheme.[66] It highlighted a significant decline in per rural household employment generation, from 54 days in 2009-10 to 43 days in 2011-12. Although in 2012-13, average employment reached 50 days, it reached a low of 40 days in 2014-15. In 2017-18, till February, the average days of employment provided per household was 39. Note that this is significantly lower than the 100 days of employment that the Act guarantees.

Table 12: Average days of employment provided per household under NREGS

Year	Average days of employment provided per household
2012-13	50
2013-14	49
2014-15	40
2015-16	48
2016-17	46
2017-18	39

Sources: NREGS MIS Reports from 2012-13 to 2016-17; PRS.

Delayed payments: MGNREGS stipulates that wage payments must be made within 15 days of the date of closure of the muster roll.[64] Delays in payments are calculated from the 16th day onwards. Table 5 below shows the percentage of delayed payments out of the total payments for the past five years. It also indicates the number of days that payments were delayed by. As can be seen in the table, the proportion of delayed payments had increased from 39% in 2012-13 to 73% in 2014-15, but has reduced since then. In 2017-18, delayed payments have come down substantially from the previous year. Till February 2018, 14% of the payments were delayed, amounting to Rs 5,33,281 crore.

Table 13: Trends in delayed payment of wages under MGNREGS

Year	% delayed payments	Composition of delayed payments (%)			
		> 90 days	60-90 days	30-60 days	15-30 days
2012-13	39	28.5	14.8	26.9	29.8
2013-14	50	18.4	13.9	30.1	37.6
2014-15	73	18.6	13.7	30.8	36.8
2015-16	66	6.2	9.3	31.2	53.3
2016-17	56	25.0	14.9	28.1	32.0
2017-18	14	6.4	6.2	24.7	62.7

Note: Data for 2017-18 is updated till February 13, 2018.
Sources: NREGS MIS Reports from 2012-13 to 2017-18; PRS.

Non-payment of unemployment allowance (if employment is not provided within 15 days of application) is high across states. Currently under the NREGA, unemployment allowance is paid from state government funds.[63] Non-sharing of unemployment allowance by the central government puts an additional burden on the states.[66] It has been suggested that the Ministry of Rural Development should consider partial reimbursement of unemployment allowance.[66]

Other issues: The Standing Committee on Rural Development in 2013 examined the implementation of the scheme.[67] It found several issues with the implementation of the scheme, including (i) fabrication of job cards, (ii) delay in payment of wages, (iii) non-payment of unemployment allowances, (iv) a large number of incomplete works, (v) poor quality of assets created, (vi) several instances of malpractices and corruption, and (vii) insufficient involvement of Panchayati Raj Institutions.

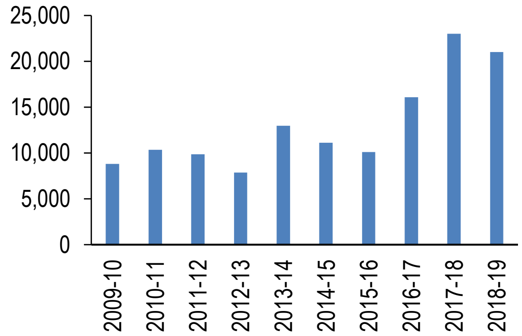
Pradhan Mantri Awaas Yojana- Gramin

This housing scheme, previously known as Indira Awaas Yojana, got the second highest allocation in the Department's budget this year. The funds allocated to the scheme comprise 19% of the Department's finances.

IAY was launched in May 1985 as a sub-scheme of Jawahar Rozgar Yojana.[68] Since January 1, 1996, it is being implemented as an independent scheme. Under IAY, financial assistance of Rs 70,000 in plain areas and Rs 75,000 in hilly areas is provided to rural BPL households for construction of a dwelling unit. Under PMAY-G, this has been enhanced to Rs 1,20,000 in plain areas and Rs 1,30,000 in hilly areas. The cost of unit assistance will be shared between the centre and state in the ratio of 60:40 in plain areas and 90:10 in hilly states. Additionally, the size of a dwelling unit is being increased from 20 square meters (sq. M) to up to 25 sq. M.

In 2018-19, the allocation to the scheme saw a decline of 8.7%, (from revised estimates of 2017-18 to budget estimates of 2018-19) this year.

Figure 12: Expenditure on PMAY over the years (Rs crore)



Note: Values for 2017-18 and 2018-19 are revised estimates and budgeted estimates respectively.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

Table 7 shows the trends in allocation and actual estimates of expenditure on rural housing scheme (previously IAY and now PMAY-G) over the past nine years. As can be observed, there has been substantial underutilisation of funds in 2012-13 and 2014-15. Under-expenditure affects the pace of construction of houses under the scheme.

Table 14: Budgeted versus actual expenditure on rural housing scheme

Year	Budgeted	Actuals	% of budgeted
2009-10	7,918	8,799	11%
2010-11	8,996	10,337	15%
2011-12	8,996	9,872	10%
2012-13	9,966	7,868	-21%
2013-14	13,666	12,981	-5%
2014-15	16,000	11,106	-31%
2015-16	10,025	10,116	1%
2016-17	15,000	16,071	7%
2017-18	23,000	23,000	0%

Note: The 'utilised' figure for 2017-18 is the revised estimate.
Sources: Union Budgets 2009-10 to 2017-18; PRS.

Targets in construction of houses: The budget speech announced that under the scheme, 51 lakh houses will be constructed in each year in 2017-18 and 2018-19. In last year's speech, the government had proposed to complete construction of one crore houses by 2019.[69] Table 8 shows the number of houses constructed under the scheme in the past five years.

Table 15: Houses constructed under PMAY-G

Year	Houses constructed
2013-14	74,855
2014-15	70,975
2015-16	1,21,959
2016-17	16,11,498
2017-18	5,77,543

Note: Data for 2017-18 is updated till February 23, 2018.
Sources: Yearwise breakup of houses completed report 2017-18, Pradhan Mantri Awaas Yojana; PRS.

Note that against the target of constructing 51 lakh houses in 2017-18, so far less than six lakh houses have been constructed in over 10 months.

Performance of the scheme: In August 2016, the Standing Committee on Rural Development examined the scheme. It observed that between 2012 and 2016, the number of houses constructed fell short of the target by 440 lakh units.[70] The number of houses that were not constructed were 8.8 lakh in 2013, 8.6 lakh in 2014 and 2.7 lakh in 2015.

Other issues: The Committee also noted issues such as insufficiency of funds, significant gaps between allocation and releases, and under-utilisation of released amount in the last few years.

It recommended that the Ministry needed to strengthen its data collection mechanism under the scheme to correctly evaluate the differences between targeted and constructed houses. It stated that his would also help in accurately estimating the actual rural housing shortage in the country.

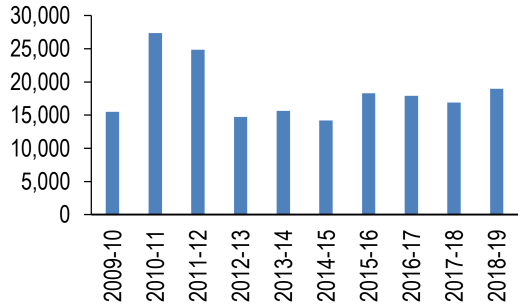
Upgradation of kutcha houses: Large number of kutcha houses are present in the states of Bihar (65.65lakh), Uttar Pradesh (48.3 lakh), Madhya Pradesh (47.45 lakh), etc. Special initiatives should be undertaken by the Ministry, state governments and other stakeholders to initiate the process of upgradation of houses. This will also help achieve the objective of housing for all by 2022 in a time-bound manner.

Pradhan Mantri Gram Sadak Yojana

Pradhan Mantri Gram Sadak Yojana was launched in December 2000 and seeks to provide all-weather road connectivity to all eligible unconnected habitations, existing in the core network in rural areas of the country. The scheme got the third highest allocation in the Department's budget this year. Expenditure on PMGSY accounts for 17% of the Department's expenditure in 2018-19.

As Figure 6 indicates, over the past ten years, the highest allocation was in 2010-11 at Rs 27,386 and has decreased to Rs 19,000 crore in 2018-19.

Figure 13: Expenditure on PMGSY over the years (Rs crore)



Note: Values for 2017-18 and 2018-19 are revised estimates and budgeted estimates respectively.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

Table 9 shows the trends in allocation and actual estimates of expenditure on PMGSY.

Table 16: Budgeted versus actual expenditure on Pradhan Mantri Gram Sadak Yojana

Year	Budgeted	Actuals	% of budgeted
2012-13	24,000	8,387	-65%
2013-14	21,700	13,095	-40%
2014-15	14,391	14,188	-1%
2015-16	14,291	18,290	28%
2016-17	19,000	17,923	-6%
2017-18	19,000	16,900	-11%

Note: The 'utilised' figure for 2017-18 is the revised estimate.
Sources: Standing Committee on Rural Development reports from 2012-13 to 2017-18; PRS.

Note that in most years, there has been significant underutilisation of funds, which in turn effects the construction of rural roads under the scheme.

Inconsistency in budgetary allocation: Standing Committees over the years have highlighted substantial reduction of funds at the revised estimates stage in this scheme.[71,72] Due to this short-fall in financial allocation, targets (habitations connected and road length constructed) have not been met over the years. From 2005-06 to 2017-18, 89% of the target habitation have been connected. States are yet to complete the roads to provide connectivity to the remaining habitations. The reasons given by the department include: (i) inadequate institutional capacity and limited contracting capacity in some states, (ii) non availability of sufficient qualified technical personnel including engineers, contractors, and (iii) non-availability of construction materials, limited working season and adverse climate conditions in some states.

Mismatch between targets and achievements: The CAG conducted an audit of the PMGSY for the period from April 2010 to March 2015.[73] It submitted its report in August 2016. It noted that the achievements under the scheme from 2010-11 to 2014-15 was more than the target set for those years. It reasoned that the targets were not realistically fixed. CAG also observed that despite a lower allocation at the revised estimates stage, achievements continued to be higher as compared to the targets.

Table 10 and 11 give details of length of roads constructed and habitations connected in the last ten years, under the scheme.

Table 17: Length of road constructed under PMGSY (KM)

Year	Target length	Completed length	Completed length (%)
2005-06	28,774	21,101	73%
2006-07	45,395	25,142	55%
2007-08	55,020	34,125	62%
2008-09	64,440	50,183	78%
2009-10	55,000	55,259	100%
2010-11	34,090	46,784	137%
2011-12	30,566	31,615	103%
2012-13	30,000	27,802	93%
2013-14	26,950	27,330	101%
2014-15	21,775	38,057	175%
2015-16	33,649	35,155	104%
2016-17	48,812	47,447	97%
2017-18	51,000	28,844	57%
Total	**5,25,471**	**4,68,844**	**89%**

Note: Data for 2017-18 is updated till February 13, 2018.
Sources: Pradhan Mantri Gram Sadak Yojana Online Management, Monitoring and Accounting System (OMMAS), Ministry of Rural Development; PRS.

Table 18: Habitations connected under PMGSY

Year	Target habitations	Connected habitations	Connected habitations (%)
2005-06	12,962	6,633	51%
2006-07	13,857	7,767	56%
2007-08	14,005	8,990	64%
2008-09	18,100	10,718	59%
2009-10	13,000	8,786	68%
2010-11	4,000	8,360	209%
2011-12	4,000	7,666	192%
2012-13	4,000	9,413	235%
2013-14	3,500	9,515	272%
2014-15	4,688	11,121	237%
2015-16	10,177	9,953	98%
2016-17	15,000	11,742	78%
2017-18	15,000	7,082	47%
Total	**1,32,289**	**1,17,746**	**89%**

Note: Data for 2017-18 is updated till February 13, 2018.
Sources: Pradhan Mantri Gram Sadak Yojana Online Management, Monitoring and Accounting System (OMMAS), Ministry of Rural Development; PRS.

Financial management: The CAG audit observed that from 2010-2012, states did not fully utilise the central assistance, which led to a substantial reduction of funds at the revised estimates stage from 2012-2015. The Department also reasoned that the reduction at the revised estimates stage was due to the availability of unspent balances from previous years with the states and the slow pace of implementation. In March 2017, the Standing Committee on Rural Development in its report stated that with enhanced funding for the scheme from 2015-16, the Ministry should ensure that: (i) finances are utilised optimally and properly, (ii) leakages are checked, (iii) utilisation certificates are received on time, and (iv) e-payments are the preferred mode for payments to contractors.[74]

Maintenance of roads: For ensuring sustainability of roads built under PMGSY, each contractor has to provide for: (i) defect liability for five years, and (ii) paid routine maintenance after completion of work. The Committee noted that 21% of the completed work under PMGSY was not properly maintained.[74] Further, only 15 states had formulated Rural Roads Maintenance Policy. Out of a target of training 7,271 persons, so far only 1,732 engineers and 1,020 contractors have been trained.

The Committee recommended that the Ministry should ensure that the remaining states expedite the process of formulating Rural Roads Maintenance Policy, in order for the roads built under the scheme to remain functional. A time-bound strategy should also be evolved to impart training to remaining engineers and contractors for proper maintenance of roads.

Upgradation of the scheme- PMGSY-II: In 2015, the government brought forward the completion date of PMGSY from 2022 to 2019. The government plans to achieve the target at an earlier date by providing enhanced financial allocation and modifying the funding pattern of the scheme. The sub-group of Chief Ministers on Rationalization of Centrally Sponsored Schemes has recommended that fund sharing pattern of PMGSY should be in the ratio of 60:40 between the centre and states.[75] The existing centre-state sharing is in the ration 75:25. This recommendation has been accepted by the Ministry. The allocation to the scheme was enhanced in 2016-17, but has been kept unchanged in 2017-18 and 2018-19. It remains to be seen how in the absence of an implementation plan, the target will be achieved within three years instead of the initially planned six years.

In March 2017, the Standing Committee on Rural Development in its report stated that till 2016, only eight states had transitioned into the second phase of the program.[74] Out of a target length of 50,000 km between 2012 and 2017, 13,525 km of road length has been sanctioned and 7,701 km has been competed in these eight states up to 2016. It recommended that necessary steps should be taken to achieve targets set under the scheme.

National Social Assistance Program

NSAP is a welfare program which comprises of a number of sub-schemes that primarily aim to provide public assistance to citizens in case of unemployment, old age, sickness and any form of disability. The scheme has been in existence since 1995. NSAP got the fourth highest allocation under the Department's budget. The funds allocated to the scheme comprise 9% of the Department's finances.

Table 12 below shows the budget estimates, revised estimates, and actual expenditure by states under the scheme from 2012-13 to 2015-16.

Table 19: Expenditure under NSAP (Rs crore)

Year	B.E.	R.E.	Actuals	% change (Actual/BE)
2012-13	8,447	7,885	6,912	-18.2%
2013-14	9,615	9,615	8,534	-11.2%
2014-15	10,635	7,241	7,087	-33.4%
2015-16	9,082	9,082	8,616	-5.1%
2016-17	9,500	9,500	8,854	-6.8%

Sources: Standing Committee on Rural Development 2016-17 and 2017-18; Union Budget 2018-19; PRS.

The Standing Committee examining the scheme noted that there was a huge shortfall of funds between the revised estimates and actuals stage.[72] It said that this impacts the implementation of the scheme and also affects the beneficiaries. The table below shows the number of beneficiaries under the various sub-schemes of NSAP.

Table 20: Number of beneficiaries under the various sub-schemes of NSAP (lakhs)

	Number of beneficiaries reported			
	2014-15	2015-16	2016-17	2017-18
IGNOAPS	230	230	210	213
IGNWPS	60	60	60	57
IGNDPS	10	8	8	7
NFBS	3	4	2	3
Annapurna	9	4	2	-
Total	**312**	**306**	**282**	**280**

Note: Data for 2017-18 is updated till January 2018.
Sources: Unstarred question No. 2874 and 1033, answered on December 04, 2018 and February 8, 2018, Ministry of Rural Development; Standing Committee Report on Rural Development 2017-18; PRS.

As can be observed, the number of beneficiaries has fallen by 10% in the last four years, from 2014-15 to 2017-18.

National Rural Livelihoods Mission

National Rural Livelihoods Mission (NRLM) aims at creating efficient and effective platforms for the rural poor and in the process, increase their household income. The mission aims to achieve this through sustainable livelihood enhancements and improved access to financial services. The scheme has been in existence since July 2011. The scheme got the fifth highest allocation under the Department's budget. The funds allocated to the scheme comprise 4% of the Department's finances.

NRLM has been renamed as Deen Dayal Antyodaya Yojana. Under the programme, one woman from each poor household is brought into Self Help Groups (SHGs). The programme envisages universal coverage of all 8-9 crore rural poor households to be organised into 70-75 lakh SHGs and their federations at the village and cluster level by 2024-25.

Table 14 below shows the actual expenditure by states under the scheme from 2012-13 to 2015-16.

Table 21: Expenditure under NRLM (Rs crore)

Year	B.E.	R.E.	Actuals	% change (Actual/BE)
2012-13	3,915	2,600	2,195	-43.9%
2013-14	4,000	2,600	2022	-49.5%
2014-15	4,000	2,186	1,413	-64.7%
2015-16	2,705	2,597	2,514	-7.1%
2016-17	3,000	3,000	3,157	5.2%
2017-18	4,500	4,350	-	-

Note: From 2015-16, allocation to start-up village entrepreneurship program has also been included.
Sources: Union Budgets 2012-13 to 2017-18; PRS.

The Standing Committee examining the scheme noted that substantial reduction at the revised estimates stage affects the implementation of the scheme.[72] It has been observed that one of the major issues under the scheme is lack of awareness resulting in ineffective social mobilisation and institution building. Another issue that has been pointed out is the lack of experienced and trained professionals at state, district and block levels to mentor and train the Self Help Groups.

It has been recommended that baseline surveys for beneficiary identification should be fast tracked for better implementation of the scheme.[72]

Department of Land Resources

The Department of Land Resources implements two key schemes: (i) Integrated Watershed Development Component of Pradhan Mantri Krishi Sinchai Yojana, and (ii) Digital India Land Records Modernisation Programme.

This year, the department saw a 37% increase in allocation over the revised estimates of 2017-18.

Out of the Rs 2,511 crore allocated to the department, Rs 2,251 crore will be spent on Pradhan Mantri Krishi Sinchai Yojana, and Rs 250 crore will be spent on Land Records Modernisation Programme.

Table 22: Budgetary allocation to the Department of Land Resources (Rs crore)

Major head	Actual 16-17	Revised 17-18	Budgeted 18-19	% change (RE to BE)
PMKSY	1,511	1,722	2,251	30.7%
DILRMP	139	100	250	150%
Secretariat	9	10	10	0%
Total	**1,658**	**1,832**	**2,511**	**37.1%**

Note: PMKSY is Pradhan Mantri Krishi Sinchai Yojana. DILRMP is Digital India Land Records Modernisation Programme. BE is budget estimate and RE is revised estimate.
Sources: Demands for Grants 2018-19, Department of Land Resources, Ministry of Rural Development; PRS.

Digital India Land Records Modernisation Programme (DILRMP): DILRMP is a part of the Digital India initiative.[76] The scheme was changed into a Central Sector Scheme in April 2016.[77] With this change, the scheme will now be implemented by the central government with 100% of the grants coming from the centre. Between 2009 and 2016, about Rs 946 crore was sanctioned by the central government under DILRMP, of which Rs 412 crore was released.[78] The major components of DILRMP are:

(i) computerisation of all existing land records including mutations (or transfers);

(ii) digitization of maps, and integration of textual and spatial data;

(iii) survey/ re-survey, and updating of all survey and settlement records including creation of original cadastral records (record of the area, ownership and value of land) wherever necessary;

(iv) computerisation of registration and its integration with the land records maintenance system; and

(v) development of core Geospatial Information System (GIS) and capacity building.

DILRMP intends to eventually move from the existing system of presumptive titles to conclusive and state guaranteed titles. The conclusive title system is based on four basic principles:

(i) A single window system for land records which will provide for the maintenance and updating of textual records, maps, survey and settlement operations and registration of immovable property.

(ii) The cadastral records reflect all the significant and factual details of the property titles.

(iii) The record of title is a true depiction of the ownership status, mutation is automatic following registration, and the reference to past records is not necessary.

(iv) Title insurance, which means that the government guarantees the title for its correctness, and will compensate the title holder against losses arising due to defects in the title.

Financial progress: In 2018-19, the programme has been allocated Rs 250 crore, which is an increase of 150% over the revised estimates of 2017-18. Table 16 shows the trends in allocation and actual estimates of expenditure on DILRMP over the past nine years. Note that there is significant underspending across all the years.

Table 23: Budgeted versus actual expenditure on Land Records Modernisation Programme (Rs crore)

Year	Budgeted	Actuals	% of budgeted
2009-10	360	199	-44.7%
2010-11	200	156	-22.0%
2011-12	150	106	-29.3%
2012-13	150	95	-36.7%
2013-14	378	213	-43.7%
2014-15	250	179	-28.4%
2015-16	90	40	-55.6%
2016-17	150	139	-7.3%
2017-18	150	100	-33.3%

Note: The 'utilised' figure for 2017-18 is the revised estimate.
Sources: Union Budgets 2009-10 to 2017-18; PRS.

From 2008 till September 2017, 64% of the funds released under DILRMP have been utilised.

Progress under DILRMP: DILRMP is currently being implemented in all states, but with differential progress.[79] We look at the progress of the different components of the programme below.

Computerisation: As of September 2017, six states/ union territories (UTs) have completed computerisation of land records (100% complete), 10 states/ UTs have completed between 95%- 99%, and five states/ UTs have not started. 19 states/ UTs have started issuing digitally signed RoRs. Of these, in five states, more than 95% of the villages have been issuing digitally signed RoRs. 18 states/ UTs have started linking cadastral maps to the RoRs. Out of these, two states (Odisha and Tripura) have almost completed this process.

Further, 86% of land records have been computerised. This implies that the current land record on paper has been digitised and uploaded on system, from which citizens can access this information. However, only 47% of the mutation records (recording the transfer of ownership) have been computerised. This means that the remaining 53% of the records have not been updated with the current data on ownership. If the intent of digitising records is to have easy access to correct data, real time updating of property records becomes essential. However, real time updation of RoR and maps has been done for only 15% of the land records. The RoR is the primary record that shows how rights on land are derived for the land owner, and records the property's transactions from time to time. Typically, it provides (i) names of all persons who have acquired some rights with regard to the land, (ii) the nature and limits of their rights, and (iii) the rent or revenue to be paid by them.

About 46% of the cadastral maps have been digitised so far. Further, only 39% of the spatial data has been verified. This could mean that the digitised records are still incomplete, as 61% of the records would not have updated spatial data. Further, this could imply that spatial records of land are at variance from the information in RoRs. Consequently, one can see that only 26% of cadastral maps have been linked to RoRs. As has been noted by various expert committees, most spatial records date back several years, implying that they may not reflect changes in property records.[80] Under the DILRMP, re-survey and survey work has been carried out in only 9% of the villages.

Survey and re-surveys: In December 2016, certain changes were made to DILRMP.[81] As per the changes, survey or re-survey operations will be conducted only when the RoR, or field book or map are not available or are destroyed/ damaged/ outdated. Further, if there is a difference between the area recorded in both the documents, the area recorded in the RoR will prevail. Note that 20 states/ UTs have not started the process of survey/ re-survey.

Note that most of the 6.4 lakh villages in the country were surveyed and their cadastral maps prepared during the late 19th and early 20th century. In rural areas, more than 140 million land owners have more than 430 million records.[80] There are about 92 million ownership holdings, each with four to six parcels of holdings. The survey/ re-survey has to be done for each plot of land. Further, the government and each land owner must arrive at an agreement certifying that the owner is satisfied with the survey.[80] This further necessitates the need to undertake surveys on a periodic basis to update information in cadastral maps. The Expert Committee on Land Titling (2014) had recommended that for a guaranteed titling system, it is essential that the spatial and textual records are integrated and unified, so that there is no gap between the two.[82]

Capacity building: The entire process of data collection and storage with regard to land records happens at the village, city, or block level. The Committee on State Agrarian Relations (2009) had observed that for updating land records and strengthening land management, there is a need to build capacity among officials at all levels. It recommended that, with the introduction of new technology such as GIS, GPS and use of satellite imagery to update land records, manpower responsible for upgradation, registration, and maintenance of land records should be adequately trained and skilled.

Estimates suggest that this training exercise has to be carried out for one-two lakh *patwaris*, over 50,000 survey staff, and in approximately 5,000 tehsils, and 4,000 registration offices.[80] The Standing Committee on Rural Development in 2016 also recommended the need to enhance the capacity at the level of *patwari* and *tehsildar* for effective implementation of DILRMP.[83]

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[63] The National Rural Employment Guarantee Act, 2005, http://nrega.nic.in/amendments_2005_2016.pdf.

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http://nrega.nic.in/netnrega/writereaddata/Circulars/1850Planning_for_works_and_Preparation_of_Labour_Budget.pdf.

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[68] Pradhan Mantri Awaas Yojana- Gramin, last accessed on February 27, 2017, http://iay.nic.in/netiay/about-us.aspx.

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[70] "Pradhan Mantri Awaas Yojana", Standing Committee on Rural Development, August 31, 2016, http://164.100.47.193/lsscommittee/Rural%20Development/16_Rural_Development_26.pdf.

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[74] 36th Report, Standing Committee on Rural Development (2016-17): 'Pradhan Mantri Gram Sadak Yojana', Lok Sabha, March 20, 2017, http://164.100.47.193/lsscommittee/Rural%20Development/16_Rural_Development_36.pdf.

[75] Report of the sub-group of Chief Ministers on Rationalization of Centrally Sponsored Schemes, NITI Aayog, October 2015, http://niti.gov.in/writereaddata/files/Final%20Report%20of%20the%20Sub-Group%20submitter%20to%20PM.pdf.

[76] Digital India Land Records Modernization Program, Department of Land Resources, Ministry of Rural Development, http://nlrmp.nic.in/faces/common/home.xhtml.

[77] "Rationalization of Centrally Sponsored Scheme DILRMP as Central Sector Scheme", Department of Land Resources, Ministry of Rural Development, September 22, 2016, http://dolr.nic.in/dolr/downloads/PDFs/DILRMP%20Clarifications%202016-09-22.pdf.

[78] Sanction and release towards institutions under Digital India Land Records Modernization Program, http://nlrmp.nic.in/faces/rptFinancial/institutionalRpt.xhtml?id=./../master/institutional.xhtml.

[79] "Digital India Land Records Modernization Programme - MIS 2.0", Department of Land Resources, Ministry of Rural Development, Last accessed on September 22, 2017, http://nlrmp.nic.in/faces/rptPhysicalHome/rptStateGenericDetail.xhtml?id=./../master/physical.xhtml

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[81] "Survey/re-survey under Digital India Land Records Modernization Programme [Policy circular no. I of 2016]", Department of Land Resources, Ministry of Rural Development, December 8, 2016, http://dolr.nic.in/dolr/downloads/PDFs/DILRMP%20Policy%20Circular%201%20of%202016%20regarding%20Survey%20Resurvey%202017-03-08.pdf.

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Demand for Grants 2018-19 Analysis

Home Affairs

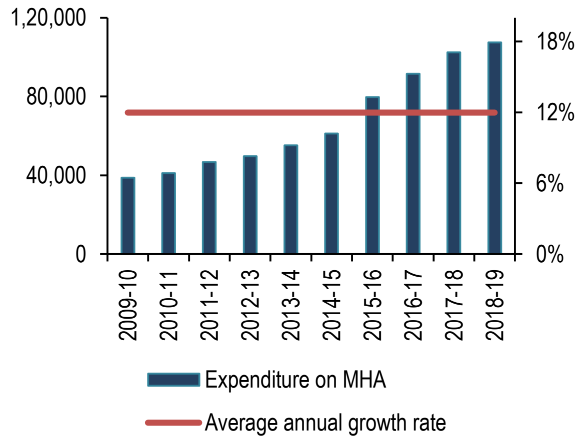
The Ministry of Home Affairs is responsible for matters concerning internal security, centre-state relations, central armed police forces, border management, and disaster management. In addition, the Ministry also makes certain grants to the union territories. This note analyses the expenditure trends and budget proposals for the Ministry of Home Affairs for 2018-19, and presents some issues in the sector.

Overview of Finances[84]

The Ministry of Home Affairs (MHA) has been allocated Rs 1,07,573 crore in Union Budget 2018-19. This is an increase of 5.1% over the revised estimates in 2017-18, which was Rs 1,02,391 crore. Further, this is 10.7% higher than the budget allocation of last year, which was Rs 97,187 crore. The budget for the Ministry of Home Affairs constitutes 4.4% of the total expenditure budget of the union government in 2018-19.

Figure 1 below shows the allocation to the Ministry of Home Affairs between 2009 to 2018. The average annual growth rate in the allocation over the last ten years has been 12%.

Figure 14: Allocation to Ministry of Home Affairs (in Rs crore) (2009-18)



Sources: Union Budget 2011-18; PRS.

Of the total budget estimates for 2018-19, (i) 81.7% of the expenditure is on police; (ii) 13.1% is on grants made to union territories (UTs), and (iii) 5.2% is on miscellaneous items such as disaster management, rehabilitation of refugees and migrants, census and Cabinet. Table 1 shows the allocations to the main heads under the Ministry of Home Affairs in the Union Budget over the last three years.

Table 24: Ministry of Home Affairs budget estimates (in Rs crore) (2018-19)

	2016-17 Actuals	2017-18 RE	2018-19 BE	% Change (BE 18-19/RE 17-18)
Police	73,054	82,293	87,887	6.8%
UTs*	13,258	14,248	14,123	-0.9%
Others (includes disaster management)**	5,306	5,850	5,563	-4.9%
Total	**91,618**	**1,02,391**	**1,07,573**	**5.1%**

Source: Union Budget, 2017-18; PRS.
Note: * Includes grants made to administer the seven UTs.
**Includes expenditure on disaster management, social security, rehabilitation of refugees and migrants, census, civil defence, secretariat, and cabinet.
RE: Revised Estimates; BE: Budget Estimates

Police: For 2018-19, Rs 87,887 crore has been allocated toward police. Budget estimates for police has increased by 6.8% from revised estimates for 2017-18, which was Rs 82,293 crore.

Under the Constitution, police and public order are state subjects. However, the central government supplements the efforts of the states to fight extremism.[85] The centre is responsible for the seven central armed police forces and the Delhi police. In addition, it provides the infrastructure for border management and intelligence gathering.

The central government also supports the expenditure towards the state police through centrally sponsored schemes for modernisation of police forces.

Grants and loans to Union Territories: Around 13.1% of the Ministry's budget, i.e. Rs 14,123 crore, has been allocated for grants and loans for the administration of union territories. This includes the five union territories without legislatures (Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep), and the two union territories with legislatures (Delhi and Puducherry).

The 2018-19 budget estimates for grants and loans to union territories has seen a marginal decrease of 0.9% from revised estimates for 2017-18, which was Rs 14,248 crore.

Other items: Other miscellaneous expenditure items of the Ministry of Home Affairs have been allocated Rs 5,563 crore. This includes subjects such as disaster management, rehabilitation of refugees and migrants, and administrative matters (relating to the census, the secretariat and Cabinet). Expenditure on

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these items constitutes 5.2% of the Ministry's total budget for 2018-19.

Analysis of key areas of expenditure

This section discusses the trends in expenditure of the police as it constitutes the largest proportion (82%) of the total budgetary allocation of the Ministry of Home Affairs.

Police

In 2018-19, Rs 87,887 crore has been budgeted for police expenditure. Table 2 below details the allocations made to major items of expenditure related to police.

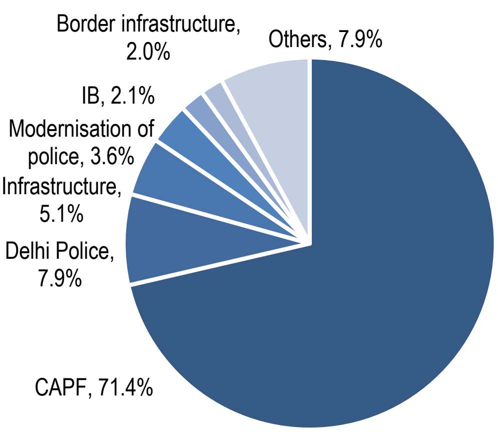
Table 25: Major expenditure items under police (in Rs crore)

	2016-17 Actuals	2017-18 Revised	2018-19 Budget	% Change (BE 18-19/RE 17-18)
Central Armed Police Forces	52,474	58,149	62,741	7.9%
Delhi Police	5,837	6,553	6,946	6.0%
Police Infrastructure*	2,904	4,470	4,490	0.4%
Modernisation of police	2,230	2,577	3,157	22.5%
Intelligence Bureau (IB)	1,611	1,883	1,876	-0.3%
Border infrastructure	1,614	2,040	1,750	-14.2%
Others**	6,385	6,621	6,926	4.6%
Total	**73,054**	**82,293**	**87,887**	**6.8%**

Source: Union Budget 2018-19; PRS.
Notes: *Infrastructure for Delhi Police is covered separately under the head of 'Police Infrastructure'. ** Other items include heads such as schemes for safety of women, education and research, criminology and forensic science, Land Port Authority of India, and India Reserve Battalion.

The Central Armed Police Forces (CAPFs) account for the largest share of expenditure under police (71%). Figure 2 below shows the proportion of various items related to police expenditure.

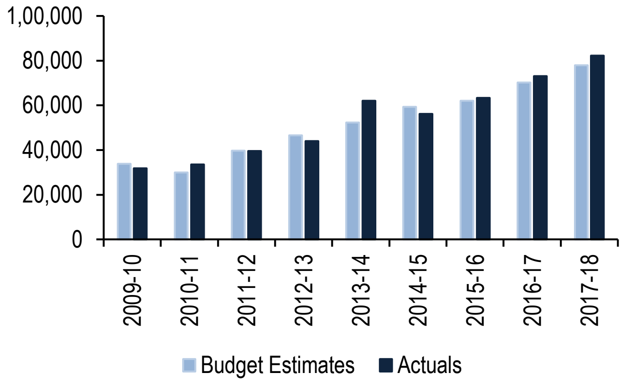
Figure 15: Composition of police expenditure



Source: Union Budget 2018-19; PRS.
Note: IB is Intelligence Bureau.

The total budget for police for 2018-19 has increased by 6.8% over the revised estimates of 2017-18. Figure 3 below shows the comparison of budget estimates and actuals for police over the last nine years.

Figure 16: Budget estimates vs actuals for police (in Rs crore) (2009-18)



Sources: Union Budgets 2011-17; PRS.
Note: Revised Estimates used for 2017-18.

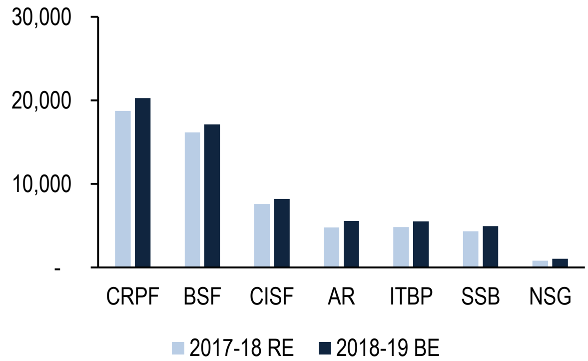
The actuals for police expenditure have been higher than budget estimates in five out of nine years.

Central Armed Police Forces

The Ministry of Home Affairs is responsible for seven central police forces: (i) Central Reserve Police Force (CRPF) which assists in internal security and law and order, (ii) Central Industrial Security Force (CISF) which protects vital installations (like, airports) and public sector undertakings, (iii) National Security Guards (NSG) which is a special counter-terrorism force, and (iv) four border guarding forces, Border Security Force (BSF), Indo-Tibetan Border Police (ITBP), Sashastra Seema Bal (SSB) and Assam Rifles (AR).

Figure 4 shows the budget allocation to each of the seven central armed police forces for 2018-19, compared to the revised estimates of 2017-18.

Figure 4: Budget vs revised estimates for CAPFs (in Rs crore) (2018-19)



Source: Union Budget 2018-19; PRS.

For 2018-19, the Central Reserve Police Force has been allocated 32.2% of the total budget for central armed police forces, i.e. Rs 20,268 crore. The second highest expenditure is towards the Border Security Force which has been allocated 27.3% of the total budget, i.e. Rs 17,119 crore.

Vacancies

Data from the Bureau of Police Research and Development shows that vacancies among CAPFs has been a persistent issue.[86] As of January 2017, the total sanctioned strength of the seven central armed police forces was 10,78,514.[87] However, 15% of these posts (i.e. 1,58,591 posts) were lying vacant. Table 3 below shows the percentage of vacancies in the seven CAPFs over the last six years.

Table 26: Vacancies in CAPFs (2012-17)

Year	Sanctioned strength (in lakhs)	Actual strength (in lakhs)	% of vacancies
2012	8.9	7.6	**14%**
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%**

Sources: "Data of Police Organizations", Bureau of Police Research and Development, 2012-17; PRS.
Note: Figures for each year are as of January 1 of that year.

In January 2017, the Sashastra Seema Bal had a very large number of vacancies (57%). The Central Reserve Police Force, which accounts for 30% of the total sanctioned strength of the seven CAPFs, had a vacancy of 8%.

Service conditions and pay

The Standing Committee on Home Affairs in the year 2017 had expressed concern over working conditions of personnel of the border guarding forces (BSF, ITBP, SSB and AR). The Committee observed that they had to work for 16-18 hours a day, with little time for rest and sleep.[88] They were also not satisfied with medical facilities that had been provided at border locations.

Further, the Committee noted that personnel of the Central Armed Police Forces had not been treated at par with the Armed Forces, in terms of pay and allowances.[88] The demand for Paramilitary Service Pay, similar to Military Service Pay, had not been agreed to by the Seventh Central Pay Commission.[88] In addition, the Committee observed that hard-area allowance for personnel of the border guarding forces was much lower as compared to members of the Armed Forces, despite being posted in areas with difficult terrain and harsh weather.

Border Infrastructure and Management

Allocations to border infrastructure and management include outlays for maintenance of border works, border check posts, border out posts, and capital outlays for various items including barbed wire fencing, construction of roads, and Hi-tech surveillance on Indo-Bangladesh and Indo-Pakistan borders. Additionally, it includes capital outlays for construction activities at India's international borders, and for setting up mobile check posts in coastal areas. Table 4 shows the expenditure under this provision.

Table 27: Expenditure related to border infrastructure and management (in Rs crore)

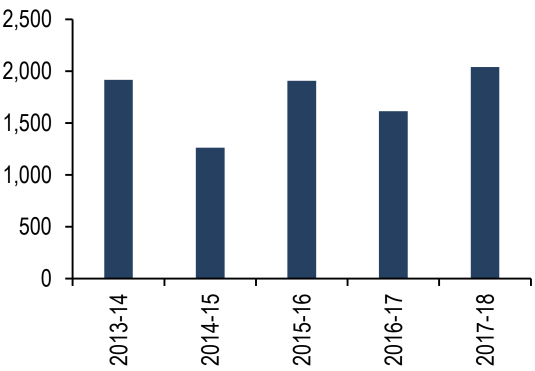
	2016-17 Actuals	2017-18 Revised	2018-19 Budget	% Change BE 18/19/ RE 17-18
Maintenance and Border Check Post	204	263	169	-35.6%
Capital Outlay	1,410	1,777	1,581	-11.0%
Total	**1,614**	**2,040**	**1,750**	**-14.2%**

Source: Union Budget 2018-19; PRS.

For 2018-19, Rs 1,750 crore has been budgeted for border infrastructure and management. This is 14.2% lower than the 2017-18 revised estimates. In 2017-18, the budget estimates for border infrastructure and management was Rs 2,600 crore.

Figure 5 below shows the expenditure (actuals) on border infrastructure and management for the last five years. The expenditure on this item has increased on average by 2% over this period.

Figure 5: Expenditure on border infrastructure and management (in Rs crore) (2013-18)



Sources: Union Budgets 2015-18; PRS.
Note: Revised Estimates used for 2017-18.

Delays in project implementation

The Standing Committee on Home Affairs observed in 2017 that infrastructure projects at borders have faced delays, particularly due to problems in land acquisition.[88,89] Demands for compensation, by farmers residing in border areas, had not been met.[88] The Committee had also observed that funds allocated for infrastructure projects at the border have been underutilised.[89]

The coastal security scheme is a part of border infrastructure and management. The Standing Committee on Home Affairs had noted in 2017, that implementation of this scheme within the set timeframe has not been possible for reasons including delay in procurement of motor boats.[88] Various other issues that have affected coastal security include inadequate infrastructure of Indian Coast Guard (ICG) and coastal police forces, and lack of coordination between the Indian Navy, ICG, and coastal police.[88]

Institutional mechanism for border security

In its report of 2017, the Standing Committee on Home Affairs examined the institutional mechanism in place for improving border security, particularly the functioning of agencies such as the National Intelligence Grid (NATGRID) and the Multi-Agency Centre (MAC).[88]

The NATGRID was created to connect intelligence and law enforcement agencies with organisations that provide data (such as banks, and airlines), to enhance counterterrorism capacity. The Committee noted that various issues remain in implementation of the project including non-procurement of equipment, and several vacancies of technical consultants.[88]

The MAC was set up to coordinate intelligence inputs for counterterrorism. Subsidiary Multi Agency Centres (SMACs) have been set up in various states for streamlining intelligence efforts. The Committee had observed that the contribution of state-level agencies has been low in the inputs received by the MAC, which may signal weak intelligence gathering capacity of states.[88]

Modernisation of Police Forces (MPF)

For 2018-19, the central government has made allocations towards four items related to modernisation of police force. These include: (i) Modernisation of State Police Forces Scheme; (ii) the Crime and Criminal Tracking Network and Systems (CCTNS) scheme; (iii) Security related expenditure (SRE) scheme; and (iv) Special Infrastructure scheme (SIS) for Left Wing Areas. The allocations over the last three years is outlined in Table 5 below.

Table 28: Expenditure related to modernisation of police (in Rs crore)

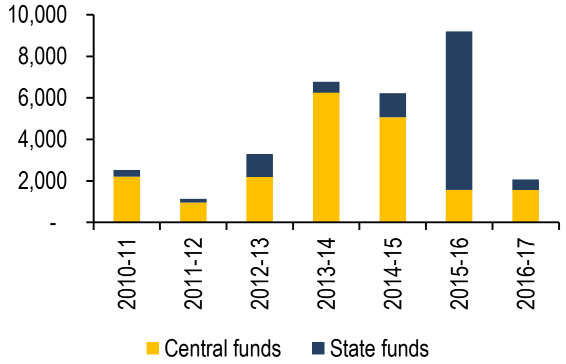
	2016-17 Actuals	2017-18 Revised	2018-19 Budget	% Change BE 18-19/RE 17-18
SRE and SIS for LWE areas	1,390	1,766	2,260	28.0%
Modernisation of State Police Forces and CCTNS	840	811	897	10.6%
Total	**2,230**	**2,577**	**3,157**	**22.5%**

Source: Union Budget 2018-19; PRS.

Financing of the MPF scheme has changed over the years. Following recommendations of the Fourteenth Finance Commission, it was decided that the scheme would be delinked from central government funding from 2015-16 onwards.[90] However the Standing Committee on Home Affairs, in 2015 and 2017, highlighted the strategic importance of the scheme, and the improvements brought about in infrastructure of state police forces throughout the country.[89,91] In September 2017, the Union Cabinet approved an outlay of Rs 25,060 crore under the scheme, for the period 2017-18 to 2019-20.[92]

For the year 2018-19, Rs 3,157 crore has been budgeted for the scheme. This is an increase of 22.5% over the 2017-18 revised estimates of Rs 2,577 crore. Figure 6 below shows the amount of modernisation funds (central and state) made available between 2010 and 2017. Note that there is a sharp decline in central funds after 2015-16.

Figure 6: Central and state funds for modernisation of police scheme (in Rs crore) (2010-17)



Sources: "Data on Police Organizations", Bureau of Police Research and Development, 2011-17; PRS.

Modernisation of state police forces (MSPF) scheme

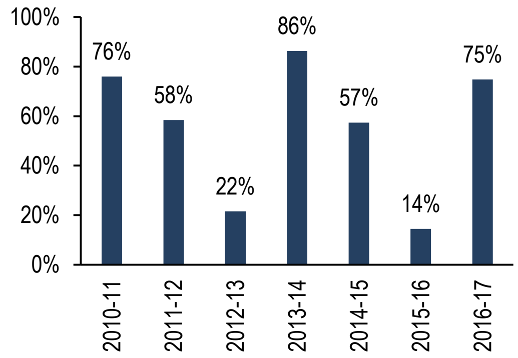
Funds from the MSPF scheme are utilised for improving police infrastructure through construction of police stations, and provision of modern weaponry, surveillance, and communication equipment. Upgradation of training infrastructure, police housing, and computerisation are also important objectives under the scheme.

Some of the issues regarding the MSPF scheme are analysed below.

Misuse of funds: The Standing Committee on Home Affairs noted in 2017 that funds meant for mobility, communication, weapons, and equipment have been misused by states for procuring vehicles.[89] This misuse was happening despite releasing funds after obtaining utilisation certificates from states.

Underutilisation of funds: Data from the Bureau of Police Research and Development, shows that there has been a persistent problem of underutilisation of modernisation funds.[93] In 2016-17, the centre and states allocated Rs 2,066 crore for modernisation, of which Rs 1,546 crore (75%) was utilised. In the previous year, only 14% of the modernisation funds was utilised. Figure 7 below shows the level of utilisation of modernisation funds between 2010-11 and 2016-17.

Figure 7: Utilisation of funds for modernisation (%)



Sources: Data on Police Organizations, Bureau of Police Research and Development, 2011-17; PRS.

***Construction**:* Construction of well secured police stations and houses for police personnel is an important component of the scheme.[94] The Comptroller and Auditor General (CAG) has observed that there were considerable delays in construction of residential and non-residential buildings in most states.[94,95]

Other expenditure items

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.[96] It is responsible for various aspects of disaster management including capacity building, mitigation, and response to natural calamities and man-made disasters.[89] Table 6 below shows the allocation for various items related to disaster management.

Table 29: Expenditure on major items related to disaster management (in Rs crore)

	2016-17 Actuals	2017-18 Revised	2018-19 Budget	% Change BE 18-19/RE 17-18
National Disaster Response Fund*	6,450	3,660	2,500	-31.7%
Relief on Account of Natural Calamities	741	859	955	11.1%
National Disaster Response Force	710	793	864	9.0%
National Cyclone Risk Mitigation Programme (including World Bank assistance)	634	630	604	-4.2%
Infrastructure for Disaster Management	141	203	240	18.2%

Source: Union Budget 2018-19; PRS.
*Allocation to the National Disaster Response Fund is made by the Ministry of Finance.

Some of these allocations and issues related to disaster management are examined below.

National Disaster Response Fund

The Disaster Management Act, 2005, mandates the creation of a National Disaster Response Fund and State Disaster Response Funds.[97] Relief assistance is provided to states from the National Disaster Response Fund in case of severe natural calamities, where the State Disaster Response Fund is insufficient to cover the required expenditure.[98] 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.[98] For the year 2018-19, a budgetary allocation of Rs 2,500 crore has been made to the fund, which is a 31.7% decrease from the revised estimates of 2017-18.

The CAG, in 2013, observed that funds have been released to states from the National Disaster Response Fund, despite availability of balances in the State Disaster Response Fund.[99]

In 2015, the Standing Committee on Home Affairs examined the response to Cyclone Hudhud in states of Andhra Pradesh and Odisha.[100] The Committee recommended that the National Disaster Response Fund should be expanded to cover reconstruction and mitigation components of disaster management. Further, advance amounts should be released to states when severe calamities occur, without waiting for assessment and clearance of the central government. In addition, the Committee found that only sixteen states (as of December 2015) had created State Disaster Response Funds.

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 and Union Territories that are prone to cyclone hazards. Key objectives of the project include: (i) improving early warning dissemination systems, (ii) construction and maintenance of cyclone shelters, (iii) improved access and evacuation through construction of roads and bridges, and (iv) enhance capacity of local communities to respond to disasters.

For 2018-19, a budgetary allocation of Rs 3.94 crore has been made to this project. This is a 16.2% increase from the revised estimates for 2017-18, which was R 3.4 crore. The Standing Committee on Home Affairs observed in 2017 that construction activity under the project had been delayed.[89] Many of the shelters, roads, and bridges were still under execution, and several other projects were in various stages of finalisation, environmental clearance, and the tendering process.

The NCRMP also contains a provision for expenditure on 'National Cyclone Risk Mitigation Project with World Bank Assistance', to reduce the vulnerability of coastal states which are prone to cyclone hazards.[89]

For 2018-19, a budgetary allocation of Rs 600 crore has been made for this provision. It has decreased by 4.3% from the 2017-18 revised estimates, which was Rs 690 crore.

National Disaster Response Force

The National Disaster Response Force (NDRF) is a specialised force that is responsible for disaster response and relief. For 2018-19, the budget estimates for the NDRF is Rs 864 crore. This is 9% higher than the revised estimates of Rs 793 crore, for 2017-18.

Recruitment policy

The Ministry of Home Affairs constituted a Task Force in 2010 to review the Disaster Management Act, 2005, which submitted its report in 2013.[101] The Task Force noted that personnel in the NDRF are recruited from different Forces and go back after a specified period. The skills and expertise that they develop, may not be available for disaster response after they leave the force.

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Annexure

Table 30: Allocation to the Ministry of Home Affairs (in Rs crore)

Major Head	2017-18 Budget	2017-18 Revised	% Change RE 2017-18 v BE 2017-18	2018-19 Budget	% Change BE 2018-19 v BE 2017-18	% Change BE 2018-19 v RE 2017-18
Police	78,000	82,293	5.5%	87,887	12.7%	6.8%
Miscellaneous*	5,100	5,100	0.0%	4,793	-6.0%	-6.0%
UTs without legislature	11,116	12,007	8.0%	11,857	6.7%	-1.2%
Grants & Loans to Delhi & Puducherry	2,241	2,241	0.0%	2,266	1.1%	1.1%
Cabinet	730	750	2.7%	770	5.5%	2.7%
Total	**97,187**	**1,02,391**	5.4%	**1,07,573**	**10.7%**	**5.1%**

Source: Union Budget 2017-18; PRS.
Note: *Includes expenditure on disaster management, social security, rehabilitation of refugees, migrants, census, civil defence, secretariat.

Table 8: Vacancies in the CAPFs (as of January 2017)

CAPF	Number of battalions	Sanctioned strength	Actual strength	% of vacancies
CRPF	239	3,22,066	2,96,404	8%
BSF	186	2,57,365	2,52,984	2%
CISF	395	1,44,418	1,32,091	9%
ITBP	106	89,912	83,462	7%
AR	46	66,411	64,972	2%
SSB	69	1,87,498	80,215	57%
NSG	-	10,844	9,795	10%
Total	**-**	**10,78,514**	**9,19,923**	**15%**

Source: "Data on Police Organizations", Bureau of Police Research and Development, 2017; PRS.
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.

Table 9: Expenditure of the Central Armed Police Forces (in Rs crore)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
CRPF	8,912	9,983	11,124	12,747	14,327	16,804	18,720
BSF	8,160	9,095	10,294	11,687	12,996	14,909	16,189
CISF	3,227	3,798	4,301	4,955	5,662	6,563	7,604
ITBP	2,022	2,506	3,051	3,399	3,773	4,641	5,073
AR	2,821	2,901	3,276	3,450	3,848	4,724	4,925
SSB	1,750	2,179	2,719	3,148	3,418	4,045	4,595
NSG	502	500	498	527	569	697	946
Total	**27,394**	**30,962**	**35,263**	**39,913**	**44,591**	**52,383**	**58,052**

Sources: Union Budget 2013-14 to Union Budget 2017-18; PRS.
Notes: Actuals used for all years except 2017-18. Revised Estimates data used for 2017-18; 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.

Table 10: Utilisation of funds for police modernisation (in Rs crore)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Funds available	2,538	1,150	3,289	6,777	6,217	9,203	2,066
Funds utilised	1,928	671	708	5,848	3,566	1,330	1,546
% of utilisation	76%	58%	22%	86%	57%	14%	75%

Sources: "Data on Police Organizations", Bureau of Police Research and Development, 2011-17; PRS.

Table 11: State-wise utilisation of funds for police modernisation (2016-17) (in Rs crores)

States	Central government funds	State government funds	Total funds available	Funds utilised	% of utilisation
Andhra Pradesh	22.7	9.5	32.2	NA	NA
Arunachal Pradesh	2.2	2.6	4.7	2.1	44%
Assam	3.7	NA	NA	60.0	NA
Bihar	26.6	17.3	43.9	20.0	46%
Chhattisgarh	0.7	NA	NA	0.7	NA
Goa	1.4	1.6	2.9	0.3	9%
Gujarat	22.5	15.8	38.3	18.7	49%
Haryana	15.5	14.9	30.4	24.4	80%
Himachal Pradesh	0.4	NA	NA	0.4	NA
Jammu & Kashmir	62.6	27.0	89.6	40.0	45%
Jharkhand	22.4	5.9	28.3	13.3	47%
Karnataka	34.7	23.1	57.8	15.8	27%
Kerala	2.0	32.6	34.7	13.1	38%
Madhya Pradesh	3.4	NA	NA	2.0	NA
Maharashtra	10.3	29.1	39.4	5.8	15%
Manipur	6.7	NA	NA	NA	NA
Meghalaya	NA	NA	NA	NA	NA
Mizoram	6.2	0.5	6.7	0.0	1%
Nagaland	1061.0	111.0	1172.0	1172.0	100%
Odisha	15.4	11.6	27.0	14.7	54%
Punjab	31.8	29.2	60.9	15.5	25%
Rajasthan	30.1	21.6	51.7	1.6	3%
Sikkim	2.1	NA	NA	0.3	NA
Tamil Nadu	17.7	11.8	29.5	5.3	18%
Telangana	19.5	13.0	32.4	2.2	7%
Tripura	10.3	0.7	10.9	6.5	59%
Uttar Pradesh	70.0	46.7	116.7	26.3	23%
Uttarakhand	19.2	2.4	21.7	11.9	55%
West Bengal	41.0	48.0	89.0	50.1	56%

Source: Data on Police Organisations 2017, Bureau of Police Research and Development; PRS.
NA: Not available.

Demand for Grants 2018-19 Analysis

Human Resource Development

The Ministry of Human Resource Development consists of two departments: (i) school education and literacy, and (ii) higher education. In 2018-19, the Ministry has been allocated Rs 85,010 crore, the fifth highest allocation among all Ministries. The allocation constitutes 3% of the central government's estimated expenditure for 2018-19. This note presents the trends in expenditure, and discusses some of the issues related to the education sector.

The **Department of School Education and Literacy** under the Ministry is broadly responsible for education imparted between the ages of 6 to 18 years, i.e., school education.

- Elementary education is a fundamental right imparted up to class 8 for children between 6-14 years of age. The government is mandated to provide elementary education to all children under the Right to Education (RTE) Act, 2009.
- Secondary education is imparted between classes 9 to 12 for children between 14-18 years of age.

In 2018-19, the Department has been allocated Rs 50,000 crore, accounting for 59% of the Ministry's total allocation.

The **Department of Higher Education** is responsible for higher and technical education, and training for students over 18 years of age.

- Higher education includes undergraduate and postgraduate courses, doctoral degrees, and certificates following the completion of 12 years of schooling or equivalent.

In 2018-19, the Department has been allocated Rs 35,010 crore, accounting for 41% of the Ministry's total allocation.

Overview of finances

Budget Estimates 2018-19

The Ministry has been allocated Rs 85,010 crore in 2018-19. This is a 3.8% increase over the revised estimate of 2017-18.[102]

Expenditure on education by the centre and the states as a proportion of the Gross Domestic Product (GDP) has been around 2% between 2014-15 and 2017-18.[103] Further, the expenditure on education (centre and states) as a percentage of the overall expenditure has been between 9% to 10%.[103] The Committee constituted to examine the New Education Policy has proposed 6% of GDP as the minimum expenditure on education.[104]

Table 1 provides the budget related figures for the Ministry. For further details on the budgetary allocations, refer to the Annexure.

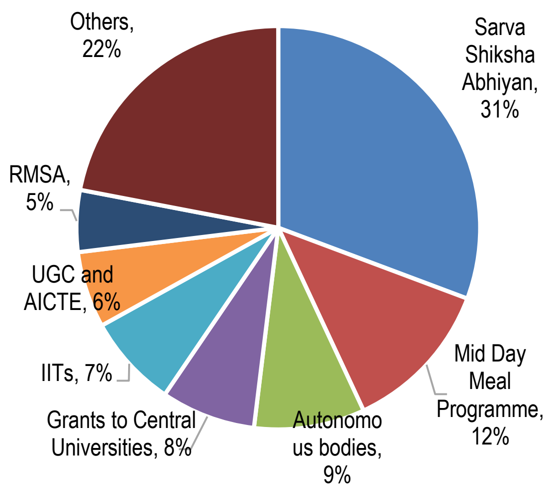
Table 31: Budget allocations for the MHRD (2018-19) (in Rs crore)

Department	Actuals 2016-17	RE 2017-18	BE 2018-19	% change (RE to BE)
School Education & Literacy	42,989	47,006	50,000	6.4%
Higher Education	29,026	34,862	35,010	0.4%
Total	**72,016**	**81,869**	**85,010**	**3.8%**

Note: BE – Budget Estimate; RE – Revised Estimates.
Sources: Expenditure Budget, Vol. 2, Ministry of Human Resource Development, 2018-19; PRS.

Figure 1 depicts the major heads under which the Ministry spends its funds (as a percentage of its total allocation). The Department of School Education and Literacy has seen a 6.4% increase in its allocation (Rs 50,000 crore) over the revised estimates of 2017-18 (Rs 47,006 crore). For the Department of Higher Education, it was a 0.4% increase at Rs 35,010 crore over the revised estimate (Rs 34,862 crore).

Figure 17: Top expenditure heads under the Ministry (2018-19)



Note: The category 'Others' includes other schemes and programmes under the Ministry which have an allocation of less than 5% of the total expenditure.
Sources: Expenditure Budget, Vol. 2, Ministry of Human Resource Development, 2018-19; PRS.

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Budget speech highlights 2018-19

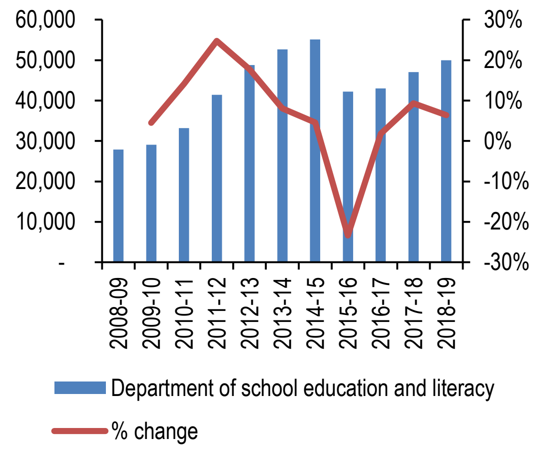
- An integrated B.Ed. programme for teachers. Technology will also be used to upgrade the skills of teachers through the recently launched digital portal "DIKSHA".
- Increase in the digital intensity in education and moving gradually from "black board" to "digital board".
- By the year 2022, every block with more than 50% ST population and at least 20,000 tribal persons, will have an Ekalavya Model Residential School. Ekalavya schools will be on par with Navodaya Vidyalayas. They will have facilities for preserving local art and culture, and providing training in sports and skill development.
- Launch of "Revitalising Infrastructure and Systems in Education (RISE) by 2022" to increase investments in research and related infrastructure in premier educational institutions. It will have an investment of Rs 1,00,000 crore in the next four years. Higher Education Financing Agency (HEFA) would be structured for funding this initiative.
- Two new Schools of Planning and Architecture, to be selected on challenge mode. Additionally, 18 new Schools of Planning and Architecture will be established in IITs and NITs as autonomous schools.
- Prime Minister's Research Fellows Scheme to identify 1,000 best B.Tech students each year from premier institutions and provide them facilities to do Ph.D in IITs and IISc.

Department of School Education and Literacy

In 2018-19, the Department of School Education and Literacy has been allocated Rs 50,000 crore, a 6.4% increase over the revised estimates of 2017-18.[102] In 2017-18, the Department spent Rs 650 crore over the budgeted amount (Rs 46,356 crore). Figure 2 shows the allocation of the Department of School Education and Literacy over the past 10 years (2008-18).

In the past 10 years, the highest allocation was given in 2014-15 at Rs 55,115 crore. Note that in 2015-16, the allocation was reduced by 25%. This may be on account of a greater devolution of funds to the states in pursuance of the recommendations of the 14th Finance Commission. The allocation has been on an upwards trajectory since then but this year the annual increase in allocation has fallen in comparison to the last two years. The Compound Annual Growth Rate (CAGR) following the 14th Finance Commission until now has been 4%. CAGR is the annual growth rate over a certain period of time.

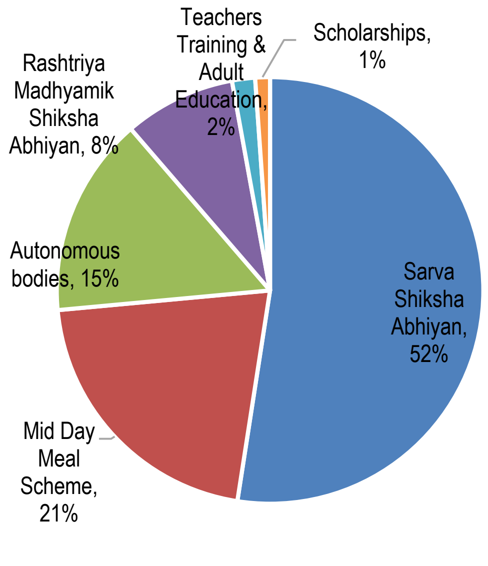
Figure 18: Allocation to Department of School Education and Literacy (2008-18) (in Rs crore)



Note: Revised estimates have been used for 2017-18 and budget estimates for 2018-19.
Sources: Union Budgets, 2008-18; PRS.

Figure 3 provides the major heads of financial allocation under this Department for 2018-19. In 2018-19, expenditure on centrally sponsored schemes (Sarva Shiksha Abhiyan (SSA), Mid-Day Meal Programme in Schools (MDMS), and Rashtriya Madhyamik Shiksha Abhiyan (RMSA)) constitute 81% of the estimated spending of the Department of School Education and Literacy. Note that the programmes of SSA and MDMS focus on school education while RMSA focusses on secondary education.

Figure 3: Major allocations for Department of School Education & Literacy (2018-19)



Sources: Expenditure Budget, Ministry of Human Resource Development, Union Budget, 2018-19; PRS.

Table 2 indicates the actual allocation of the Department compared with the budget estimates of that year. The utilisation in the last three years has been over 98% of the budget estimates as seen in the Table.

Table 2: Comparison of budget estimates and the actual expenditure (2010-17) (in Rs crore)

Year	Budget estimate	Actuals	Actuals/BE (%)
2010-11	33,214	36,433	110%
2011-12	41,451	40,641	98%
2012-13	48,781	45,631	94%
2013-14	52,701	46,856	89%
2014-15	55,115	45,722	83%
2015-16	42,220	41,800	99%
2016-17	43,554	42,989	99%
2017-18	46,356	47,006*	101%

Note: BE – Budget Estimate. *Revised Estimate
Sources: Union Budgets, 2015-18; PRS.

Table 3 presents the details of the Department's allocation in 2018-19.

Table 3: Allocation to the Department of School Education and Literacy in 2018-19 (in Rs crore)

Major Head	Actuals 2016-17	RE 2017-18	BE 2018-19	% change (RE to BE)
Sarva Shiksha Abhiyan	21,685	23,500	26,129	11.2%
National Programme of Mid-Day Meal in Schools	9,475	10,000	10,500	5.0%
Autonomous bodies	6,902	7,952	7,548	-5.1%
Rashtriya Madhyamik Shiksha Abhiyan	3,698	3,915	4,213	7.6%
Teachers Training and Adult Education	817	841	871	3.6%
Scholarships	84	602	556	-7.7%
Others	328	196	183	-6.4%
Total	**42,989**	**47,006**	**50,000**	**6.4%**

Note: BE – Budget Estimate; RE – Revised Estimates.
Sources: Expenditure Budget, Ministry of Human Resource Development, Union Budget 2018-19; PRS.

- **Sarva Shiksha Abhiyan (SSA):** Allocation to SSA in 2018-19 has increased by 11.2% (as compared with revised estimates of 2017-18) to Rs 26,129 crore. SSA has been implemented since 2000 to universalise elementary education and promote retention of children in the school system. After the RTE Act, 2009 was enacted, SSA was subsumed under it. RTE guarantees the right to free and compulsory elementary education for children between the ages of 6 and14 years in a neighbourhood school.[105]

  There exists gaps between demand and actual allocation for the SSA and RTE.[106] For example, the allocation of Rs 23,500 crores as budget estimate for 2017-18 is against a demand of Rs 55,000 crore.[107] Further, Standing Committees have recommended increased funding for the SSA and sufficient allocations for states requiring additional resources.[108,109]

  Further, the Standing Committee on Human Resource Development (2017) noted that states have not earmarked funds for priority areas in education like SSA out of the increased fund devolution to states post the recommendations of the 14th Finance Commission.[110] It recommended that the states must proportionately adjust the increased devolution of funds for education.[110]

- **Mid-Day Meal Scheme (MDMS):** Expenditure on Mid-Day Meal Scheme (MDMS) increased by about 5% from the revised estimates of 2017-18. The MDMS targets children in the same age group as covered by the SSA (6 to 14 years). In addition to promoting enrolment, retention and attendance by incentivising the children to come to school for meals, the scheme also aims to improve nutritional levels among children. It covers children in government and government-aided schools.

  Most states did not follow the central government's guidelines on delivering food grains at the school.[111] There were also instances where due to the existence of a long supply chain, the supplied food grains got adulterated and pilfered.[111]

- **Autonomous bodies:** Autonomous bodies like the National Council of Educational Research and Training, and Kendriya Vidyalaya Sangathan saw a decrease in their allocation by 5.1% and were allocated Rs 7,548 crore in 2018-19.

- **Scholarships:** Scholarships saw a decrease of 7.7% in its allocation in 2018-19. Note that last year, allocation to scholarships increased by 611% (2017-18) to an allocation of Rs 602 crore from revised estimates of 2016-17.

- **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)**: The RMSA is aimed at secondary education (classes 9-12). It aims to enable universal access to secondary education by 2017 and universal retention by 2020.[112] It has been recommended that RMSA should be in step with SSA and ensure 100% transition of every child from the upper primary to secondary stage.[113] Note that under RMSA, during 2015-16, an amount of Rs 3,562 crore out of a budgeted amount of Rs 3,565 crore was utilised, which implies an almost complete utilisation. Table 4 captures the expenditure for SSA and RMSA. The difference in the amount of funds being spent on elementary education (class 1-8) and secondary education (class 9-12) is evident.

Further, the Standing Committee on Human Resource Development noted that the varying regional attendance levels at the secondary education level reflects a regional imbalance in the coverage of RMSA.[107]

Table 4: Expenditure under SSA and RMSA (in Rs crore)

	SSA	RMSA
2014-15		
Expenditure*	41,910	5,407
2015-16		
Expenditure*	44,227	6,879
2016-17		
Expenditure*	48,858	7,713

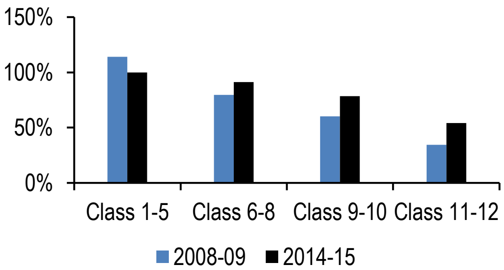
Source: Starred Question no.115, Ministry of Human Resource Development, Rajya Sabha, Answered on December 28, 2017; PRS. * : Expenditure shown above is against receipts from central release, state share release, and unspent balance of previous year, if any.

Issues in school education

Enrolment, transition and dropout rates

Enrolment: The Gross Enrolment Ratio (GER) is the student enrolment as a proportion of the corresponding eligible age group in a given year. GER in classes 1-5 reduced from 114% in 2008-09 to 100% in 2014-15. The above-100% enrolment rate in 2008-09 indicates that students enrolled in classes 1-5 included those younger than six or older than 10 years. In 2014-15, enrolment in classes 1-5 was about 100%, which signals a more age appropriate (six to 10 years) class composition (see Figure 4).

Figure 4: GER in school education

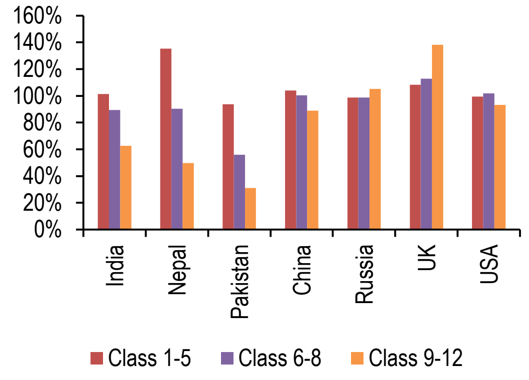


Sources: Education statistics at a glance, Ministry of Human Resource Development, 2016; PRS.

India's enrolment rate in primary education (class 1-5) is comparable to that of developed countries. However, it falls behind these countries after class 6 (see Figure 5).

Between 2008-09 and 2014-15, the proportion of students enrolled in class 1-8 in government schools declined from 71% to 62%, implying an increasing preference for private schools.[114]

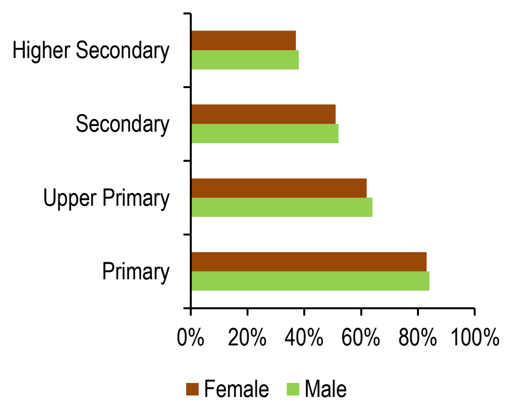
Figure 5: International comparison of GER (2014) (in %)



Sources: Education statistics at a glance, Ministry of Human Resource Development, 2016; PRS.

Attendance: Attendance is the ratio of the number of persons in the official age group attending a particular class-group to the total number persons enrolled in school in that age-group. The attendance for both boys and girls falls as the level of education rises in school education. There is hardly any difference between the attendance of boys and girls (see Figure 6).

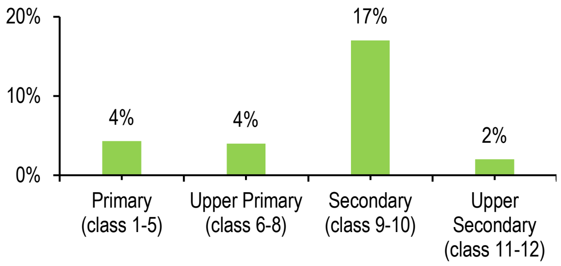
Figure 6: Attendance in school education



Sources: Key Indicators of Social Consumption in India: Education, NSSO, 2014; PRS.

Transition and dropouts: The dropout rate peaks at the secondary level (class 9-10) at 17% as compared to 4% in elementary school (class 1-8) and 2% in upper secondary school (class 11-12) (see Figure 7). This is also reflected in the transition rates in school education where the lowest transition rate is at the secondary level (class 10 to 11) at 69%. Note that a transition rate below 100% indicates that the students are held back or have dropped out of school.

Figure 7: Dropout rate in school education (2014-15) (%)



Sources: Education statistics at a glance, Ministry of Human Resource Development, 2016; PRS.

Under the RTE Act, a child cannot be expelled or detained until the completion of elementary education (until class 8). This may explain the differential trends between the enrolment, dropout, and transition rates for elementary education and secondary education. Further, with regard to access to secondary school, for every three upper primary schools there is one secondary school.[115] According to RMSA statistics, four states where the ratio of upper primary school to secondary school is a cause of concern are Uttar Pradesh, Bihar, Jharkhand and Meghalaya.[115]

Further, while 73% allocation of the Department on School Education has been made on SSA and MDMS (focussed on elementary education), only 8% has been allocated to RMSA (focussed on secondary education).

According to NSSO data (71st round) on reasons for dropping out (for the age group 5-29 years), the key reasons for females dropping out is to engage in domestic activities (30%), lack of interest in education (16%), and marriage (14%). On the other hand, the key reasons for males dropping out is to engage in economic activities (31%), lack of interest in education (24%), and financial constraints (24%).[114]

Quality of learning

Elementary education: Based on the high enrolment and low dropout rates in elementary education, it can be inferred that children are being retained in schools for longer. However, there have been some adverse observations regarding the learning outcomes of such children. The Central Advisory Board on Education (CABE, 2014), National Achievement Survey (2012), and the Economic Survey (2016-17) observed declining learning levels in elementary education even after the implementation of the RTE Act. [116,117,118]

As per the National Achievement Survey, the performance of students in 2015 was poorer than in 2012. In 2015, on average, Class 5 students in 34 states/ UTs obtained 45% marks in reading comprehension, and 46% in mathematics.[119] For reading comprehension, 19 states have scores in 2015 that are lower than the scores in 2012. Only in two UTs, the average achievement scores in 2015 were significantly above those of 2012 (see Annexure).

For mathematics, 20 states have scores in 2015 that are lower than 2012. Only in 3 states/UTs, the average achievement scores in 2015 were significantly above those of 2012 (for more details, see Annexure).

Reconsidering the No Detention Policy

In recent years, two expert committees reviewed the no-detention provision in the RTE Act and recommended it be removed or be discontinued in a phased manner.[116,104] The RTE (Second Amendment) Bill, 2017 was introduced in Lok Sabha on August 11, 2017 to amend the RTE Act to remove the provision related to no- detention in the Act to address the low learning outcomes. It is currently pending in Parliament.

The RTE Act, 2009 prohibits detention of children till they complete elementary education i.e., class 8. The Bill amends this provision to state that a regular examination will be held in class 5 and class 8 at the end of every academic year. If a child fails the exam, he will be given additional instruction, and take a re-examination. If he fails in the re-examination, the relevant central or state government may decide to allow schools to detain him.

Under the RTE Act, children are enrolled in the class that corresponds to their age, irrespective of their learning levels. This results in a situation where in the same class, depending on when they are enrolled in school, children may have different learning requirements. It has been recommended that special training be organised and is of flexible duration to enable the child to be at par with other children and ensure his integration with the class.[120]

Secondary education: In the National Achievement Survey (2015) for class 10, in the English subject, 24% students were in the range of 0-35% score and 61% students were in the range of 36-50% score. Further, 35% students were in 0-35% scores, 49% students were in the range of 36-50% scores in Mathematics.[121]

Other issues

Teachers related issues: Experts have identified various issues with regard to the role of teachers to address the challenges confronting elementary education.[122,120,104] These include: (i) low teacher accountability and appraisal, (ii) poor quality of the content of teacher-education and changes required in the curriculum of B. Ed and D. Ed courses, (iii) need for continuous in-service teacher training and upgradation of skill set, (iv) inadequate pupil teacher ratio and deployment of teachers for non-educational purposes, (v) teacher vacancies, and (vi) excessive recruitment of contract/para teachers.

Some states have done exceedingly well in maintaining its teachers' workforce, some states like Bihar, Uttar Pradesh, Jharkhand, Punjab, Assam are lagging behind.[123]

In 2016, 3,48,314 posts of teachers were vacant under the SSA and 1,06,906 posts under RMSA.[124,110] Further, it has been observed that there are 13,64,553 untrained in-service teachers.[125] Teacher training institutes such as DIETs are also experiencing many teacher vacancies.[126] The presence of para/temporary teachers instead of permanent teachers contributes to the deterioration of quality of education. The CABE Committee (2005) recommended that to ensure quality secondary education, para/temporary teachers must be done away with. Instead, fully qualified teachers with a complete salary and benefits must be hired.[127]

Teacher related Bills

- **The National Council for Teacher Education (Amendment) Bill, 2017**: The Bill is currently pending in Parliament. It amends the National Council for Teacher Education Act, 1993. The Act establishes the National Council for Teacher Education (NCTE). The NCTE plans and co-ordinates the development of the teacher education system throughout the country. The Bill seeks to grant retrospective recognition of certain teacher education institutions and permission to start new courses.
- **The Right of Children to Free and Compulsory Education (Amendment) Bill, 2017**: The Bill was passed by Parliament in 2017. It amends the RTE Act, 2009 by extending the deadline for teachers to acquire the prescribed minimum qualifications for appointment. Those teachers who do not possess the minimum qualifications as on March 31, 2015 will acquire the minimum qualifications within a period of four years i.e. by March 31, 2019.

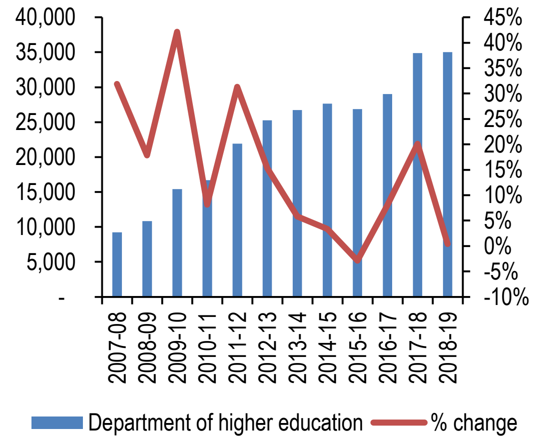
School accountability: In 2014, CABE recommended introducing a performance management system for all teachers, school leaders, and department officials, with performance measures linked with student learning outcomes.[116] Such measures of school accountability exist in other countries. For example, in the United States, under the No Child Left Behind Act, schools are required to do annual assessment of learning outcomes in reading and mathematics for students from classes 3 to 8. If the school fails to achieve minimum test scores then the consequences include removal from service of teachers or the headmaster, school restructuring or closure, and an option for students to transfer to another school.[128]

Nature of assessment: Under the RTE Act, the Continuous and Comprehensive Evaluation (CCE) is the evaluation mechanism for elementary education. CCE (e.g., paper-pencil test, drawing and reading pictures, and expressing orally) does not mean absence of evaluation, but it means an evaluation of a different kind from the traditional system of examinations. CCE has not been adequately implemented or monitored.[116] It has been recommended that proper design of assessment and using this information can help improve the quality and innovation in terms of teaching and learning.[129]

Department of Higher Education

The Department of Higher Education has been allocated Rs 35,010 crore in 2018-19, a 0.4% increase over the revised estimate of 2017-19. This is an increase of Rs 148 crore over the revised estimates of 2017-18. Figure 8 depicts the allocation to the Department of Higher Education since 2007-08. In terms of year on year increase, 2015-16 saw the highest dip in the allocation to the Department of Higher Education. This may be on account of a greater devolution of funds to the states in 2015-16 in pursuance of the recommendations of the 14th Finance Commission.

Figure 8: Allocation to the Department of Higher Education (2006-18) (in Rs crore)



Note: Revised estimates have been used for 2017-18 and budget estimates for 2018-19.
Sources: Union Budgets, 2006-18; PRS.

A NITI Aayog report (2017) notes that even after the central transfers, low income states with low revenue capacity spend significant lower amounts on social and economic services.[130] It also observed that as a result, despite such transfers, public expenditures in sectors like education are higher in more developed states.

Table 5 indicates the actual allocation of the Department compared to the budget estimates of that year. The utilisation has been over 90% of the budget estimates in the last three years as seen in the table. In 2016-17 and 2017-18, it even crossed 100% utilisation.

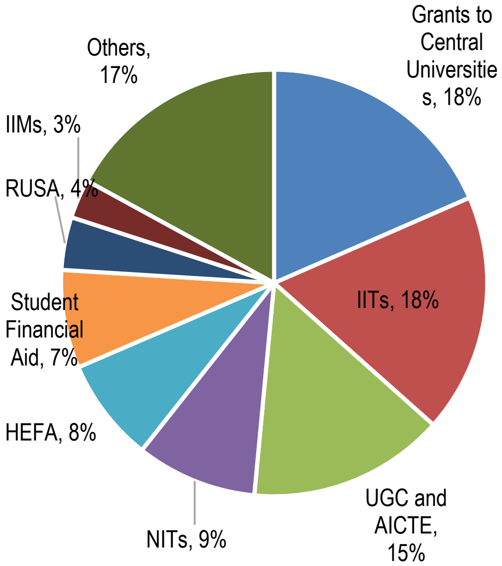
Table 5: Comparison of budget estimates and the actual expenditure (2010-17) (in Rs crore)

Year	Budget Estimate	Actuals	Actuals/BE (%)
2010-11	16,690	15,472	93%
2011-12	21,912	19,505	89%
2012-13	25,275	20,423	81%
2013-14	26,750	24,465	91%
2014-15	27,656	23,152	84%
2015-16	26,855	25,439	95%
2016-17	28,840	29,026	101%
2017-18	33,330	34,862*	105%

Note: BE – Budget Estimate. *Revised Estimate
Sources: Union Budgets, 2010-18; PRS.

Figure 9 provides the major heads of financial allocation under the Department for 2018-19.

Figure 9: Major heads of expenditure for the Department of Higher Education (2018-19)



Sources: Expenditure Budget, Ministry of Human Resource Development, Union Budget, 2018-19; PRS.

- About 51% of the Department's expenditure has been allocated to central universities (as grants), Indian Institutes of Technology (IITs), and statutory and regulatory bodies (University Grants Commission (UGC) and All India Council for Technical Education (AICTE)) (see Table 6). All the three categories have however registered a decrease in their allocation over the revised estimates of 2017-18 by 11%, 23%, and 4% respectively. In 2018-19, they have been allocated Rs 6,445 crore, Rs 6,326 crore, and Rs 5,208 crore respectively.

- The bulk of the enrolment in higher education is handled by state universities and their affiliated colleges. However, these state universities receive very small amounts of grants from the Union Budget. Nearly 65% of the University Grants Commission (UGC) budget is utilised by the central universities and their colleges while state universities and their affiliated colleges get only the remaining 35%.[131] The Standing Committee on Human Resource Development has recommended that the mobilisation of funds in state universities should be explored through other means such as endowments, contributions from industry, alumni, etc.[131]

Table 6: Allocation to the Department of Higher Education in 2018-19 (in Rs crore)

Major Heads	2016-17 Actuals	2017-18 RE	2018-19 BE	% change (RE to BE)
Grants to Central Universities	6,356	7,261	6,445	-11.2%
IITs	5,380	8,245	6,326	-23.3%
UGC and AICTE	4,952	5,408	5,208	-4%
NITs	2,860	3,668	3,203	-12.7%
Higher Education Financing Agency (HEFA)	-	250	2,750	1000%
Student Financial Aid	2,090	2,244	2,600	15.9%
RUSA	1,416	1,300	1,400	7.7%
IIMs	723	1,068	1,036	-3%
IISERs	1,199	715	689	-3.6%
Digital India-e-learning	452	518	456	-12%
IIITs	176	369	364	-1.5%
Research and Innovation	215	319	350	9.7%
Others	3,208	3,496	4,182	20%
Grand Total	**29,026**	**34,862**	**35,010**	**0.4%**

Sources: Expenditure Budget, Vol. 2, Ministry of Human Resource Development, Union Budget 2018-19; PRS.

- Student Financial Aid has seen an increase and has been allocated Rs 2,600 crore, a 16% increase over the revised estimates of 2017-18. Research and Innovation have received an increase in allocation by about 10% (over revised estimates) at Rs 350 crore.

- Expenditure on Digital India e-learning has been estimated at Rs 456 crore, which is down by 12% from the revised estimates of 2017-18. Note that it had seen a decline in 2017-18 of 3.8% over the revised estimates of 2016-17.

- The funding allocation for Rashtriya Uchchtar Shiksha Abhiyan (RUSA) has increased by 8% at Rs 1,400 crore (from the 2017-8 revised estimates). Note that about Rs 116 crore was underspent as per the revised estimates for 2017-18 following the budget estimates. As of

September, 2017, about 46% of the total central share was released and 24.7 % of the released fund was utilised.[132]

- The Higher Education Financing Agency (HEFA) has been allocated Rs 2,750 crore for 2018-19 after an initial allocation of Rs 250 crore in 2017-18. HEFA will promote the creation of high quality infrastructure in premier educational institutions. All the centrally funded higher educational institutions would be eligible for joining as members of the HEFA.[133] Note that it was envisaged that HEFA will be jointly promoted by an identified promoter and the Ministry of Human Resource Development with an authorised capital of Rs 2,000 crore. The government equity will be Rs 1,000 crore. The HEFA will be formed as a Special Purpose Vehicle within a public sector bank or a nonbanking financial company.

Expenditure on education as a proportion of GDP has been around 3 per cent during the period 2008-09 to 2014-15.[134] Out of this figure, roughly 1% is spent on higher education in India. However, there is a lack of data available on private sector spending in this sector. Internationally in terms of public expenditure, USA spends about 1% of its GDP on higher education, Canada spends 1.3%, Chile spends 1% and Brazil spends 0.9%.[135]

There has been underutilisation of funds by central and state universities, including unspent balances lying with central universities.[106] Committees have stressed on the need to curb delays on the part of the UGC and the MHRD in disbursing budgetary allocations to the various universities.[136]

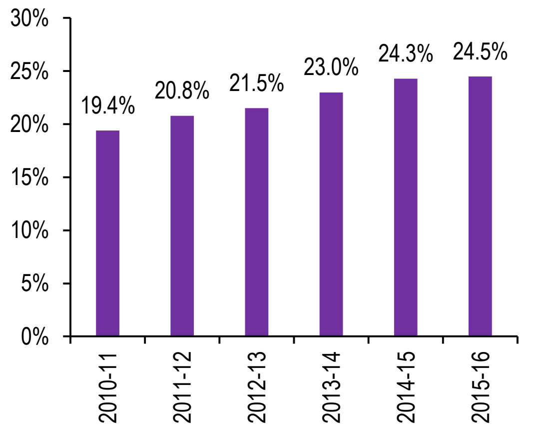
Committees have noted that such a consistent trend of unspent balances is leading to lower allocations against the MHRD's demands for funds, resulting in a 'vicious circle'.[137] For example, Rs 689 crore was left unspent with the autonomous bodies which got one of the highest allocations under higher education in 2016.[138] This leads to a significant gap between the proposed demand and the allocation of budget to MHRD as well.[139]

Issues in the higher education sector

Enrolment levels

In India, GER in higher education has more than doubled over a period of 11 years, going from 9% in 2002-03 to 24.5% in 2015-16 (see Figure 10).[140,141]

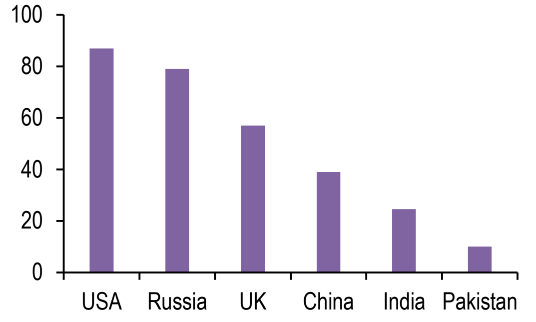
Figure 10: GER in higher education (2010-15)



Sources: All India Survey on Higher Education, 2015-16; PRS.

A GER of 24.5% implies that 24.5% of people in the target age-group are enrolled in universities. The GER for higher education in India is fairly low compared to other countries such as the UK and USA, as seen in Figure 11.

Figure 11: International comparison of GER in higher education



Sources: Education statistics at a glance, Ministry of Human Resource Development, 2016; PRS.

Student enrolment is highest at the UG level (79.3%) followed by PG (11.3%). The recent AISHE 2015-16 report reveals that the student enrolment decreases as one goes further higher from the under graduate level of education.[141]

Regulatory issues in higher education

It has been observed that the Indian higher education is regulated by a multiplicity of regulatory agencies, with overlapping mandates.[142] These bodies are the University Grants Commission (UGC), All India Council for Technical Education (AICTE) and the various professional councils. Citing overregulation and under governance, various committees have highlighted the need for an overarching regulatory body by subsuming the multiple existing regulatory bodies.[142,143] Such a body would be responsible for monitoring standards and licensing accreditation bodies in the sector.

The TSR Subramanian Committee report (2016) on the New Education Policy also recommended bringing in the National Higher Education Promotion and Management Act which would replace the existing separate laws governing individual regulators in higher education.[104] In the Union Budget of 2017-18, the Finance Minister mentioned that reforms would be undertaken concerning the functioning of UGC.[144]

Autonomy in higher education

The Indian Institutes of Management Bill, 2017 was passed on December 19, 2017 by Parliament. Under the Bill, the autonomy being granted to the IIMs is greater than the autonomy available to institutions like IITs, AIIMS and Delhi University. The role of the central government or the regulator in these other institutions is greater than what has been envisaged under the Bill. This implies unequal levels of autonomy across different institutions of higher education in areas including introduction of new courses and the Director's pay. Recent media reports have quoted the Union Minister of Human Resource Development, Mr. Prakash Javadekar saying that IIMs have been accorded full autonomy and this will be done for IITs too as well as colleges.[145]

In February 2018, the University Grants Commission (UGC) (Categorisation of Universities (only) for Grant of Graded Autonomy) Regulations were released.[146] The UGC will categorise universities into three categories based on various parameters. Depending on the category of the university, there would be a certain extent of autonomy for the universities on aspects including: (i) starting a new course, (ii) opening constituent units/off-campus centres, (iii) hiring foreign faculty, and (iv) admitting foreign students.

Quality standards in higher education

There are two accrediting institutions in higher education– namely National Board of Accreditation (NBA) established by AICTE, and the National Assessment and Accreditation Council (NAAC) established by UGC. In terms of the quality of universities, out of 323 universities accredited by the NAAC in the most recent cycle, only 23 universities have been given an 'A+' grade.[147]

The Standing Committee (2016) notes that accreditation of higher educational institutions needs to be at core of the regulatory arrangement in higher education.[131] Further, quality assurance agencies should guarantee basic minimum standards of technical education to meet the industry demand for quality manpower. Credit rating agencies, reputed industry associations, media houses and professional bodies should be encouraged to carry forward the process of rating of Indian universities and institutions.

Lack of employable skills

Lack of employable skills in students of technical education has been observed by the Standing Committee.[131] Identification of skill gaps in different sectors and offering courses for enhancing employability in them has been recommended. Some strategies in this regard can include: (i) Industry Institute Student Training Support, (ii) Industrial Challenge Open Forum, (iii) Long Term Student Industry Placement Scheme, and (iv) Industrial Finishing Schools.[131]

Fee Structure and private sector participation in higher education

It has been observed that many private institutions of higher education charge exorbitant fees. In the absence of well-defined norms, fees charged by such universities have remained high.[148] UGC regulates fees for courses offered in deemed universities, to an extent. They state that the fees charged shall be directly linked to the cost of running the course and the institution shall ensure non-commercialisation of education. In 2002, the Supreme Court ruled that the fees charged by private unaided educational institutes could be regulated.[149] Also, while banning capitation fee (fees exceeding the tuition fee), it allowed institutes to charge a reasonable surplus.

The All India Council for Technical Education (AICTE) had constituted a Committee in 2014 under Justice Srikrishna to recommend the fee to be charged by the private technical educational institutes in the country.[150] The Committee recommended the maximum tuition and development fee to be charged.

A UGC report in 2012 noted that the distribution of public and private institutions in India is skewed. This is because enrolment in public universities is largely concentrated in conventional disciplines (arts and sciences) whereas in private institutions, more students are enrolled in market-driven disciplines (engineering, management, etc.).[151] Thus, with a rise in private universities, there is a mismatch of the demand and supply of subject disciplines in the private sector education.

It has been noted that while private investment is high in the disciplines of engineering, medicine and management; majority of enrolment is still taking place in the traditional disciplines like arts. However, increasing number of students are opting for technical and professional courses, for future employability purposes. Committees have stated that the private sector should not confine itself to the commercially viable sectors such as management, accountancy, medicine, etc., as this leads to the responsibility of maximising enrolment with the government.[142]

Further, committee recommendations have not encouraged for-profit private educational institutions.[142] However, it is essential to stimulate private investment in higher education to extend educational opportunities and private intervention would be key in bridging the gap in investment from the government in the education sector.

Teacher related issues

According to UGC, out of the total teaching posts of 17,006 in various UGC funded Central Universities, 6,141 teaching posts are lying vacant.[152] Further, in 20 Indian Institute of Management (IIMs), out of total sanctioned teaching posts of 1,007, 273 posts are lying vacant; and in 7 IISERs and IISc, Bangalore, the total number of sanctioned teaching posts is 1,117 and 153 are lying vacant.[153]

The Standing Committee on Human Resource Development reasoned that this could be due to two reasons: (i) young students don't find the teaching profession attractive; or (ii) the recruitment process is long and involves too many procedural formalities.[131] In 2008, the Bhargava Committee observed that the government determined pay of the faculty has been a deterrent in attracting adequate faculty at IIMs.[154]

The Committee recommended that the recruitment process should start well before a post is vacated.[154] In addition, to make the profession of teaching more lucrative, faculty should be encouraged to undertake consultancy projects and be provided financial support for start-ups. The Standing Committee did not consider that raising the age of faculty to 65 is a desired and permanent measure which will help strengthening the faculty position in central universities.[132]

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Annexure

Union Budget, 2018-19

Table 1: Allocations to the Ministry of Human Resource Development for 2018-19 (in Rs crore)

Major Heads	2016-17 Actuals	2017-18 BE	2017-18 RE	% Change RE (2017-18)/Actuals (2016-17)	2018-19 BE	% Change (RE (2017-18) to BE (2018-19))
Department of School Education and Literacy	42,989	46,356	47,006	9.34%	50,000	6.4%
Scholarships	84	602	602	616.67%	556	-7.7%
Sarva Shiksha Abhiyan	21,685	23,500	23,500	8.37%	26,129	11.2%
Autonomous bodies	6,902	7,302	7,952	15.21%	7,548	-5.1%
Rashtriya Madhyamik Shiksha Abhiyan	3,698	3,830	3,915	5.87%	4,213	7.6%
Teachers Training and Adult Education	817	926	841	2.94%	871	3.6%
National Programme of Mid Day Meal in Schools	9,475	10,000	10,000	5.54%	10,500	5.0%
Others	328	197	197	-39.94%	184	-6.4%
Department of Higher Education	29,026	33,330	34,862	20.11%	35,010	0.4%
Higher Education Financing Agency (HEFA)		250	250		2,750	1000.0%
Student Financial Aid	2,090	2,380	2,244	7.37%	2,600	15.9%
Digital India-e-learning	452	497	518	14.60%	456	-12.0%
Research and Innovation	215	315	319	48.37%	350	9.7%
Statutory and regulatory bodies (UGC and AICTE)	4,952	5,177	5,408	9.21%	5,208	-3.7%
Grants to Central Universities	6,356	6,486	7,261	14.24%	6,445	-11.2%
Indian Institutes of Technology	5,380	7,856	8,245	53.25%	6,326	-23.3%
Indian Institutes of Management	723	1,030	1,068	47.72%	1,036	-3.0%
National Institutes of Technology	2,860	3,440	3,668	28.25%	3,203	-12.7%
Indian Institute of Science, Education and Research (IISERs)	1,198	650	715	-40.34%	689	-3.6%
Indian Institutes of Information Technology(IIITs)	176	379	369	109.66%	364	-1.5%
Rashtriya Uchhatar Shiksha Abhiyan (RUSA)	1,416	1,300	1300	-8.19%	1400	7.7%
Others	3,208	3,819	3,747	16.80%	6,933	85.0%
Total	**72,016**	**79,686**	**81,869**	**13.68%**	**85,010**	**3.8%**

Sources: Demand for Grants, Ministry of Human Resource Development, Union Budget, 2018-19; PRS.

Indicators on school and higher education

Table 2: State wise key indicators on school education

State/UT	Private schools (%)	Government schools (%)	Elementary GER	Secondary GER	Senior Secondary GER	PTR	GPI (Secondary)
Andaman & Nicobar Islands	16.91	83.1	98.82	86.64	73.96	15	0.95
Andhra Pradesh	27.55	71.61	93.79	84.28	-	19	1.03
Arunachal Pradesh	12.97	86.29	90	81.64	78.9	22	0.97
Assam	13.18	74.63	85.92	66.11	-	14	1.18
Bihar	5.04	88.66	98.23	73.37	-	57	1.14
Chandigarh	39.8	57.22	-	-	87.09	14	1
Chhattisgarh	11.87	87.73	95.5	67.14	95.29	45	1.02
Dadra & Nagar Haveli	12.68	86.17	96.61	81.82	88.47	27	0.9
Daman & Diu	17.93	82.07	98.16	67.38	59.21	16	1.21
Delhi	50.86	49.14	-	78.38	72.53	28	1.01
Goa	42.47	57.52	99.42	78.62	84.64	25	0.92
Gujarat	33.43	66.56	96.91	74.31	92.64	34	0.81
Haryana	30.65	65.61	93.97	80.97	93.66	17	0.93
Himachal Pradesh	14.7	85.29	99.01	87.43	89.1	25	0.97
Jammu & Kashmir	18.07	81.93	93.38	80.08	86.06	15	0.94
Jharkhand	5.96	84.81	92.24	74.63	95.45	68	1.05
Karnataka	33.17	66.79	96.76	72.89	95.67	15	1.02
Kerala	62.29	27.97	99.99	87.09	99.37	17	0.99
Lakshadweep	0	100	99.2	85.43	96.88	2	1.13
Madhya Pradesh	17.98	80.9	91.57	62.06	98.25	36	0.98
Maharashtra	36.62	62.83	98.49	86.3	97.75	22	0.95
Manipur	30.77	66.74	91.57	85.1	-	13	0.99
Meghalaya	45.11	53.57	87.28	70.29	-	13	1.18
Mizoram	32.16	67.74	91.31	69.64	91.49	9	1.01
Nagaland	25.65	74.35	92.89	72.74	87.71	19	1.06
Odisha	13.55	83.55	96.73	70.34	-	23	0.99
Puducherry	41.17	58.82	99.56	84.51	93.24	14	1.01
Punjab	25.16	70.83	96.76	88.52	93.48	17	0.99
Rajasthan	32.34	65.44	94.66	82.41	-	25	0.83
Sikkim	31.97	68.03	97.75	78.59	85.3	19	1.18
Tamil Nadu	33.34	66.35	-	91.41	96.12	21	1.04
Telangana	30.27	68.32	97.84	84.47	99.23	19	1.07
Tripura	6.91	89.23	97.62	51.05	86.62	33	1.01
Uttar Pradesh	34.82	63.54	92.87	88.3	97.14	41	0.99
Uttarakhand	24.58	73.88	96.32	82.59	94.77	17	0.97
West Bengal	10.19	86.43	96.47	77.98	90.8	28	1.19
All India	**24.88**	**72.57**	**95.44**	**79.91**	**98.88**	**27**	**1.01**

Note: Gross Enrolment Ratio (GER): GER for a class-group is the ratio of the number of persons in the class-group to the number of persons in the corresponding official age-group; Gender Parity Index (GPI): It is the ratio of the number of female students enrolled at a certain level of education to the corresponding number of male students at such a level; Pupil-Teacher Ratio (PTR): It is the number of pupils per teacher.

Sources: Educations Statistics at a glance, 2016, Ministry of Human Resource Development, 2016; Flash Statistics, District Information System for Education, 2015-16; PRS.

Table 3: State wise key indicators on higher education (2015-16)

State	Private Colleges	Government Colleges	No. of universities	GPI	GER	PTR
Andaman & Nicobar Islands	-	7	-	1.11	23.5	20
Andhra Pradesh	2,129	295	28	0.77	30.8	13
Arunachal Pradesh	6	13	9	0.99	28.7	31
Assam	62	411	21	0.90	15.4	22
Bihar	163	489	22	0.80	14.3	50
Chandigarh	9	16	3	1.45	57.6	22
Chhattisgarh	370	329	22	0.93	15.1	20
Dadra & Nagar Haveli	4	3	-	1.45	9.1	27
Daman & Diu	4	4	-	2.01	5.7	16
Delhi	75	92	26	1.12	45.4	19
Goa	32	23	2	1.23	27.6	15
Gujarat	1,745	258	57	0.80	20.7	25
Haryana	701	169	39	1.02	26.1	17
Himachal Pradesh	153	147	25	1.20	32.5	19
Jammu and Kashmir	162	142	11	1.12	24.8	21
Jharkhand	134	147	14	0.92	15.5	48
Karnataka	2,628	636	52	0.99	26.1	13
Kerala	1,001	215	20	1.32	30.8	13
Lakshadweep	-	-	-	2.48	7.1	13
Madhya Pradesh	1,411	639	43	0.85	19.6	21
Maharashtra	3,599	830	45	0.86	29.9	20
Manipur	35	48	4	0.94	34.2	19
Meghalaya	28	20	10	1.04	20.8	21
Mizoram	1	28	3	0.91	24.1	15
Nagaland	44	21	4	1.10	14.9	14
Odisha	713	353	21	0.83	19.6	20
Puducherry	50	27	4	0.95	43.2	9
Punjab	762	198	26	1.10	27	15
Rajasthan	1,908	484	70	0.85	20.2	24
Sikkim	5	9	7	1.05	37.6	12
Tamil Nadu	2,029	315	58	0.92	44.3	13
Telangana	1,814	218	21	0.85	36.3	14
Tripura	8	42	3	0.70	16.9	26
Uttar Pradesh	5,048	794	67	1.03	24.5	34
Uttarakhand	214	119	28	0.98	33.3	20
West Bengal	632	447	34	0.85	17.7	32
All India	**27,679**	**7,988**	799	**0.92**	**24.5**	**23**

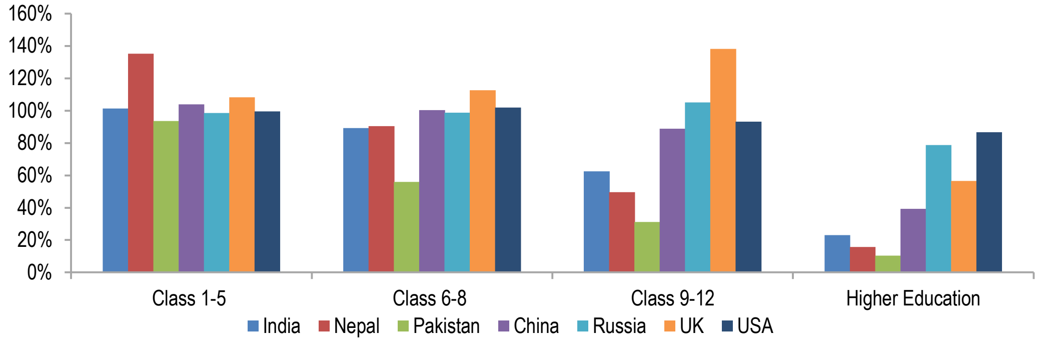
Note: Gross Enrolment Ratio (GER): GER for a class-group is the ratio of the number of persons in the class-group to the number of persons in the corresponding official age-group; Gender Parity Index (GPI): It is the ratio of the number of female students enrolled at a certain level of education to the corresponding number of male students at such a level; Pupil-Teacher Ratio (PTR): It is the number of pupils per teacher.
Sources: All India Survey on Higher Education, 2015-16; PRS.

Graphical representation of the status of education

Figure 1: GER across different education levels (2008-2014) (in %)

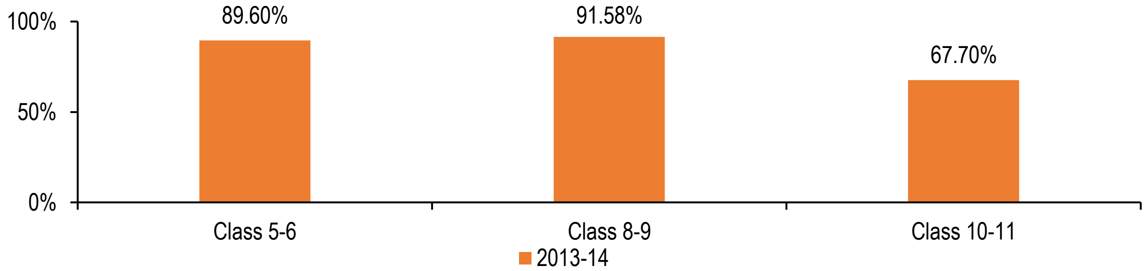
Source: Education statistics at a glance, 2016, Ministry of Human Resource Development; PRS.

Figure 2: GER across education levels: India vs other countries (2014)



Sources: Education statistics at a glance, Ministry of Human Resource Development, 2016; PRS.

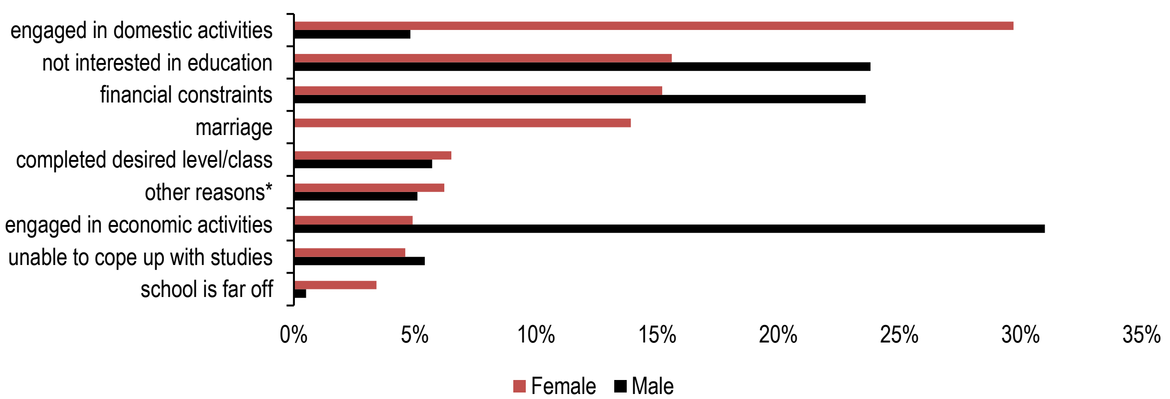
Figure 3: Transition rates in school education (2013-14) (in %)



Sources:

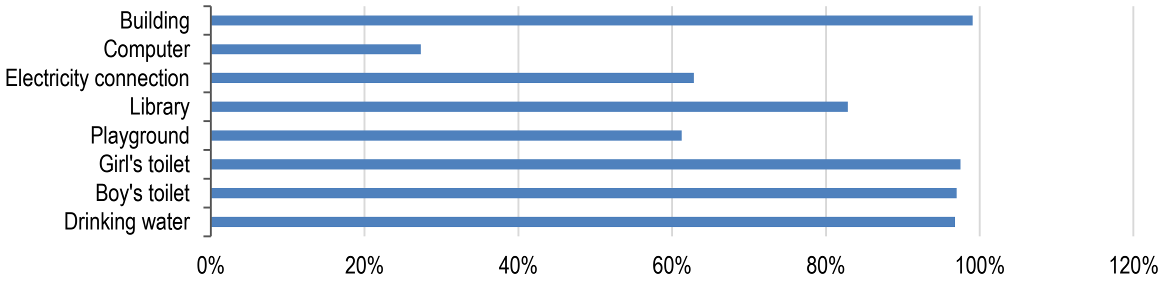
Flash Statistics, District Information System for Education, 2015-16; PRS.

Figure 4: Reasons for dropping out by gender (for persons aged 5- 29 years) (2014) (in %)



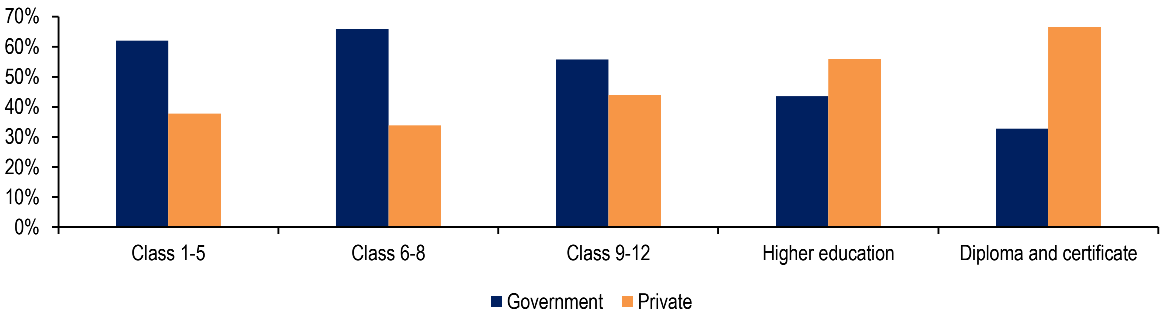
Sources: Key Indicators of Social Consumption in India: Education, NSS (71st Round); PRS.

Figure 5: % of schools having certain infrastructure



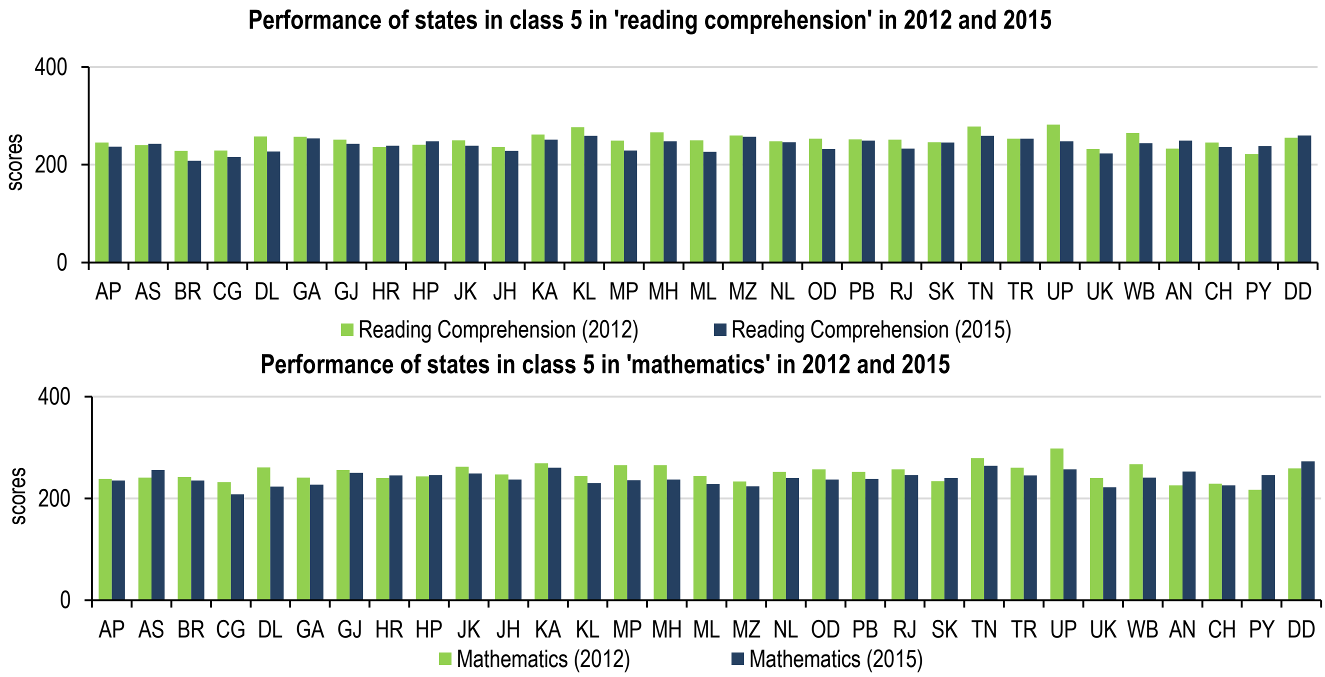
Sources: School Education in India: Flash Statistics, 2015-16, District Information System for Education; PRS.

Figure 6: Distribution of students by type of institution attended (2014-15)



Sources: Educational Statistics at a glance, 2016, Ministry of Human Resource Development; PRS.

Figure 7: State wise learning outcomes (2012 and 2015)



Sources: National Achievement Survey, 2012 and 2015, National Council of Educational Research and Training; PRS.
Note: 1. The National Achievement Survey (NAS) is carried out by National Council of Educational Research and Training every three years to ascertain the learning achievement of students during elementary education in government and government-aided schools.
2. Arunachal Pradesh, Manipur, Lakshadweep, and Dadra & Nagar Haveli did not participate in NAS, 2012 and NAS, 2015.
3. The scores range between 0 and 400. They are scaled for consistency and comparability across states by adjusting for difficulty of tests and ability of students.

Demand for Grants 2018-19 Analysis

Road Transport and Highways

India has one of the largest road networks in the world with about 47 lakh km of road length.[155] This road length includes National Highways (NHs), Expressways, State Highways (SHs), district roads, PWD roads, and project roads. In India, road infrastructure is used to transport over 60% of total goods and 85% of total passenger traffic.[155]

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). It also deals with matters relating to road transport such as implementation of the primary central legislation, the Motor Vehicles Act, 1988.

This note looks at the proposed expenditure of the Ministry for the year 2018-19, its finances over the last few years, and issues with the same.

Allocations in Union Budget 2018-19

Expenditure: The total expenditure on the Ministry of Road Transport and Highways for 2018-19 is estimated at Rs 71,000 crore.[156] This is 16% higher than the revised estimates for 2017-18.

In 2018-19, while revenue expenditure of the Ministry is expected at Rs 11,560 crore, capital expenditure is expected at Rs 59,440 crore.[156] The Ministry has increased its capital expenditure significantly in the last few years. For 2018-19, the ratio between revenue and capital expenditure is estimated at 16:84. In comparison, the ratio between revenue and capital expenditure for the years 2015 was at 41:59.

Table 32: Budget allocations for the Ministry of Road Transport and Highways (in Rs crore)

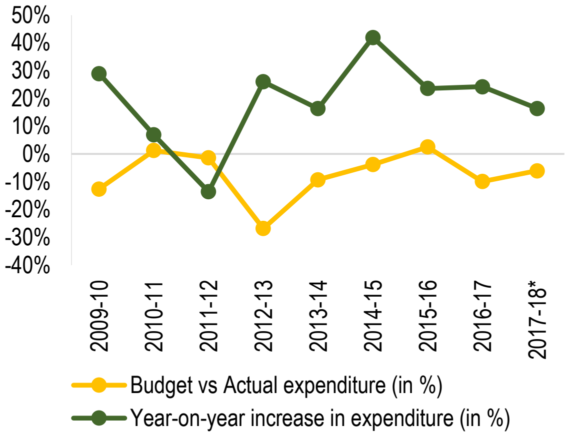
	Actual 2016-17	Revised 2017-18	Budget 2018-19	BE 2018-19/ RE 2017-18
Revenue	11,039	10,136	11,560	14%
Capital	41,193	50,864	59,440	17%
Total	**52,232**	**61,000**	**71,000**	**16%**

Notes: BE – Budget Estimate; RE – Revised Estimate.
Sources: Notes on Demands for Grants, 2018-2019, Ministry of Road Transport and Highways; PRS.

Allocation and utilisation of funds

In the past few years, the actual allocation to the Ministry has been consistently lower than the budget estimates. However, it has been noted that the utilisation of the funds by the Ministry has been high. The Standing Committee on Transport, Tourism and Culture (2016) had recommended that the reduction of allocation at the revised estimates stage should be avoided.[157]

Figure 19: Budget estimates vs actual expenditure



* The number for 2017-18 compares the budget estimates with the revised estimates.
Sources: Ministry of Road Transport and Highways budget documents; PRS.

Policy proposals in the Budget Speech

In his budget speech, the Finance Minister made the following announcements regarding the roads sector:

- **Road and infrastructure cess:** The existing Road Cess (cess on motor spirit and high speed diesel) has been converted to the Road and Infrastructure Cess. This cess on petrol and high-speed diesel has been increased by Rs 2 per litre, while the excise and customs duty have been cut by the same amount.
- Under the Bharatmala Pariyojana about 35,000 km of roads will be developed in Phase-I at an estimated cost of Rs 5,35,000 crore.
- To raise equity from the market for its mature road assets, NHAI will consider organizing its road assets into Special Purpose Vehicles and use other innovative monetizing structures like Toll, Operate and Transfer (TOT) and Infrastructure Investment Funds (InvITs).
- The government will come out with a policy to introduce toll system on 'pay as you use' basis.

Overview of Finances

Expenditure of the central government

In 2018-19, of the total expenditure, the highest allocation is towards road works at 58% (Rs 40,881 crore).[156] This is followed by allocation towards the National Highways Authority of India (NHAI) at 42% (Rs 29,663 crore).[156]

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Table 33: Expenditure heads for the Ministry of Road Transport and Highways

Major Head	Actual 2016-17	Revised 2017-18	Budget 2018-19	BE 2018-19/ RE 2017-18
Road works	44,463	36,780	40,881	11%
NHAI	7,500	23,892	29,663	24%
Road transport and safety	1,127	171	315	84%
Others	144	158	141	-11%
Total	**52,232**	**61,000**	**71,000**	**16%**

Notes: BE – Budget Estimate; RE – Revised Estimate.
Sources: Notes on Demands for Grants, 2018-2019, Ministry of Road Transport and Highways; PRS.

Road works: Expenditure under road works includes development of NHs, projects related to expressways, increasing the number of lanes under various projects, and development of road connectivity in Naxalite affected areas. The allocation towards roads works is 11% more than the revised estimates of 2017-18 (Rs 36,780 crore).[156] However, the allocation is 8% lower than the actual spending in 2016-17 (Rs 44,463 crore).

NHAI: The central government is responsible for the development and maintenance of NHs, and it carries out these functions through the NHAI. The NHs comprise about 2% of the road network but carry about 40% of the total road traffic.[158]

Expenditure on the NHAI includes funding provided towards projects under the National Highways Development Project (NHDP). Key projects under the NHDP include: (i) the Golden Quadrilateral, (ii) the North-South and East-West Corridors, and (iii) four-laning of 12,109 kms under phase III.[155]

NHAI has been allocated Rs 29,663 crore in 2018-19, which is 24% more than the revised estimates for 2017-18 (23,892 crore).[156] Of this amount, Rs 20,093 crore (68%) will be provided from the Central Road Fund (CRF), and the remaining Rs 9,570 crore (35%) will be provided from the Permanent Bridge Fees Fund (PBFF).[156]

Funds managed by the Ministry

The Ministry manages its expenditure through various funds. Their details are provided below.

Table 34: Summary of transfers from funds (in Rs crore)

	Actual 2016-17	Revised 2017-18	Budget 2018-19	BE 2018-19/ RE 2017-18
CRF	34,946	43,663	54,014	24%
PBFF	7,572	8,562	9,620	12%
NIF	4,465	5,265	6,210	18%

Notes: BE – Budget Estimate; RE – Revised Estimate.
Sources: Notes on Demands for Grants, 2018-2019, Ministry of Road Transport and Highways; PRS.

Central Road Fund (CRF): A majority of the Ministry's expenditure is managed through transfers from the CRF. A portion of the cess collected on motor spirit and high speed diesel is earmarked for the development of NHs and SHs, and the amount is transferred to the non-lapsable CRF. This amount is eventually released to the NHAI, and to the state/UT governments for development of road infrastructure in the country.[159]

For 2018-19, the transfer from CRF is estimated at Rs 54,014 crore.[1] This is a 24% increase from the revised estimates of 2017-18 (Rs 43,663 crore). These grants are expected to be used for the creation of capital assets.

Permanent Bridge Fees Fund (PBFF): Funds transferred to the PBFF relate to the revenue collected by the government by way of (i) fees levied for the use of certain permanent bridges on NHs by motor vehicles, (ii) toll on NHs, and (iii) revenue share and negative grants received on some PPP projects. The fund is utilised for development of NHs being undertaken by the government and those entrusted to NHAI.[156]

For 2018-19, the transfer to PBFF is estimated at Rs 9,620 crore.[1] This is a 12% increase from the revised estimates of 2017-18 (Rs 8,562 crore).

National Investment Fund (NIF): The NIF was created in 2005, and is credited with proceeds from disinvestments of public sector enterprises. The Ministry finances the Special Accelerated Road Development Programme in North East (SARDP-NE) with funds from the NIF.

For 2018-19, the transfer to NIF is estimated at Rs 6,210 crore.[1] This is an 18% increase from the revised estimates of 2017-18 (Rs 5,265 crore).

Schemes

Bharatmala Pariyojana: The Bharatmala Pariyojana is a new umbrella programme covering highways.[160] It aims to optimize efficiency of freight and passenger movement by bridging critical infrastructure gaps. The program aims to increase the number districts with national highway linkages from 300 to 550.[161]

On October 24, 2017, the Union Cabinet approved phase I of Bharatmala Pariyojana under which 34,800 km of roads will be developed over a period of five years. Phase I will also subsume 10,000 km of balance roadworks under the NHDP. The estimated cost of Phase I is Rs 5,35,000 crore, spread over five years. Table 4 illustrates the various components of Phase I.

Table 35: Components of Phase I of Bharatmala Pariyojana (2017-2022)

Components	Length (in km)	Outlay (Rs crore)
Economic corridors development	9,000	1,20,000
Inter-corridor and feeder roads	6,000	80,000
National Corridors Efficiency improvements	5,000	100,000
Border and International connectivity roads	2,000	25,000
Coastal and port connectivity roads	2,000	20,000
Expressways	800	40,000
Total	24,800	3,85,000
Balance road works under NHDP	10,000	1,50,000
Total		5,35,000

Sources: Ministry of Road Transport and Highways; PRS.

Issues to consider

The roads sector is facing several constraints such as: (i) availability of land for NH expansion and upgradation, (ii) significant increase in land acquisition cost, (iii) lack of equity with developers, (iv) bottlenecks and checkpoints on NHs which could adversely impact benefits of GST, (v) higher cost of financing; and (vi) shortfall in funds for maintenance.[162] Further, the value of NPAs in the infrastructure sector (including roads and highways) has been increasing, with NPAs at around Rs 2.6 lakh crore as of August 2016.[163] We discuss some of these issues below.

Targets vs performance

Road construction: The achievement of construction targets (for NHs) has ranged between 55% to 70% in the last three years. The road construction target for 2017-18 was 15,000 km, of which 4,292 km has been constructed till November 30, 2017 (33%).[164] This suggests a rate of construction of 20 km/day (see Table 6). This is slightly lower than the rate of construction for last year which was 22 km/day. Given that 33% of the target length has been constructed in the first eight months of the year, it remains to be seen how much of the target will be completed in the remaining four months.

Table 36: Targets vs achievements for road construction (National Highways)

Year	Target (km)	Achievement (km)	Achievement (in %)
2014-15	6,300	4,410	70%
2015-16	10,950	6,061	55%
2016-17	15,000	8,231	55%
2017-18	15,000	4,942*	33%*

* data as of November 30, 2017.
Sources: Rajya Sabha questions; PRS.

The CAG had noted that between 2009-10 to 2012-13, the rate of NH construction was between 3.06 km/day and 17.81 km/day, as compared to a target of 20 km/day.[165]

The Standing Committee on Transport (2017) had noted that none of the schemes or targets could not be met due to shortage of funds. The projects could not be completed due to various reasons such as delays in obtaining clearances, poor financial and technical performance of the contractors, and law and order issues.

Project delays

The Committee on Public Undertakings (2017) had noted that from 1995, till June 2016, out of the total 388 projects completed, only 55 projects were completed on or before time.[166] Delays in the completion of the projects were mainly attributed to: (i) the long time taken in land acquisition, and obtaining environment and forest clearances, (ii) poor performance of concessionaires due to economic slowdown, and (iii) law and order issues.

The CAG had noted that several road projects get stalled due to court injunctions.[167] As on July 31, 2017, 30 road projects with a total cost of Rs 11,216 crore were stayed for three years. Such delays increase project costs, eventually making certain projects unviable.

Table 7 below shows the time taken to obtain various types of clearances.

Table 37: Time taken in obtaining clearances

Clearance required	Statutory Authority	Time taken
Environmental	Ministry of Environment and Forest	12-15 months
Forest	Ministry of Environment and Forest	1-2 years
Wildlife	National Board of Wildlife and Supreme Court of India	More than 3 years

Sources: Outcome Budget 2015-16, Ministry of Road Transport and Highways; PRS.

The Standing Committee on Transport (2015) had recommended that a coordination mechanism at the central level with the Ministries of Finance, Environment and Forest and Defence will help speed up the process of clearances.[170] The Standing Committee (2016) had also suggested that the Ministry of Road Transport and Highways should obtain all these clearances before awarding the projects to concessionaires. The NHAI should: (i) technically examine, (ii) estimate costs, and (iii) ensure all clearances before awarding any projects to the concessionaires.

Increase in land acquisition costs

From January 1, 2015, the compensation for land acquired by NHAI is determined as per the Right to Fair Compensation and Transparency in Land Acquisition Rehabilitation and Resettlement Act,

2013. The Committee on Public Undertakings (2017) had noted that due to higher compensation under the 2013 Act, the expenditure by the Ministry of Road Transport on land acquisition increased from Rs 9,097 crore in 2014-15 to Rs 21,933 crore in 2015-16.[166]

The Committee also observed that farmers who were entitled to lesser compensation under the older law, have been approaching courts for increased compensation.[166] This has further delayed the land acquisition process and added to the cost of projects.

Performance of NHAI

The Comptroller and Auditor General of India (2016) had also noted several procedural inefficiencies with NHAI. For example, NHAI could not realise toll on certain projects due to delays in approvals, toll operations, and other procedural lapses.[168] NHAI did not adhere to Ministry of Road Transport and Highways guidelines regarding maintenance of project wise balance sheet and cash flow.[168] Loss of revenue was also noted due to inefficient bidding process for engagement of toll collecting agencies.[168]

The Committee on Public Undertakings (2017) had also noted several issues in the financial performance of NHAI such as: (i) insufficiency of funds, (ii) gap between the amount of fund allocated and released, and (iii) under-utilisation of funds.[166] For example, funds that are left unspent at the end of a financial year is shown as 'opening balance' at the beginning of the next financial year. This opening balance was Rs 2,672 crore and Rs 6,740 crore for the years 2015-16 and 2016-17 respectively.[166] This shows NHAI's inability to optimally utilise the available funds.

Issues with financing

Role of central government in financing: The Standing Committee on Transport (2016) had observed that while the Ministry of Road Transport and Highways invests in the construction of roads, it does not have its own source of revenue other than budgetary support from the central government.[169] The Committee recommended that the RBI and Ministry of Finance may help the Ministry of Road Transport to set up its own dedicated financial institutions to generate funds for development of the road sector. It also recommended that Ministry of Road Transport should monitor toll collection and channelise the surplus money towards stressed projects.

The Standing Committee (2016) had also noted that while the central government has allocated a huge budget for the road sector, this cannot sustain over a long term.[169] It suggested that the government should devise ways and establish appropriate financial institutions and models to encourage the return of private investment to the road sector.

Private financing and contracts: It has been noted that the roads sector is struggling with regard to private financing.[158,170] Several PPP projects have not been able to attract bids.[170] The major highway developers in the country are also facing financial capacity constraints. Further, the lack of debt products that are aligned with the revenue stream profile of highway projects, makes financing of such projects difficult. These reasons have resulted in some projects getting stalled at the construction stage, and this is also discouraging prospective bidders.[170]

The Committee on Revisiting & Revitalizing the PPP model of Infrastructure Development (Chair: Dr. Vijay Kelkar) had looked at issues with PPP projects in India, in November 2015.[171] It had recommended setting up an independent regulator for the roads sector. It had also noted that service delivery to citizens is the government's responsibility and PPPs should not be used to evade such responsibilities.

The Kelkar Committee had noted that inefficient and inequitable allocation of risk can be a major factor leading to failure of PPPs.[171] PPP contracts should ensure optimal risk allocation across all stakeholders. The basic principle for risk allocation should be to ensure that the entity that is best suited to manage a risk should be allocated that risk.

The Kelkar Committee had also observed that since infrastructure projects span over 20-30 years, a private developer may lose bargaining power because of abrupt changes in the economic or policy environment.[171] It recommended that the private sector must be protected against such loss of bargaining power. This could be ensured by amending the terms of the concession agreement to allow for renegotiations.

In January 2016, the Cabinet Committee on Economic Affairs had approved the hybrid annuity model for implementing highway projects in partnership with the private sector.[172] Under this model, government and the private entity will share the project cost in the ratio of 40:60. This model is expected to lower the initial capital outflow for the government, as bulk of the payment will be done through annuity payments. Further, the private entity will be insulated from traffic and inflation risks, as these will be looked after by the government.

Infrastructure lending: The Standing Committee on Transport (2016) had observed that several of the long-term loans disbursed for the road sector are turning into non-performing assets (NPAs).[169] Project bids are often made without proper study, and projects are awarded in a hurry. This results in stalling of projects, and concessionaires leave mid-way. Concessionaires had also anticipated higher revenue realization but achieved less due to the recent economic downturn.[169]

Banks and other infrastructure lending institutions have also been reluctant to finance the highways sector.[169] This has led to difficulties in debt servicing, putting additional stress on the road infrastructure portfolios. Besides increasing the cost of the project, delays also make it difficult to obtain additional debt.[169]

The Committee recommended that banks should take due diligence while disbursing loans to concessionaires. It also suggested that the bank NPAs may be supported by government allocation. Further, banks could be empowered to recover the bad debts. The model concession agreement of NHAI should be restructured to change terms and conditions which ensure that banks do not end up accumulating NPAs.

Investment in maintenance of roads

In 2018-19 the Ministry has allocated Rs 3,071 crore towards maintenance of roads and highways (including toll bridges). This is Rs 37 crore lower than the revised estimates of 2017-18.

The Ministry allocates about 4% of its budget towards maintenance of NHs. This is for a total NH length of 1.15 lakh km. In comparison, in 2014-15 the US government allocated about 48% of its total budget ($19.2 billion) on roads and highways towards the maintenance of existing facilities.[173] This was for a total highway length of 10.16 lakh miles (or 16.37 lakh km) (highways that receive federal aid).[174]

The National Transport Development Policy Committee (2014) had observed that as compared to the amount spent on construction and upgradation of roads, the amount spent on maintenance of existing roads is less.[175] This results in roads with potholes, weak bridges, poor pavements, etc. Further, maintenance is carried out when required, as opposed to being a part of preventive measures.[175]

The Standing Committee on Transport (2017) had also raised concerns regarding the allocation towards maintenance of highways. The entire length of NHs in the country cannot be maintained with such an amount. It had recommended that the budget for maintenance of NHs should be increased. Maintenance of roads should be given top priority as it increases the life span of roads. An effective monitoring mechanism for repair and maintenance of roads should be put in place.[170] Further, there should be penalties for contractors and engineers in case of poor quality repair, maintenance, and construction.

Investment in road safety

In 2018-19, the Ministry has allocated Rs 315 crore towards road transport and safety. This would provide for various things such as road safety programmes, setting up of facilities on National Highways for extending relief to accident victims, creation of National Road Safety Board, strengthening of public transport, research and development, and training.

This amount is about 0.4% of the Ministry's total budget. In comparison, the US federal government spends about 20% of its total expenditure on roads and highways (around $7.8 billion) towards safety on highways.[173]

Between 2005 and 2015, the road network in India grew by 44%.[176] During the same period, the number of road accidents increased by 14%, and road accident fatalities increased by 54%.[177] In 2016, there were 4,80,652 road accidents in India, which killed about 1.5 lakh people and injured about five lakh people.[178] As a signatory to the Brasilia Convention, the government intends to reduce traffic fatalities by 50% by 2020.[179]

The Motor Vehicles (Amendment) Bill, 2016, that was passed in Lok Sabha in April 2017 (currently pending in Rajya Sabha), seeks to amend the Motor Vehicles Act, 1988 to address various issues around road safety. The Bill provides for a Motor Vehicle Accident Fund which would be used for treatment of injured persons. It also provides for cashless treatment for road accident victims, and a golden hour scheme for immediate treatment of accident victims. It also provides for a National Road Safety Board. The Board will provide advice to the central and state governments on all aspects of road safety and traffic management.

Connectivity in remote areas

Funds are also allocated towards the development of highways in areas with poor connectivity. Some of these projects include Special Accelerated Road Development Programme in North East (SARDP-NE), Externally Aided Projects (EAP) and Roads Projects in Left Wing Extremism Affected Areas (LWE). In 2017, the government announced implementing 48,877 km of projects under these ongoing schemes between 2017 and 2022. These projects will have an outlay of Rs 1,57,324 crore.[180]

In Budget 2018-19, Rs 6,210 crore has been allocated towards the SARDP-NE project, which is 18% higher than last year's revised estimates. With regard to projects in LWE areas, the Standing Committee on Transport had noted that the allocation had decreased by 24% in 2016-17 (revised estimates as compared to budget estimates). It had raised concerns that such budget cuts should be avoided as road connectivity in such areas is significant.

[155] Annual Report 2013-14, Ministry of Road Transport and Highways.

[156] Notes on Demands for Grants 2018-19, Demand no 81, Ministry of Road Transport and Highways, http://www.indiabudget.gov.in/ub2018-19/eb/sbe81.pdf.

[157] "234th Report: Demands for Grants (2016-17) of Ministry of Road Transport and Highways", Standing Committee on Transport, Tourism and Culture, May 2016-17, http://164.100.47.5/newcommittee/reports/EnglishCommittees/Committee%20on%20Transport,%20Tourism%20and%20Culture/234.pdf.

[158] Outcome Budget 2015-16, Ministry of Road Transport and Highways.

[159] Notes on Demand for Grants 2014-15, Demand no 83, Ministry of Road Transport and Highways.

[160] Bharatmala Pariyojana Phase I, Press Information Bureau, Ministry of Road Transport and Highways, October 25, 2017 http://pibphoto.nic.in/documents/rlink/2017/oct/p2017102504.pdf.

[161] Unstarred question no. 1129, Lok Sabha, December 21, 2017,.http://164.100.47.194/Loksabha/Questions/QResult15.aspx?qref=59211&lsno=16.

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[170] "220th Report: Demands for Grants (2015-16) of Ministry of Road Transport and Highways", Standing Committee on Transport, Tourism and Culture, April 28, 2015.

[171] "Report of the Committee on Revisiting and Revitalising Public Private Partnership Model of Infrastructure", Department of Economic Affairs, Ministry of Finance, November 2015.

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Demand for Grants 2018-19 Analysis

Agriculture and Farmers' Welfare

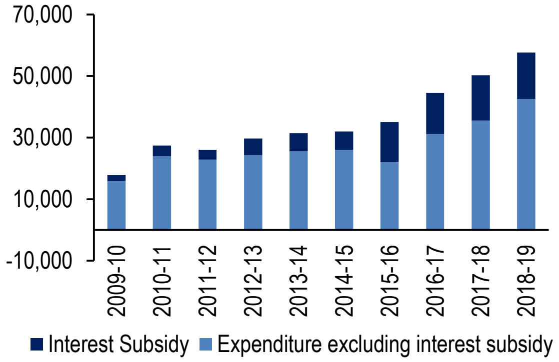
The Ministry of Agriculture and Farmers' Welfare is divided into three departments: (i) Agriculture, Cooperation and Farmers Welfare, which implements programmes and schemes relating to crop husbandry, and manages agriculture inputs, (ii) Agricultural Research and Education, which manages agriculture universities, and promotes research in the sector and (iii) Animal Husbandry, Dairying and Fisheries, which manages the production and development of livestock, dairy and fisheries. This note analyses issues in the agriculture sector, expenditure trends and budget proposals of these Departments.

Allocation to the Ministry in 2018-19

The Ministry has been allocated Rs 57,600 crore in 2018-19.[181] This is 14.6% more than the revised estimate in 2017-18 as shown in Figure 20. Agriculture is a state subject and the Union Budget allocation under the Ministry is largely focused on subsidies and transfers to states for centrally sponsored schemes.

Note that, in 2016-17, the allocation under the Ministry increases suddenly due to the Interest Subsidy Scheme. The scheme which is being accounted under the Ministry of Agriculture from 2016-17, was under the Ministry of Finance earlier.

Figure 20: Allocation to the Ministry of Agriculture including interest subsidy (2009-19)

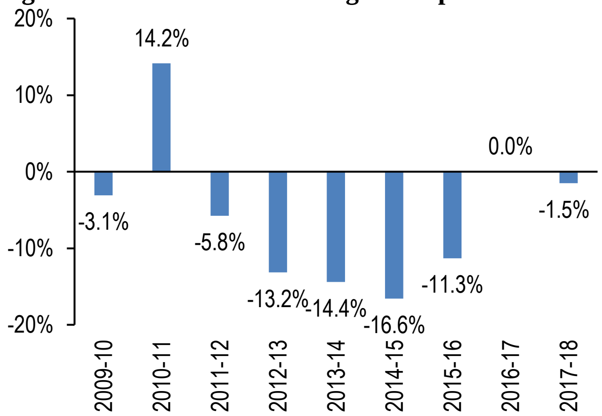


Note: Data for 2018-19 is budgeted estimate, and data for 2017-18 is revised estimate. Rest are actual expenditure.
Source: Union Budget documents between 2013-14 and 2018-19; PRS.

Budgeted vs actual expenditure: In 2017-18, the allocation was revised down by 1.5% as shown in Figure 21. Between 2009-10 and 2015-16, the actual expenditure was less than the budgeted expenditure, except for years 2010-11 and 2016-17.

The Standing Committee on Agriculture (2016) has observed that reducing allocations at the later stages may be a result of slow spending in the first two quarters of the financial year.[182]

Figure 21: Deviation from budgeted expenditure



Note: Data for 2017-18 is as per the revised estimate. Rest are actual expenditure.
Source: Union Budget documents between 2010-11 and 2018-19; PRS.

Departmental Expenditure

Expenditure across departments in 2018-19 is given in Table 38.

Table 38: Allocation across Departments (in Rs crore)

Department	AE 2016-17	RE 2017-18	BE 2018-19	% change
Agriculture & Co-operation	36,912	41,105	46,700	13.6%
Agricultural Research and Education	5,729	6,992	7,800	11.6%
Animal Husbandry, Dairying and Fisheries	1,858	2,167	3,100	43.1%
Total	**44,500**	**50,264**	**57,600**	**14.6%**

Note: AE: Actual expenditure; RE: Revised estimate; BE: Budgeted estimate.
Sources: Expenditure Budget, Union Budget 2018-19; PRS.

- The Department of Agriculture, Co-operation and Farmers Welfare accounts for 81% of the Ministry's allocation, in 2018-19.[181] The Department is allocated Rs 46,700 crore, an increase of 13.6% (Rs 5,595 crore) over the revised estimate of 2017-18.[183]
- About 82% of this allocation is proposed to be spent on five schemes. These are the Interest Subsidy Scheme (32%), Pradhan Mantri Fasal Bima Yojana (28%), Pradhan Mantri Krishi Sinchayi Yojana (9%), Rashtriya Krishi Vikas

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Yojana (8%), and National Mission of Horticulture (5%). Table 41 of the Annexure provides details on expenditure on major heads under the Department.

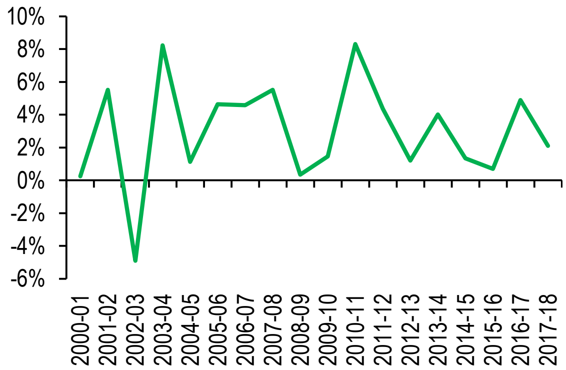
- In 2018-19, the Department of Agricultural Research and Education is allocated Rs 7,800 crore.[184] This is an increase of 11.6% (Rs 808 crore) over the revised estimates of 2017-18.[184] This is due to increase in provisions for research under crop sciences (77%), and animal sciences (47%). Expenditure under the Indian Council of Agricultural Research (ICAR) accounts for 59% of the expenditure under the Department.[184] Table 42 of the Annexure provides details on expenditure on major heads under the Department.
- The Department of Animal Husbandry, Dairying and Fisheries accounts for 5% (Rs 3,100 crore) of the allocation under the Ministry in 2018-19. This is an increase of 43.1% (Rs 933 crore) over the revised estimate of 2016-17.[185] This is due to increase in the allocation for schemes such as the Livestock Health and Disease Control (70%), and Integrated Development and Management of Fisheries (110%). Table 43 of the Annexure provides details on expenditure on major heads under the Department.

Analysis

Growth in the agriculture sector

The contribution of agriculture and allied sectors in the economy declined from 18.2% in 2012-13 to 16.4 % in 2017-18.[186] Further, the growth in the agriculture sector has been volatile over the past few years as shown in Figure 22. In 2017-18, the growth rate of the agriculture sector is estimated to be 2.1%, as compared to 4.9% in 2016-17.[186]

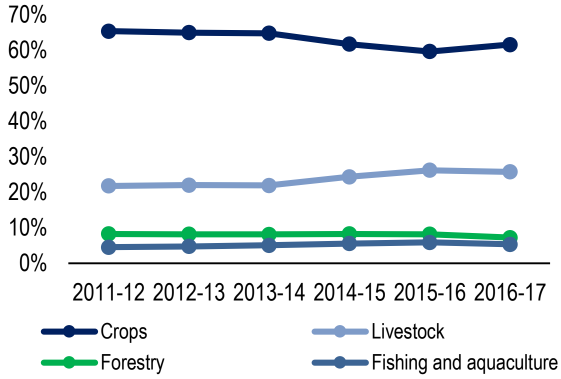
Figure 22: Agricultural growth (in %)



Sources: Economic Survey 2018; PRS.

Composition of agriculture growth: Within the agriculture sector, the share of the crop sector declined from 65% in 2011-12 to 60% in 2015-16.[186] On the other hand, the contribution of the livestock and fisheries sectors has been increasing as shown in Figure 23.[212] For instance, the share of livestock sector increased from 22.6% in 2013-14 to 25.7% in 2015-16.[187]

Figure 23: Composition of agriculture sector (2011-17)



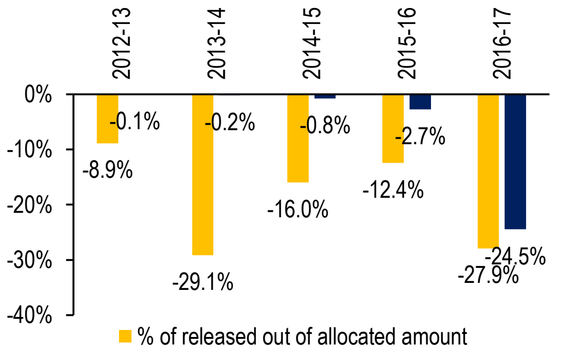
Source: Central Statistics Office 2018; PRS.

In 2017-18, the agriculture growth rate was targeted at 4% under the Rashtriya Krishi Vikas Yojana (RKVY). Under the scheme, financial assistance is provided to states to implement sub-schemes such as production growth, infrastructure and assets, Crop Diversification Program and Bringing Green Revolution to Eastern India, and innovation and agri-entrepreneur development.[188,189]

In 2018-19, Rs 3,600 crore has been allocated to this scheme, an 18% increase over the revised estimate in 2017-18.[183]

Underutilisation of funds: In 2017-18, the expenditure under the scheme has been revised down by 36%. The Standing Committee on Agriculture (2017) observed that funds under the scheme reduced drastically and continuously between 2012 and 2017.[190] For instance, out of around Rs 5,400 crore allocated in 2016-17, Rs 3,892 crore were released. This is shortfall of around 28% as shown in Figure 24.[191] Further, out of this released amount, only around Rs 3,400 crore was utilised. This is a further shortfall of 24.5%.

Figure 24: Funds allocated, released and utilised under RKVY



Source: Rajya Sabha Unstarred Question No 31, February 2, 2018; PRS.

State agriculture plans: Under the scheme, district and state agriculture plans must be prepared for development of various aspects under agriculture.[190] The Standing Committee on Agriculture (2017) noted that only 12 states have prepared state agriculture plans as of February 2017. Further, only 38% of the district agriculture plans have been prepared.[190] The Committee recommended that such plans need to prepared and approved without delay to avoid reduction of funds at later stages.

Agriculture Credit

Agriculture credit is provided to farmers under the Interest Subsidy Scheme under the Ministry.[192] Under the scheme, interest subvention of 2% will be provided to farmers on short term crop loans up to Rs three lakh. Further, an additional interest subvention of 3% is provided to farmers repaying the loan on time (maximum one year).

In 2018-19, the interest subsidy scheme has been allocated Rs 15,000 crore, accounting for 32% of the estimated expenditure of the Department.[183] Issues related to the scheme are:

Inadequate allocation for unsettled claims: The Standing Committee on Agriculture (2017) noted that budget allocation under the scheme has been inadequate.[193] It observed that, in 2017-18, against an estimated requirement of Rs 41,748 crore for unsettled claims, only Rs 15,000 crore was allocated. Note that this is further revised down by 1.7% to Rs 14,750 crore. This is following a shortfall of 10.7% in 2016-17.

Short-term vs long term loans: In 2015, the Committee on Medium-Term Path on Financial Inclusion under the Reserve Bank of India (RBI) observed that as the scheme is for short-term crop loans, it discriminates against long-term loans.[194] Short term crop loans are used for pre-harvest activities such as weeding, harvesting, sorting and transporting. Long-term loans are taken to invest in agricultural machinery and equipment, or irrigation. Hence, the Committee stated that the scheme does not incentivise long-term capital formation in agriculture, which is essential to boost productivity in the sector.

Over the past few decades, the trend of short term and long term agricultural credit in the country has reversed. From 1990-91 to 2010-11, the share of long term credit decreased from about 66% to 42% (see Figure 26).[195,196] This implies that farmers are taking loans for recurring expenditures rather than to fund long term investments.

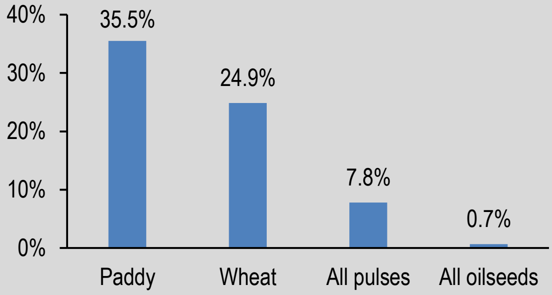
Minimum Support Prices (MSPs)

MSPs are the prices at which the central government purchases agriculture commodities from farmers.

The Finance Minister in the budget speech announced that MSPs for certain Rabi and Kharif crops will be provided at least at one and a half times the production cost.[197] This production cost, A2+FL, includes costs of inputs such as seeds, fertiliser, and implied cost of family labour.

While MSPs are announced for 23 crops every year, public procurement is limited to a few such as paddy, wheat and, to a limited extent, pulses.[198] The procurement is also largely from a few states. Three states (Punjab, Haryana, and Madhya Pradesh) which produce 49% of the national wheat output account for 93% of procurement. For paddy, six states (including Punjab, Chhattisgarh and Andhra Pradesh) with 40% production share have 77% share of the procurement.

Figure 25: Share of crop produce procured in 2016-17

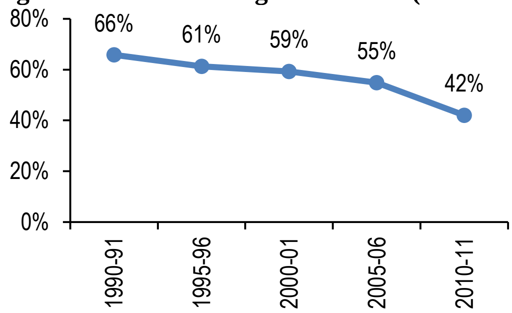


Source: Committee on Doubling Farmers' Income 2017; Ministry of Agriculture and Farmers Welfare; PRS.

Other issues with the implementation of the MSP regime include (i) low awareness among farmers before the sowing season (according to NITI Aayog, 62% of the farmers were informed of MSPs after the sowing season), (ii) long distances to the procurement centres, (iii) increasing cost of transportation for farmers, and (iv) inadequate storage capacity.[199]

The NITI Aayog noted that the agricultural pricing policy needs to be reviewed to ensure that farmers are receiving remunerative prices for their produce. Farmers are often forced to engage in distress sales, i.e., selling below the MSPs. One of the measures it recommends to assure remunerative prices is a price deficiency system.[199] Under such a system, farmers would be compensated for certain commodities if their prices fall under a specified threshold. This would reduce stock-holding by farmers who store commodities until prices increase, and also incentivise farmers to produce different crops. Farmers would be paid by using the direct benefit transfer system, through bank accounts linked to the their Aadhaar numbers.

Figure 26: Share of long-term credit (1990-2011)



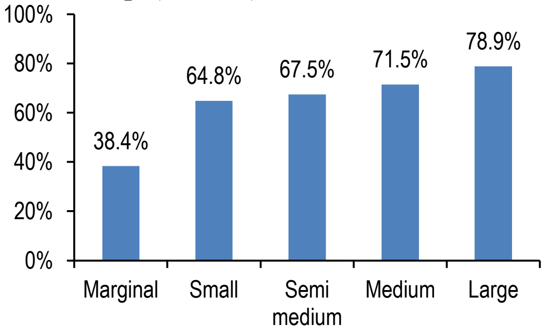
Source: Handbook of Statistics on Indian Economy 2017, Reserve Bank of India; PRS.

An Internal Working Group under the RBI observed that the Interest Subsidy Scheme has distorted the agricultural credit system.[200] Further, it stated the scheme led to banks granting loans under the scheme without establishing that the loans are for agriculture, and claiming interest subvention as well as priority sector benefit.

Small and marginal farmers: The RBI Committee observed that the owner of the land is often not the cultivator even in the case of small and marginal holdings. For example, a landowner may get the benefit of subsidised credit at times, and may be the moneylender to his cultivator.[194]

Farmers with land holdings of less than a hectare primarily borrow from informal sources of credit such as moneylenders (41%), whereas those with land holdings of two or more hectares primarily borrow from banks (60% or more) as shown in Figure 27.[194] Informal sources of credit are typically offered at higher rates of interests, and may not have proper documentation.

Figure 27: Share of institutional sources across landholdings (2012-13)



Note: Marginal: less than 1 hectare, Small-1-2 hectares, Semi-medium: 2-4 hectares, Medium: 4-10 hectares, and Large: more than 10 hectares.
Source: Report on Medium-Term Path Financial Inclusion, Reserve Bank of India, 2015; PRS.

The Committee recommended that agricultural credit must flow to the actual cultivator for which substantial reform is necessary.[194] Further it stated that the subsidised credit increases the probability of misuse. The Committee on Comprehensive Financial Services for Small Businesses and Low-Income Households has also suggested the benefits must be transferred farmers directly and instead of subvention and waivers.[201]

Land reforms: Considering that access to agricultural credit is linked to formal land titles, the RBI Committee recommended that credit eligibility certificates, which would act as tenancy/lease certificates should be issued to tenant farmers.[194] These certificates would also enable landless tenant cultivators to obtain agricultural credit.

Crop Insurance

Crop insurance is provided to farmers under the Pradhan Mantri Fasal Bima Yojana (PMFBY).[202] The scheme covers all farmers, including tenant farmers and sharecroppers, who are growing notified crops in notified areas.[203] In 2018-19, the scheme has been allocated Rs 13,000 crore, a 22% increase over its revised estimate in 2017-18.[183] It accounts for 28% of the expenditure under the Department. Issues related crop insurance have been raised by expert committees include:

Awareness about crop insurance: The Economic Survey 2018 noted that the share of agricultural households insuring their crops was low.[186] Less than 5% of the agricultural households cultivating major crops such as rice and wheat insured crops.[186] Lack of awareness among farmers about crop insurance was the major factor for not insuring their crops.[186] Further, lack of awareness about availability of crop insurance was the other prominent reason.

The Standing Committee on Finance (2016) has recommended that the government should create awareness about what crops should be grown based on factors such as the quality of soil and incidence of rainfall in different regions.[204]

Coverage of insurance schemes: It is targeted to provide crop insurance coverage to 30%, 40% and 50% of total cropped area in the country during 2016-17, 2017-18, and 2018-19 respectively.[193]

As per the Agricultural Statistics at a Glance 2016, out of the 2,009 lakh hectares of area sown in 2013-14, 427 lakh hectares (21%) of area was insured.[206] As per the Economic Survey 2018, in 2016-17, 554 lakh hectares of land was insured meeting the 30% target in 2016-17.[186] This implies that the total cropped area in 2016-17 was lower as compared to 2013-14, resulting in meeting the target of 30%.

Coverage of farmers: In 2016-17, 571 lakh farmers were insured under the scheme.[186] Note that PMFBY is mandatory for farmers with loans and optional for those without loans similar to previous crop insurance schemes such as National Agricultural Insurance Scheme.[202] Majority (76%) of the farmers insured had loans. Further, coverage of farmers without loans is low in most states where six states (such as Maharashtra and

Karnataka) account for 95% of the farmers without loans insured.

The Comptroller and Auditor General of India observed that coverage of farmers without loans was low under previous crop insurance schemes. It recommended that the Department should ensure coverage of more farmers including farmers without loans.[205]

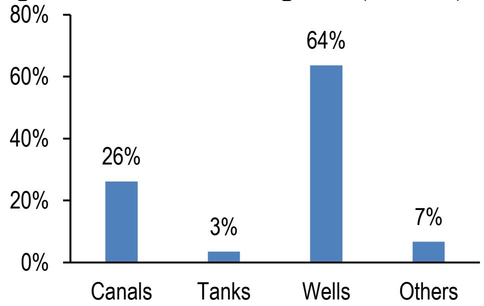
Assessment of losses: The Standing Committee on Agriculture (2017) observed that the state governments are not readily accepting and adopting use of technology for assessing yield loss.[193] It also observed that crop cutting experiments are not being carried out diligently. The Committee recommended that the Ministry to should pursue state governments to adopt technology aids and satellite imagery for crop cutting experiments.

Timely settlement of claims: Claims under the insurance scheme must be settled within two months from the crop harvest.[193] The Standing Committee on Agriculture recommended that an institutional mechanism must be put in place to monitor faster settlement of pending claims.[193]

Irrigation

As of 2013-14, about 48% of the net sown area was under irrigation. This implies that the remaining area depends on rainfall.[206] Major sources of irrigation include wells (including tube-wells) (64%), and canals (26%) as shown in Figure 28.[207]

Figure 28: Sources of irrigation (2010-11)



Source: Agriculture Census 2011; PRS.

Further, area under irrigation consumes about 84% of the total available water in the country.[208] Sources such as canals and tube-wells use the technique of flood irrigation, where water is allowed flow in the field and seep into the soil.[209] This results in the wastage of water since excess water seeps into the soil or flows off the surface without being utilised. It has been recommended that farmers should move from flood irrigation to the drip or sprinkler irrigation systems (micro irrigation) to conserve water.[210]

The Pradhan Mantri Krishi Sinchai Yojana was launched in 2015 to increase the coverage of irrigated area.[211] The Department implements the 'Per Drop More Crop' component under the scheme to increase water efficiency through micro irrigation and other interventions. In 2018-19, the Department has been allocated Rs 4,000 crore for the scheme, a 33% increase over the revised estimates of 2017-18.[183]

Shortfall in funds: Budgeted allocation under the scheme has been increasing over the years.[190] However, the allocation is revised down at later stages as shown in Table 39. For example, in 2017-18, allocation under the scheme was revised down by 12% from Rs 3,400 crore to Rs 3,000 crore.

Table 39: Budgeted vs actual expenditure under PMKSY under the Ministry

	Budgeted	Actual/Revised	% shortfall
2015-16	1,800	1,556	-14%
2016-17	2,340	1,991	-15%
2017-18	3,400	3,000	-12%
2018-19	4,000		

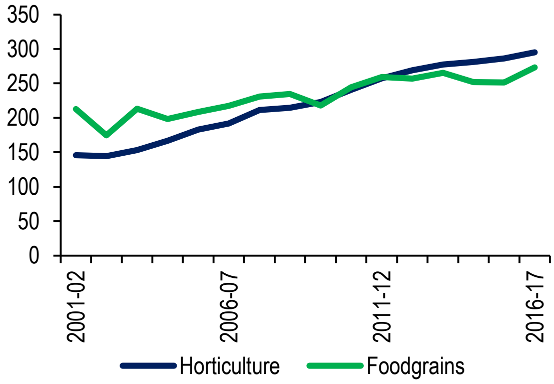
Note: Data for 2017-18 is a revised estimate.
Source: Union Budgets 2015-19; PRS.

Physical progress: In 2017-18, it is targeted that 12 lakh hectares of land will be brought under micro-irrigation. In 2016-17, 8.4 lakh hectares was brought under micro-irrigation, followed by 5.7 lakh hectares in 2015-16.

Horticulture

Between 2001-02 and 2016-17, production of horticulture crops increased from 145 million tonnes to 295 million tonnes as shown in Figure 29.[212] This implies that the horticulture production grew at an average growth rate of 4.8%. In comparison, production of foodgrains grew at 1.7% during the same period.

Figure 29: Trend in horticulture and foodgrain production (million tonnes)



Source: Horticulture Statistics at a Glance 2017, Union Budget 2018-19; PRS.

In 2013-14, fruits and vegetables contributed to 23% of the total value of agriculture crops while other horticulture crops contributed to a further 7%. The National Mission on Horticulture seeks to promote the horticulture sector by providing availability of quality inputs such a planting material, and post-harvest interventions such as access to market.[183] Note that the Mission also includes provisions for Coconut Development Board, Horticulture Development Board and Development of Commercial Horticulture through production and post-harvest management, capital investment subsidy for construction, expansion, modernisation of cold storages.[183]

Expenditure: In 2018-19, the scheme has been allocated Rs 2,536 crore.[183] This is 15.8% more than the revised estimate in 2017-18.[183] Over the past few years, the actual expenditure under horticulture has been lower than the budgeted allocation (except 2013-14) as shown in Table 40.[190]

Table 40: Budgeted and actual expenditure on horticulture under the Department

Year	Budgeted	Actual	% shortfall
2012-13	2,212	1,860	-15.9%
2013-14	2,556	2,857	11.8%
2014-15	2,263	1,959	-13.4%
2015-16	2,000	1,699	-15.0%
2016-17	1,620	1,496	-7.7%
2017-18	2,320	2,190	-5.6%
2018-19	2,536	-	-

Note: 'Actual' amount for 2017-18 is a revised estimate.
Source: Horticulture Statistics at a Glance 2017, Union Budget 2018-19; PRS.

Agricultural Marketing

The Integrated Scheme on Agriculture Marketing includes sub-schemes such as: (i) agriculture marketing infrastructure, to create storage capacity and farmer consumer markets, (ii) a market research and information network, (iii) strengthening Agmark grading facilities, (iv) agro-business development to provide market linkages to farmers, (v) National Institute of Agriculture Marketing, and (vi) e-NAM (National Agriculture Market), which is a national electronic platform on which farmers can sell their produce.[213]

The scheme was allocated Rs 1,050 crore in 2018-19. This is 40% higher than the revised estimate in 2017-18. However, in 2017-18, the allocation was revised down by 37%, from Rs 1,190 crore to Rs 750 crore. As of October 2017, 470 mandis and 14 states have been integrated with e-NAM.[214]

Agricultural Mechanisation

Under the Sub-Mission on Agricultural Mechanisation, financial assistance is provided to farm training and testing institutes to train farmer technicians, nominees from state governments and agro-industries corporations, entrepreneurs.[183]

In 2018-19, Rs 1,165 crore is allocated under the scheme.[183] This is 50% more than the revised estimate under the scheme in 2017-18.

Outcome Target: Farm power availability to increase to 2.2kW/ha by 2020.

Current status: Between 1971-72 and 2012-13, farm power availability increased from 0.29kW/ha to 1.84 kW/ha, with an average annual growth of 4.6%. To achieve the outcome target, farm power availability should increase by 2.6%, less than the average growth rate observed as of 2012-13.

To increase productivity, farm equipment which is durable, light-weight, low cost, and also specific to different crops and regions should be made available for small and marginal farmers.[215] The Economic Survey 2015-16 recommended that there is a need for a rental market for agricultural machinery to make it more cost-effective.

Agricultural Research

The Indian Council of Agricultural Research (ICAR) is allocated Rs 4,599 crore for the year 2018-19.[184] This is 0.6% greater than the revised estimate in 2017-18. In 2017-18, the allocation under ICAR increased from the actual expenditure of Rs 319 crore in 2016-17. This is due to regrouping of salaries, pensions, and office expenditure from all schemes under ICAR.[184]

Research under crop sciences (including horticulture science), and animal sciences (including fisheries science) is allocated Rs 1,051 crore and Rs 571 crore.[184] Observing that vegetable oils, pulses, cashew are among the major commodities which were imported between 2011 and 2016, the Standing Committee on Agriculture (2017) stated that there is need for enhancing production of these commodities.[216] It also recommended that the central government must allocate additional funds to ICAR for this purpose.

The Committee noted that the production of animal vaccine is inadequate in the country.[216] It recommended that adequate resources and manpower must be devoted to ICAR for the development of animal vaccines.

Generation of internal revenue: Between 2012-16, the Standing Committee on Agriculture (2017) noted that ICAR has generated a revenue of Rs 734 crore. This revenue is generated through the sale of products, seeds, technology, and consultancy.[216] The Committee stating that there is a huge market for hybrid seeds, crop varieties, and agricultural machineries, recommended that internal revenue generation from ICAR institutes should be enhanced. In 2015-16, against a revenue target of Rs 125.5 crore, Rs 60.6 (48.3%) crore was achieved.[216] The target is set at Rs 154.7 crore for 2016-17. Divisions of animal science, crop science, and horticulture science are major contributors to the revenue receipts.[216]

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Annexure

Table 41: Expenditure on major schemes under the Department of Agriculture, Cooperation and Farmers Welfare (in Rs crore)

Major schemes	AE 2016-17	BE 2017-18	RE 2017-18	% change of RE 2017-18 over BE 2017-18	BE 2018-19	% change of BE 2018-19 over RE 2017-18
Interest Subsidy for Short Term Credit to Farmers	13,397	15,000	14,750	-1.7%	15,000	1.7%
Pradhan Mantri Fasal Bima Yojana	11,052	9,000	10,698	18.9%	13,000	21.5%
Pradhan Mantri Krishi Sinchai Yojana (Per Drop More Crop)	1,991	3,400	3,000	-11.8%	4,000	33.3%
Rashtriya Krishi Vikas Yojna	3,892	4,750	3,050	-35.8%	3,600	18.0%
National Mission on Horticulture	1,493	2,320	2,190	-5.6%	2,536	15.8%
National Food Security Mission	1,286	1,720	1,400	-18.6%	1,691	20.8%
Sub-Mission on Agriculture Mechanisation	367	550	777	41.2%	1,165	50.0%

Note: AE: Actual expenditure; RE: Revised estimate; BE: Budgeted estimate.
Sources: Union Budget 2018-19; PRS.

Table 42: Expenditure of major heads under the Department of Agricultural Research and Education (in Rs crore)

	AE 2016-17	BE 2017-18	RE 2017-18	% change of RE 2017-18 over BE 2017-18	BE 2018-19	% change of BE 2018-19 over RE 2017-18
ICAR Headquarters	319	4,383	4,574	4.4%	4,599	0.6%
Crop Sciences	1,905	591	591	0.0%	1,051	77.8%
Agricultural Education	726	695	695	0.0%	725	4.4%
Animal Sciences	1,206	388	388	0.0%	571	47.2%

Note: AE: Actual expenditure; RE: Revised estimate; BE: Budgeted estimate.
Provision for ICAR headquarters suddenly increases in 2017-18 due to regrouping of salaries, pensions and office expenditure from all schemes (such as crop science and animal science).
Sources: Union Budget 2018-19; PRS.

Table 43: Allocation under major schemes under the Department of Animal Husbandry, Dairying and Fisheries (in Rs crore)

	AE 2016-17	BE 2017-18	RE 2017-18	% change of RE 2017-18 over BE 2017-18	BE 2018-19	% change of BE 2018-19 over RE 2017-18
Rashtriya Gokul Mission	-	190.00	190.00	0%	301.50	58.7%
Livestock Health and Disease Control	246.23	298.77	298.77	0%	508.77	70.3%
National Livestock Mission	249.18	310.00	309.00	0%	380.00	23.0%
Blue Revolution (including Integrated Development and Management of Fisheries)	387.81	400.73	301.73	-24.7%	632.61	109.7%

Note: AE: Actual expenditure; RE: Revised estimate; BE: Budgeted estimate.
Sources: Union Budget 2018-19; PRS.

Demand for Grants 2018-19 Analysis

Railways

The Railways finances were presented on February 1, 2018 by the Finance Minister Mr. Arun Jaitley along with the Union Budget 2018-19. The Ministry of Railways manages the administration of Indian Railways and policy formation through the Railway Board. Indian Railways is a departmental commercial undertaking of the government.[217] This note looks at the proposed expenditure of the Ministry of Railways for the year 2018-19, its finances over the last few years, and issues with the same.

Key highlights

- **Outlay**: The total proposed capital outlay (or capital expenditure) for 2018-19 is Rs 1,48,528 crore which is a 24% increase from the 2017-18 revised estimates (Rs 1,20,000 crore).
- **Revenue**: Railways' revenue for 2018-19 is estimated at Rs 2,01,090 crore which is a 7% increase from the revised estimates of 2017-18.
- **Traffic revenue**: Total revenue from traffic for 2018-19 is estimated at Rs 2,00,840 crore, which is a 7% increase from the revised estimates of 2017-18. Revenue from both freight and passenger traffic is expected to grow by 4% each. In 2017-18 (revised estimates), the revenue from freight traffic increased by 13%, while revenue from passenger traffic increased by 4%.
- **Expenditure**: Total expenditure for 2018-19 is projected at Rs 1,88,100 crore which is a 4% increase from the revised estimates of 2017-18. In 2017-18 (revised estimates), total expenditure increased by 13%.

2018-19 Budget announcements

Key announcements and proposals related to Railways made in Budget 2018-19 include:

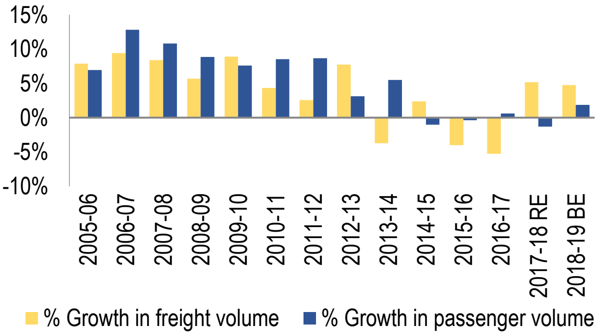
- **Railway infrastructure:** A large part of the proposed capital expenditure will be devoted to capacity creation. 18,000 km of doubling, third and fourth line works and 5,000 km of gauge conversion will be undertaken to eliminate capacity issues and transform the entire network into broad gauge.
- About 12,000 wagons, 5,160 coaches and approximately 700 locomotives will be procured during 2018-19 for the Eastern and Western Dedicated Freight Corridors. A major programme has also been initiated to strengthen infrastructure at the goods sheds and fast track commissioning of private sidings.
- 4,267 unmanned level crossings in the broad gauge network will be eliminated in the next two years.
- Modern train-sets with state-of-the-art amenities and features are being designed at the Integrated Coach Factory, Perambur. The first train set will be commissioned this year.
- A specialised Railways university will be set up at Vadodara. The University will train manpower required for high speed projects.
- **Station development:** All stations with more than 25,000 footfalls will have escalators. All railway stations and trains will be progressively provided with wi-fi. CCTVs will be provided at all stations and on trains to enhance passenger security.
- **Suburban Railways:** In the Mumbai suburban network, 150 km of additional suburban network is being planned at a cost of over Rs 40,000 crore, including elevated corridors on some sections. A suburban network of 160 km at an estimated cost of Rs 17,000 crore is being planned for Bengaluru.

Overview of Finances[218,219]

Sustainability of Railways finances

In the last few years, Railways has been struggling to run its transportation business, and generate its own revenue. The growth rate of Railways' earnings from its core business of running freight and passenger trains has been declining. This is due to a decline in the growth of both freight and passenger traffic (see Figure 1). Railways is also slowly losing traffic share to other modes of transport. The share of Railways in total freight traffic has declined from 89% in 1950-51 to 30% in 2011-12.[220]

Figure 30: Volume growth for freight and passenger



Note: RE – Revised Estimates; BE – Budget Estimates.
Sources: Railways Budget Documents; PRS.

On the other hand, Railways' primary expenditure, which is towards the payment of salaries and pension, has been gradually increasing (with a jump in 2016-17 due to implementation of Pay Commission recommendations). There is an increasing expenditure on pension too, which is unproductive, as this does not generate any revenue for the Railways. The pension bill is expected to increase further in the years to come, as about 40% of the Railways staff was above the age of 50 years in 2016-17.[221]

A decline in internal revenue generation has meant that Railways funds its capital expenditure through budgetary support from the central government and external borrowings. While the support from central government has mostly remained consistent, Railways' external borrowings have been increasing. Various committees have noted that an increased reliance on borrowings will further exacerbate the financial situation of Railways.[222,223]

Railways' Revenue

Indian Railways has three primary sources of revenue: (i) its own internal resources (revenue from freight and passenger traffic, leasing of railway land, etc.), (ii) budgetary support from the central government, and (iii) extra budgetary resources (such as market borrowings, institutional financing).[224]

Gross Budgetary Support (GBS)

The central government supports Railways in the form of GBS, in order to expand its network and invest in capital expenditure. In 2018-19, the gross budgetary support from central government is proposed at Rs 55,088 crore. This is a 38% increase from the revised estimates of 2017-18 (Rs 41,813 crore). However, note that, in 2017-18 (revised estimates) GBS decreased by 12%. That is, the central government gave Railways Rs 5,231 crore less than what it had allocated in 2016-17.

Internal Resources

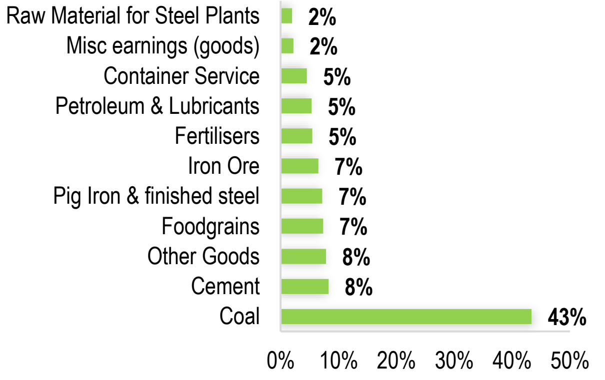
Railways earns its internal revenue primarily from passenger and freight traffic. In 2016-17, freight traffic contributed to about 63% of the internal revenue. In comparison, passenger traffic contributed to about 28% of the internal revenue. In 2018-19, Railways expects to earn 61% of its internal revenue from freight and 26% from passenger traffic. The remaining 10% is earned through other miscellaneous sources such as parcel service, coaching receipts, and platform tickets.

Passenger traffic and revenue: In 2018-19, Railways expects to earn Rs 52,000 crore from passenger traffic, an increase of 4% over the revised estimates of 2017-18. The growth in passenger traffic for 2018-19 is estimated at 0.2%. In 2017-18 (revised estimates), revenue from passenger traffic increased by 4%, and passenger traffic increased by 0.7%.

Freight traffic and revenue: In 2017-18, revenue from freight traffic was Rs 1,17,500 crore (revised estimates). In 2018-19, Railways expects to earn Rs 1,21,950 crore from goods traffic, an increase of 4% from the revised estimates. In 2016-17 (latest actuals available), Railways generated most of its freight revenue from the transportation of coal (43%), followed by cement (8%), and foodgrains (7%) (see Figure 2).

In order to improve freight traffic, in 2017-18, the Railways Ministry implemented several policies such as: (i) liberalising automatic freight rebate scheme in empty flow directions (routes with low freight traffic), (ii) getting into long term tariff contracts with key freight customers, and (iii) introducing double stack dwarf containers as a new delivery model to increase loadability of trains.[225]

Figure 31: Share in Railways freight revenue for 2016-17 (in %)



Sources: Statement of Revenue Receipts and Expenditure 2018-19, Ministry of Railways; PRS.

Extra Budgetary Resources (EBR)

EBR includes market borrowings, financing from banks, external investments, etc. External investments in Indian Railways could be in the form of public private partnerships (PPPs), joint ventures (JVs), or market financing by attracting private investors to buy bonds or equity shares in Railways. Most of Railways EBR comes in the form of market borrowings from the Indian Railways Finance Corporation (IRFC).[222]

In 2018-19, Rs 81,940 crore is estimated to be raised through EBR, which is an increase of 19% over revised estimates of 2017-18 (Rs 69,100 crore).

Capital outlay

The total proposed capital outlay (amount spent on capital expenditure) for 2018-19 is Rs 1,48,528 crore. This is about 24% higher than the revised plan outlay for 2017-18 (Rs 1,20,000 crore).

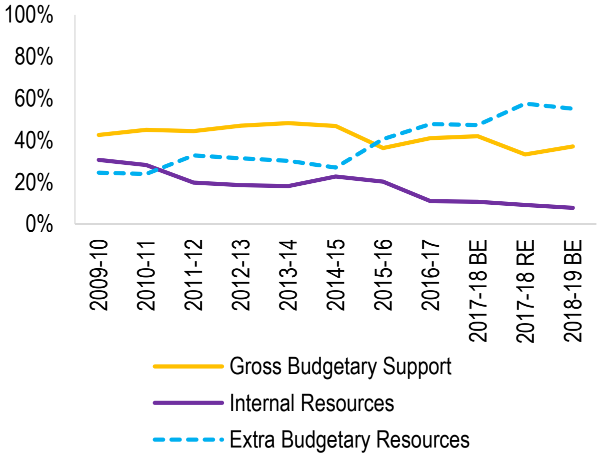
Table 44: Capital outlay (in Rs crore)

	2016-17 Actuals	2017-18 Revised	2018-19 Budget	% Change (BE 2018-19/ RE 2017-18)
Extra Budgetary Resources	52,579	69,100	81,940	19%
Gross Budgetary Support	45,232	40,000	55,088	38%
Internal Resources	12,125	10,900	11,500	6%
Total	**109,935**	**120,000**	**148,528**	**24%**

Note: RE – Revised Estimates; BE – Budget Estimates.
Sources: Notes on Demand for Grants for Ministry of Railways, 2018-19; PRS.

Majority of this capital expenditure will be financed through extra budgetary resources (55%), followed by the budgetary support from the central government (37%). Railways will fund only 8% of this capital expenditure from its own internal resources. Figure 3 below shows the trends in capital outlay over the last decade. Railways continues to operate as a commercial undertaking, but its capability to increase its own revenue stream has been declining.

Figure 32: Components of capital outlay



Note: RE – Revised Estimates, BE – Budget Estimates.
Sources: Railways Budget documents 2009-18; PRS.

Challenges in raising revenue

The Committee on Restructuring Railways (2015) had observed that raising revenue for Railways is a challenge because: (i) investment is made in projects that do not have traffic and hence do not generate revenue, (ii) the unbalanced mix of passenger and freight traffic does not help generate revenue, (iii) the efficiency improvements do not result in increasing revenue, and (iv) delays in projects results in cost escalation, which makes it difficult to recover costs.[222]

Social service obligations of the Railways

The NITI Aayog (2016) had noted that Indian Railways carries out various activities in national interest which are not driven strictly by commercial principles.[226] Railways' passenger business faced losses of about Rs 33,000 crore in 2014-15 due to its social service obligations.[226] Such social service obligations include: (i) pricing essential commodities lower than cost, (ii) low fares (cheaper tickets for second class travel) and passenger concessions (such as cheaper tickets for senior citizens, army veterans), (iii) uneconomic branch lines, and (iv) new lines not yet profitable.

However, NITI Aayog had also noted that the data related to the cost of running passenger business is not scientific and accurate. Therefore, it is difficult to compute accurately the levels of under-recoveries. The calculation of social costs does not factor the efficiency of various expenditures (whether fuel consumption is optimal, maintenance practices and costs are reasonable, etc.).[226] The calculation also does not factor in Railways' potential to leverage existing assets (such as stations, land banks) that could increase its revenue sources.[226]

The Standing Committee on Railways (2017) had recommended that the Ministry of Finance should reimburse the Ministry of Railways on losses made on all strategically important lines.[227] Till 2016-17, the Ministry of Finance was reimbursing Railways for operational losses on six strategic lines.

Railways' Expenditure

In 2016-17 (latest actuals available), Indian Railways spent most of its money on staff (41%), followed by expenses on pension fund (21%), and fuel (17%). In 2018-19, the total expenditure is estimated at Rs 1,88,100 crore which is a 4% increase over the revised estimates of 2017-18.

Staff wages and pension

Staff wages and pension together comprise more than half of the Railways' expenditure. As per the revised estimates of 2017-18, the expenditure on Railway staff (Rs 72,706 crore) was higher than the expenditure in 2016-17 by 4%, and the expenditure in 2015-16 by 28%. This was due to the implementation of the Seventh Pay Commission in 2016-17.

In 2017-18 (revised estimates), Rs 44,200 crore was allocated to the Pension Fund. Therefore, the total expenditure on staff and pension in 2017-18 was Rs 1,16,906 crore, which is about 65% of the total expenditure that year.

For 2018-19, the expenditure on staff is estimated at Rs 76,452 crore. Allocation to the Pension Fund is estimated at Rs 47,600 crore. These would constitute about 66% of the Railways' expenditure in 2018-19.

The Committee on Restructuring Railways (2015) had observed that the expenditure on staff is extremely high and unmanageable. This expense is not under the control of Railways and keeps increasing with each Pay Commission revision.[222] It has also been observed that employee costs (including pensions) is one of the key components that reduces Railways' ability to generate surplus, and allocate resources towards operations.[222]

Fuel and electricity

The expense on fuel and electricity increased by 5%, from Rs 28,300 crore in 2016-17 to Rs 29,808 crore in 2017-18 (revised estimates). In 2018-19, the expense on fuel and electricity is estimated to be Rs 30,328 crore.

Depreciation Reserve Fund (DRF)

Appropriation to the DRF is made annually based on the recommendations of the Railways Convention Committee, and is intended to finance the costs of new assets replacing the old ones.[223] The Standing Committee on Railways (2015) had observed that appropriation to the DRF is obtained as a residual after payment of the dividend and appropriation to the Pension Fund, instead of the actual requirement for maintenance of assets.[223]

In the last few years, appropriation to the DRF has decreased significantly. In 2016-17, appropriation to the DRF was Rs 5,200 crore. This means that Railways spent Rs 5,200 crore on asset maintenance in 2016-17, as compared to Rs 7,775 and Rs 5,500 in 2014-15 and 2015-16 respectively. Under-provisioning for the DRF has been observed as one of the reasons behind the decline in track renewals, and procurement of wagons and coaches.[222,223]

In 2018-19, appropriation to the DRF is estimated at Rs 500 crore, 90% lower than the revised estimates of 2017-18 (Rs 5,000 crore). Provisioning Rs 500 crore towards depreciation might be an extremely small amount considering the scale of infrastructure managed by the Indian Railways.

Improving Railways Infrastructure

In this Budget Speech, the Finance Minister announced that a large part of the proposed capital expenditure will be devoted to capacity creation, and track improvement. The Railways Convention Committee (2017) had noted that while rail traffic has increased more than 14 times between 1950 and 2014, the track infrastructure has not increased at an equivalent pace. This has been attributed to significant under-investment in the Railways.

Tracks are subjected to heavy wear and tear, and need to be maintained and upgraded periodically. The Sam Pitroda Committee on Railway Modernisation (2012) had recommended modernisation of 19,000 km of tracks between 2012 and 2017.

Poor track infrastructure also leads to safety concerns. Majority of Railway accidents (about 60%) are caused due to derailments. The Standing Committee on Railways (2016) had noted that one of the reasons for derailments is defect in the track or rolling stock. It had recommended that 4,500 km of track length should be renewed annually. However, in 2015-16, 2,828 km of track length was commissioned which included 813 km of new lines, 1,043 km of gauge conversion and 972 km of doubling. The achievements were expected to be on similar lines for 2016-17. For 2017-18, Railways had set a target of 3,500 km for network expansion.

Sources: 16th Report: Track Upgradation and Modernisation, Railway Convention Committee, August 10, 2017; 13th Report: Demands for Grants (2017-18)", Standing Committee on Railways, March 10, 2017; 12th Report: Safety and security in Railways", Standing Committee on Railways, December 14, 2016; PRS.

Safety

Last year, the Rashtriya Rail Sanraksha Kosh was created to provide for passenger safety in Railways. It was to have a corpus of Rs one lakh crore over a period of five years (Rs 20,000 crore per year). The central government was to provide a seed amount of Rs 1,000 crore, and the remaining amount would be raised by the Railways from their own revenues or other sources.

As per the revised estimates of 2017-18, no money was allocated towards this fund. In 2018-19, Rs 5,000 crore has been allocated for it. With the Railways struggling to meet its expenditure and declining internal revenues, it is unclear how Railways will fund the Rail Sanraksha Kosh. The fund will require an allocation of Rs 94,000 crore (minus the central government's proposed contribution, and this year's allocation) for the next three years (considering a five-year period for the corpus).

Railways used to have a Railway Safety Fund which received about 3% of allocation in the capital outlay. In 2015-16 (actuals), Rs 2,661 crore was allocated to this fund. Since 2016-17, no allocations have been made to this fund.

Dividend

Railways used to pay a return on the budgetary support it received from the government (GBS) every year, known as dividend. The rate of this dividend was determined by the Railways Convention Committee, and was about 5% in 2016-17.[223] From 2016-17, the requirement of paying dividend was waived off. The last dividend amount paid was in 2015-16, which was Rs 8,722 crore.

The Standing Committee on Railways (2017) had noted that part of the benefit from dividend is being utilised to meet the shortfall in the traffic earnings of Railways.[227] It had noted that this defeats the purpose of removing the dividend liabilities since they are not utilised in creating assets or increasing the net revenue of Railways.

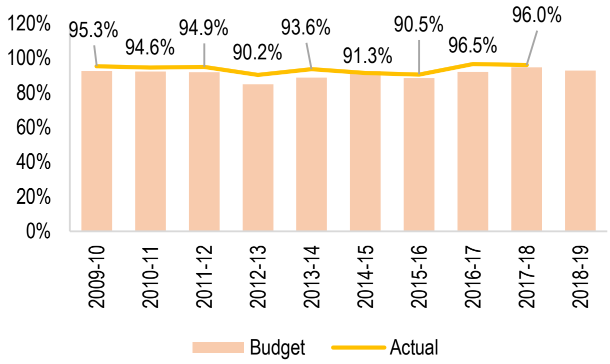
Surplus and Operating Ratio

Railways' surplus is calculated as the difference between its total revenue (total traffic receipts and other miscellaneous receipts) and total expenditure (working expenses and appropriation to pension and depreciation funds). In 2018-19, Railways expects to generate a surplus of Rs 12,990 crore. This is a 102% increase from the revised estimates of 2017-18 (Rs 6,425 crore). In 2017-18, Railways' surplus increased by 31% (Rs 1,512 crore).

Operating Ratio is the ratio of the working expenditure (expenses arising from day-to-day operations of Railways) to the revenue earned from traffic. Therefore, a higher ratio indicates a poorer ability to generate surplus that can be used for capital investments such as laying new lines, deploying more coaches, etc.

The Operating Ratio for 2018-19 is projected at 92.8%. In 2017-18 (revised estimates), the Operating Ratio was 96% (see Figure 4).

Figure 33: Operating Ratio



Notes: Numbers for 2017-18 are Budget Estimates vs Revised Estimates.
Sources: Railways Budget documents 2009-2018; PRS.

[217] "Evolution – About Indian Railways", Ministry of Railways, http://www.indianrailways.gov.in/railwayboard/view_section.jsp?lang=0&id=0,1,261.

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[222] Report of the Committee for Mobilization of Resources for Major Railway Projects and Restructuring of Railway Ministry and Railway Board, Ministry of Railways, June 2015, http://www.indianrailways.gov.in/railwayboard/uploads/directorate/HLSRC/FINAL_FILE_Final.pdf.

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[224] Railways Budget documents for the years 2005-2018.

[225] "Year End Review 2017 of Ministry of Railways", Press Information Bureau, Ministry of Railways, December 29, 2017.

[226] Reviewing the Impact of "Social Service Obligations" by Indian Railways, NITI Aayog, September 2016, http://niti.gov.in/writereaddata/files/document_publication/Social-Costs.pdf.

[227] "13th Report: Demands for Grants (2017-18)", Standing Committee on Railways, March 10, 2017, http://164.100.47.193/lsscommittee/Railways/16_Railways_13.pdf.

Annexure

Annexure I: Railways Budget 2018-19 Summary

Table 45: Railways Revenue and Expenditure for 2018-19 (in Rs crore)

		2016-17 Actuals	2017-18 Budget Estimates	2017-18 Revised Estimates	% Change (2017-18 RE/ 2016-17 Actuals)	2018-19 Budget Estimates	% Change (2018-19 BE/ 2017-18 RE)
	Receipts						
1	**Gross Traffic Receipts**	**165,289**	**188,998**	**187,225**	**13%**	**200,840**	**7%**
2	Miscellaneous	90	500	200	122%	250	25%
3	**Total Revenue (1+2)**	**165,382**	**189,498**	**187,425**	**13%**	**201,090**	**7%**
	Expenditure						
4	Ordinary Working Expenses	118,830	129,750	130,200	10%	138,000	6%
5	Appropriation to Depreciation Reserve Fund	5,200	5,000	5,000	-4%	500	-90%
6	Appropriation to Pension Fund	35,000	43,600	44,100	26%	47,500	8%
7	**Total Working Expenditure (4+5+6)**	**159,030**	**178,350**	**179,300**	**13%**	**186,000**	**4%**
8	Miscellaneous	1,440	2,200	1,700	18%	2,100	24%
9	**Total Expenditure (7+8)**	**160,469**	**180,550**	**181,000**	**13%**	**188,100**	**4%**
10	**Net Surplus (3-9)**	**4,913**	**8,948**	**6,425**	**31%**	**12,990**	**102%**
11	Appropriation to Railway Development Fund	2,515	2,000	1,500	-40%	1,000	-33%
12	Appropriation to Capital Fund	2,398	5,948	4,925	105%	6,990	42%
13	Appropriation to Debt Service Fund	-	-	-	-	-	-
14	Appropriation to Rashtriya Rail Sanraksha Kosh	0	1,000	0	0%	5,000	-
15	**Operating Ratio**	**96.5%**	**94.57%**	**96.0%**	-	**92.8%**	**-**

Note: RE – Revised Estimate, BE – Budget Estimate.
Sources: Statement of Revenue Receipts and Expenditure, Railways Budget 2018-19; PRS.

Explanatory Notes

Performance parameters

1. 'Net Surplus' represents excess of receipts over expenditure after the Dividend liability (payment for investment in Railway capital) of General Revenues has been paid off.

2. 'Operating Ratio' is the ratio of operating expenses to receipts. A lower ratio indicates higher surplus availability for investments.

Railway Funds

3. Depreciation Reserve Fund – Finances the cost of new assets replacing old assets including the cost of any improved features. Appropriation to this fund are made on the recommendations of the Railway Convention Committee (RCC).

4. Pension Fund – Finances all pension payments to retired Railway staff.

Annexure II: Details of freight and passenger traffic

Table 46: Freight traffic details (NTKM in millions; Earnings in Rs crore)

	2016-17 Actuals		2017-18 Revised Estimates		% Change 2017-18 RE/ 2016-17 Actuals		2018-19 Budget Estimates		% Change 2018-19 BE/ 2017-18 RE	
Commodity	**NTKM**	**Earnings**	**NTKM**	**Earnings**	**NTKM**	**Earnings**	**NTKM**	**Earnings**	**NTKM**	**Earnings**
Coal	249,615	45,229	253,261	49,907	1%	10%	263,304	51,820	4%	4%
Raw materials for steel plants except iron	12,461	2,062	12,092	2,122	-3%	3%	12,811	2,204	6%	4%
Pig Iron & finished steel	44,027	7,672	46,296	8,646	5%	13%	47,909	8,842	3%	2%
Iron Ore	39,743	8,176	47,959	10,485	21%	28%	49,763	10,753	4%	3%
Cement	54,600	8,630	59,504	9,969	9%	16%	61,596	10,163	4%	2%
Foodgrains	57,809	7,506	61,386	8,453	6%	13%	66,250	9,017	8%	7%
Fertilisers	39,216	5,561	39,572	5,951	1%	7%	41,900	6,229	6%	5%
Petroleum & Lubricants	28,518	5,686	27,378	5,788	-4%	2%	28,575	5,973	4%	3%
Container Service	44,294	4,716	49,013	5,587	11%	18%	51,923	5,894	6%	5%
Other Goods	49,891	6,790	55,779	8,050	12%	19%	59,130	8,435	6%	5%
Miscellaneous earnings	-	2,311	-	2,543	0%	10%	-	2,620	0%	3%
Total	**620,174**	**104,339**	**652,240**	**117,500**	**5%**	**13%**	**683,161**	**121,950**	**5%**	**4%**

Notes: NTKM – Net Tonne Kilometre (1 NTKM is the net weight of goods carried for a kilometre); RE – Revised Estimates; BE – Budget Estimates.
Sources: Statement of Revenue Receipts and Expenditure, Railways Budget 2018-19; PRS.

Table 47: Passenger traffic details (PKM in millions; Earnings in Rs crore)

	2016-17 Actuals		2017-18 Revised Estimates		% Change 2017-18 RE/ 2016-17 Actuals		2018-19 Budget Estimates		% Change 2018-19 BE/ 2017-18 RE	
	PKM	**Earnings**	**PKM**	**Earnings**	**PKM**	**Earnings**	**PKM**	**Earnings**	**PKM**	**Earnings**
Suburban										
First Class	8,783	356	8,693	369	-1.0%	3.8%	8,850	379	0.2%	4.4%
Second Class (Ordinary)	136,634	2,334	137,347	2,422	0.5%	3.8%	141,314	2,551	0.2%	4.4%
Total Suburban	**145,417**	**2,689**	**146,040**	**2,791**	**0.4%**	**3.8%**	**150,164**	**2,930**	**0.2%**	**4.4%**
Non Suburban										
AC First class	1,796	497	1,714	492	-4.6%	-1.1%	1,760	515	0.2%	4.4%
AC Sleeper	23,806	3,494	22,380	3,621	-6.0%	3.6%	27,647	4,288	0.2%	4.4%
AC 3 Tier	72,315	9,263	70,892	9,146	-2.0%	-1.3%	84,504	11,438	0.2%	4.4%
Executive Class	463	145	424	138	-8.4%	-4.7%	454	150	0.2%	4.4%
AC Chair Car	11,546	1,539	10,899	1,481	-5.6%	-3.8%	14,338	2,020	0.2%	4.4%
First Class (M&E)	85	14	93	16	9.4%	14.6%	69	12	0.0%	4.4%
First Class (ordinary)	345	13	367	17	6.4%	31.1%	334	13	0.0%	4.4%
Sleeper Class (M&E)	289,015	13,194	289,047	13,953	0.0%	5.8%	325,104	15,684	0.2%	4.4%
Sleeper Class (ordinary)	3,842	152	3,646	151	-5.1%	-0.8%	4,695	197	0.2%	4.4%
Second Class (M&E)	341,182	9,886	350,699	10,627	2.8%	7.5%	316,018	9,677	0.2%	4.4%
Second Class (Ordinary)	260,024	5,394	261,436	5,567	0.5%	3.2%	231,544	5,076	0.2%	4.4%
Total Non-Suburban	**1,004,419**	**43,591**	**1,011,597**	**45,209**	**0.7%**	**3.7%**	**1,006,467**	**49,071**	**0.2%**	**4.4%**
Total Passenger	**1,149,836**	**46,280**	**1,157,637**	**48,000**	**0.7%**	**3.7%**	**1,156,631**	**52,000**	**0.2%**	**4.4%**

Notes: PKM – Passenger Kilometre (One PKM is when a passenger is carried for a kilometre); RE – Revised Estimates; BE – Budget Estimates.
Sources: Statement of Revenue Receipts and Expenditure, Railways Budget 2018-19; PRS.

Demand for Grants 2018-19 Analysis

Health and Family Welfare

The Ministry of Health and Family Welfare (MoHFW) has two departments: (i) the Department of Health and Family Welfare, and (ii) the Department of Health Research.

The Department of Health and Family Welfare is responsible for functions including (i) implementing health schemes, and (ii) regulating medical education and training. The Department of Health Research is broadly responsible for conducting medical research.

This note analyses the financial allocation trends and key issues concerning the health sector.

Overview of finances

In 2018-19, the MoHFW received an allocation of Rs 54,600 crore. This allocation is an increase of 2% over the revised estimates of 2017-18 (Rs 53,294 crore).[228]

Under the Ministry, the Department of Health and Family Welfare accounts for 97% of the allocation, at Rs 52,800 crore. This is followed by the Department of Health Research (3%) at Rs 1,800 crore. Table 1 provides details on the two departments under the MoHFW.

Table 48: Budget allocations for the MoHFW (in Rs crore)

Item	Actuals 2016-17	RE 2017-18	BE 2018-19	% Change (RE to BE)
Health & Family Welfare	37,671	51,551	52,800	2%
Health Research	1,324	1,743	1,800	3%
Total	**38,995**	**53,294**	**54,600**	**2%**

Note: BE – Budget Estimate; RE – Revised Estimates.
Source: Demand Nos. 42 & 43, Ministry of Health and Family Welfare, Union Budget 2018-19, PRS.

The revised estimate in 2017-18 for the Department of Health and Family Welfare overshot the budget estimate of that year by Rs 4,198 crore. Similarly, the Department of Health Research also overshot the budget estimate by Rs 243 crore.

Table 2 contains the split in the allocation under the MoHFW for the year 2018-19.

Table 2: Top expenditure heads for the MoHFW (2018-19) (in %)

Expenditure head	Allocation (%)
National Health Mission	55%
Autonomous Bodies	13%
Pradhan Mantri Swasthya Suraksha Yojana	7%
National AIDS and STD Control Programme	4%
Rashtriya Swasthya Bima Yojna	4%
Family Welfare Schemes	1%
Others	16%
Total	**100%**

Source: Demand Nos. 42 & 43, Ministry of Health and Family Welfare, Union Budget 2018-19, PRS.
Note: Autonomous Bodies include the All India Institute of Medical Science and Post Graduate Institute of Medical Education and Research, Chandigarh.

Key allocation trends are as follows (see Table 3):

- The National Health Mission (NHM) received the highest allocation at Rs 30,130 crore and constitutes 55% of the total ministry allocation. The allocation is a 2% decrease over the revised estimates of 2017-18. Under the NHM, the rural component, i.e., the National Rural Health Mission (NRHM) has been allocated Rs 24,280 crore, a 5% decrease over the revised estimates of 2017-18. The allocation for National Urban Health Mission (NUHM) has increased by 34% at Rs 875 crore. Note that the NUHM under NHM constitutes 2.9% of its allocation for 2018-19.
- Rashtriya Swasthya Bima Yojna has seen the biggest increase at 325% (Rs 2,000 crore) over the revised estimates of 2017-18.
- Higher allocation has been made for Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) at Rs 3,825 crore (20% increase). It focusses on correcting regional imbalances in the availability of affordable and reliable tertiary healthcare services.
- Family Welfare Schemes and the National AIDS and STD Control Programme have seen a decrease of 2% and 3% respectively from the revised estimates of 2017-18. Note that both these schemes spent more than their budget estimates in 2017-18.
- Allocation to autonomous institutes (13%) like the AIIMS saw a decrease of 1% at Rs 6,900 crore from the revised estimates of 2017-18.

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Table 3: Allocation to major expenditure heads under the MoHFW (in Rs crore)

Major Heads	Actuals 2016-17	RE 2017-18	BE 2018-19	% Change (RE to BE)
NHM (total)	22,454	30,802	30,130	-2%
-NRHM	19,826	25,459	24,280	-5%
-NUHM	491	652	875	34%
-Others	2,137	4,691	4,975	6%
Autonomous Bodies (AIIMS, PGIMER, etc.)	5,467	6,971	6,900	-1%
PMSSY	1,953	3,175	3,825	20%
National AIDS & STD Control Programme	1,749	2,163	2,100	-3%
Rashtriya Swasthya Bima Yojna	466	471	2,000	325%
Family Welfare Schemes	575	788	770	-2%
Others	6,331	8,924	8,875	-1%
Total	**38,995**	**53,294**	**54,600**	**2%**

Note: BE - Budget Estimate; RE - Revised Estimates; NHM- National Health Mission; NRHM- National Rural Health Mission; NUHM- National Urban Health Mission; PMSSY- Pradhan Mantri Swasthya Suraksha Yojana.
Source: Demand No. 42 & 43, Ministry of Health and Family Welfare, Union Budget 2018-19, PRS.

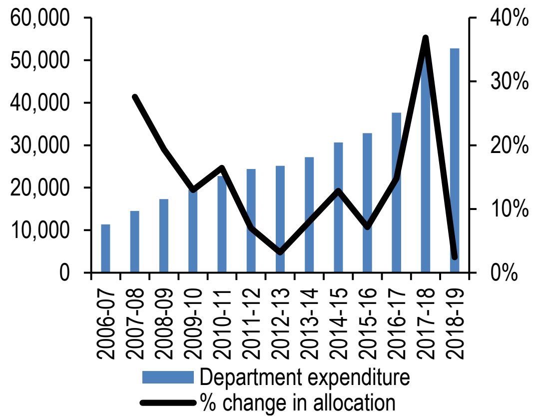
Proposals for the health sector in the Union Budget 2018-19

- The National Health Protection Scheme will be launched to cover approximately 50 crore beneficiaries (poor and vulnerable families) for secondary and tertiary care hospitalisation (part of Ayushman Bharat programme).
- 1.5 lakh Health and Wellness centres to provide comprehensive health care (including non-communicable diseases, and maternal and child health services). These centres will also provide free essential drugs and diagnostic services (part of Ayushman Bharat programme).
- Additional Rs 600 crore to provide nutritional support to all Tuberculosis patients at the rate of Rs 500 per month for the duration of their treatment.
- Setting up 24 new government medical colleges and hospitals by upgrading existing district hospitals.

Trends in allocation and expenditure

As indicated in Figure 1, the allocation to the Department of Health and Family Welfare has increased from Rs 11,366 crore in 2006-07 to Rs 52,800 crore in 2018-19. Over the period 2006-18, the Compound Annual Growth Rate (CAGR) has been 13%. CAGR is the annual growth rate over a certain period of time.

Figure 1: Allocation to the Department of Health and Family Welfare (2006-18) (in Rs crore)



Note: % change in allocation is BE (2018-19) over RE (2017-18) for 2018-19.
Source: Union Budgets, 2006-07 to 2018-19; PRS.

Table 4 indicates the actual expenditure of the Department of Health and Family Welfare compared with the budget estimates of that year (2010-17). The utilisation has been over 100% in the last three years.

Table 4: Comparison of budget estimates and the actual expenditure (2010-17) (in Rs crore)

Year	BE	Actuals	Actuals/BE
2010-11	23,530	22,765	82%
2011-12	26,897	24,355	82%
2012-13	30,702	25,133	82%
2013-14	33,278	27,145	82%
2014-15	35,163	30,626	87%
2015-16	29,653	30,626	103%
2016-17	37,066	37,671	102%
2017-18	48,853	53,294*	109%

Note: BE – Budget Estimates; *Revised Estimates.
Sources: Union Budgets, 2010-18; PRS.

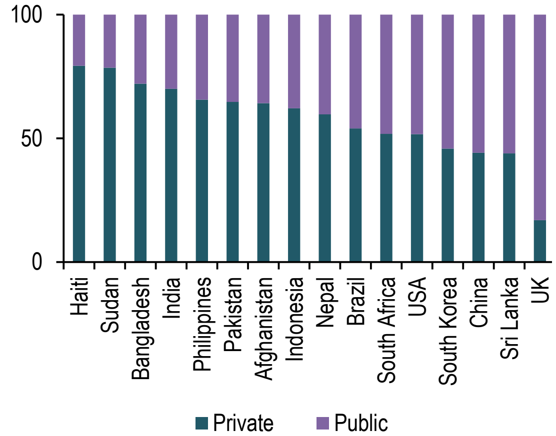
Public health spending

The public health expenditure (sum of central and state spending) has remained constant at approximately 1.3% of the GDP between 2008-09 and 2015-16, and increased marginally to 1.4% in 2016-17.[229,230] Note that the National Health Policy, 2017 has proposed to increase the public health expenditure to 2.5% of the GDP by 2025.[231]

Including the private sector, the total health expenditure as a percentage of GDP is estimated at 4.0%.[232] If 1.3% is attributed to public spending in India, then effectively, 2.7% is spent by the private sector. This means that out of the total expenditure, about one-third is contributed by the public sector. As per World Health Statistics (2014), this contribution by the public sector to the total expenditure on health is low as compared to other developing countries like Brazil (46%), China

(56%), and Indonesia (39%).[233] Among developed countries, the public spending on healthcare in United Kingdom and United States of America is 83% and 48% respectively. The public-private split in the total health expenditure is shown in Figure 2 below.

Figure 2: Public and private split in the total health expenditure (in %)



Source: World Development Indicators: Health systems, World Bank, 2014; PRS.

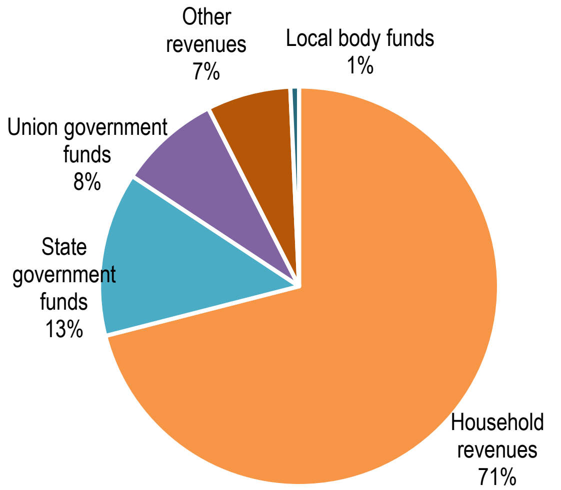
Further, India also spends one of the lowest amounts ($23) in terms of per capita public health expenditure, in comparison to other developing countries like Indonesia ($38), Sri Lanka ($71), and Thailand ($177).[234]

It is estimated that 68% of the health expenditure is borne by consumers in India.[235] Household health expenditures are the expenditures incurred by households on health care and includes out of pocket expenditures and prepayments (for example, insurance). Out of pocket expenditure are the payments made directly by individuals at the point of service where the entire cost of the health good or service is not covered under any financial protection scheme. In India, such expenditure is typically financed by household revenues (71%) (see Figure 3). Only nine countries (out of 192) have a higher out of pocket spending as a proportion of total healthcare expenditure.[246]

The highest percentage of out of pocket health expenditure (52%) was made towards medicines.[235] This was followed by private hospitals (22%), medical and diagnostic labs (10%), and patient transportation, and emergency rescue (6%).

Due to high out of pocket healthcare expenditure, about 7% population is pushed below poverty threshold every year.[238]

Figure 3: Sources of financing for current health expenditure



Source: National Health Accounts, 2014-15; PRS.

National Health Protection Scheme

A new insurance scheme, the National Health Protection Scheme was proposed in the Union Budget 2018-19.[236] This scheme will provide coverage to 10 crore poor and vulnerable families of up to Rs 5,00,000 per family per year for secondary and tertiary care hospitalisation. However, the funding for this scheme is not specified in the budget books.

The two major insurance schemes funded by the central government are Rashtriya Swasthya Bima Yojana (RSBY) and Central Government Health Scheme. Note that RSBY has seen the biggest increase in its budgetary allocation at 325% (Rs 2,000 crore) in 2018-19 over the revised estimates of 2017-18.

Insurance and Universal Health Coverage

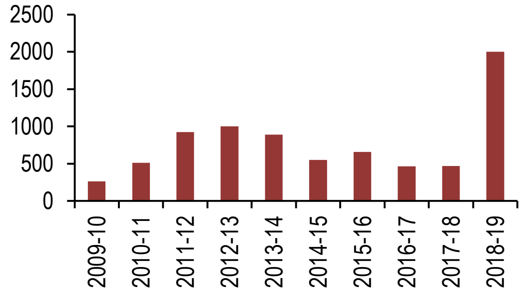
Out of the total number of persons covered under health insurance, three-fourths of the persons are covered under government sponsored health insurance schemes and the balance one-fourth are covered by policies issued by general and health insurers.[237] Note that 86% of rural population and 82% of urban population are still not covered under any scheme of health expenditure support.[238]

In terms of government sponsored health insurance, the Net Incurred Claims Ratio (ICR) increased from 87% during 2012-13 to 122% in 2016- 17.[237] A higher Net ICR means more claims have been paid in comparison to the premiums collected leading to losses. On the other hand, there has been a gradual decline in the Net ICR of other private insurance providers.

Rashtriya Swasthya Bima Yojana

The Rashtriya Swasthya Bima Yojana (RSBY), launched in 2008, aims to (i) provide financial protection against high health cost, and (ii) improve healthcare access for below poverty line households.[239] The beneficiaries under RSBY are entitled to hospitalisation coverage up to Rs 30,000 per annum on family floater basis, for most of the diseases that require hospitalisation. The beneficiaries need to pay Rs 30 as registration fee for a year. Only 12% of the urban and 13% of the rural population from the targeted population was covered by schemes such as the RSBY or other similar state sponsored schemes.[239]

Figure 4: Allocation to RSBY (2009-18) (in Rs crore)



Notes: Values for 2017-18 and 2018-19 are revised estimates and budget estimates respectively. All other values are actuals.
Sources: Union Budget 2011-12 to 2018-19; PRS.

Figure 4 shows the RSBY allocation since 2009. The total allocation to the scheme is Rs 2,000 crore in 2018-19, a 325% increase over the revised estimates of 2017-18. The CAGR between 2009-18 has been 22% for RSBY allocation.

Central Government Health Scheme

With regard to the Central Government Health Scheme (CGHS), the allocation for 2018-19 is Rs 1,305 crore (5% increase over the revised estimates of 2017-18). The scheme provides healthcare services to central government employees, Members of Parliament, among others.

The Standing Committee noted the low capacity of utilising financial resources by CHGS.[246] For example, only 60% of the funds had been used under CGHS and yet an increase in allocation was sought for 2017-18.[246] Further, it noted that many hospitals have de-empanelled themselves from CGHS mainly due to non-settlement of their dues by the government.

Universal Health Coverage

With regard to health insurance in general, the High Level Expert Group (HLEG) (2011) recommended that all government funded insurance should be integrated with the Universal Health Coverage (UHC) system.[240] In addition, all health insurance cards must be replaced by a national health entitlement card.

UHC includes ensuring equitable access for all Indian citizens to affordable and appropriate health services of assured quality. This universal coverage is not linked to the consumer's ability to pay.[240] The Finance Minister mentioned in his 2018-19 Budget Speech that India is making steady progress towards UHC.[236]

The World Bank measures the progress made in the health sector in select countries of the world according to the UHC Index. On this Index, India ranks 143 among 190 countries in terms of per capita expenditure on health.[241,242]

Experts have recommended that decisions must be taken with respect to whether a consolidation of existing services will be undertaken or a new package will be offered in parallel with the existing services under UHC.[243] It has been estimated that to achieve UHC, the public expenditure in health must increase to at least 2.5% of the GDP by the end of 2017 and at least to 3% of GDP by 2022.[240] Further, it is estimated that the government would require a substantial spending increase at Rs 1,160 per capita per year if it is to be the sole provider of the comprehensive package of services.[243]

Financial allocations to outcomes

National Health Mission

The National Health Mission (NHM) consists of two sub missions, the National Rural Health Mission (NRHM) (includes health interventions in rural areas) launched in 2005 and the National Urban Health Mission (includes health interventions in urban areas) launched in 2013.

Components of NHM

NHM includes various components, these include: (i) reproductive, maternal, new born and child health services (RCH Flexi Pool), (ii) NRHM Mission Flexi Pool for strengthening health resource systems, innovations and information, (iii) immunisation including the Pulse Polio Programme, (iv) infrastructure maintenance, and (v) National Disease Control Programme.

Funding of NHM

The allocation for NHM in 2018-19 (Rs 30,130 crore) saw a 2% decrease over the revised estimates of 2017-18.

NHM's percentage share in the total budget has decreased from 73% in 2006-07 to 55% in 2018-19. This may be on account of increased devolution of resources to states following the recommendations of the 14th Finance Commission. The break up between central and state funding for

NHM can be seen in Table 5 for the period between 2014 to 2017.

Table 5: Funding for NHM (2014-17) (Rs crore)

Year	Central Revised Estimate	Corresponding state share	Total outlay
2014-15	17,628	5,167	22,795
2015-16	18,295	9,952	28,247
2016–17	20,000	10,103	30,103
2017–18*	21,941	12,084	34,025

Source: Unstarred Question No. 1080, Ministry of Health and Family Welfare, Lok Sabha, July 21, 2017.
*For 2017-18, outlay is as per Budget Estimate

The funding for NHM is done through flexible pools, such as NRHM-RCH flexible pool, and flexible pool for communicable diseases. The rationale for creating of the flexible pool is to allow more financial flexibility and efficient distribution of funds in order to obtain desired health outcomes.

Note that in 2018-19, among all the flexible pools, the pool of funds for non-communicable diseases has increased by 5% at Rs 1,005 crore. The allocation for the funding pool for communicable diseases and immunisation has decreased by 27% and 30% respectively. Between 2004-06 and 2010-13, the percentage of deaths caused by communicable diseases (27.7%) has seen the biggest decrease out of all the other causes of death. These diseases include fever, diarrhoea, and acute respiratory infection. On the other hand, the percentage of deaths due to non-communicable diseases (49.2%) has risen.[244] These diseases include cardiovascular diseases, cancer, diabetes, and hypertension. The Standing Committee highlighted that in view of the increasing burden of non-communicable diseases in the country, fund constraint should not be the reason for increase in disease burden.[246] Note that the challenge of non-communicable diseases typically arises following the elimination of communicable diseases. Non-communicable diseases are closely associated to lifestyle changes, and require large investments for both promotive and curative health.[245]

State level spending

Following the 14th Finance Commission recommendations, there has been an increase in the states' share in the central pool of taxes from 32% to 42% in 2015-16. In addition, the fund sharing pattern of some schemes was altered to reduce the central government share. This was done to give states greater autonomy and flexibility to spend according to their priorities.

It was noted in 2017 that despite the enhanced share in central taxes, all states have not increased their health budgets commensurately in 2016-17 and expenditure in sectors like health are higher in more developed states (See Annexure for more details).[246,247] In fact, some of the state health budgets for 2016-17 have declined as compared to 2015-16. For example, Assam (-7%), Chandigarh (-3%), Daman & Diu (- 15%), and Karnataka (-2%).[246]

India faces a challenge to control communicable diseases even as it seeks to shift attention towards an increasing threat from non-communicable diseases. This challenge varies across states as richer states have a higher incidence of non-communicable diseases (such as hypertension and diabetes). For example, a report by the 14th Finance Commission noted that the comparatively better developed states like Kerala and Tamil Nadu have better health outcomes in comparison to other states.[245] However, these states also face a health crisis of another kind. This leads to an additional financial burden for tackling non-communicable diseases.

Further, differences in the cost of delivery of health services in several states, have contributed to health disparities among and within states.

Release and utilisation of funds

The release of funds under NHM has often been delayed. For example, out of the total funds of Rs 8,242 crore released in 2016 under the reproductive and child healthcare, and the health systems strengthening components of NHM, Rs 7,460 crore were transferred with a delay.[248]

Despite delay in release of funds, effective utilisation of funds has occurred in the case of NHM where fund releases have been around 98%. The Standing Committee observed that timeliness of transfer of funds is important as delayed transfers hamper fund utilisation. In this regard, the existing fund release mechanism for NHM needs to be reviewed for better transfer of funds.[248]

Table 6: Targets as per NHM framework for implementation

Targets (2012-17)	Status (as on March, 2017)
Reduce IMR to 25	IMR has reduced to 37 in 2015.
Reduce MMR to 100/1,00,000 live births	MMR has reduced to 167 in 2011-13.
Reduce TFR to 2.1	TFR has reduced to 2.3 in 2014.
Annual Malaria Incidence to be < .001	Annual Malaria Incidence is 0.67 in 2016.
Less than 1 % microfilaria prevalence in all districts	Out of 256 endemic districts, 222 have reported incidence less than 1% till 2016.
Kala-Azar elimination by 2015, <1 case per 10,000 population in all blocks	Out of 628 endemic blocks, 492 (78%) have achieved elimination till 2016.

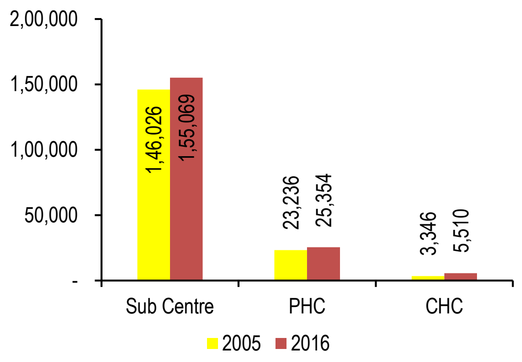
Source: Unstarred Question No. 2667, Ministry of Health and Family Welfare, Lok Sabha, March 17, 2017; PRS.
Note: IMR-Infant Mortality Rate; MMR-Maternal Mortality Rate; TFR-Total Fertility Rate.

Healthcare infrastructure

Depending on the level of care required, health institutions in India are broadly classified into three types. This classification includes primary care (provided at primary health centres), secondary care (provided at district hospitals), and tertiary care institutions (provided at specialised hospitals like AIIMS). Primary health care infrastructure provides the first level of contact between health professionals and the population.[249] The HLEG (2011) observed that focus on prevention and early management of health problems can reduce the need for complicated specialist care provided at the tertiary level.[240] It recommended that the focus of healthcare provision in the country should be towards providing primary health care.[240]

Broadly, based on the population served and the type of services provided, primary health infrastructure in rural areas consists of a three tier system. This includes Sub-Centres (SCs), Primary Health Centres (PHCs), and Community Health Centres (CHCs).[250] A similar set up is maintained in urban areas.[251] The number of SCs, PHCs, and CHCs in 2005 and 2016 respectively are given in Figure 5.

Figure 5: Number of Sub Centres, PHCs, and CHCs (2005 and 2016)



Source: Health and Family Welfare Statistics in India, 2015; PRS.

As of 2015, there are 20,306 government hospitals (including community health centres) in India, of which 82.8% are rural hospitals and 17.2% are urban hospitals.[252] Table 7 contains the norms, status, and shortfall in rural SCs, PHCs and CHCs (between 2010-14). A shortfall has been observed at different levels of the healthcare delivery system. As of 2016, there is a shortage of 20% in SCs, 22% in PHCs, and 30% in CHCs.[250] It has also been noted that the existing ones are also poorly equipped and have inadequate infrastructure with many PHC's functioning in erstwhile single room SCs and many SCs in thatched accommodation.[253]

Table 7: State of rural health infrastructure

Type of Infrastructure	Required number	Status (As on 2015)	% shortfall
Sub-Centre	1,79,240	1,55,069	20%
Primary Health Centre	29,337	25,354	22%
Community Health Centre	7,322	5,510	30%

Sources: Rural Health Statistics 2016, Ministry of Health and Family Welfare, and Rural Health Infrastructure, Ministry of Statistics and Programme Implementation; PRS.

Note that under NRHM, states were permitted to establish facilities as per need. However, not many states did so due to lack of funds and the inability to close down even existing facilities (not in use) due to administrative bottlenecks.[253]

The Standing Committee on Health and Family Welfare observed that the proposal to transform 1,50,000 Health Sub-Centres into Health and Wellness Centres (as announced in the budget speech 2017-18) has not been implemented and has no "solid roadmap" as of now.[254]

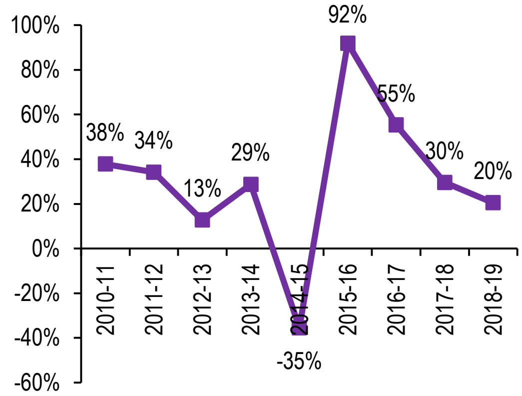
With regard to secondary and tertiary care, the HLEG (2011) recommended that in order to guarantee secondary and tertiary care, equitable access to functional beds must also be provided.[240] According to the World Health Statistics, India ranks among the lowest in this regard, with 0.9 beds per 1000, far below the global average of 2.9 beds. It recommended functional bed capacity should be expanded to 2 beds per 1000 population by 2022.[240]

Pradhan Mantri Swasthya Suraksha Yojana

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) has been implemented since 2003 with objectives of: (i) correcting regional imbalances in the availability of affordable and reliable tertiary healthcare services, and (ii) to augment facilities for quality medical education in the country. This includes establishing AIIMS like institutions and upgrading certain state government hospitals.

Six AIIMS from Phase I of the scheme are still underway and are at various stages of their completion and it would take some time to make them fully functional. The Standing Committee on Health and Family Welfare (2017) noted that this indicates poor assessment of time and cost which have left the allocated funds unused.[246]

Figure 6: Yearly change in the allocation to PMSSY (2009-18) (in Rs crore)



Notes: Values for 2017-18 and 2018-19 are revised estimates and budget estimates respectively
Sources: Union Budget 2008-09 to 2018-19; PRS.

In 2018-19, the allocation to PMSSY increased by 20% over the revised estimates of 2017-18 (see Figure 6) at Rs 3,825 crore. Note that the Budget Speech for 2018-19 mentioned that 24 new government medical colleges and hospitals will be set up by upgrading existing district hospitals.[236]

Regulation of private health services

As per the National Sample Survey 2015, most hospitalisation cases were seen in private hospitals (68% in urban and 58% in rural areas).[255] Further, in case of hospitalised, the cost of treatment (excluding childbirth) was four times higher in private hospitals (Rs 25,850) as compared to that in public hospitals (Rs 6,120).[255]

The HLEG observed that regulatory standards for public and private hospitals are not adequately defined and are poorly enforced. Further, the quality of healthcare services varies considerably in the public and private sector.[256] It has also been observed that many practitioners in the private sector are not qualified doctors.[256]

The 14th Finance Commission study group observed that the unregulated nature of the private sector is one of the issues leading to the high financial burden on households (which is not commensurate with the quality of care).[257] It recommended that a policy measure must be taken to regulate the private healthcare sector.

Human resources in health

Between 2008 and 2016, the number of registered doctors increased from 7,61,429 to 10,05,281 (32% increase).[258] Note that despite the increase, there has been a steady increase in the shortfall of doctors, specialists and surgeons. For example, as of 2015, there is a shortfall of 83.4% of surgeons, 76.3% of obstetricians and gynaecologists, 83.0% of physicians and 82.1% of paediatricians.[252] Table 8 shows the number of health professionals in India. Refer to the Annexure for the shortfall (in percentage) of doctors at PHCs and nursing staff at CHCs and PHCs across various states as of 2016.

Table 8: Number of public health professionals in India (2016)

Profession	Number of professionals	Average population served per professional
Allopathic Doctors	1,13,328	11,097
AYUSH Doctors**	7,71,468	1,630
Nurses and Pharmacists	35,19,796	357

Notes: **includes Ayurveda, Unani, Siddha, Naturopathy, and Homeopathy.
Source: Human Resources in Health Sector, National Health Profile, 2017, Ministry of Health and Family Welfare, PRS.

Issues concerning medical practice

Certain reasons identified for the shortage of personnel in government facilities include: (i) poor working environment, (ii) poor remuneration making migration to foreign countries and to the private sector more attractive, and (iii) procedural delays in recruitment and poor forward planning for timely filling up of positions. It has been estimated that filling up human resource gaps in 16 states, would require an outlay equivalent to 0.6% to GDP.[240]

With regard to health professionals, the HLEG (2011) recommended that adequate number of trained healthcare providers and workers must be ensured at different levels of the health system.[240]

Issues concerning medical education

Expert committees have examined issues related to medical education in India. Certain key observations and recommendations include:[259,260]

i. **Focus on infrastructure over education quality**: Major focus on maintenance of quality in medical education only in terms of fulfilling infrastructural requirements which has meant inadequate evaluation of the other standards of medical education.

ii. **Post-graduation qualification:** Presently, there are two systems of post graduate certification, namely Diplomate of National Board and MD/MS (master's degree). The Parliamentary Standing Committee recommended that the current system of postgraduate admission must be integrated into one national qualification.

iii. **'For- profit' organisations to establish medical colleges:** Currently, only 'not-for-profit' organisations are permitted to establish medical colleges. It has been observed that many private institutions of higher education charge exorbitant fees. In the absence of well-defined norms, fees charged by such universities have remained high.[261] In 2002, the Supreme Court ruled that the fees charged by private unaided educational institutes could be regulated.[262] Also, while banning capitation fee (fees exceeding the tuition fee), it allowed institutes to charge a reasonable surplus. NITI Aayog recommended that the sector should be opened to 'for-profit' organisations as well to address the supply gaps in medical education.[259]

iv. **Accreditation**: The Medical Council of India (MCI) is entrusted with the responsibility of establishing as well as ensuring the quality of medical institutions. Committees have observed that these functions of the MCI may lead to a conflict of interest. Therefore, an independent and autonomous accreditation body must be set up which will be responsible for ensuring the quality of education.

The National Medical Commission Bill, 2017

A legislation regarding the medical regulatory authority is pending in Parliament which shall oversee medical education and practice. The National Medical Commission Bill, 2017 was introduced in Lok Sabha on December 29, 2017. The Bill seeks to repeal the Indian Medical Council Act, 1956 and dissolve the current Medical Council of India (MCI). The MCI was established under the 1956 Act to establish uniform standards of medical education and regulate its practice.

The Bill seeks to provide for a medical education system which ensures: (i) availability of adequate and high quality medical professionals, (ii) adoption of the latest medical research by medical professionals, (iii) periodic assessment of medical institutions, and (iv) an effective grievance redressal mechanism.

Health research

The Standing Committee on Health and Family Welfare noted that there is a huge, persistent, and recurring mismatch between the projected demand for funds and actual allocation to the Department of Health Research.[263] In 2018-19, its allocation has seen an increase of 3% over the revised estimates of 2017-18 at Rs 1,800 crore. The Committee also noted that the Department had reported underutilisation of funds and on the other hand, the Department had also given an enhanced amount as its requirement for the next financial year.[263]

This mismatch between the demanded and allocated funds has led to impact in terms of restrictions in the sanctioning of new labs, providing recurring grants to the ongoing projects, and upgradation of health research infrastructure.[263] This also led to repercussions in the medical research output. For example, in two years i.e. 2015 and 2016, only 1,685 research papers have been published by the Indian Council of Medical Research and 3 patents have been granted against the 45 patents filed.[263]

Drug regulation

The central and state agencies for drug regulation are governed by the Drugs and Cosmetics Act, 1940 (DCA). The DCA provides for the regulation of import, manufacture, sale, and distribution of drugs. Although the DCA is a central legislation, it is implemented by the states.

Over the years, various Committees have examined the issues relating to the regulation of drugs.

The Mashelkar Committee Report (2003) highlighted the following challenges of the drug regulatory system: (i) inadequacy of trained and skilled personnel at the central and state levels, (ii) lack of uniformity in the implementation of regulatory requirements and variations in regulatory enforcement, and (iii) inadequate or weak drug control infrastructure at the state and central level.[264]

Expert committees have recommended many steps to address these concerns regarding drug regulation in the country.[264,265,266] They include: (i) a new independent and professionally run regulatory body, Central Drug Administration reporting directly to MoHFW, (ii) categorising the states in terms of scale of industry (manufacturing and sale) and investment in their regulation accordingly, (iii) the revision and imposition of higher fees for drug applications, clinical trials, and registration of imported drugs and foreign manufacturers, and (iv) establishment of technical expert committees for new drug approvals.

Quality of drugs

The Parliamentary Standing Committee Report (2013) found that the prevalence of poor quality drugs to be around 7-8 % where non-standard drugs outnumber spurious drugs.[267]

Table 9: Status of 'non-standard quality' and 'spurious' drugs (2013-2015)

Year	Samples tested	Samples declared not of standard quality	Samples declared spurious
2013-14	72,717	4.16%	0.16%
2014-15	74,199	4.98%	0.11%
2015-16	74,586	4.96%	0.31%

Source: Unstarred Question No. 719, Ministry of Health and Family Welfare, Lok Sabha, Answered on February 7, 2017; PRS. Note: 'Standard quality' means that a drug which complies with the standards set out in the Second Schedule of the DCA; A drug shall be deemed to be 'spurious' if: (i) it is manufactured under a name which belongs to another drug, (ii) if it is an imitation of another drug, (iii) if it has been substituted wholly or partly by another drug, and (iv) if it wrongly claims to be the product of another manufacturer.[268]

The extent of 'non-standard quality' drugs in a country wide survey between 2013 and 2015 has been in the range of 4.16% and 4.98% (see Table 9).[269] The extent of 'spurious' drugs during the same time period has been in the range of 0.11% to 0.31% (see Table 9).[269]

With regard to quality of drugs, the Mashelkar Committee recommended that: (i) states should take more samples to check the quality of drugs manufactured and sold in the market, (ii) states should also monitor the source of purchase and quality of drugs stocked by registered medical practitioners, and (iii) number of drug inspectors and their skills must be upgraded according to the load of work of inspections and monitoring.[264]

It was also observed that lower number of cases were decided as compared to the number of cases which were being filed with regard to low quality of drugs. Table 10 provides details on the number of prosecutions and cases decided related to spurious drugs.

Table 10: Number of prosecutions and cases decided in cases of spurious drugs

Year	No. of cases	No. of cases decided
2012-13	214	6
2013-14	237	44
2014-15	152	10

Source: Unstarred Question No. 640, Lok Sabha, Ministry of Health and Family Welfare, Answered on February 26, 2016; PRS.

Drug pricing

The National Pharmaceutical Pricing Authority (NPPA) monitors the availability and pricing of drugs in the country. NPPA fixes the prices of drugs/devices included in Schedule I of Drugs (Prices Control) Order (DPCO), 2013 after their notification under National List of Essential Medicines (NLEM). NLEM, 2015 consists of 375 medicines in total (this includes 23 medical devices). Wherever instances of manufacturers/ importers charging prices higher than the prices fixed by the NPPA are reported, these cases are examined in detail. Since the inception of NPPA in 1997 till 2012, 1,664 demand notices have been issued to pharmaceutical companies for having overcharged patients on the sale of formulations at prices above the ceiling prices notified by NPPA.[270] Demand notices have been issued for an amount of Rs 5,778 crore and an amount of Rs 3,454 crore is under litigation.[271]

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Annexure

Union Budget, 2018-19

Table 1: Allocations to the Ministry of Health and Family Welfare for 2018-19 (in Rs crore)

Major Heads	2016-17 Actuals	2017-18 BE	2017-18 RE	2018-19 BE	% Change RE (2017-18)/Actuals (2016-17)	Change between RE 2017-18 and BE 2018-19
Department of Health Research	**1,324**	**1,500**	**1,743**	**1,800**	**32%**	**3%**
Department of Health and Family Welfare	**37,671**	**47,353**	**51,551**	**52,800**	**37%**	**2%**
Pradhan Mantri Swasthya Suraksha Yojana	1,953	3,975	3,175	3,825	63%	20%
Family Welfare Schemes	575	755	788	770	37%	-2%
National AIDS and STD Control Programme	1,749	2,000	2,163	2,100	24%	-3%
National Health Mission	**22,454**	**26,691**	**30,802**	**30,130**	**37%**	**-2%**
-National Rural Health Mission	19,826	21,189	25,459	24,280	28%	-5%
-National Urban Health Mission	491	752	652	875	33%	34%
-National Mental Health Programme	34	35	45	50	32%	11%
-Human Resources for Health and Medical Education	1,497	4,025	4,025	4,225	169%	5%
Infrastructure Development for Health Research	76	104	127	138	67%	9%
Rashtriya Swasthya Bima Yojna	466	1,000	471	2,000	1%	325%
Autonomous Bodies	5,467	6,088	6,971	6,900	28%	-1%
Others	6,254	8,240	8,799	8,737	41%	-1%
Total	**38,995**	**48,853**	**53,294**	**54,600**	**37%**	**2%**

Sources: Demand for Grants, Ministry of Health and Family Welfare, Union Budget, 2018-19; PRS.

State-wise and global numbers on the health sector

Table 2: Average health expenditure (2012-13) (urban and rural, in Rs)

State	Average health expenditure (rural)	Average health expenditure (urban)
Andhra Pradesh	13,227	31,242
Arunachal Pradesh	5,678	8,926
Assam	6,966	47,064
Bihar	11,432	25,004
Chhattisgarh	12,149	22,647
Delhi	30,613	34,730
Goa	29,954	23,165
Gujarat	14,298	20,155
Haryana	18,341	32,370
Himachal Pradesh	18,860	28,590
Jammu & Kashmir	8,442	13,948
Jharkhand	10,351	13,151
Karnataka	14,091	22,190
Kerala	17,642	15,465
Madhya Pradesh	13,090	23,993
Maharashtra	20,475	29,493
Manipur	6,061	10,215
Meghalaya	2,075	18,786

Mizoram	8,744	13,461
Nagaland	5,628	15,788
Odisha	10,240	19,750
Punjab	27,718	29,971
Rajasthan	12,855	16,731
Sikkim	8,035	9,939
Tamil Nadu	11,842	23,757
Telangana	19,664	20,617
Tripura	5,694	11,638
Uttar Pradesh	18,693	31,653
Uttarakhand	9,162	25,703
West Bengal	11,327	24,875
Andaman & Nicobar Islands	3,373	8,389
Chandigarh	16,389	35,158
Dadra & Nagar Haveli	4,219	7,749
Daman & Diu	10,223	6,930
Lakshadweep	10,418	8,604
Puducherry	7,965	14,076
All India	**14,935**	**24,436**

Sources: District Level Household and Facility Survey -4 (2012-13); PRS.

Table 3: Shortfall (%) of doctors at PHCs and nursing staff at CHCs and PHCs across states (2016)

State	Doctors at PHCs	Nursing staff at PHCs and CHCS
Andhra Pradesh	**	**
Arunachal Pradesh	15%	16%
Assam	8%	**
Bihar	1%	34%
Chhattisgarh	56%	21%
Goa	**	**
Gujarat	16%	24%
Haryana	**	**
Himachal Pradesh	18%	38%
Jammu and Kashmir	**	**
Jharkhand	17%	36%
Karnataka	9%	13%
Kerala	**	**
Madhya Pradesh	19%	1%
Maharashtra	**	44%
Manipur	**	**
Meghalaya	4%	**
Mizoram	**	**
Nagaland	5%	**
Odisha	27%	64%
Punjab	**	**
Rajasthan	**	**
Sikkim	**	**
Tamil Nadu	**	**
Tripura	**	**
Uttarakhand	16%	48%
Uttar Pradesh	36%	50%
West Bengal	21%	**
Andaman and Nicobar Islands	**	**
Chandigarh	33%	**
Dadra and Nagar Haveli	0%	**
Daman and Diu	**	11%
Delhi	**	**
Lakshadweep	**	**
Puducherry	**	**
All India	**13%**	**21%**

Source: Rural Health Statistics 2015, Ministry of Health and Family Welfare; PRS.
Note: Norm for nursing staff: One per Primary Health Centre and seven per Community Health Centre; for doctors: One allopathic doctor per Primary Health Centre; ** : surplus human resources exceeding the norms.

Table 4: Reasons for not using government health facilities (2012-13) (in %)

State	% of households that do not generally use government health facilities	Reasons for not generally using government health facilities among households which do not generally use government health facilities					
		No nearby facility	Facility timing not convenient	Health personnel often absent	Waiting time too long	Poor quality of care	Other reason
Andhra Pradesh	74.3	49.2	18.1	12.8	23.4	63.3	3.2
Assam	34.8	48.9	6.6	6.1	11.2	39.4	7.3
Bihar	93.3	44.9	8.4	21.4	14.2	83.7	2.1
Chhattisgarh	63.7	56.4	9.2	6.3	19.0	41.3	9.1
Gujarat	72.5	45.0	16.0	6.9	31.6	42.6	5.8
Haryana	72.3	42.1	12.9	7.4	25.2	54.9	5.2
Jharkhand	77.7	55.3	8.5	9.7	6.5	56.4	7.5
Karnataka	64.0	45.1	25.1	14.3	31.8	50.8	5.2
Kerala	50.0	47.7	20.5	14.5	25.8	34.2	9.8
Madhya Pradesh	62.6	50.8	10.0	7.7	26.4	62.9	1.6
Maharashtra	70.3	37.5	16.1	5.3	30.1	56.4	2.9
Odisha	24.0	61.0	6.9	7.7	9.7	38.9	5.6
Punjab	80.8	42.2	18.1	8.8	22.7	52.3	7.9
Rajasthan	29.8	35.3	9.1	6.7	17.2	62.9	2.1
Tamil Nadu	47.0	28.3	23.0	3.0	32.3	55.4	3.4
Uttar Pradesh	84.7	53.5	4.6	7.4	20.4	65.1	2.5
West Bengal	71.2	54.3	14.8	4.3	35.2	41.4	4.7
Arunachal Pradesh	17.5	50.1	24.4	7.0	18.3	36.7	6.5
Delhi	70.7	37.2	18.4	2.3	57.4	36.3	1.8
Goa	70.4	41.8	14.4	4.4	27.8	29.4	11.2
Himachal Pradesh	17.3	34.1	11.9	5.6	31.3	43.1	5.0
Jammu & Kashmir	37.1	33.2	9.3	5.9	22.4	55.3	7.3
Manipur	21.0	29.8	20.2	11.2	19.4	46.4	10.6
Meghalaya	35.2	33.4	17.2	14.1	21.7	33.3	8.6
Mizoram	9.4	26.4	7.2	2.2	23.2	42.5	8.6
Nagaland	47.9	54.1	14.7	8.3	14.6	29.8	8.3
Sikkim	8.2	8.4	22.0	4.7	50.7	47.7	5.5
Tripura	20.1	29.4	20.4	6.6	23.8	47.1	9.0
Uttarakhand	55.6	49.2	14.7	14.4	37.4	64.1	2.6
All India	**65.6**	**46.8**	**13.1**	**9.2**	**24.8**	**57.7**	**3.9**

Sources: District Level Household and Facility Survey -4 (2012-13); PRS.

Table 5: Cross country comparison of health indicators

Country	Population (Million) 2013	Crude Birth Rate 2013	Total Fertility Rate, 2013	Under 5 mortality rate, 2013	Infant Mortality Rate (per 1000 live Births) 2013	Underweight children (%) (2009-13)	Life Expectancy at Birth (Years) 2013	Maternal Mortality Ratio (MMR) 2015 $
India	**1252.1**	**20.0**	**2.5**	**53**	**41**	**44**	**66**	**174**
Afghanistan	30.6	34	4.9	97	70	33	61	396
Bangladesh	156.6	20	2.2	41	33	37	71	176
China	1385.6	13	1.7	13	11	3	75	27
North Korea	24.9	14	2.0	27	22	15	70	82
Indonesia	249.9	19	2.3	29	25	20	71	126
Iran	77.4	19	1.9	17	14	4	74	25
Japan	127.1	8	1.4	3	2	-	84	5
Malaysia	29.7	18	2.0	9	7	13	75	40

Myanmar	53.3	17	1.9	51	40	23	65	178
Nepal	27.8	21	2.3	40	32	29	68	258
Pakistan	182.1	25	3.2	86	69	32	67	178
Philippines	98.4	24	3.0	30	24	20	69	114
South Korea	49.3	10	1.3	4	3	1	82	11
Singapore	5.4	10	1.3	3	2	3	82	10
Sri Lanka	21.3	18	2.3	10	8	26	74	30
Thailand	67.0	10	1.4	13	11	9	74	20
Vietnam	91.7	16	1.7	24	19	12	76	54
Botswana	2.0	24	2.6	47	36	11	48	129
Cambodia	15.1	26	2.9	38	33	29	72	161
Congo	4.4	38	5.0	49	36	12	59	442
Guatemala	15.5	31	3.8	31	26	13	72	88
South Africa	52.8	21	2.4	44	33	9	57	138
Zimbabwe	14.2	31	3.5	89	55	10	60	443
Australia	23.3	13	1.9	4	3	-	82	6
France	64.3	12	2.0	4	4	-	82	8
Germany	82.7	8	1.4	4	3	1	81	6
UK	63.1	12	1.9	5	4	-	81	9
USA	320.1	13	2.0	7	6	1	79	14

Sources: Health and Family Welfare Statistics, 2015 (Rural); PRS.

Table 6: Key indicators of child malnutrition

Parameter	NFHS 3 (2005-06)	NFHS 4 (2015-16)
Total children age 6-23 months receiving an adequate diet	n/a	9.6%
Children under 5 years who are stunted (low height-for-age)	48.0%	38.4%
Children under 5 years who are wasted (weight-for-height)	19.8%	21.0%
Children under 5 years who are severely wasted (weight-for-height)	6.4%	7.5%
Children under 5 years who are underweight (low weight-for-age)	42.5%	35.7%
Children age 6-59 months who are anaemic	69.4%	58.4%
Children under age 3 years breastfed within one hour of birth	23.4%	41.6%

Source: National Family Health Survey 3 & 4; PRS.

Table 7: Key indicators of adult malnutrition

Parameter	NFHS 3 (2005-06)	NFHS 4 (2015-16)
Women whose Body Mass Index (BMI) is below normal (BMI < 18.5 kg/m^2)	35.5%	22.9%
Men whose Body Mass Index (BMI) is below normal (BMI < 18.5 kg/ m^2)	34.2%	20.2%
Women who are overweight or obese (BMI ≥ 25.0 kg/ m^2)	12.6%	20.7%
Men who are overweight or obese (BMI ≥ 25.0 kg/ m^2)	9.3%	18.6%

Source: National Family Health Survey 3 & 4; PRS.

Table 8: State-wise incidence of stunting, wasting, and underweight children (under 5 years) (2015-16)

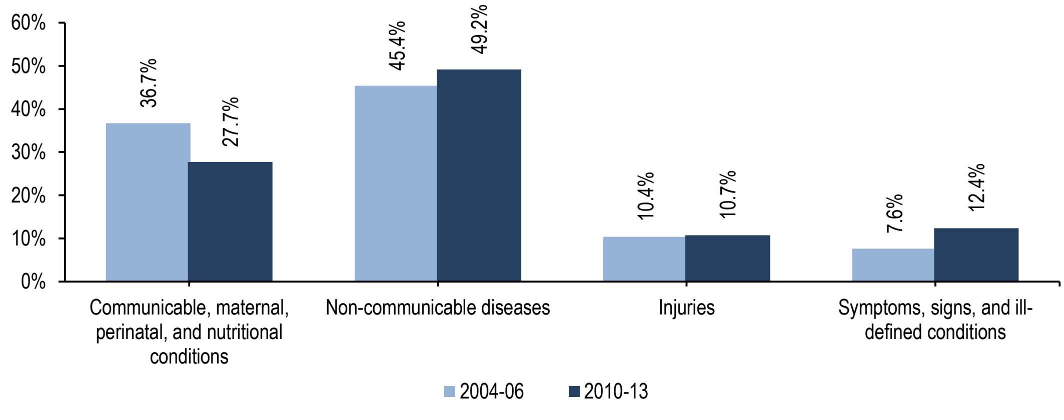
State/UT	Stunted	Wasted	Under-weight
Andaman and Nicobar Islands	17.1%	19.1%	15.9%
Andhra Pradesh	28.3%	15.5%	28.4%
Arunachal Pradesh	24.0%	11.4%	13.8%
Assam	22.3%	13.2%	21.4%
Bihar	39.8%	21.3%	37.5%
Chandigarh	27.6%	11.4%	25.1%
Chhattisgarh	31.6%	20.6%	30.2%
Delhi	32.4%	17.2%	27.3%

Dadra and Nagar Haveli	35.8%	21.4%	27.4%
Daman and Diu	21.9%	23.8%	27.2%
Goa	18.3%	27.7%	25.3%
Gujarat	31.7%	23.4%	32.0%
Haryana	33.4%	21.0%	28.5%
Himachal Pradesh	21.4%	19.1%	17.1%
Jammu and Kashmir	23.0%	16.1%	17.0%
Jharkhand	33.7%	26.8%	39.3%
Karnataka	32.6%	24.8%	31.5%
Kerala	19.8%	16.0%	15.5%
Lakshadweep	27.1%	13.2%	22.6%
Madhya Pradesh	37.5%	22.0%	36.5%
Maharashtra	29.3%	24.9%	30.7%
Manipur	24.1%	6.4%	13.1%
Meghalaya	36.5%	13.7%	22.9%
Mizoram	22.7%	4.5%	8.5%
Nagaland	22.5%	10.1%	13.6%
Odisha	27.2%	17.0%	26.2%
Punjab	27.6%	15.0%	22.4%
Puducherry	24.7%	26.1%	23.3%
Rajasthan	33.0%	21.6%	30.7%
Sikkim	22.9%	13.2%	12.0%
Tamil Nadu	25.5%	19.0%	21.5%
Telangana	20.9%	14.6%	22.2%
Tripura	17.2%	13.4%	21.7%
Uttar Pradesh	37.9%	18.0%	33.7%
Uttarakhand	32.5%	18.6%	25.6%
West Bengal	28.5%	16.7%	26.2%
India	**38.4%**	**21.0%**	**35.7%**

Source: National Family Health Survey 4; PRS.

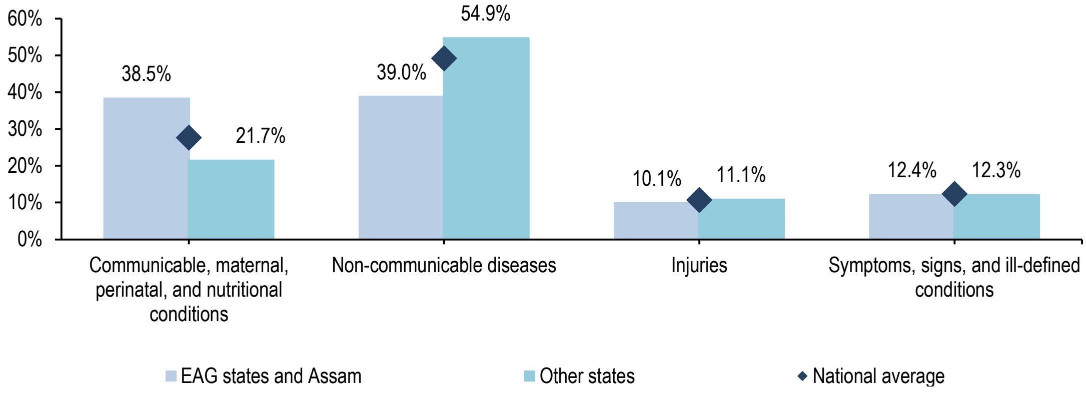
Graphical representation of key indicators related to the health sector

Figure 1: Percentage of deaths by disease type (all India)



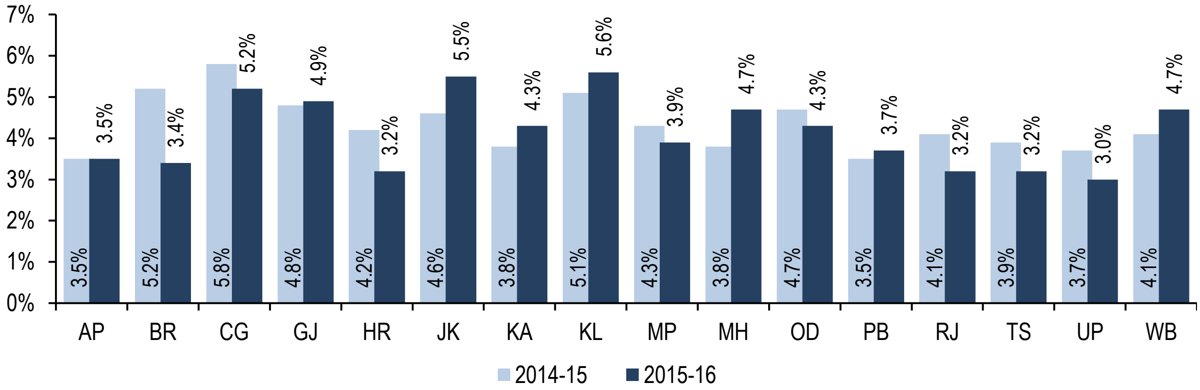
Source: Causes of death, 2010-13, Office of the Registrar General & Census Commissioner; PRS.
Note: Deaths caused by diseases in India can be attributed to four main causes: (i) communicable, perinatal, and nutritional conditions: includes diarrhoeal diseases, respiratory infections, and tuberculosis, (ii) non-communicable diseases: includes diabetes, cardiovascular diseases, and congenital anomalies, (iii) injuries: includes unintentional injuries (for example, caused by motor vehicles) and intentional injuries (for example, caused by suicide), and (iv) symptoms, signs, and ill-defined conditions: includes abnormal clinical findings

Figure 2: Percentage of deaths by disease type (statewise) (2010-13)



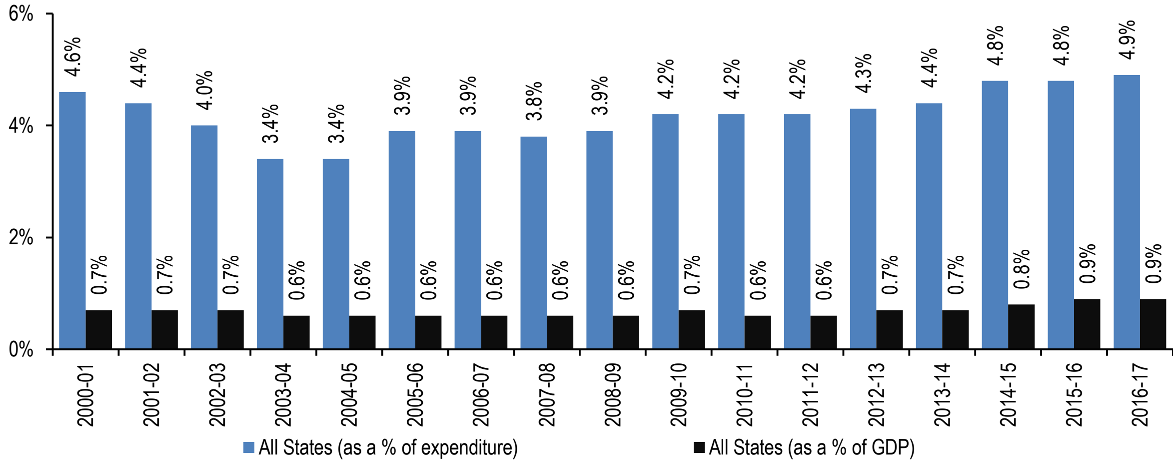
Note: EAG states include Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttaranchal, and Uttar Pradesh.
Source: Causes of death, 2010-13, Office of the Registrar General & Census Commissioner; PRS.

Figure 3: Expenditure on health by states in 2014-15 and 2016-17 (as a % of total expenditure)



Source: State Budgets, 2016-17, PRS.

Figure 4: Expenditure on medical and public health, and family welfare (all states)



Sources: State Finances: A Study of Budgets, RBI; PRS.
Note: Figures of 2016-17 and 2015-16 are Budget Estimates and Revised Estimates respectively.

Demand for Grants 2018-19 Analysis

Housing and Urban Affairs

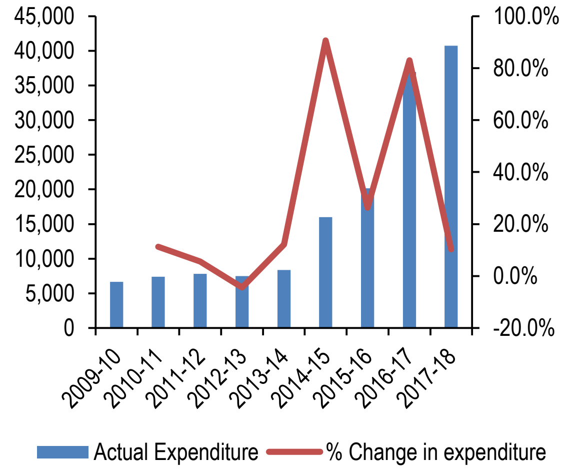
The Ministry of Housing an d Urban Affairs plays a central role in formulating policies and coordinating the activities of various agencies (including state governments, and urban local bodies) involved in urban planning. The Ministry of Housing and Poverty Alleviation and Ministry of Urban Development were combined in 2017 to form the Ministry of Housing and Urban Affairs.

This note looks at the expenditure incurred by the Ministry, the status of the various schemes implemented, and the issues faced with investment required for urban planning.

Overview of Finances

The total allocated expenditure for the Ministry of Housing and Urban Affairs for 2018-19 is Rs 41,765 crore, 2% higher than the revised estimate of 2017-18.[272]

Figure 34: Trend in expenditure (2009-18)



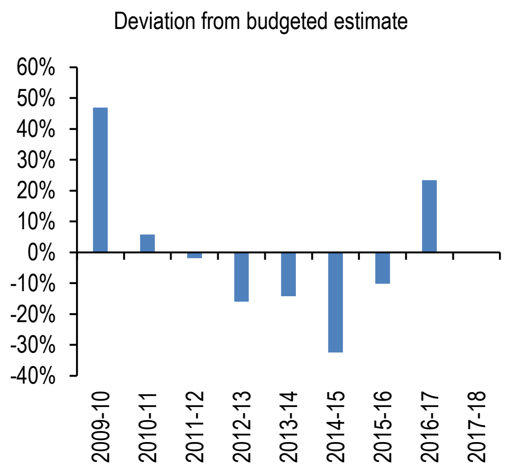
Note: For the years 2009-10 till 2017-18, the figures are a combination of the erstwhile Ministry of Housing and Urban Poverty Alleviation, and Ministry of Urban Development. Values for 2017-18 are revised estimates.

Sources: Budget documents 2009-10 to 2018-19; PRS.

The period from 2009-10 till 2017-18 has seen a trend of increase in actual expenditure. The period saw a Compounded Annual Growth Rate (CAGR) of 25%. CAGR is the annual growth rate over a certain period of time. This may be due to an increased focus on infrastructure provision in urban areas. The period from 2014-15 till 2017-18 has seen higher increases in expenditure. The highest increase in expenditure was seen in 2014-15 (91%), over the previous year. In 2016-17, there was an 83% rise in expenditure over the previous year.

The figure below shows the trend in utilisation of funds between 2009-10 and 2017-18.

Figure 35: Trend in utilisation (2009-18)



Note: For the years 2009-10 till 2017-18, the figures are a combination of the erstwhile Ministry of Housing and Urban Poverty Alleviation, and Ministry of Urban Development. Values for 2017-18 are revised estimates.

Sources: Budget documents 2009-10 to 2018-19; PRS.

While the actual expenditure of the Ministry has been increasing over the years, for the period between 2011-12 and 2015-16, it was lower than the budget estimates. Although 2014-15 saw the highest increase in expenditure, it also saw the largest negative deviation from the budget estimate. The actual expenditure in 2014-15 was 32% lower than the budget estimate.

The Standing Committee on Urban Development, 2017, noted that the budgetary allocations were lower than the Ministry demand.[273] Although there was a 36% increase in the budget estimate for 2017-18 over the budget estimate for 2016-17, it was short of what the Ministry had projected. (The erstwhile Ministry of Urban Development had an allocation of Rs 34,212 crore as compared to the projected Rs 68,410 crore).[273]

Table 49: Allocations in the Ministry (Rs crore)

	Actual 16-17	Revised 17-18	Budgeted 18-19	% Change
Metro	15,327	18,000	15,000	-17%
PMAY (Urban)	4,881	6,043	6,505	8%
AMRUT	4,864	4,999	6,000	20%
Smart Cities	4,412	4,000	6,169	54%
SBM (Urban)	2,135	2,300	2,500	9%

Sources: Union Budget documents 2018-19; PRS.

Of the expenditure allocated to the Ministry in 2018-19, the highest allocation is towards metro

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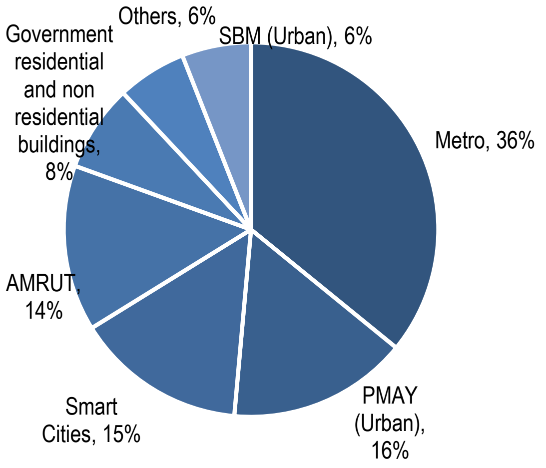
projects at 36% of the total (Rs 15,000 crore). This is followed by allocations towards key schemes under the Ministry, i.e., Pradhan Mantri Awas Yojana (PMAY)- Urban (16%; Rs 6,505 crore), Smart Cities Mission (15%; Rs 6,169 crore), AMRUT (14%; Rs 6,000 crore), and Swachh Bharat Mission- Urban (6%; Rs 2,500 crore).

Of the major schemes/projects, allocation towards Metro projects in 2018-19 has seen a 17% decrease over the revised estimates of 2017-18, and allocation towards Smart Cities has seen a 54% increase over the revised estimates.

Figure 36: Budgetary allocation for Ministry of Housing and Urban Affairs (2018-19)



Sources: Ministry of Housing and Urban Affairs budget documents; PRS.

Revenue and Capital expenditure

Table 2 shows the overall shift in revenue and capital expenditure of the Ministry.

Table 50: Budget allocation for the Ministry of Housing and Urban Affairs (Rs crore)

	BE 2017-18*	RE 2017-18*	BE 2018-19	% change (BE 2018-19/ RE 2017-18)
Revenue	21,285	21,332	25,350	19%
Capital	19,333	19,422	16,415	-15%
Total	**40,618**	**40,754**	**41,765**	**2%**

Notes: BE – Budget Estimate; RE – Revised Estimate.

*Combines BE and RE of erstwhile Ministry of Housing and Poverty Alleviation, and Ministry of Urban Development.

Sources: Ministry of Housing and Urban Affairs budget documents; PRS.

Of the total expenditure, 39% is allocated for capital expenditure, and 61% for revenue expenditure. As compared to the revised estimates of 2017-18, revenue expenditure has increased by 19%, while capital expenditure has decreased by 15%. The reduction in capital expenditure can be attributed to a reduction in the allocation towards Metro projects. The capital expenditure on metro projects forms 91% of the total capital expenditure.

Major schemes and allocations: 2018-19

Metro Projects

The Ministry of Housing and Urban Affairs is responsible for urban transport which includes metro projects.

The budgetary allocation towards metro projects in 2018-19 is Rs 15,000 crore. This is a 17% decrease over the revised estimates of 2017-18.

The table below shows the trends in allocations and expenditure towards metro projects.

Table 51: Allocation towards Metro projects (Rs crore)

Year	Budgeted	Actuals	% utilised
2014-15	8,026	5,998	75%
2015-16	8,260	9,300	113%
2016-17	10,000	15,327	153%
2017-18	18,000	18,000*	100%

*Revised estimates.

Sources: Budget documents 2015-16 to 2018-19; PRS.

The allocation towards metro projects has been increasing from the period 2014-15 till 2017-18. The allocation in 2018-19 was decreased by 17% over the revised estimates of 2017-18. As the allocations have been increasing, the actual expenditures have over shot the budget estimates. In 2016-17, the actual expenditure was 153% of the budget estimate. In 2017-18 the revised estimate is the same as the budget estimate.

There are currently 13 ongoing metro rail projects that have been set up as a 50:50 joint venture between the central government and respective state governments.[274] The total sanctioned costs of these projects amount to Rs 1,76,105 crore, of which the share of the central government is Rs 30,903 crore.[274] As of August 2017, a total length of 370 km are operational in eight cities, and a total length of 537 km are work in progress in 13 cities (including these eight cities).[275]

Of the total expenditure on metro projects, majority of it (Rs 14,924 crore) is on capital expenditure. The capital expenditure on metro projects forms 91% of the total capital expenditure of the Ministry of Housing and Urban Affairs. The Standing Committee on Urban Development (2017) noted that a high allocation towards metro projects leads to inadequate funds for other projects.[273] The Committee recognises the importance of metro projects for the improvement of urban transport, and has recommended financing projects through other options such as international cooperation.

The Union Cabinet approved the Metro Rail Policy in August 2017.[276] The policy makes a Public Private Partnership (PPP) component mandatory for a project to be eligible for central assistance. In addition, states have three options via which they can avail central assistance. These options are- (i) PPP with central assistance under the viability gap funding scheme of the Ministry of Finance, (ii) grant by government under which a lump sum central assistance will amount to 10% of the project cost, and (iii) 50:50 equity sharing model between state and central governments.

Pradhan Mantri Awas Yojana (PMAY)- Urban

PMAY- Urban is a housing scheme being implemented from 2015 to 2022. The scheme comprises four components: (i) in situ rehabilitation of existing slum dwellers through private participation, (ii) credit linked subsidy scheme (CLSS) for economically weaker section (EWS), lower income group (LIG), and middle income group (MIG), (iii) affordable housing in partnership, and (iv) subsidy for beneficiary led individual house construction. The Ministry provides central assistance to urban local bodies for the implementation of the scheme through respective state governments.

The budgetary allocation towards the scheme for 2018-18 is Rs 6,505 crore. This is an 8% increase over the revised estimates for 2017-18. The increase in budgetary allocation in 2018-19 can be attributed to the increase in allocations for the LIG and MIG components of the CLSS.

Table 52: Allocation towards PMAY (Rs crore)

Year	Budgeted	Actuals	% utilised
2015-16	4,175	1,487	36%
2016-17	5,075	4,881	96%
2017-18	6,043	6,043*	100%
2018-19	6,505		

*Revised estimates.

Sources: Budget documents 2015-16 to 2018-19; PRS.

In 2016-17, a 228% increase was observed in the actual expenditure over 2015-16. Correspondingly, a 258% rise was seen in the number of houses constructed in 2016-17. Table 5 shows the year on year increase in the number of houses constructed under the scheme. Although the actual expenditure has seen an increase, it has been short of the budget estimates. In 2015-16, 36% of the budget estimate was utilised, and in 2016-17, 96% of the budget estimate was utilised.

Table 53: No. of houses completed under PMAY

Year	No. of houses completed	Year on Year increase
2014-15	2,506	
2015-16	18,706	646%
2016-17	66,985	258%
2017-18*	2,07,794	210%

*Data for 2017-18 updated till January 2, 2018.

Sources: Lok Sabha Unstarred Question no. 2528; PRS.

Under the scheme, as on January 2, 2018, of the total 32,00,431 houses sanctioned for construction, 9% (2,95,991) houses have been completed.[277] The government aims to achieve its 'housing for all target' by 2022. As per the 2011 census, 27.5% of urban residents lived in rented houses. According to the Report of the Group of Secretaries, January 2017, a rental housing scheme would further complement PMAY- Urban in achieving the housing for all target.[278]

Lending by housing finance companies- Both housing finance companies (HFCs), and public sector banks offer low cost funding for housing. HFCs have an 80% share in the implementation of CLSS component of PMAY-Urban.[278] However, they face constraints such as inability to access long term funds.

The Union Cabinet has approved the creation of a National Urban Housing Fund (NUHF) worth Rs 60,000 crore.[279] This fund will be under the Building Materials and Technology Promotion Council, an autonomous body set up in 1990 under the Ministry of Housing and Urban Affairs. The council undertakes research to facilitate large scale application of new building material technologies.[280] The NUHF aims to raise funds in the next four years to ensure a sustained flow of central release under Pradhan Mantri Awas Yojana (PMAY)-Urban, enabling construction of houses.

Urban Rejuvenation Mission: AMRUT and Smart Cities Mission

The AMRUT mission was launched in June 2015.[281] The purpose of the mission is to provide basic services (these services include water supply, sewerage, and urban transport) in cities, especially to the poorer households.

The pace of urbanisation is increasing in the country. The table below captures the rise in the number of towns.

Table 54: Rise in number of towns

	2001	2011	% increase
Statutory Towns	3,799	4,041	6%
Census Towns	1,362	3,894	186%

Sources: Ministry of Housing and Urban Affairs; PRS.

The growth in urbanisation has seen a 186% rise in the number of census towns (towns that do not have a notified urban local body). The absence of notified urban local bodies (ULBs) leads to unplanned growth of slums, lack of basic drinking water or sewerage facilities, and no tax collection as applicable to municipalities.

In the context of the rapid rise in unplanned urbanization, the reforms under AMRUT intend to improve service delivery, and make municipal functioning more accountable.

The budget estimate for 2018-19 is Rs 6,000 crore, 20% more than the revised estimates of 2017-18.

AMRUT is a Centrally Sponsored Scheme with a financial outlay of Rs 50,000 crore for five years (2015-20). Capacity building and implementation of reforms are key components of the mission. The following table compares the actual expenditure against the proposed allocation as given in a cabinet note, indicated by the Standing Committee on Urban Development, 2017.[273]

Table 55: Proposed allocation compared to actual expenditure (Rs crore)

Year	Proposed allocation	Budgeted	Actuals
2015-16	5,000	3,919	2,702
2016-17	15,000	4,080	4,864
2017-18	15,000	5,000	4,999*
2018-19	9,000	6,000	-
2019-20	6,000	-	-
Total	50,000	18,999	12,565

*Revised Estimate.

Sources: Standing Committee on Urban Development, 2017; Budget documents; PRS.

As per the Cabinet note, the Ministry seeks to spend Rs 50,000 crore on AMRUT by 2019-20. As per the government's proposal, the Ministry should have spent Rs 35,000 crore (70% of the total) by 2017-18. So far, looking at the actual expenditure, the Ministry has spent Rs 12,565 crore (25.1% of the proposed total). The government has to achieve 74.9% of the total target in 2018-19, and 2019-20.

The allocation towards the scheme has been increasing over the period from 2015-16 till 2018-19. In 2015-16, the expenditure was 69% of the budget estimate, while in 2016-17, the actual expenditure over shot the budget estimate (119% of budget estimate).

The Smart Cities Mission aims to develop cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment, and apply 'smart' solutions. So far, 99 cities have been selected under the Mission.[282] These were selected via the Smart City challenge. The cities were evaluated based on their Smart City Proposals, which consists of an area based development strategy, and a pan city development strategy. The mission will be operated as a Centrally Sponsored Scheme

The budget estimate for 2018-19 is Rs 6,619 crore, an increase of 54% over the revised estimates of 2017-18.

Table 56: Allocation towards Smart Cities Mission (Rs crore)

Year	Budgeted	Actuals	% utilised
2015-16	2,020	1,484	73%
2016-17	3,215	4,412	137%
2017-18	4,000	4,000*	100%
2018-19	6,169		

*Revised estimates.

Sources: Budget documents 2015-16 to 2018-19; PRS.

In 2016-17, the actual expenditure increased by 197% over the actual expenditure in 2015-16. Correspondingly, 2016-17 saw overspending against the budget estimate (137% of budget estimate). In 2017-18, the actual expenditure is estimated to be lower than in 2016-17, and equal to the budget estimate.

A total investment of Rs 2,01,981 crore is proposed by the 99 cities under their smart city plans.[283] The central and state governments will meet only part of the project costs. The central government will provide financial assistance of up to Rs. 48,000 crore over five years, that is, an average of Rs. 100 crore per city per year. The states and ULBs will have to contribute an equal amount, and generate the additional amount as required. Other sources of financing include, PPP's, borrowings, and innovative mechanisms such as municipal bonds.

So far, of the cities that were selected in round one of the competition (January 2016), 49% of the projects are in the detailed project report preparation phase. Almost all cities selected in round two have set up a special purpose vehicle (SPV). Cities recently selected in round three and four are in the process of establishing Special Purpose Vehicles (SPV).[284]

Swachh Bharat Mission (SBM)- Urban

Swachh Bharat Mission (SBM), launched in October 2014, aims to eliminate open defecation and achieve 100% scientific management of municipal solid waste in all 4,041 statutory towns by October 2, 2019.[285,286]

The budget estimate for 2018-19 is Rs 2,500 crore. This is a 9% increase over the revised estimates of 2017-18.

The table below shows the allocations towards SBM- Urban.

Table 57: Allocation towards SBM Urban (Rs crore)

Year	Budgeted	Actuals	% utilised
2014-15	1,690*	859	51%
2015-16	1,000*	766	77%
2016-17	2,300	2,135	93%
2017-18	2,300	2,300	100%

*Revised estimates.

Sources: Budget documents 2015-16 to 2018-19; PRS.

In 2016-17, the actual expenditure was 179% higher over the actual expenditure of 2015-16. Since 2014-15, the Ministry has underutilised the funds allocated towards the scheme. However, the utilisation of funds has improved each year. In 2017-18, the actual expenditure is estimated to equal the budget estimate.

The total estimated cost of implementation of SBM- Urban is Rs 62,009 crore. Of this, the share of the central government is Rs 14,623 crore, and states' assistance will amount to Rs 4,874 crore. The remainder is to be financed via various sources such as the private sector, Swachh Bharat Kosh, market borrowing, and external assistance.

Achievements: The table below shows the number of toilets constructed as of November 2017, as compared to the targets set for October 2019.

Table 58: Achievements under SBM- Urban

	Target	Achievement	% achieved
Community and Public toilets	5,08,000	2,43,152	48%
Individual Household toilets	66,42,000	42,72,609	64%

Sources: Ministry of Housing and Urban Affairs; PRS.

As of November 2017, 22% of the total municipal solid waste generated daily, is processed.[287]

Awareness: The Swachhta Status Report, 2016 showed that as per information collected in 2012, people may not use toilets in spite of having access to them.[288] During 2012, 0.2% households in urban areas had access to toilets but were not using them. The reasons for not using them include, not clean/ insufficient water, malfunctioning of the toilets, and personal preference. In the Standing Committee, Urban Development, Report on Demands for grants 2017-18, the Ministry noted that it has shifted emphasis from construction of toilets to behavioural change.[273] 15% of the total central allocation is earmarked for the Information, Education, and Communication (IEC) and Public Awareness component of the scheme. Of the total central release as on January 2, 2018, 12% of the release accounts for this component.[289]

Other issues to consider

***Additional investment*:** In the current landscape of rising unplanned urbanisation, the High Powered Expert Committee (HPEC) (2011) for Estimating the Investment Requirements for Urban Infrastructure Services had estimated Rs 39 lakh crore (at 2009-10) prices for the period from 2012-2031.[290] As per their framework, the investment in urban infrastructure should increase from 0.7% of GDP in 2011-12 to 1.1% of GDP by 2031-32.

The pace of urbanisation is increasing in the country. As per the 2011 census, around 31% of the country's population resided in urban areas.[291] By 2031, around 600 million (43%) people will live in urban areas, an increase of over 200 million in 20 years. Given the pace of urbanisation, large capital investments are needed for infrastructure projects which includes support from central and state governments in the form of capital grants.

The budgetary outlays alone are not enough to the service the growing demands on local governments.[292] Alternate sources of financing are required to meet the funding gap.[292] The flagship schemes of the Ministry (such as Smart Cities Mission, Swachh Bharat Mission) seek to meet their financing requirements through a mix of sources such as borrowings, municipal bond financing, and PPPs.

Financial capacity of ULBs: The Constitution (74th Amendment) Act, 1992 devolved certain matters relating to urban development to urban local bodies, including the power to collect certain taxes. Some of the functions assigned to urban local bodies include urban planning, planning for economic and social development, and urban poverty alleviation. The new schemes under the Ministry, seek to decentralize the planning process to the city and state level, by giving them more decision making powers. So, while earlier, majority of the funding came from the central and state governments, now, a significant share of the funding needs to be raised by the cities themselves.

There is an imbalance between the functions and finances of urban local bodies.[293] The ULBs in India are amongst the weakest in the world both in terms of capacity to raise a resources and financial autonomy. The share of own revenue for ULBs has been declining from 63% in 2002-03, 53% in 2007-8, and 44% in 2015-16.[294,295] Several states have not devolved enough taxation powers to local bodies. Further, local governments collect only a small fraction of their potential tax revenue. These devolved funds are largely tied in nature, to either specific sectors or schemes. This constrains the spending flexibility of ULBs.

PPP's have been an important instrument to finance and develop infrastructure projects. However, projects in many sectors require support from ULBs in the form of additional financial resources. Inability to service such funding requirements constrains project implementation.[292]

In such cases, ULBs can access capital markets through issuance of municipal bonds. Municipal bonds are marketable debt instruments issued by ULBs, the funds raised may be used for capital projects, refinancing of existing loans, and meeting working capital requirements. The Securities and Exchange Board of India regulations (2015) regarding municipal bonds provide that, to issue such bonds, municipalities must: (i) not have negative net worth in any of the three preceding financial years, and (ii) not have defaulted in any loan repayments in the last one year.[296] Therefore, a city's performance in the bond market depends on its fiscal performance.

To strengthen alternate sources of financing, the Department of Economic Affairs, Ministry of Finance has initiated a pilot program for readiness assessment and model development for Municipal bond financing in select urban local bodies.[292]

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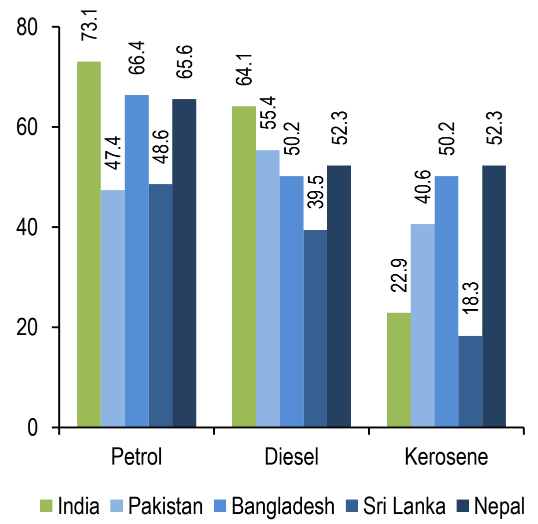
Demand for Grants 2018-19 Analysis

Petroleum and Natural Gas

The Ministry of Petroleum and Natural Gas is responsible for: (i) exploration of petroleum (including natural gas), (ii) supply and distribution of petroleum, and (iii) planning and development of the petroleum industry in the country, among others.[297] It has been allocated Rs 31,101 crore for 2018-19.[298] This note examines the allocations for the Ministry under Union Budget 2018-19.

Petroleum products are used as raw materials in various sectors and industries such as transport and petrochemicals. Further, they may also be used in factories to operate machinery or fuel generator sets. Any fluctuation in the price of petrol and diesel impact the production and transport costs of various items. When compared to other neighbouring countries, India has the highest prices for petrol and diesel. On the other hand, it has the lowest price for kerosene.

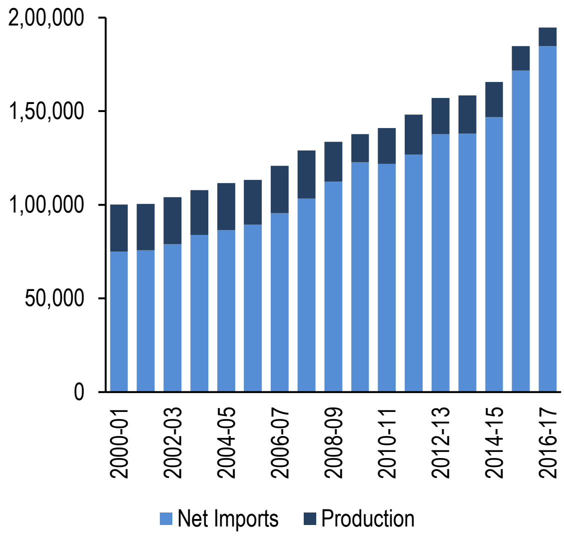
Figure 37: Price of petroleum products in India and neighbouring countries (Rs/litre)



Note: Prices as on February 1, 2018. Prices for India pertain to Delhi for petrol and diesel, and Mumbai for kerosene.
Sources: Petroleum Planning and Analysis Cell, Ministry of Petroleum and Natural Gas; PRS.

Imports: India imports 84% of the petroleum products consumed in the country. This implies that any change in the global prices of crude oil has a significant impact on the domestic price of petroleum. In 2000-01, net import of petroleum products constituted 75% of the total consumption in the country. This increased to 95% in 2016-17. Figure 38 shows the amount of petroleum products consumed in the country, and the share of imports.

Figure 38: Total consumption of petroleum products in India and their source ('000 MT)



Note: Production is the difference between the total consumption in the country and the net imports.
Sources: Petroleum Planning and Analysis Cell; PRS.

The Ministry of Petroleum and Natural Gas provides subsidy on LPG cylinders and kerosene. This subsidy seeks to fill the gap between production cost of these petroleum products, and the price at which they are provided to consumers. The production cost of these items is dependent on the global crude oil price, which the primary input.

The Ministry's expenditure has followed the trend in the global crude oil prices. As seen in Figure 39, the Ministry's expenditure increased in the early 2010s with an increase in the global prices of crude. During this period, the actual expenditure of the Ministry exceeded the budget estimates.

With a fall in crude oil prices from 2014 onwards, the expenditure has gradually reduced. During this period, the Ministry has also sought to plug leakages in the delivery of LPG subsidy by directly transferring the subsidy to the bank account of the beneficiary under the PAHAL scheme (discussed later). It has also sought to weed out duplicate and ghost beneficiaries under the PAHAL scheme. Between 2010-11 and 2018-19, the Ministry's expenditure reduced by 3% annually, on average.

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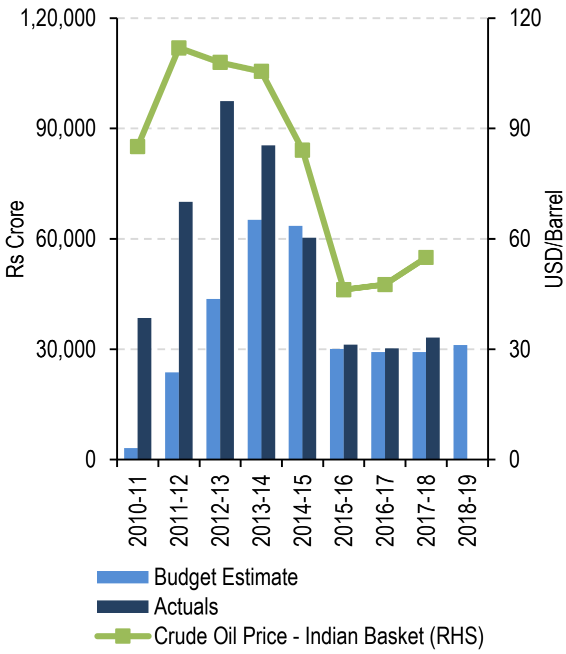
February 26, 2018

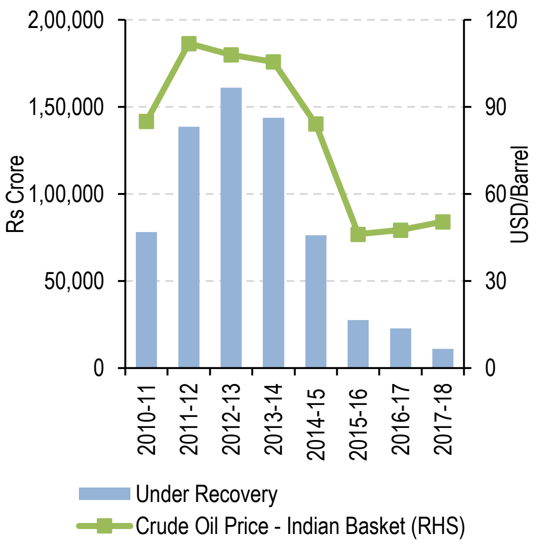
Figure 39: Expenditure trend of the Ministry



Note: 'Actuals' for 2017-18 are revised estimates.
Sources: Union Budget documents (various years); PRS.

Under-recoveries: Under-recovery refers to the difference in the cost of producing petroleum products, and the price at which they are delivered to consumers. They indicate the loss incurred by oil marketing companies while supplying these products. This difference is shared by the central government and the oil companies. Figure 40 shows that under-recoveries have reduced with a fall in global prices of crude oil.

Figure 40: Trend in under-recoveries of oil companies and global crude oil prices



Note: Data for 2017-18 till September 2017.
Sources: Petroleum Planning and Analysis Cell; PRS.

Developments in Union Budget 2018-19

Road and Infrastructure Cess: Currently, the government levies the road cess on the import and production of petrol and diesel. The Union Budget 2018-19 renames this to the road and infrastructure cess. It also proposes certain changes in the excise and customs duty levied on petrol and diesel.

Table 59: Changes in taxes and cess on petroleum products (Rs/litre)

	Petrol		Diesel	
	Before	After	Before	After
Customs	6.48	4.48	8.33	6.33
Cess	6.00	8.00	6.00	8.00
Total	**12.48**	**12.48**	**14.33**	**14.33**
Excise	7.66	5.66	10.69	8.69
Cess	6.00	8.00	6.00	8.00
Total	**13.66**	**13.66**	**16.69**	**16.69**

Sources: Memorandum, Union Budget 2018-19; PRS.

The total tax incidence on the consumers remains unchanged. However, there is Rs 2/litre shift from excise and customs duty towards the cess. Note that unlike customs and excise duty collections, proceeds from cesses do not form part of the divisible pool of taxes share with states. This means that Rs 2/litre of petrol and diesel imported or produced will move from the divisible pool to the cess which is entirely with the centre. Given that 42% of the divisible taxes are shared with states following the 14th Finance Commission, this would mean a loss of 84 paise per litre of petrol/diesel to states.

Increase in coverage under Pradhan Mantri Ujjwala Yojana: Under the scheme, the Ministry provides LPG connections in the name of the women of the household. The scheme had a target of giving five crore connections between 2016-17 and 2018-19. Union Budget 2018-19 proposes to increase this target to eight crore.

Overview of Finances

Budget Estimates 2018-19
(Details in Annexure)

Table 60: Allocations for the Ministry (Rs crore)

Head	Actual 2016-17	Revised 2017-18	Budget 2018-19	% change
LPG Subsidy	18,678	15,656	20,378	30.2%
Kerosene Subsidy	8,861	8,804	4,555	-48.3%
Royalty to States	35	7,005	2,326	-66.8%
PDH Pipeline	450	400	1,674	318.5%
National Seismic Programme	-	10	1,300	13260.7%
Strategic Oil Reserves	2,031	1,141	781	-31.6%
Others	177	179	87	-51.4%
Total	**30,231**	**33,195**	**31,101**	**-6.3%**

Sources: Expenditure Budget, Union Budget 2018-19; PRS.

LPG Subsidy: The Ministry provides subsidy on LPG cylinders to beneficiaries. Prior to 2013, this subsidy was provided in the form of subsidised cylinders. Following the launch of the PAHAL scheme in 2013, this subsidy is directly credited to the bank accounts of the beneficiary.[299] In 2018-19, the Ministry is estimated to spend Rs 20,378 crore on LPG subsidy, which is 30% higher than the revised estimates of 2018-19.

Kerosene Subsidy: The Ministry provides subsidised kerosene through the Public Distribution System (PDS). In 2018-19, the Ministry has allocated Rs 4,555 crore for the subsidy, which is 48% lower than the revised estimates of 2017-18.

Royalty to States: The central government grants mining leases under the Oilfields (Regulation and Development) Act, 1948 and receives royalty and licensing fee for exploration and production of petroleum. The central government has estimated to raise Rs 9,877 crore as royalty during 2018-19.[300] It will pay Rs 2,326 crore to the states.

PDH Pipeline: The Phulpur-Dhamra-Haldia (PDH) Pipeline is being developed by GAIL India to transport natural gas.[301] The project will connect five states – Uttar Pradesh, Bihar, Jharkhand, Odisha and West Bengal – to the National Gas Grid. In 2018-19, the project has been allocated Rs 1,674 crore.

National Seismic Programme: The Ministry is conducting a seismic survey of all sedimentary basins of India, where limited data is available. The Programme was launched in October 2016 with an estimated expenditure of Rs 5,000 crore.[302] It is expected to be completed by 2019-20. The Programme has been allocated Rs 1,300 crore for 2018-19. This is significantly higher than the allocation of Rs 10 crore in 2017-18.

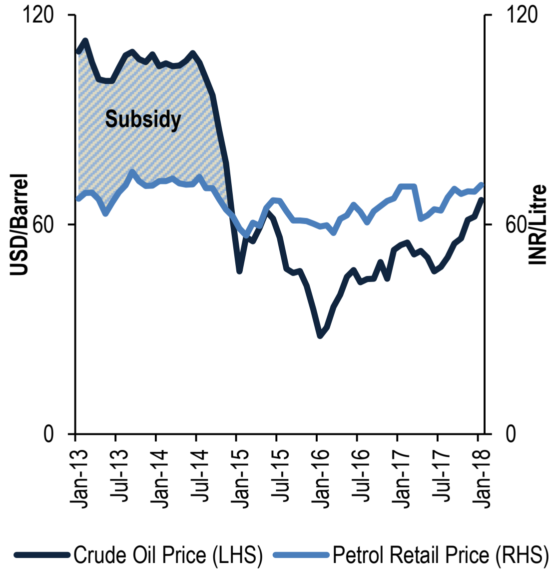
Key issues and analysis

A. Trend in crude oil and retail prices of petrol and diesel

Over the last five years, the global price of crude oil (Indian basket) has come down from USD 110 in January 2013 to USD 67 in January 2018, having touched a low of USD 28 in January 2016.

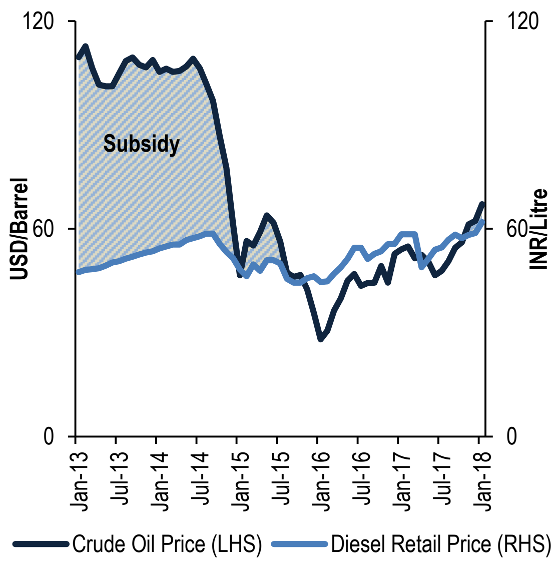
While there has been a 63% drop in the price of global crude over this five-period, the retail price of petrol in India has reduced by 3%. During this period, the retail price of diesel increased by 30%. Figure 41 and Figure 42 show the trends in prices of global crude oil and retail price of petrol and diesel in India over the last five years.

Figure 41: Prices of Global Crude Oil and retail price of petrol in India



Note: Subsidy indicated in the graph is notional. While calculating the amount of subsidy, various other factors such as cost of domestic inputs will also have to be accounted. Global Crude Oil Price is for the Indian basket. Figures reflect average monthly retail price of petrol in Delhi.
Sources: Petroleum Planning and Analysis Cell; Indian Oil Corporation Limited; PRS.

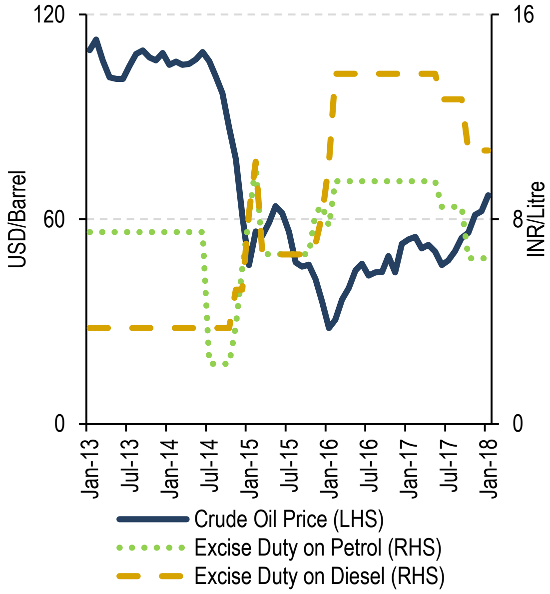
Figure 42: Prices of Global Crude Oil and retail price of diesel in India



Note: Subsidy indicated in the graph is notional. While calculating the amount of subsidy, various other factors such as cost of domestic inputs will also have to be accounted. Global Crude Oil Price is for the Indian basket. Figures reflect average monthly retail price of diesel in Delhi.
Sources: Petroleum Planning and Analysis Cell; Indian Oil Corporation Limited; PRS.

The central government has used taxes to prevent sharp fluctuations in the retail price of diesel and petrol. In the past, when global crude oil prices have increased, duties have been cut.[303] Since 2014, as global crude oil prices declined, excise duties have been increased. As a result, the central government's revenue from excise duty on petrol and diesel increased annually at a rate of 46% between 2013-14 and 2016-17. During the same period, the total sales tax collections of states (from petrol and diesel) increased annually by 9%.

Figure 43: Price of global crude oil and excise duty on petrol and diesel in India

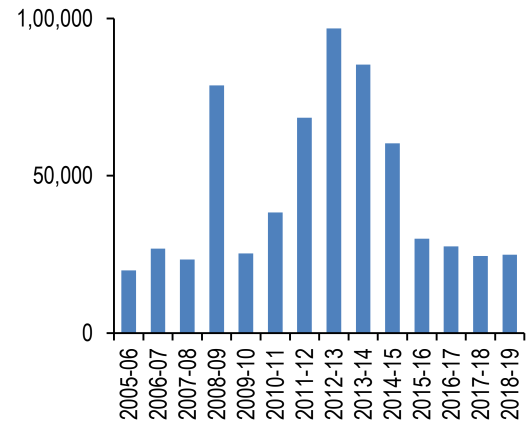


Sources: Petroleum Planning and Analysis Cell; PRS.

B. Subsidy paid on Kerosene and LPG

The Ministry provides subsidy for: (i) LPG cylinders, and (ii) supply of kerosene through the PDS system. The subsidy seeks to provide these products to beneficiaries at prices lower than production costs. Over the last few years, the Ministry's expenditure on subsidy has reduced from Rs 96,880 crore in 2012-13 to an estimated Rs 24,933 crore in 2018-19 (see Figure 44).

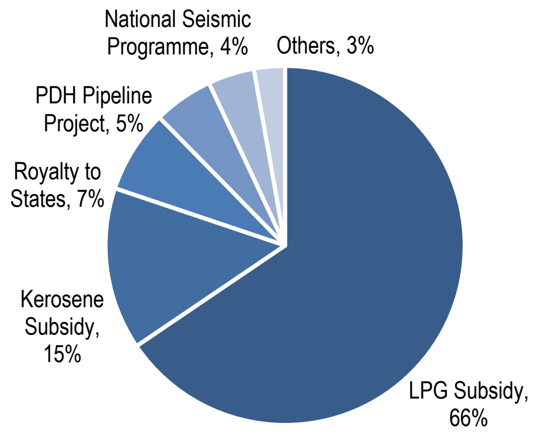
Figure 44: Expenditure on Petroleum Subsidy (Rs crore)



Note: Figures for 2017-18 are revised estimates and for 2018-19 are budget estimates.
Source: Union Budget documents; PRS.

The Ministry is estimated to spend 80% of its total budget on providing this subsidy in 2018-19. As seen in Figure 45, a large proportion of this will be for LPG subsidy. Between 2015-16 and 2018-19, the expenditure on LPG subsidy reduced from Rs 22,660 crore to an estimated Rs 20,378 crore (average reduction of 3% annually). During this period, the expenditure on kerosene subsidy reduced from Rs 7,339 crore to Rs 4,555 (average reduction of 15% annually. (Break-up of petroleum subsidy unavailable for previous years.)

Figure 45: Ministry spends 80% of its budget on LPG and kerosene subsidies (BE 2018-19)



Sources: Demand for Grants for the Ministry of Petroleum and Natural Gas, Union Budget 2018-19; PRS.

LPG Subsidy

The Ministry has been directly transferring the LPG subsidy into the bank account of the beneficiary under the PAHAL scheme. The Ministry stated that it had weeded out 3.77 crore duplicate, inactive or ghost beneficiary accounts under the scheme (for state-level details, see Table 66 in the Annexure).[304,316]

The CAG (2016) noted that while de-duplication checks had been carried out by agencies and oil companies, its audit identified 74,180 LPG customers linked to 37,090 Aadhaar (see Table 61). This indicated multiple LPG connections having the same Aadhaar number and bank details.[305]

Table 61: Details of connections having the same Aadhaar number across oil companies

Combination of Oil Marketing Companies	No. of Aadhaar numbers	No. of LPG unique consumer IDs
HPCL and IOCL	13,698	27,396
IOCL and BPCL	10,640	21,280
BPCL and HPCL	12,752	25,504
Total	**37,090**	**74,180**

Note: HPCL – Hindustan Petroleum Corporation Limited. IOCL – Indian Oil Corporation Limited. BPCL – Bharat Petroleum Corporation Limited.
Sources: CAG Report on implementation of PAHAL; PRS.

This Ministry stated that the implementation of PAHAL has resulted in savings in the delivery of LPG subsidy (see Table 62). Note that the CAG

(2016) had observed that there was a difference in the savings estimated by the Ministry and oil companies. It noted inconsistencies in the calculations made by both, and stated that the actual savings may be less than estimates made by the Ministry and the oil companies.[305]

Table 62: Savings estimated by the Ministry due to the implementation of PAHAL (Rs crore)

Year	Estimated savings
2014-15	14,818
2015-16	6,443
2016-17	4,608
2017-18 (Apr-Nov)	3,799

Note: As per the Ministry, savings have been calculated by multiplying average subsidy per cylinder for the year with the number of blocked customers and the number of entitled cylinders (i.e., 12).
Sources: Unstarred Question No. 278, Lok Sabha, Ministry of Petroleum and Natural Gas, Answered on February 5, 2018; PRS.

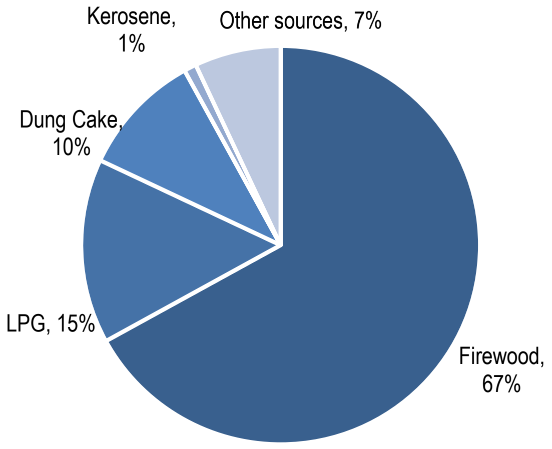
The CAG audit observed that as of December 2015, 1.55 crore beneficiaries had not joined the PAHAL scheme for direct benefit transfer of subsidy. It noted that there was a possibility that this includes consumers who deserve the subsidy, but may not be able to avail it.[305]

Give it up campaign: The Ministry launched the 'Give it Up' campaign to encourage domestic LPG consumers, who can afford to pay the market price of LPG, to voluntarily surrender their LPG subsidy.[306] As on January 30, 2018, more than one crore LPG consumers had voluntarily surrendered their subsidy.[307] The government also disqualified consumers with an annual income of more than Rs 10 lakh from receiving the subsidy.[297]

The CAG audit (2016) noted that the implementation of PAHAL and the 'Give it Up' campaign had resulted in the reduction in the offtake of subsidised LPG cylinders. However, it noted that lower offtake did not have a significant impact on subsidy savings, as these savings were primarily a result of the fall in global crude prices.[305]

Pradhan Mantri Ujjwala Yojana: According to the National Sample Survey (2011-12), more than 67% of the rural households in the country used firewood as the primary source of energy for cooking (see Figure 46).[308] In urban areas, most of the households (68%) used LPG for cooking. (For a state-wise details on the primary source of energy for cooking in rural and urban areas and the change in preferences between 1993-94, see Table 67, Table 68, Table 69, and Table 70 of the Annexure.)

Figure 46: Primary source of energy for cooking in rural areas (2011-12)



Sources: Energy Sources of Indian Households for Cooking and Lighting, 2011-12, NSS 68th Round, July 2011-June 2012; PRS.

The Pradhan Mantri Ujjwala Yojana was launched in 2016 with an objective of providing clean cooking fuel, i.e., LPG, to households which rely on firewood, coal, dung cakes, etc. for cooking.[309] Under the scheme, Rs 1,600 is provided as an initial cost to the beneficiary households.[310,316] This amount seeks to cover costs for installation of an LPG connection.[311]

The scheme has a target of providing five crore LPG connections to BPL families between 2016-17 and 2018-19 (see Table 63 below). These connections are issued in the name of the women of the household, and the BPL families are identified based on the Socio-Economic Caste Census.[312]

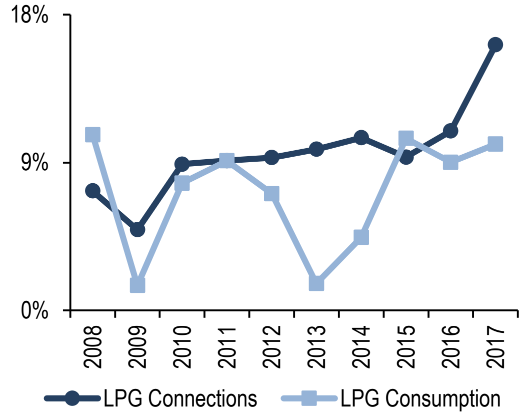
Table 63: Target of new connections to be given under the Pradhan Mantri Ujjwala Yojana

Financial Year	Target (Crore)
2016-17	1.5
2017-18	1.5
2018-19	2.0

Sources: 18th Report of the Standing Committee on Petroleum and Natural Gas on the Demands for Grants of the Ministry of Petroleum and Natural Gas (2017-18), March 2017; PRS.

As of February 2018, 3.39 crore new connections had been issued.[313] For a state-wise break up of new connections, see Table 71 in the Annexure. The Union Budget 2018-19 proposes to increase this target to eight crore beneficiaries.[314]

Figure 47: Growth in LPG connections and consumption (in %)



Sources: Petroleum Planning and Analysis Cell, Ministry of Petroleum and Natural Gas; PRS.

Kerosene subsidy

Over the last few years, the Ministry's expenditure on providing subsidy for kerosene has reduced from Rs 24,804 crore in 2014-15 to an estimated Rs 4,555 crore in 2018-19 (see Table 64). The Ministry stated that with the increase in LPG coverage and electrification in villages, the allocation for kerosene had been rationalised.[315]

Table 64: Expenditure on kerosene subsidy (Rs crore)

Year	Expenditure on kerosene subsidy
2014-15	24,804
2015-16	11,496
2016-17	8,861
2017-18 RE	8,804
2018-19 BE	4,555

Sources: Demands for Grants for the Ministry of Petroleum and Natural Gas (2018-19); Unstarred Question No. 2295, Lok Sabha, Ministry of Petroleum and Natural Gas, Answered on January 1, 2018; PRS.

The Standing Committee on Petroleum and Natural Gas (2017) had recommended that the Ministry should reduce the expenditure on this subsidy and work towards the eventual withdrawal of the subsidy.[316] It noted that an increase in the coverage of LPG beneficiaries is necessary to reduce their dependence on kerosene. This will result in the usage of cleaner fuel, promote the health of users, and address the problem of adulteration.

The Committee also recommended that states should be encouraged to move towards the direct cash transfer of kerosene subsidy to reduce inefficiencies in the delivery.[315] As of January 1, 2018, Jharkhand had implemented direct cash transfer in kerosene in 24 districts. The Ministry stated that other states had been requested to join the scheme.[315]

[297] Annual Report 2016-17, Ministry of Petroleum and Natural Gas, http://petroleum.nic.in/sites/default/files/AR16-17.pdf.
[298] Demands for Grants for the Ministry of Petroleum and Natural Gas for 2018-19, http://www.indiabudget.gov.in/ub2018-19/eb/sbe72.pdf.
[299] About the Scheme, PAHAL – Direct Benefits Transfer for LPG, Ministry of Petroleum and Natural Gas, http://petroleum.nic.in/dbt/whatisdbtl.html.
[300] Receipt Budget, Union Budget 2018-19, http://www.indiabudget.gov.in/ub2018-19/rec/allrec.pdf.
[301] Brief Report on Jagdishpur- Haldia & Bokaro- Dhamra Pipeline (JHBDPL Phase-II) Project, Environment Clearance
[302] Annual Report 2016-17, Ministry of Petroleum and Natural Gas, http://petroleum.nic.in/sites/default/files/AR16-17.pdf.
[303] Report of the Committee on Pricing and Taxation of Petroleum Products, Ministry of Petroleum and Natural Gas, February 2006, http://petroleum.nic.in/sites/default/files/Report1.pdf.
[304] Unstarred Question No. 278, Lok Sabha, Ministry of Petroleum and Natural Gas, Answered on February 5, 2018, http://164.100.47.190/loksabhaquestions/annex/14/AU278.pdf.
[305] Report of the Comptroller and Auditor General of India on Implementation of PAHAL (DBTL) Scheme (Pratyaksh Hanstantrit Labh Yojana), 2016, http://www.cag.gov.in/sites/default/files/audit_report_files/Union_Commercial_Compliance_Full_Report_25_2016_English.pdf.
[306] Give UP Campaign of LPG Subsidy, Press Release, Ministry of Petroleum and Natural Gas, August 3, 2015.
[307] Unstarred Question No. 278, Lok Sabha, Ministry of Petroleum and Natural Gas, Answered on February 5, 2018, http://164.100.47.190/loksabhaquestions/annex/14/AU278.pdf.
[308] Energy Sources of Indian Households for Cooking and Lighting, 2011-12, NSS 68th Round, July 2011-June 2012, Ministry of Statistics and Programme Implementation, http://mospi.nic.in/sites/default/files/publication_reports/nss_report_567.pdf.
[309] About Pradhan Mantri Ujjwala Yojana, Ministry of Petroleum and Natural Gas, http://www.pmujjwalayojana.com/about.html.
[310] Pradhan Mantri Ujjwala Yojana (PMUY) – modalities for implementation, Ministry of Petroleum and Natural Gas, June 28, 2016, http://petroleum.nic.in/sites/default/files/P_17018_1_2016_Lpg%28Pt%29_PMUY.pdf.
[311] S. O. 753 (E), Gazette of India, Ministry of Petroleum and Natural Gas, March 6, 2017, http://petroleum.nic.in/sites/default/files/Policies-LPG_Aadhaar_6_3_2017.pdf.
[312] About PMUY, Website of the Pradhan Mantri Ujjwala Yojana, Last accessed on February 19, 2018, http://www.pmujjwalayojana.com/about.html.
[313] State-wise PMUY connections released, Website of the Pradhan Mantri Ujjwala Yojana, Last accessed on February 19, 2018, http://www.pmujjwalayojana.com/released-connections.html.
[314] Union Budget Speech 2018-19, http://www.indiabudget.gov.in/ub2018-19/bs/bs.pdf.
[315] Unstarred Question No. 2295, Lok Sabha, Ministry of Petroleum and Natural Gas, Answered on January 1, 2018, http://164.100.47.190/loksabhaquestions/annex/13/AU2295.pdf.
[316] 18th Report of the Standing Committee on Petroleum and Natural Gas on the Demands for Grants of the Ministry of Petroleum and Natural Gas (2017-18), March 2017, http://164.100.47.193/lsscommittee/Petroleum%20&%20Natural%20Gas/16_Petroleum_And_Natural_Gas_18.pdf.

Annexure

Detailed expenditure table

Table provides an overview of expenditure on the major schemes of the Ministry, provided in the Demands for Grants (2018-19). In addition, major shifts in the budgetary allocation are shown in the last two columns.

Table 65: Major heads of allocation in the Ministry of Petroleum and Natural Gas (Rs crore)

Head	Actual 2016-17	Budget 2017-18	Revised 2017-18	Budget 2018-19	Absolute increase in 2018-19 (BE) over 2017-18 (RE)	% change in BE 2018-19 over RE 2017-18
Secretariat	28	31	34	32	-1	-4.3%
Payment of royalty to states	35	44	7,005	2,326	-4,679	-66.8%
Strategic Oil Reserves	2,031	2,579	1,141	781	-360	-31.6%
LPG Subsidy	**18,678**	**16,076**	**15,656**	**20,378**	**4,721**	**30.2%**
Of which:						
Direct Benefit Transfer	13,000	13,097	13,097	16,478	3,381	25.8%
LPG Connection to Poor Households	2,500	2,500	2,252	3,200	948	42.1%
Other subsidy	3,178	454	282	608	326	115.3%
Kerosene Subsidy	**8,861**	**8,924**	**8,804**	**4,555**	**-4,249**	**-48.3%**
Of which:						
Cash Incentives for Kerosene Distribution	80	107	106	254	148	140.5%
Direct Benefit Transfer	0	150	34	96	62	180.3%
Under-recovery	8,781	8,662	8,662	4,200	-4,462	-51.5%
Phulpur Dhamra Haldia Pipeline	**450**	**1,200**	**400**	**1,674**	**1,274**	**318.5%**
National Seismic Programme	**-**	**-**	**10**	**1,300**	**1,290**	**-**
Autonomous Bodies	**149**	**303**	**145**	**55**	**-91**	**-62.3%**
Total	**30,231**	**29,158**	**33,195**	**31,101**	**-2,095**	**-6.3%**

Sources: Expenditure Budget, Union Budget 2017-18; PRS.

The Ministry of Petroleum and Natural Gas stated that it had weeded out 3.77 crore duplicate, inactive or ghost beneficiary accounts under the PAHAL scheme. State-wise details of the accounts can be found in the table below.

Table 66: LPG customers weeded out (as on December 1, 2017)

State / UT	Weeded Out Customers (Lakh)
Andhra Pradesh	28.72
Arunachal Pradesh	0.85
Assam	10.76
Bihar	11.42
Chhattisgarh	5.48
Goa	1.36
Gujarat	19.37
Haryana	11.09
Himachal Pradesh	6.62
Jammu and Kashmir	7.47
Jharkhand	4.89
Karnataka	15.28
Kerala	11.18
Madhya Pradesh	19.34
Maharashtra	36.15
Manipur	1.11
Meghalaya	0.67
Mizoram	0.72
Nagaland	0.79
Odisha	7.75
Punjab	19.53
Rajasthan	12.7
Sikkim	0.61
Tamil Nadu	23.46
Telangana	21.51
Tripura	1.19
Uttar Pradesh	55.87
Uttarakhand	7.73
West Bengal	13.64
Andaman and Nicobar Islands	0.31
Chandigarh	1.59
Dadra and Nagar Haveli	0.11
Daman and Diu	0.19
Delhi	17.9
Lakshadweep	0.01
Puducherry	0.56
Total	**377.94**

Source: Unstarred Question No. 278, Lok Sabha, Ministry of Petroleum and Natural Gas, Answered on February 5, 2018; PRS.

Table 67: Primary source of energy for cooking in rural areas (per 1000 households)

State	Coal and Coke	Firewood and Chips	LPG	Dung Cake	Kerosene	Other Sources	No Cooking Arrangement	All
Andhra Pradesh	2	675	289	2	2	3	27	1000
Assam	1	810	172	0	3	5	9	1000
Bihar	6	564	59	208	5	157	1	1000
Chhattisgarh	9	932	15	31	2	5	6	1000
Gujarat	0	797	139	9	35	7	12	1000
Haryana	0	417	267	244	12	58	3	1000
Jharkhand	143	777	29	29	3	2	16	1000
Karnataka	0	805	147	0	20	7	21	1000
Kerala	1	663	308	0	1	7	20	1000
Madhya Pradesh	2	808	62	106	5	7	8	1000
Maharashtra	0	621	231	2	10	97	38	1000
Odisha	9	870	39	18	2	56	6	1000
Punjab	0	305	305	303	27	42	19	1000
Rajasthan	0	893	89	6	7	4	1	1000
Tamil Nadu	0	583	372	0	25	2	18	1000
Uttar Pradesh	2	561	67	334	1	28	6	1000
West Bengal	65	629	66	53	5	175	6	1000
All-India	**11**	**673**	**150**	**96**	**9**	**49**	**13**	**1000**

Sources: Energy Sources of Indian Households for Cooking and Lighting, 2011-12, NSS 68th Round, July 2011-June 2012; PRS.

Table 68: Primary source of energy for cooking in urban areas (per 1000 households)

State	Coal and Coke	Firewood and Chips	LPG	Dung Cake	Kerosene	Other Sources	No Cooking Arrangement	All
Andhra Pradesh	1	101	773	0	27	7	91	1000
Assam	1	168	710	1	57	23	40	1000
Bihar	40	249	605	55	5	33	13	1000
Chhattisgarh	113	347	398	33	27	21	59	1000
Gujarat	9	159	620	3	105	57	47	1000
Haryana	0	60	865	31	14	5	25	1000
Jharkhand	311	56	539	5	12	9	68	1000
Karnataka	0	148	640	0	68	4	139	1000
Kerala	0	363	554	0	6	5	72	1000
Madhya Pradesh	8	257	652	18	36	2	27	1000
Maharashtra	2	57	745	0	101	15	80	1000
Odisha	38	365	435	2	48	27	85	1000
Punjab	1	67	754	32	100	7	38	1000
Rajasthan	5	187	716	2	20	0	70	1000
Tamil Nadu	0	112	709	0	85	2	92	1000
Uttar Pradesh	6	210	668	75	10	8	23	1000
West Bengal	135	107	565	6	87	15	84	1000
All-India	**21**	**140**	**684**	**13**	**57**	**15**	**69**	**1000**

Sources: Energy Sources of Indian Households for Cooking and Lighting, 2011-12, NSS 68th Round, July 2011-June 2012; PRS.

Table 69: Distribution of rural households by primary source of energy for cooking

Source of energy for cooking	1993-94	1999-2000	2004-05	2009-10	2011-12
Coal and Coke	1%	2%	1%	1%	1%
Firewood and Chips	78%	76%	75%	76%	67%
LPG	2%	5%	9%	12%	15%
Dung Cake	12%	11%	9%	6%	10%
Kerosene	2%	3%	1%	1%	1%
No Cooking Arrangement	1%	1%	1%	2%	1%
Other Sources	4%	3%	4%	3%	5%
All Rural Households	**100%**	**100%**	**100%**	**100%**	**100%**

Sources: Energy Sources of Indian Households for Cooking and Lighting, 2011-12, NSS 68th Round, July 2011-June 2012; PRS.

Table 70: Distribution of urban households by primary source of energy for cooking

Source of energy for cooking	1993-94	1999-2000	2004-05	2009-10	2011-12
Coal and Coke	6%	4%	3%	2%	2%
Firewood and Chips	30%	22%	22%	18%	14%
LPG	30%	44%	57%	65%	68%
Dung Cake	2%	2%	2%	1%	1%
Kerosene	23%	22%	10%	7%	6%
No Cooking Arrangement	6%	4%	5%	7%	7%
Other Sources	3%	1%	2%	2%	2%
All Urban Households	100%	100%	100%	100%	100%

Sources: Energy Sources of Indian Households for Cooking and Lighting, 2011-12, NSS 68th Round, July 2011-June 2012; PRS.

Table 71: Connections released under the Pradhan Mantri Ujjwala Yojana

States / UT	Number of connections released as on 31-03-2017	Number of connections released as on 16-02-2018
Andhra Pradesh	63,428	79,893
Arunachal Pradesh	-	5,253
Assam	2	8,74,893
Bihar	24,76,953	47,00,789
Chhattisgarh	11,05,441	18,66,588
Goa	954	983
Gujarat	7,52,354	12,56,221
Haryana	2,78,751	3,51,723
Himachal Pradesh	1,601	26,853
Jammu and Kashmir	2,65,787	3,65,115
Jharkhand	5,36,912	10,80,352
Karnataka	15,840	8,61,080
Kerala	11,241	34,642
Madhya Pradesh	22,39,821	31,63,875
Maharashtra	8,58,808	17,86,364
Manipur	25	27,064
Meghalaya	-	29,161
Mizoram	-	704
Nagaland	-	8,208
Odisha	10,11,955	20,58,124
Punjab	2,45,008	3,73,463
Rajasthan	17,22,694	25,32,655
Sikkim	-	576
Tamil Nadu	2,72,749	9,37,746
Telangana	41	41
Tripura	-	37,861
Uttar Pradesh	55,31,159	64,02,186
Uttarakhand	1,13,866	1,35,579
West Bengal	25,20,479	49,11,387
Andaman & Nicobar Islands	1,189	1,698
Chandigarh	-	-
Dadra and Nagar Haveli	3,211	11,437
Daman and Diu	73	202
Delhi	516	519
Lakshadweep	-	129
Puducherry	760	2,407
Total	**2,00,31,618**	**3,39,25,771**

Sources: Website of the Pradhan Mantri Ujjwala Yojana (last accessed on February 19, 2018); PRS.

Demand for Grants 2018-19 Analysis

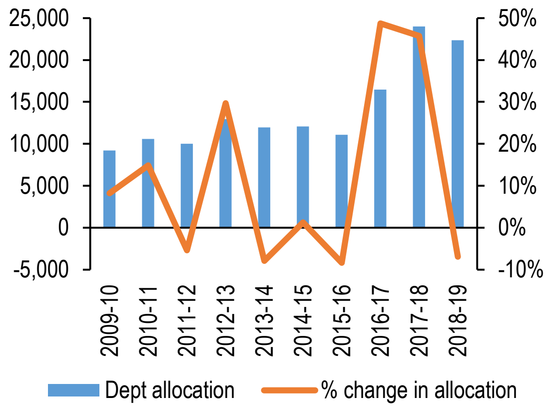
Drinking Water and Sanitation

The Ministry of Drinking Water and Sanitation is the nodal agency responsible for policy planning, funding and coordination of programs for safe drinking water and sanitation in rural areas. The Ministry was previously a department under the Ministry of Rural Development, and was made an independent Ministry in 2011.

Overview of finances

In Union Budget 2018-19, the Ministry has been allocated Rs 22, 357 crore. This is a decrease of Rs 1,654 crore (7%) over the revised estimates of 2017-18.

Figure 48: Expenditure over the years (Rs crore)



Note: Values for 2017-18 are revised estimates and 2018-19 are budget estimates.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

Over the past ten years, the allocation to the Ministry of Drinking Water and Sanitation has seen an annual average increase of 9%. This year the estimated expenditure has seen a decrease of 7%, over the revised expenditure estimates of 2017-18. Figure 1 shows these trends.

Table 1 provides the budgetary allocation trends to the two major schemes, the The Ministry saw the highest increase of 49% in 2016-17, over the previous year. National Rural Drinking Water Program (NRDWP), and the Swachh Bharat Mission-Gramin (SBM-G) of the Ministry of Drinking Water and Sanitation in the last three years.

SBM-G has seen a decrease 9.5% in its allocation in 2018-19, over the revised estimates of 2017-18. NRDWP has seen a decrease of 0.7% in its allocation in 2018-19, over the revised estimates of 2017-18. The total budget of the Ministry has seen a decrease of 7% this year.

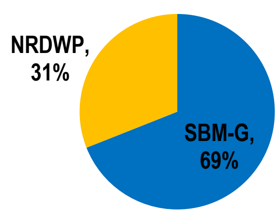
Table 72: Budgetary allocation to the Ministry of Drinking Water and Sanitation (Rs crore)

Major head	Actual 16-17	Revised 17-18	Budgeted 18-19	% change
SBM-G	10,484	16,948	15,343	-9.5%
NRDWP	5,980	7,050	7,000	-0.7%
Secretariat	12	13	14	7.7%
Total	**16,476**	**24,011**	**22,357**	**-6.9%**

Sources: Demands for Grants 2018-19, Ministry of Drinking Water and Sanitation; PRS.

Figure 2 represents the key expenditure heads of the Ministry. In 2018-19, 69% of the Ministry's expenditure is estimated to be spent on SBM-G and 31% on NRDWP.

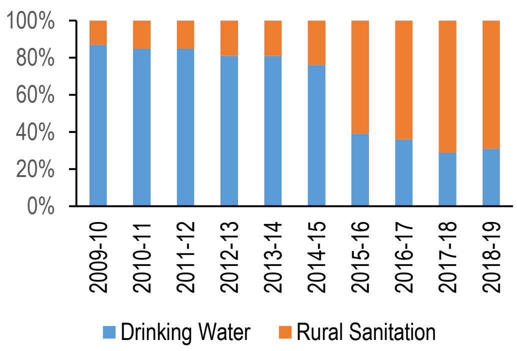
Figure 49: Top expenditure heads in 2018-19, as a percentage of total ministry allocation



Sources: Demands for Grants 2018-19, Ministry of Drinking Water and Sanitation; PRS.

In the last ten years, the allocation to rural sanitation and drinking water programs under the Ministry's budget has seen a shift. While the allocation to drinking water has reduced from 87% in 2009-10 to 31% in 2018-19, the allocation to rural sanitation has increased from 13% in 2009-10 to 69% in 2018-19.

Figure 50: Budget allocation over the years (Rs crore)



Note: Values for 2017-18 are revised estimates and 2018-19 are budget estimates.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

Financial allocations to outcomes

In this section, we discuss issues regarding the implementation of the SBM-G and NRDWP.

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Swachh Bharat Mission- Gramin

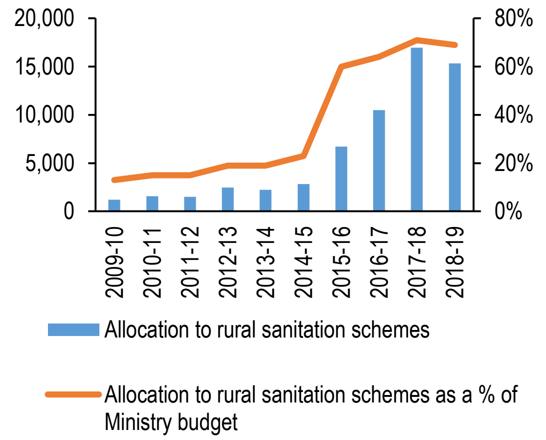
The Swachh Bharat Mission was launched on October 2, 2014 with an aim to achieve universal sanitation coverage, improve cleanliness and eliminate open defecation in the country by October 2, 2019. The Swachh Bharat Mission-Gramin (SBM-G) is the rural component of the program.

SBM-G was previously referred to as the Nirmal Bharat Abhiyan or the Total Sanitation Campaign.

In 2018-19, it has been allocated Rs 15,343 crore, which is a decrease of 9.5% from the revised estimates of 2017-18.

In 2017-18, the scheme was allocated Rs 13,948 crore, which was increased to Rs 16,948 crore at the revised estimates stage. This implies that the revised estimates overshot the budget estimates. Figure 3 shows the expenditure on rural sanitation by the Ministry over the years.

Figure 51: Expenditure on rural sanitation scheme (Rs crore)



Note: Values for 2017-18 and 2018-19 are revised estimates and budget estimates respectively.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

Allocation to SBM-G has seen an increase over the years. The rural and urban component of the scheme together got the seventh highest allocation among all the centrally sponsored schemes in Union Budget 2018-19. However, while the allocation to the rural component witnessed a decline of 9.5%, the urban component saw an increase of 9%.

Note that the total funds allocated to the scheme is low, when compared to other centrally sponsored schemes. Allocation to some other schemes in 2018-19 such as Mahatma Gandhi National Rural Employment Guarantee Scheme is Rs 55,000 crore, National Health Mission is Rs 30,634 and Sarva Shiksha Abhiyan is Rs 26,129 crore.

The required central government allocation to SBM-G for the five year period from 2014-15 to 2018-19 is Rs 1,00,447 crore.[317] Of this, so far Rs 52,166 (52%) has been allocated to the scheme. This implies that 48% of the funds are still left to be released before October 2019.

Budget estimates versus actual expenditure: Table 2 shows the trends in allocation and actual expenditure on rural sanitation over the past ten years.

Table 2: Budgeted versus actual expenditure on rural sanitation (Rs crore)

Year	Budgeted	Actuals	% of Budgeted
2007-08	954	954	100%
2008-09	1,080	1,080	100%
2009-10	1,080	1,200	111%
2010-11	1,580	1,580	100%
2011-12	1,650	1,500	91%
2012-13	3,500	2,474	71%
2013-14	3,834	2,244	59%
2014-15	4,260	2,841	67%
2015-16	3,625	6,703	185%
2016-17	9,000	10,484	116%
2017-18	13,948	16,948	122%

Note: The 'utilised' figure for 2017-18 is the revised estimate.
Sources: Union Budgets 2007-08 to 2017-18; PRS.

Note that in the past three years, actual expenditure on SBM-G has overshot the budget estimates significantly. In 2016-17, it was 116% and is expected to be 122% in 2017-18. This implies lack of adequate budgeting and planning in implementation of the scheme.

Construction of Individual Household Latrines (IHHLs): For construction of IHHLs, the funds are shared between the centre and the state in the ratio of 60:40. Under SBM-G, the cost for constructing a household toilet has been increased from Rs 10,000 to Rs 12,000. Construction of IHHLs account for the largest share of total expenditure under the scheme. In 2014-15, it was 91%, and has been increased to 97% and 98% in 2015-16 and 2016-17, respectively. In 2017-18, 98% of total expenditure has been on construction of IHHLs.

Table 3 shows the construction of IHHLs since the inception of the scheme. Although the number of toilets constructed each year has increased, a yearly % change indicates that the pace of construction of toilets has come down. The increase in constructed toilets was 156% in 2015-16 over the previous year. However, this reduced to 4% in 2017-18.

Table 3: Toilets constructed since the inception of the scheme

Year	Toilets Constructed	Yearly % change
2014-15	49,00,425	-
2015-16	1,25,64,312	156%
2016-17	2,18,27,531	74%
2017-18	2,26,92,777	4%

Note: Data for 2017-18 is updated till February 19, 2018.
Sources: Management Information System Reports of SBM; PRS.

As on February 2018, 78.8% of households in India have a toilet.[318] This implies that in the next 20 months (till October 2019), 21.2% of houses will have to be provided with toilets.

Open Defecation Free (ODF) villages: Under SBM-G, a village is ODF when: (i) there are no visible faeces in the village, and (ii) every household as well as public/community institution uses safe technology options for faecal disposal.[319]

After a village declares itself ODF, states are required to carry out verification of the ODF status of such a village. Since sanitation is a state subject, the Ministry has set some broad guidelines for ODF verification. This includes indicators that are in accordance with the ODF verification definition, such as access to a toilet facility and its usage, and safe disposal of faecal matter through septic tanks.[319] Note that according to the National Family Health Survey-4, only 37% of households in rural areas are using improved sanitation facility.[320] Such a facility implies that toilets have a faecal disposal system that could include flush to piped sewer system, or flush to septic tank, or flush to pit latrine, and is not shared with any other household.

Table 4 presents data on the differences between villages that have declared themselves ODF free and that are verified ODF.

Table 4: ODF villages in the country

Year	Declared ODF	Verified ODF	Verified ODF (%)
2015-16	47,101	44,767	95%
2016-17	1,84,082	1,65,303	90%
2017-18	3,22,546	2,19,979	68%
Total	5,53,729	4,30,049	78%
Total villages (2011)	-	**Verified ODF villages**	**Verified ODF villages (%)**
5,93,731	-	4,30,049	72%

Note: Data for 2017-18 is updated till February 19, 2018. Total villages is from Census 2011.
Sources: Management Information System Reports of SBM; PRS.

Note that in 2017-18, number of villages verified as ODF has substantially come down.

Information, Education and Communication (IEC) Activities: 8% of funds earmarked for SBM-G in a year are to be utilised for IEC activities.[321] These activities primarily aim to mobilise behavioural change towards the use of toilets among people. However, this has not been met. In 2014-15, Rs 157 crore was spent on such activities, accounting for 4% of the total scheme expenditure. This decreased to 1% in 2015-16 and 2016-17. In 2017-18, Rs 229 crore has been spent, amounting to 2% of total expenditure. Table 5 highlights these trends.

Table 5: SBM-G funds spent on (IEC) Activities (Rs crore)

Year	SBM-G funds spent on IEC activities	SBM-G funds spent on IEC activities (%)
2014-15	157 (4%)	4%
2015-16	147 (1%)	1%
2016-17	124 (1%)	1%
2017-18	229 (2%)	2%

Note: Data for 2017-18 is updated till February 19, 2018.
Sources: Management Information System Reports of SBM; PRS.

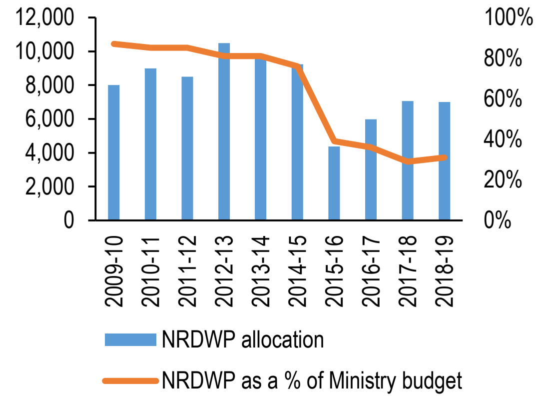
National Rural Drinking Water Programme

The National Rural Drinking Water Programme (NRDWP) aims at assisting states in providing adequate and safe drinking water to the rural population in the country.[322] Rural drinking water programs have existed in various forms since 1972-73, starting with the Accelerated Rural Water Supply Programme, followed by a Technology Mission in 1986. Subsequently, the Sector Reform Project was initiated in 1999-2000, with an aim to involve the rural community in planning, implementation and management of drinking water schemes. From 2009, it has been renamed as the National Rural Drinking Water Programme.

Fund sharing pattern: Rural water supply is a state subject. The centre-state fund sharing pattern within the scheme for the components of coverage of habitations, quality of water and operation and maintenance of projects is: (i) 50:50 for all states, and (ii) 90:10 for north-east and Himalayan states. For the components of monitoring and surveillance of water quality, sustainability of water sources, and support activities like awareness generation, the centre-state fund sharing pattern within the scheme is: (i) 60:40 for all states, and (ii) 90:10 for north-east and Himalayan states. The centre funds the scheme entirely for union territories.

NRDWP accounts for 31% of the Ministry's finances this year. In 2018-19 it has been allocated Rs 7,000 crore, which is a decrease of 0.7% from the revised estimates of 2017-18. In 2017-18, the scheme was allocated Rs 6,050 crore, which was increased to Rs 7,050 crore at the revised estimates stage. This implies that the revised estimates overshot the budget estimates. Figure 4 shows the expenditure on NRDWP by the Ministry over the years.

Figure 52: Expenditure on NRDWP (Rs crore)



Values for 2017-18 and 2018-19 are revised estimates and budget estimates respectively.
Sources: Union Budgets 2009-10 to 2018-19; PRS.

As can be noted from the figure above, from 2009-10 to 2013-14, the expenditure on NRDWP accounted for about 80%-90% of the Ministry's budget. However, from 2015-16 onwards, the allocation to the scheme has been reduced significantly.

Budgeted versus actual expenditure: Table 6 shows the trends in allocation and actual expenditure on NRDWP over the past ten years. The actual expenditure saw a decline in 2014-15, which could be a reason for the reduction of funds at the budget estimates stage in 2015-16. However, the actual expenditure in 2015-16 was 167% more than the budget estimates. Note that in the past three years, actual expenditure on NRDWP has overshot the budget estimates significantly.

Table 6: Budgeted versus actual expenditure on NRDWP (Rs crore)

Year	Budgeted	Actuals	% of Budgeted
2007-08	6,606	6,506	98%
2008-09	7,420	7,420	100%
2009-10	8,120	7,996	98%
2010-11	9,000	8,985	100%
2011-12	9,350	8,493	91%
2012-13	10,500	10,489	100%
2013-14	11,426	9,691	85%
2014-15	11,000	9,243	84%
2015-16	2,611	4,369	167%
2016-17	5,000	5,980	120%
2017-18	6,050	7,050	117%

Note: The 'utilised' figure for 2017-18 is the revised estimate.
Sources: Union Budgets 2007-08 to 2017-18; PRS.

The Standing Committee examining the scheme had observed that reduction in budget for NRDWP will affect the coverage and tackling of water quality problems in rural areas.[323,324]

Target versus achievements: In 2011, the Ministry came out with a strategic plan for the period from 2011-22.[325] It set out a goal that by 2022, every person in rural areas in the country will have access to 70 Litres Per Capita Per Day (LPCD) of water within their household premises or at a distance of not more than 50 metres. It identified three standards of service:

i. Piped water supply with all metered, household connections (designed for 70 LPCD);

ii. Basic piped water supply with a mix of household connections, public taps and handpumps (designed for 55 LPCD); and

iii. Handpumps, protected open wells, protected ponds, etc. (designed for 40 LPCD).

The revised guidelines of the NRDWP in 2015 raised the drinking water supply norms from 40 LPCD to 55 LPCD.[326]

Table 7 and Table 8 highlights the targets and achievements under the scheme for the past five years. As of August 2017, 96% of rural habitations have access to safe drinking water[327]. However, in term of coverage, 74% habitations are fully covered, and 22% habitations are partially covered.[328]

The Ministry aims to cover 90% rural households with piped water supply and 80% of rural households with household tap connections by 2022. However, the Estimates Committee in its report in 2015 observed that piped water supply was available to only 47% of rural habitations, out of which only 15% had household tap connections.[329]

Table 7: Target versus achievements of habitations partially covered under NRDWP

	Number of partially covered habitations	
	Target	Achievement
2009-10	1,10,721	99,312 (90%)
2010-11	1,10,231	90,116 (82%)
2011-12	94,257	83,713 (89%)
2012-13	91,750	77,388 (84%)
2013-14	83,805	91,496 (109%)
2014-15	89,581	94,020 (105%)
2015-16	52,061	64,487 (124%)
2016-17	40,391	43,813 (108%)
2017-18	27,414	24,417 (89%)

Note: Habitations where water supply systems provide less than 55 LPCD to the population are treated as partially covered. Data pertain to habitations getting less than 55 LPCD of basic piped water supply with a mix of household connections, public taps and handpumps. Data for 2017-18 is updated till February 19, 2018.
Souces: Integrated Management Information System Reports 2009-10 to 2017-18, National Rural Drinking Water Programme; PRS.

Table 8: Target versus achievements of habitations fully covered under NRDWP

	Number of fully covered habitations	
	Target	Achievement
2009-10	51,106	49,567 (97%)
2010-11	33,247	29,267 (88%)
2011-12	36,837	32,533 (88%)
2012-13	38,403	58,916 (153%)
2013-14	38,454	45,277(118%)
2014-15	25,112	26,507 (106%)
2015-16	12,081	13,276 (110%)
2016-17	10,002	12,102 (121%)
2017-18	5,275	7,853 (149%)

Note: Data pertain to habitations getting 55 LPCD of basic piped water supply with a mix of household connections, public taps and handpumps. Data for 2017-18 is updated till February 19, 2018.
Souces: Integrated Management Information System Reports 2009-10 to 2017-18, National Rural Drinking Water Programme; PRS.

Contamination of drinking water: It has been noted that NRDWP is over-dependant on ground water.[329] However, ground water is affected by high arsenic contamination in 68 districts in 10 states.[329] These states are Haryana, Punjab, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, West Bengal, Assam, Manipur and Karnataka. Table 9 shows the number of states and districts where ground water is affected by various contaminants.

Table 9: States and districts affected by contamination in groundwater

Contaminants	Number of affected states	Number of affected districts
Arsenic	10	68
Fluoride	20	276
Nitrate	21	387
Iron	24	297

Sources: Central Ground Water Board; PRS.

Chemical contamnation of ground water has also been reported due to deeper drilling for drinking water sources. It has been recommended that out of the total funds for NRDWP, allocation for water quality monitoring and surveillance should not be less than 5%.[329] Presently, it is 3% of the total funds.[326] It has also been suggested that water quality laboratories for water testing should be set up throughout the country.[329]

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325 "Ensuring Drinking Water Security in Rural India", Strategic Plan 2011-12, Department of Drinking Water and Sanitation, Ministry of Rural Development, http://mdws.gov.in/sites/default/files/StrategicPlan_2011_22_Water.pdf.

326 National Rural Drinking Water Programme Guidelines 2013, http://www.mdws.gov.in/sites/default/files/NRDWP_Guidelines_2013_0.pdf.

327 Lok Sabha Unstarred Question No. 3016, Ministry of Drinking Water and Sanitation, Answered on August 3, 2017, http://164.100.47.190/loksabhaquestions/annex/12/AU3016.pdf.

328 Rajya Sabha Unstarred Question No. 1477, Ministry of Drinking Water and Sanitation, Answered on January 1, 2018.

329 Evaluation of Rural Drinking Water Programmes, Committee on Estimates 2014-15, Lok Sabha, http://164.100.47.193/lsscommittee/Estimates/16_Estimates_2.pdf..

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