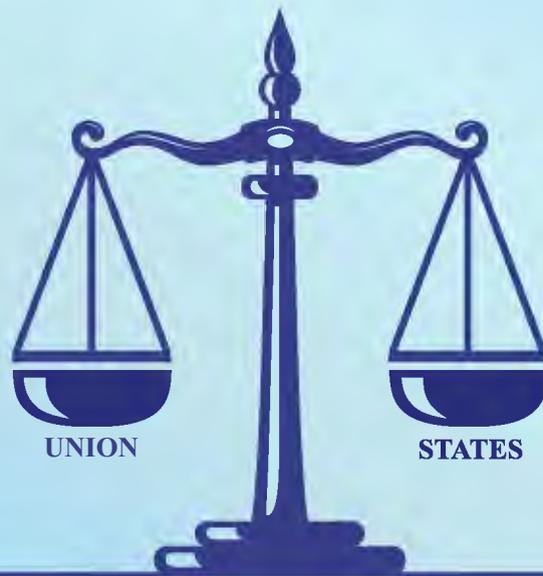




FINANCE COMMISSION IN COVID TIMES

Report For 2021-26



XV FINANCE COMMISSION

Vol-III The Union
October 2020



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Volume-III

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GLOSSARY

ACS-ARR gap	average cost of supply and average revenue realised gap
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
AT&C	aggregate technical & commercial losses
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CAPFs	Central Armed Police Forces
CEA	Central Electricity Authority
CCAC	Climate & Clean Air Coalition
CIP	central issue price
CSO	Central Statistics Office
CSS	centrally sponsored schemes
COVID	corona virus disease
CPCB	Central Pollution Control Board
CPSEs	central public sector enterprises
DACFW	Department of Agriculture, Cooperation and Farmers' Welfare
DAP	di ammonium phosphate
DAY-NULM	Deendayal Antyodaya Yojana - National Urban Livelihoods Mission
DBT	direct benefit transfer
DARE	Department of Agriculture Research and Education
DIET	District Institute for Education and Training
DISCOM	distribution companies
DISE	District Information System for Education
DLFA	Directorate of Local Fund Audit
DoDW&S	Department of Drinking Water and Sanitation
DRDA	District Rural Development Agency
DoP	Department of Posts
DoT	Department of Telecommunications
EAP	externally aided projects
EBR	extra budgetary resources

ECEA	Electricity Contract Enforcement Authority
FAME	Faster Adoption and Manufacturing of Electric Vehicles
FAR	floor area ratio
FCI	Food Corporation of India
FSI	floor space index
FTAs	free trade agreements
FTP	Foreign Trade Policy
GCA	gross cropped area
GDP	gross domestic product
GEF	Global Environment Facility
GER	gross enrolment ratio
GNP	gross national product
GPI	gender parity index
GSDP	gross state domestic product
GST	goods and services tax
GVA	gross value added
HFCL	Hindustan Fertilizer Corporation Limited
ICDS	Integrated Child Development Scheme
INDC	Intended Nationally Determined Contribution
JJM	Jal Jeevan Mission
Lpcd	litres per capita per day
MNRE	Ministry of New and Renewable Energy
MoAFW	Ministry of Agriculture and Farmers' Welfare
MoEF&CC	Ministry of Environment & Forest and Climate Change
MOP	muriate of potash
MoPR	Ministry of Panchayati Raj
MoRD	Ministry of Rural Development
MoRTH	Ministry of Road Transport and Highways
MW	megawatt

Fifteenth Finance Commission Volume-III

NAMP	National Air Monitoring Programme
NAPCC	National Action Plan on Climate Change
NCA	normal Central assistance
NCAP	National Clean Air Programme
NDMA	National Disaster Management Authority
NDMF	National Disaster Mitigation Fund
NDP	net domestic product
NDRF	National Disaster Response Fund
NDRMF	National Disaster Risk Management Funds
NEH	North-Eastern and Himalayan
NFSA	National Food Security Act
NRDWP	National Rural Drinking Water Programme
NSAP	National Social Assistance Programme
NSSF	National Small Savings Fund
ODF	open defecation free
PCCs	Pollution Control Committees
PESA	Panchayats (Extension to the Scheduled Areas) Act
PFMS	Public Finance Management System
PGI	performance grading index
PLFS	Periodic Labour Force Survey
PMAY-G	Pradhan Mantri Awaas Yojana - Grameen
PMGAY	Pradhan Mantri Garib Kalyan Anna Yojana
PMGSY	Pradhan Mantri Gram Sadak Yojana
PMKSY	Pradhan Mantri Krishi Sinchai Yojana
POL	petrol, oil, lubricants
PPA	power purchase agreement
PPP	public private partnership
RBI	Reserve Bank of India
RCPLWE	Road Connectivity Project for Left Wing Extremist Areas

RDSO	Research Design and Standards Organisation
REC	Rural Electrification Corporation
RGSA	Rashtriya Gram Swaraj Abhiyan
RPO	renewable purchase obligation
SAARC	South Asian Association for Regional Cooperation
SACEP	South Asia Co-operative Environment Programme
SBM-G	Swachh Bharat Mission (Grameen)
SBM-U	Swachh Bharat Mission (Urban)
SCERT	State Council of Educational Research and Training
SDG	Sustainable Development Goals
SDRF	State Disaster Response Fund
SECC	Socio Economic and Caste Census
SEZ	special economic zone
SFC	State Finance Commissions
SPCB	State Pollution Control Boards
TBCB	tariff based competitive bidding
TPDS	Targeted Public Distribution System
UDAY	Ujjwal Discom Assurance Yojana
UNFCCC	United Nations Framework Convention on Climate Change

Chapter 1

Introduction

1. Para (6) of our terms of reference (ToR) mandate that “while making recommendations, the Commission shall have regard, among other considerations, to:
 - (i) The resources of the Central Government and the State Governments for the five years commencing on 1st April 2020 on the basis of the levels of tax and the non-tax revenues likely to be reached by 2024-25. In the context of both tax and non-tax revenues, the Commission will also take into consideration their potential and fiscal capacity;
 - (ii) The demand on the resources of the Central Government particularly on account of defence, internal security, infrastructure, railways, climate change, commitments towards administration of UTs without legislature, and other committed expenditure and liabilities”
2. In keeping with earlier practice, the Commission had extensive consultations with State Governments, Ministries¹ and Departments of the Union Government and other stakeholders and opinion makers. This Volume III is devoted to the Union Government. Various key departments have been examined in greater depth. Medium-term challenges have been identified, along with some key suggested reforms.
3. In bringing out this volume, we were motivated by a number of considerations. First, the emphasis laid by us on prioritisation of expenditures of the Union Government in Volume I of our Report gets translated into an implementable set of suggestions, disaggregated across important ministries, in this volume. Second, though the ToR recognises the Union as a single entity, its constituent ministries are vital components that make the whole. Third, the performance of some ministries do have a disproportionate impact on the overall finances of the Union; hence the need for a disaggregated analysis. Fourth, a critique by an independent entity can provide useful insights for the reform agenda. Finally, a number of the suggested reforms traverse across ministries and therefore there is need for an integrated approach.
4. We had several rounds of discussions with officials of the Union Ministries, the details of which have been listed in Volume II of our Report. The Ministries also submitted their memoranda to the Commission. We were greatly enriched by these inputs. These thirteen Ministries with the highest allocations account for 53 per cent of the estimated total expenditure in 2020-21. Of these, the Ministry of Defence has the highest

¹Henceforth, for ease of expression, the use of the word 'ministries' in this volume also includes departments.

allocation of Rs. 4.71 lakh crore (15 per cent of the total budgeted expenditure of the Union Government of Rs. 30.42 lakh crore). Ministries with allocation above Rs. 1 lakh crore are Home Affairs, Agriculture and Farmers' Welfare, Consumer Affairs, Food and Public Distribution and Rural Development. The other Ministries with high allocations are Education, Road Transport and Highways, Communications, Railways, Chemicals and Fertilizers, Health and Family Welfare, Housing and Urban Affairs, Petroleum and Natural Gas. We have covered all these Ministries in our report except three departments related to Consumer Affairs, Chemicals and Petrochemicals and Pharmaceuticals.

5. Thus these thirteen Ministries have been discussed in detail in this volume in the form of separate chapters: Agriculture and Farmers' Welfare, Commerce, Drinking Water and Sanitation, Education, Environment, Forest and Climate Change, Fertilizer, Food and Public Distribution, Home Affairs, Housing and Urban Affairs, Panchayati Raj, Power and New and Renewable Energy and Rural Development. The health and defence sectors have been discussed in separate chapters in Volume I and have, therefore, not been included in this compendium.
6. Apart from the aforementioned Ministries, there are 10 others that are also vital for the growth momentum and for the growth pattern to be socially inclusive. We have dealt with them succinctly and pointedly towards the latter part of this volume.
7. Based upon our extensive interactions with the ministries and also domain experts, our efforts of this volume are directed towards a focus on certain key issues. We have also attempted to leave the contours for many suggested reforms pertaining to the concerned ministries.
8. This Volume III was conceptualised by the Chairman, Fifteenth Finance Commission and has been prepared under the guidance of the Commission.
9. We would like to specially thank Dr. Bibek Debroy, Chairman, Economic Advisory Council to the Prime Minister for providing guidance and valuable suggestions in putting this volume together. We acknowledge and thank the outstanding editorial support provided by Ms. Seetha Parthasarathy.
10. A team of the Commission's secretariat worked diligently and tirelessly in contributing to and assembling this volume. The members of this very professional and cohesive team are: Jasvinder Singh (Consultant, former Director), Sweta Satya, Aditi Pathak, Shikha Dahiya (Joint Directors), Nitish Saini, Vijay Kumar Mann (Deputy Directors) Sushant Kumar Bajaj, Assistant Director and Pallavi Khural, Data Entry Operator. The overall effort was coordinated by Mukhmeet Singh Bhatia, Additional Secretary.

Chapter 2

Ministry of Agriculture and Farmers Welfare

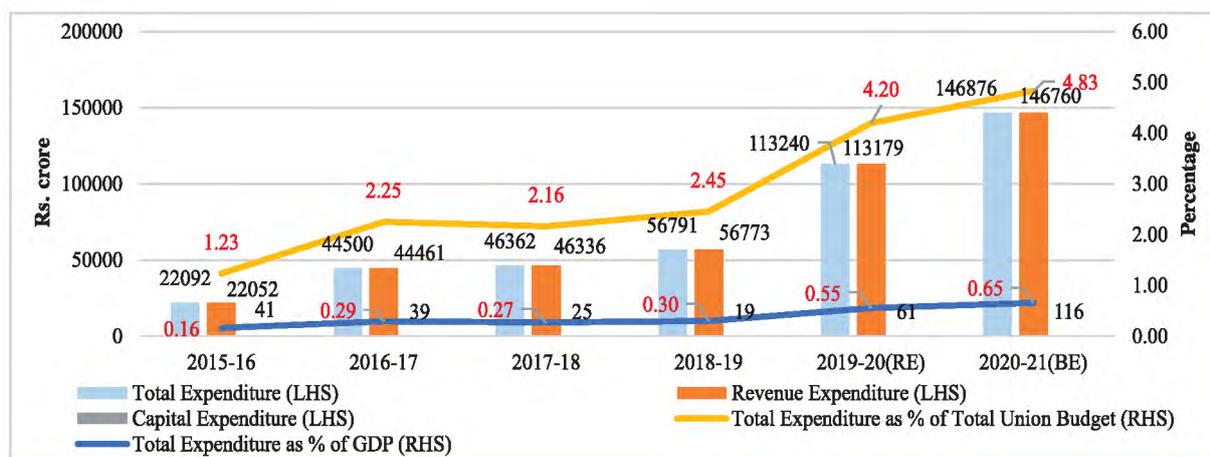
The main objective of the Ministry of Agriculture and Farmers Welfare is the formulation and administration of the rules, regulations and laws related to agriculture in order to maximise agricultural production and farmers' income. The Ministry's role becomes critical as agriculture and allied sectors account for 17.7 per cent of national income and provide employment to around 44 per cent of the country's workforce. Some of the major schemes of the Ministry include PM-KISAN, interest subsidy for short-term credit to farmers and Pradhan Mantri Fasal Bima Yojana.

The sector has shown a long-term trend growth rate of 3.2 per cent and has turned India into a food-secure nation. However, some reforms for sustainable growth in the sector include linking production to processing, diversification towards high-value crops, shifting cultivators to non-farm and subsidiary activities, rationalisation of subsidies, modernisation of land records and more investment in agriculture research.

Overall Profile of Ministry

1. The Ministry of Agriculture and Farmers Welfare (MoAFW), the overall responsibility of which is to nurture a policy environment that helps maximise agricultural production and farmers' income, has two departments: Department of Agriculture, Cooperation and Farmers' Welfare (DACFW) and Department of Agriculture Research and Education (DARE). The Ministry earlier had a third department - Department of Fisheries, Animal Husbandry and Dairying – but this was carved out into a separate ministry in July 2019.
2. The expenditure by the MoAFW (including Fisheries, Animal Husbandry and Dairying) in 2020-21 is budgeted at Rs 1,46,876 crore. This constitutes about 0.65 per cent of gross domestic product (GDP), an increase from 0.16 per cent of GDP in 2015-16 and 4.83 per cent of the total Union Budget (against 1.23 per cent in 2015-16). Of the total expenditure, revenue expenditure is Rs 146,760 crore and capital expenditure is Rs 116 crore. DACFW received 91 per cent of the total budget of the Ministry while DARE received only 6 per cent and Fisheries, Animal Husbandry and Dairying only 3 per cent. The year-wise allocation of the Ministry is given in Figure 1.

Figure 1: Expenditure of Ministry of Agriculture and Farmers Welfare

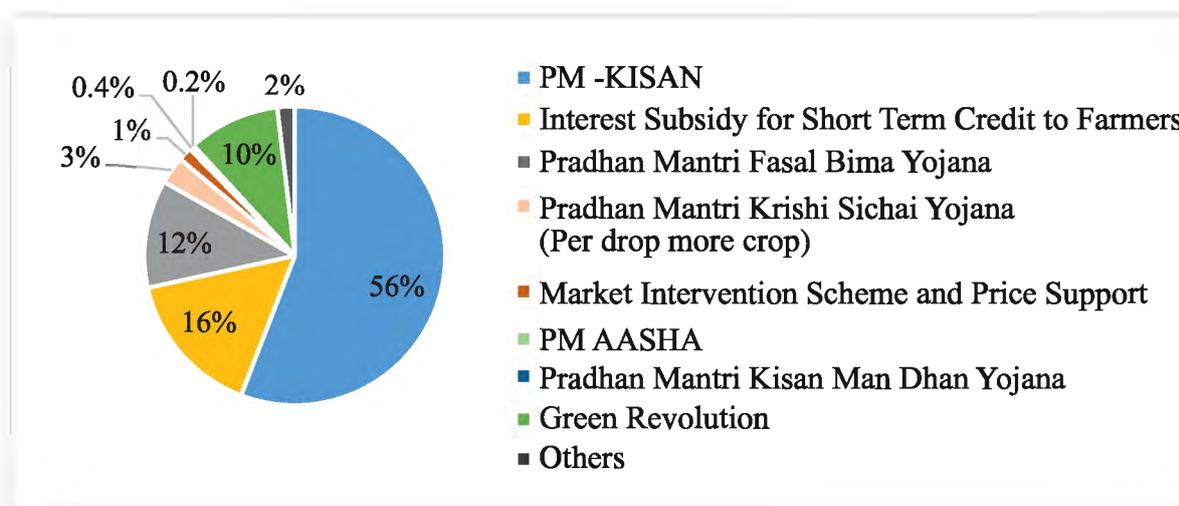


Source: Union Budgets and CSO

Note: Includes expenditure of Department/Ministry of Fisheries, Animal Husbandry and Dairying.

- The budgetary allocation for MoAFW in 2020-21 is 30 per cent higher than the revised estimate for 2019-20, primarily due to a higher allocation of Rs. 75,000 crore for PM-KISAN (income support scheme for farmers). The scheme had been allocated Rs. 75,000 crore in the budget estimate for 2019-20 as well, but this was later revised down to Rs. 54,370 crore.
- PM-KISAN accounts for 56 per cent of the allocation to the DACFW. Other major expenditure items of the Department include interest subsidy for short-term credit to farmers (16 per cent) and Pradhan Mantri Fasal Bima Yojana (12 per cent).

Figure 2: Break-up Schemes of the DACFW in 2020-21 (BE)



Source :Union Budget, 2020-21

Box 1 : Higher the Government Intervention, Lower the Growth

Within the agriculture sector as a whole, the crop sector, which the majority of farmers are dependent on, records minimal growth despite getting maximum government support in the form of resources and subsidies. Table below shows the extent and type of government intervention in various sub-sectors of agriculture and their growth rates. This demonstrates that sectors where there is a greater degree of liberalisation and less government intervention show higher growth.

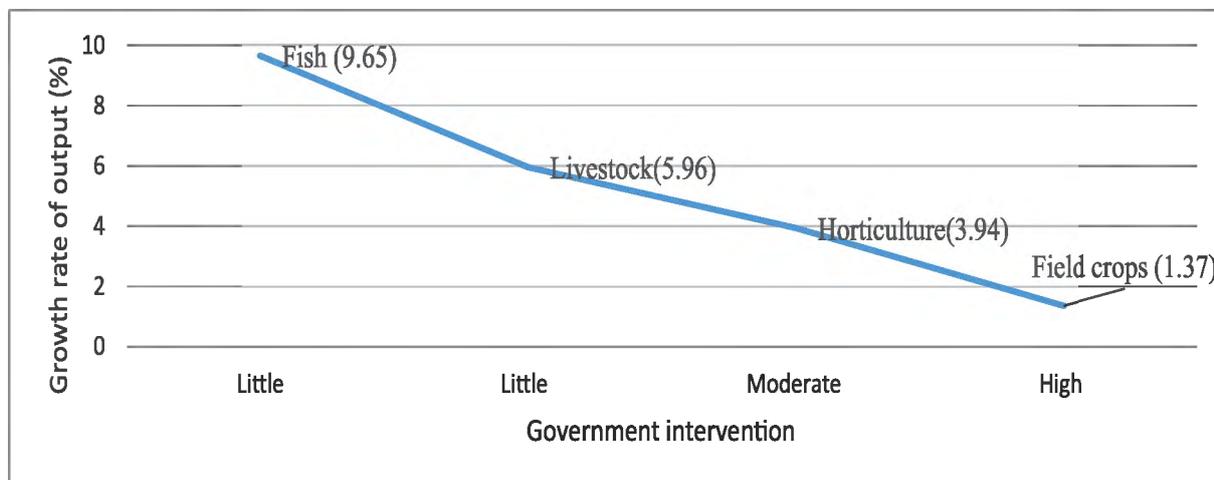
Output Growth in Agricultural Sub-sectors

Sub-Sector	Policies	Government Support	Output Growth 2011-12 to 2018-19 (%)
Fishery	<ul style="list-style-type: none"> • Little or no subsidy. • Foreign direct investment allowed. • Some institutional support 	Very low	9.65
Livestock	<ul style="list-style-type: none"> • Milk and Milk Product Order, 1992 (MMPO) liberalised. • No restrictions on private investments in milk plants. • No market regulation. • Co-operatives, milk plants, private agents procure directly from farmers directly. Little or no subsidy. 	Very low	5.96
Fruits and vegetables	<ul style="list-style-type: none"> • No price support. Input subsidy given. • Regulated by APMC in some states 	Moderate	3.94
Cereals, oilseeds, pulses (Crops under the minimum support price regime)	<ul style="list-style-type: none"> • Heavily subsidised sector with procurements and MSP. Marketing of products is also over-regulated by APMC Act. Little corporate investment seen in production and marketing 	Very high	1.37

Figure 3 underlines the fact that putting more resources into subsidies and support to farmers does not lead to higher growth. Highly controlled and supported sub-sectors like cereals, oilseeds and pulses exhibit very little growth in contrast to liberalised and low intervention sectors like fisheries, livestock and horticulture.

Source: National Accounts Statistics 2020, output data at 2011-12 prices

Figure 3: Government intervention vis-a-vis growth rate of output between 2011-12 and 2018-19 in various agricultural sectors



Source: National Agricultural Statistics 2020, output data at 2011-12 prices

Policy Proposals in Union Budget 2020-21

- The Union Government will encourage State Governments to legislate and implement model laws relating to land leasing, agricultural produce and livestock marketing, and contract farming.
- The Union Government will provide viability gap funding for setting up warehouses at the block/taluk level. A village storage scheme has been proposed to be run by self-help groups.
- Kisan Rail' with refrigerated coaches will be started to build a seamless national cold supply chain for perishables. 'Krishi Udaan' will be launched on international and national air routes to help farmers transporting their products that will help improve their value realisation.

Agriculture Exports

The High Level Group (HLEG) on Agricultural Exports² highlighted the following points on agricultural exports:

- India's aspiration to double farmer incomes necessitates a commensurate increase in its

² Report at Finance Commission Website
Growing India's agricultural exports through crop-specific, state-led plans

agriculture output. This increase in output would require a fundamental transformation of the agriculture sector. However, the resultant increase in production would only serve to increase pricing pressure and lower farmer remuneration in a balanced, self-sufficient agriculture market. It is in this context that significant enhancement of agricultural exports becomes a national imperative.

- India has strong natural endowments in agriculture. It is a leading producer of several commodities, including shrimps, spices, mango, papaya, banana, rice, cotton, wheat and sugar. It ranks second in total agricultural production and has the largest population of buffaloes. India exported US\$ 38.7 billion of agricultural commodities in 2019.
- India has seen success with exporting a set of value chains, including rice and shrimp, which comprise a third of India's total agricultural exports. It has competitive advantage in these products and they were specified as value chains of opportunity by the Agricultural and Processed Foods Export Development Authority (APEDA) and the 2018 Agri Export Policy. It is a significant exporter across a variety of commodities and agricultural products, exporting forty commodities and agriculture products, each at over US\$ 100 million of value in 2018 and five commodities/products at over US\$ 1 billion each. A view of India's top agricultural exports in 2018 can be seen in Table 1.

Table 1: Top Indian Agricultural Exports in 2018

Commodities and Products	Export Value in 2018 (US\$ billion)
Rice	7.3
Shrimps, frozen	4.4
Meat of bovine animals, frozen	3.3
Cotton, raw	2.4
Cotton; not carded or combed	2.2
Vegetable saps and extracts	1.0
Sugar	0.9
Fixed vegetable fats and oils	0.9
Cake, soybeans	0.9

- Despite its agricultural advantages, however, India ranks only thirteenth in total value of agricultural exports, lagging behind countries such as Belgium and the Netherlands. India's processed exports have been steadily improving, but it still has a higher global share of raw commodities than processed goods. Vaulting India into an even more competitive export position globally will require changes in productivity, quality, non-tariff barriers, a continuing drop in all factor costs, lower logistics cost and a greater focus on processing and value addition.

Initiatives to Deal with Fallout of Covid-19 Pandemic

I. Agricultural policy reforms

- *The Farming Produce Trade and Commerce (Promotion and Facilitation) Act, 2020:* This Act will result in the long-pending market liberalisation and creation of alternative transaction avenues. It will create an ecosystem where farmers and traders will enjoy freedom of choice in the sale and purchase of agri-produce and promote barrier-free inter-state and intra-state trade and commerce outside the physical premises of markets notified under State Agricultural Produce Marketing legislations. This is a historic step in unlocking the vastly regulated agriculture markets in the country.
- *The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020:* This Act will empower farmers to engage with processors, wholesalers, aggregators, large retailers, exporters etc., on a level playing field without any fear of exploitation. It will transfer the risk of market unpredictability from the farmer to the agents, and also enable the farmer to access modern technology and better inputs. It will reduce the cost of marketing and improve farmers' income. Processors and exporters will, as a result of the agreement with farmers, be able to get the produce of desired quality and quantity at the appropriate time.
- *Amendment to the Essential Commodities Act, 1955:* The amendments to the Essential Commodities (EC) Act, 1955, has taken commodities like cereals, pulses, oilseeds, edible oils, onion and potatoes out of the list of essential commodities. This will reassure private investors that they will not be subject to excessive regulatory interference in their business operations. The freedom to produce, hold, move, distribute and supply will lead to harnessing of economies of scale and attract private sector/foreign direct investment into agriculture-related infrastructure like warehouses, cold storage, logistics and modern food supply chains. The amendment announced will help mop up any glut of commodities in the market and benefit both

farmers and consumers by ensuring price stability. It will create a competitive market environment and also prevent the wastage of agri-produce, which is a serious problem due to lack of storage facilities. A transparent criterion has been specified to invoke the Act for agri food stuff under adverse situations.

II. Stimulus package

- Of the five tranches of fiscal stimulus that the Finance Minister announced to respond to the pandemic, the third tranche included various measures to boost agriculture, strengthen infrastructure logistics and capacity building for the agriculture, fisheries and food processing sectors. A summary of these measures is given in Table 2.

Table 2: Measures to Boost Agriculture in the Fiscal Stimulus Package (Rs. crore)

Item	Amount
Food Micro Enterprises	10000
Pradhan Mantri Matsya Sampada Yojana	20000
TOP to TOTAL: Operation Greens	500
Agriculture Infrastructure Fund	100000
Animal Husbandry Infrastructure Development Fund	15000
Promotion of Herbal Cultivation	4000
Beekeeping Initiative	500
Total	150000

Recommendations of FC-XV in Report for the Year 2020-21

- The income of agricultural workers and farmers remained low and did not keep pace with the growth in the income of non-farm workers. Keeping in view the goal of doubling farmers' income and reducing agrarian distress, we have identified a set of reforms which are central to liberalising agricultural markets, provide for seamless trading, promote competition and catalyse organised investment from the private sector for better growth in agriculture sector.
- The States will be eligible for financial incentives if they enact and implement all features of: (a) Model Agricultural Produce and Livestock Marketing (Promotion & Facilitation) Act issued by the Ministry of Agriculture, Cooperation and Farmers Welfare in 2017, (b) Model Agricultural Produce and Livestock Contract Farming and Services (Promotion & Facilitation) Act, issued by Ministry of Agriculture and

Farmers Welfare in 2018, and (c) Model Agricultural Land Leasing Act, 2016, prepared by the NITI Aayog.

- We recommend that State Governments take preparatory action by securing the passage of these Bills in their respective legislatures in 2020-21 to become eligible to avail the grants awarded from 2021-22 onwards.

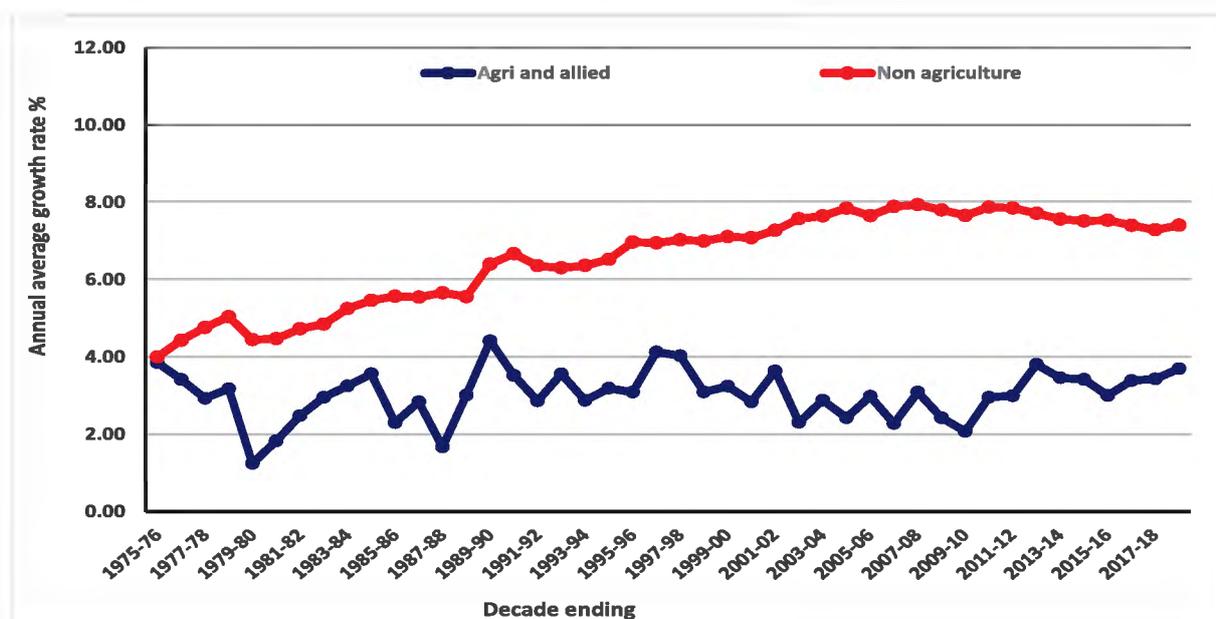
As mentioned earlier, in June 2020, the Union Government announced the implementation of some of these reforms as part of its efforts to mitigate the effects of the Covid-19 pandemic. These will go a long way in helping India's farmers and transforming the agricultural sector.

Challenges

Increasing disparity between agriculture and non-agriculture growth

- Figure 4 shows the divergence in the growth path of output in agriculture and non-agriculture sectors. This low growth, combined with the high dependence on agriculture for livelihood is the prime reason for the low income of farmers. Figure 5 shows the annual income of non-agricultural workers and agricultural cultivators. The ratio between the two was 2.983 in 1983-84 and rose to 3.157 in 2011-12. The low level of absolute income for farmers as well as increasing disparity between the income of farmers and non-agricultural workers can become an important reason for farmer distress.

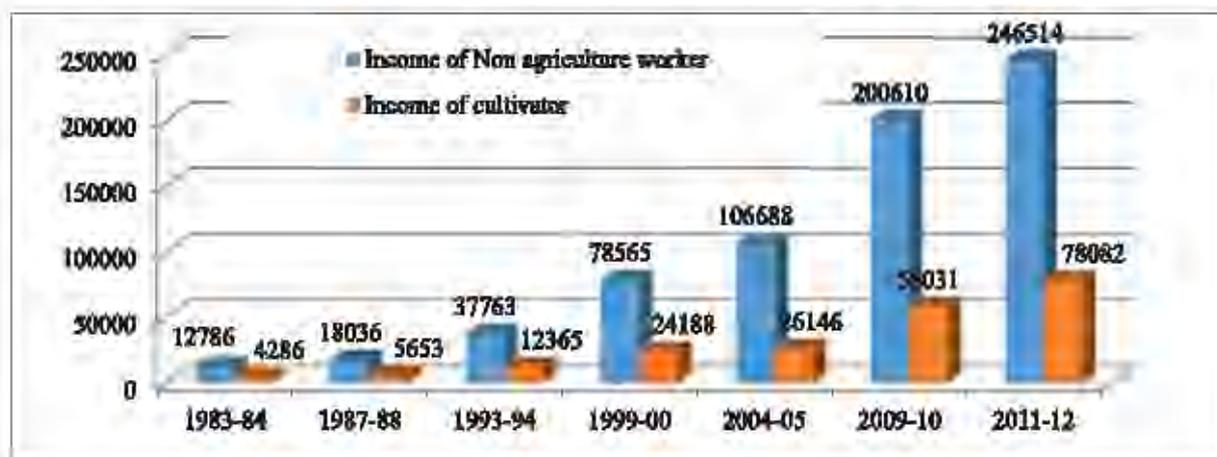
Figure 4: Annual Growth Rate in Agriculture and Non-Agriculture Sectors



Source: National Accounts Statistics

Figure 5: Annual Income Per Cultivator and Non-Farm Worker

(Rs. at current prices)



Source: National Accounts Statistics

Burden of agricultural subsidies is increasing with less than proportionate benefits

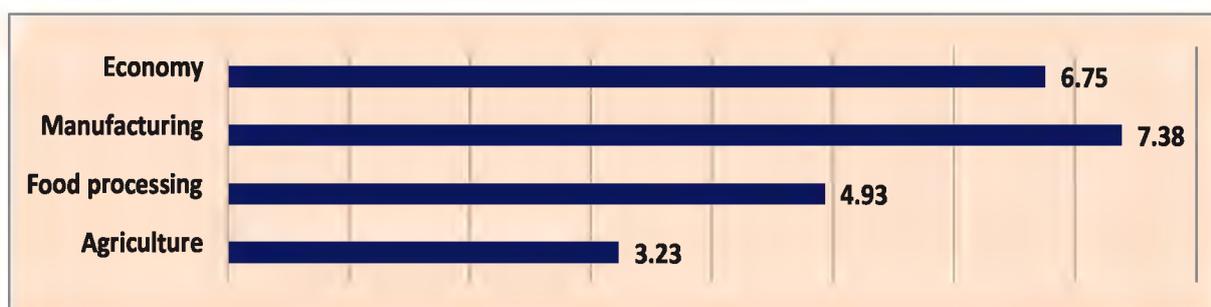
- A study done by Indian Statistical Institute for the FC-XV calculated the annual Union Government subsidies to farmers to be of the order of Rs. 120,500 crore. This includes fertilizer subsidies (Rs. 70,000 crore, 2017-18), credit subsidies (Rs. 20,000 crore, 2017-18), crop insurance subsidies (Rs. 6,500 crore, 2018-19) and expenditures towards price support (Rs. 24,000 crore estimated for 2016-17). Annual State Government subsidies are almost of an equal amount – Rs. 115,500 crore, which is the sum of power subsidies (Rs. 90,000 crore, 2015-16), irrigation subsidies (Rs. 17,500 crore, 2013-14) and crop insurance subsidies (Rs. 6,500 crore, 2018-19). In addition, State Governments announced loan waivers in 2017-18. Overall farm subsidies are estimated at 2-2.25 per cent of GDP.
- As stated earlier, higher intervention in agriculture products have not led to higher growth. Besides this, subsidies have other adverse impacts:
 - ◊ *Price interventions* create inefficiencies because they generate incentives for corruption, diversion and waste.
 - ◊ *Power subsidies* imperil the already stretched groundwater resources by the overuse of motor pumps and adversely affect the sustainability of natural resources.
 - ◊ *Credit or interest subsidies* have a weak rationale. Formal sector interest rates have not been a constraint to increasing access to formal sector lending institutions. These subsidies would be better spent in strengthening the credit infrastructure and rural banking.

- ◇ *Loan waivers* not only have serious implication for state fiscal resources and banking health but also encourage farmers to default in future.

Slow growth of food processing sector

- The growth rate of the food processing sector has been dismal for some years and picked up recently. This can be attributed to various policy factors. Figure 6 shows that the average growth rate of the food processing sector was 4.93 per cent from 2012-13 to 2018-19, which is much lower than the economy's growth rate. An important reason for this is that farmers do not get an attractive market for their produce and processors do not get assured supply. Thus, linking processors with producers (farmers) through contract farming or market liberalisation has vast scope to raise output and farm income.

Figure 6: Average Growth Rate (%) in GVA - 2012-13 to 2018-19



Source: National Accounts Statistics

Small and marginal farmers

- Indian agriculture is dominated by marginal and small farmers, who suffer serious disadvantage in terms of scale. Small farm sizes discourage many farmers from opting for diversification into fruits and vegetables mainly because of the price risk and uneconomic lots for marketing. Small farmers are also at a disadvantage in terms of bargaining power in various transactions in the input and output markets.

Low involvement of private sector

- Table 3 shows that that capital investment in agriculture as percentage of gross value added (GVA) was only 13.83 per cent. Out of this, 78 per cent investment came from the household sector while only 2.82 per cent came from the private sector. Involvement of the private sector is important for the modernisation of agriculture. The lack of such involvement is one of the reasons for the low growth of the agricultural sector.

Table 3: Gross Capital Formation (2016-17)

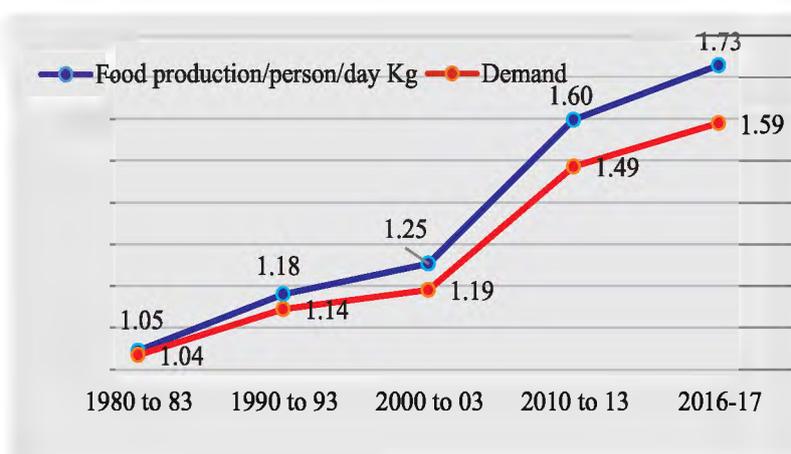
Sector	Capital investment as % of GVA	Share in total gross capital formation in sector (%)		
		Private corporate	Public sector	Households
Agriculture	13.83	2.82	18.75	78.43
Non-agriculture	36.18	46.76	25.77	27.48
Economy	32.17	43.37	25.23	31.41

Source: National Accounts Statistics

Surplus rising but export getting difficult

Figure 7: Food Production and Demand

Figure 7 shows that food surplus in the country has been rising over the years, as the supply has increased far more than demand. At the same time, exports have not been picking up at that pace. One reason for this is that domestic prices of some of commodities are higher than international prices.



Source : National Accounts Statistics

Weak supporting infrastructure

- Agriculture in India is characterised by informal or traditional supply chains that deliver products to local middlemen and then to small local stores. Formal value chains can deliver the same product, usually in better or more uniform quality, to more commercial firms – wholesalers, supermarkets or exporters. The bulk of the produce is sold by farmers in raw form and is taken from the field to the mandi after harvest. This causes a glut in the market and suppresses prices. Farmers do not keep produce for sale in lean months. There is now a provision for warehouse receipt and keeping produce in warehouses registered with the Warehousing Development and Regulatory Authority (WDRA).

- Price crashes are very common in the case of perishables. Absence of on-farm storage facility, lack of scientific method to extend the shelf life and poor processing base in the country are some of the factors behind such price crashes. If market reforms are implemented seriously, it will pave the way for entry of the private sector in agriculture and value chains may then be developed.

Minimum Support Prices

- The Union Government announces MSPs for twenty-two crops – cereals, pulses and oilseeds – in the kharif as well as rabi seasons. This is the price at which public agencies procure agricultural produce in order to keep farm prices from falling below reasonable levels and to meet requirements of the public distribution system, buffer stock and other public objectives.
- While presenting the 2019-20 Union Budget, the Finance Minister announced that MSPs for certain rabi and kharif crops will be set at least at one and a half times the production cost. This production cost, A2+FL, includes costs of inputs such as seeds and fertilizers, hired labour and implied cost of family labour. While MSPs are announced for twenty-two crops, public procurement is limited to a few such as paddy, wheat, cotton and, to a limited extent, pulses and oilseeds. The procurement is also limited to a few states. Three states (Haryana, Madhya Pradesh, and Punjab) which produce 45 per cent of the wheat in the country account for 81 per cent of procurement. In the case of paddy, six states (Andhra Pradesh, Chhattisgarh, Haryana, Odisha, Punjab and Telangana) with 38 per cent of production have 82 per cent share in procurement.
- Other issues with the implementation of MSPs include: (i) low awareness among farmers before the sowing season (according to NITI Aayog, 62 per cent of the farmers were informed of MSPs after the sowing season); (ii) procurement centres being situated far away from farmers' location; (iii) increasing cost of transportation for farmers; and (iv) inadequate storage capacity.
- NITI Aayog noted that the agricultural pricing policy needs to be reviewed to ensure that farmers receive remunerative prices for their produce. Farmers are often forced to engage in distress sales and selling below MSP.

Suggested Reforms and Way Forward

State Governments need to adopt governance reforms

- Policies have a strong effect on farmers' income and create an environment for harnessing opportunities and potential technologies. The Union Government has already initiated some of the policy and governance reforms, as noted earlier in this chapter. As agriculture is a State subject, State Governments need to be proactive as well and work in coordination with the Union Government to promote reform in agriculture sector.
- Two important policy reforms that need to be implemented by State Governments are:
 - i. **Land leasing laws:** There is need for a new land leasing legislation on the lines of the Model Agricultural Land Lease Law proposed by NITI Aayog. State legislatures should enact this legislation on similar lines.
 - ii. **Forestry on private land:** Remove restrictions on felling and transit of trees. Allow timber and wood based industry, in line with the guidelines issued by the Ministry of Environment and Forests.
- Land reforms should also include computerisation and updating of land records and geo tagging of land parcels with revenue records, as has been done by Karnataka, and move from the present system of presumptive land titling to exclusive land titling.

Linking production to processing

- Linking processors with producers (farmers) through contract farming or market liberalisation has vast scope to raise output and farm income. Food parks need to be developed to enhance the potential of this sector. The food processing industry is much more labour-intensive than other industries. Promoting food processing in rural areas will thus generate more employment and help in shifting the workforce from agriculture to industry.

Promoting Farmers Produce Organisations

- Farmers Produce Organisations (FPOs) should be encouraged and promoted to enable the farmers to reduce transaction costs, access technology, raise bargaining power and integrate with value chains. This will help in raising the income of small holders by increasing production and linking them to the market and will also address the problems of small and marginal farmers.

Increase in agricultural productivity

- Productivity of most crops is low and there is considerable scope to raise this. Barring wheat, the productivity of other crops is below the world average and much lower than in agriculturally advanced countries. Enhancing access to irrigation and technological advancement are the most potent instruments for raising agricultural productivity and production. This will require state-of-the-art technologies starting from seeds and covering the entire production chain.
- There is an urgent need to strengthen the system of agricultural research and development (R&D). Public R&D institutions should be supported to develop capacity in areas of agricultural technologies. Also, scientific knowledge should be disseminated to farmers through modern methods of extension and an enabling environment for the adoption of new technologies should be created.
- Pending projects under the Pradhan Mantri Krishi Sinchai Yojana should be completed at the earliest.

Diversification towards high-value crops

- Diversification towards high-value crops offers immense scope to improve farmers' income. The staple crops (cereals, pulses, oilseeds) occupy 77 per cent of the total or gross cropped area (GCA) but contribute only 41 per cent of total output of the crop sector. On the other hand, high-value crops (fruits, vegetables, fibre, condiments and spices and sugarcane) contributed almost the same value of output, even though they occupied only 19 per cent of GCA during 2013-14. Average productivity of high-value crops, after adjusting for cropping intensity variations, was estimated at Rs. 1,14,777 per hectare as compared to Rs. 41,169 per hectare for the staple crops. With this differential in productivity, shifting one hectare area from staple crops to commercial high-value crops has the potential to increase gross returns up to Rs. 1,01,608 per hectare. Hence, State Governments need to undertake programmes to shift the focus of farmers to high-value crops.

Shifting cultivators to non-farm and subsidiary activities

- According to the Periodic Labour Force Survey (PLFS) 2017-18, about 55 per cent of the male workers and 73.2 per cent of the female workers in usual status in rural areas were employed in the agricultural sector. On the other hand, agriculture contributes only 39 per cent of total rural net domestic product (NDP). This shows over-

dependence of the workforce on agriculture with significant underemployment. Hence, there is need for employment diversification by improving employment opportunities in the non-farm sectors.

Rationalisation of subsidies

- A policy shift is needed from price subsidies and farm loan waivers to income subsidies like PM-KISAN. State Governments need to adopt such policies.
- Free power for agriculture has not only impacted the fiscal health of the power sector but has become serious sustainability concern with the overdrawn of ground water leading to a falling water table. States must take strong measures to check this, including direct benefit transfer of power subsidy instead of free power. Also, States may incentivise farmers to adopt drip irrigation and shift away from water-intensive crops in affected areas.

Investment in agriculture research

- Studies have shown that return on research investments in agriculture is very high. As already noted, DARE receives only about 6 per cent of the total budget of the Ministry of Agriculture. There is need for quality research in areas like productivity of edible oil, anti-microbial resistance, precision farming, digital agriculture and modernisation of crop breeding. Hence, the Union Government needs to enhance investment in agricultural research. This is also central to increasing productivity of crops and increasing farmers' income in the long run. The Indian Council of Agricultural Research (ICAR) and State Agricultural Universities are the two pillars of public sector R&D. Many State Agricultural Universities are starved of funds. Similarly, extension systems have weakened in most states and need to be revamped.

Strengthening of the 16 action points

- In the Union Budget of 2020-21, sixteen action points were put forward to focus on farmers' income, storage, blue economy and animal husbandry. To boost storage and logistics, creation of warehouses through viability gap funding on a public-private-partnership mode at block level, Kisan Rail and Krishi Udaan were started. Under Blue Economy, a framework for the development, management and conservation of marine fishery resources and promotion of algae, sea weed and cage culture to assist in raising fish production are being promoted. Measures are being undertaken to facilitate

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doubling of milk processing capacity from 53.5 million metric tonnes to 108 million metric tonnes by 2025.

- As part of the fiscal stimulus package to cope with the Covid pandemic, the Union Government gave further boost to these measures. These need to be strengthened to diversify the risk of farmers and increase their income.

FC-XV recommendations in its final report

- We recommend that Rs. 45,000 crore be kept as performance-based incentive for all States to encourage them to carry out agricultural reforms for the award period based upon four parameters as mentioned in Chapter 10 of Volume I. Its distribution over States, based on gross value added in agriculture in each State. NITI Aayog will be the nodal agency for monitoring and reporting progress of the indicators in each State and recommend the release of performance-based reward on the basis of annual assessment.

Chapter 3

Department of Commerce

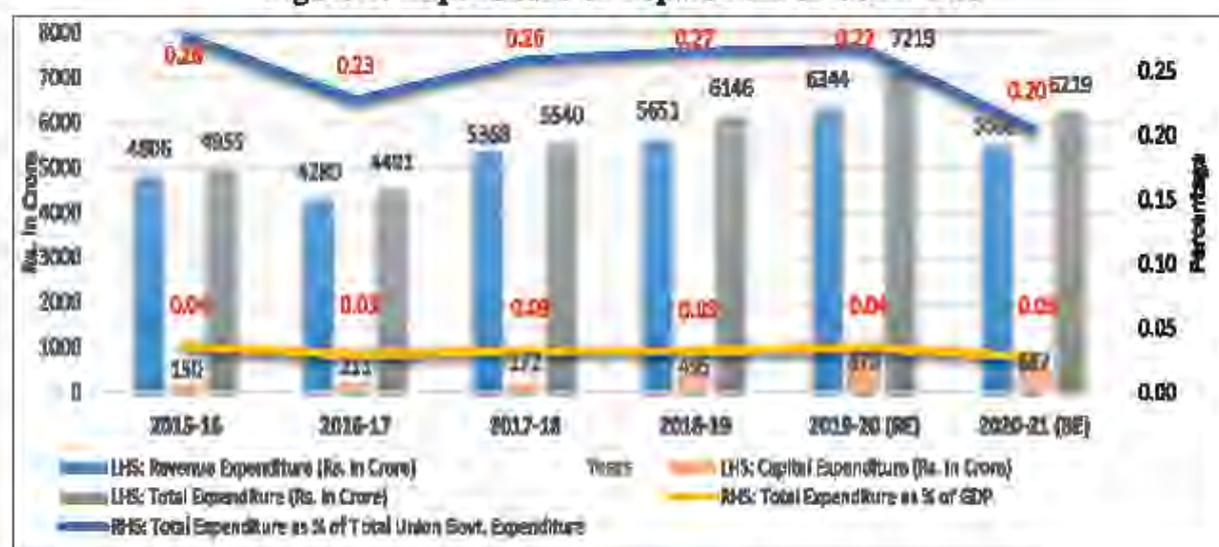
The Department of Commerce formulates, implements and monitors the Foreign Trade Policy which provides the basic framework of policy and strategy for promoting exports and trade. The Foreign Trade Policy is periodically reviewed to incorporate changes necessary to take care of emerging economic scenarios in both the domestic and international economies. Besides, the Department is also entrusted with responsibilities relating to multilateral and bilateral commercial relations, special economic zones, state trading, export promotion and trade facilitation and the development and regulation of certain export-oriented industries and commodities.

As the Indian economy approaches the US\$ 5 trillion mark, the nation should aspire to touch the US\$ 1 trillion figure in exports. Recognising the enormous potential and opportunity which the export sector presents, the Government of India needs to pursue a comprehensive and focussed strategy aimed at encouraging innovation, skill development, harmonising domestic quality standards and infrastructure upgradation as well as implementing cross cutting domestic reforms in order to enhance competitiveness and make India a global trade hub.

Overall Profile of the Department

1. The Union Budget, 2020-21 allocated Rs. 6,219 crore to the Department of Commerce. This represents 0.20 per cent of the Union Government's total budget and 0.03 per cent of estimated gross domestic product (GDP) for 2020-21. Figure 1 shows the year wise allocation of the Ministry.

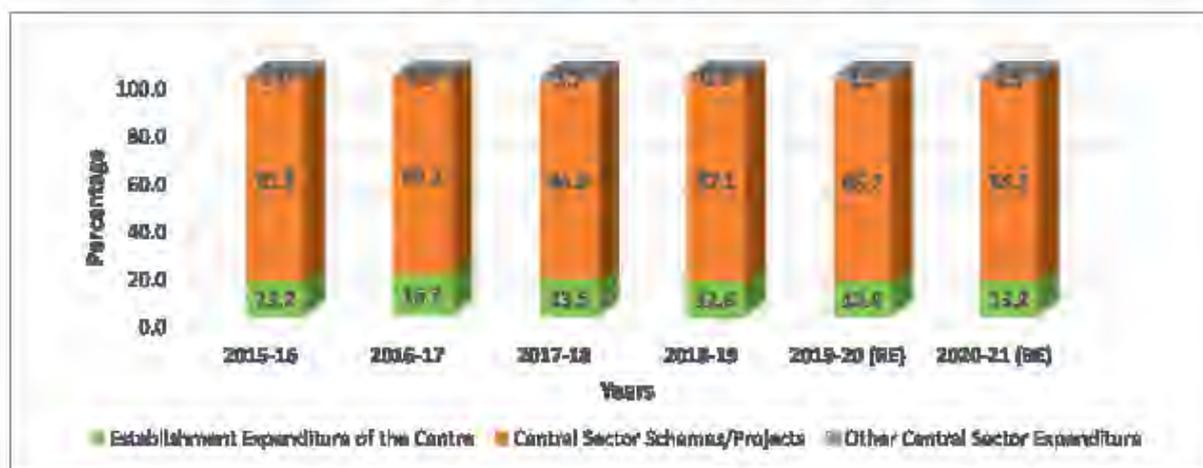
Figure 1: Expenditure of Department of Commerce



Source: Union Budget and COO

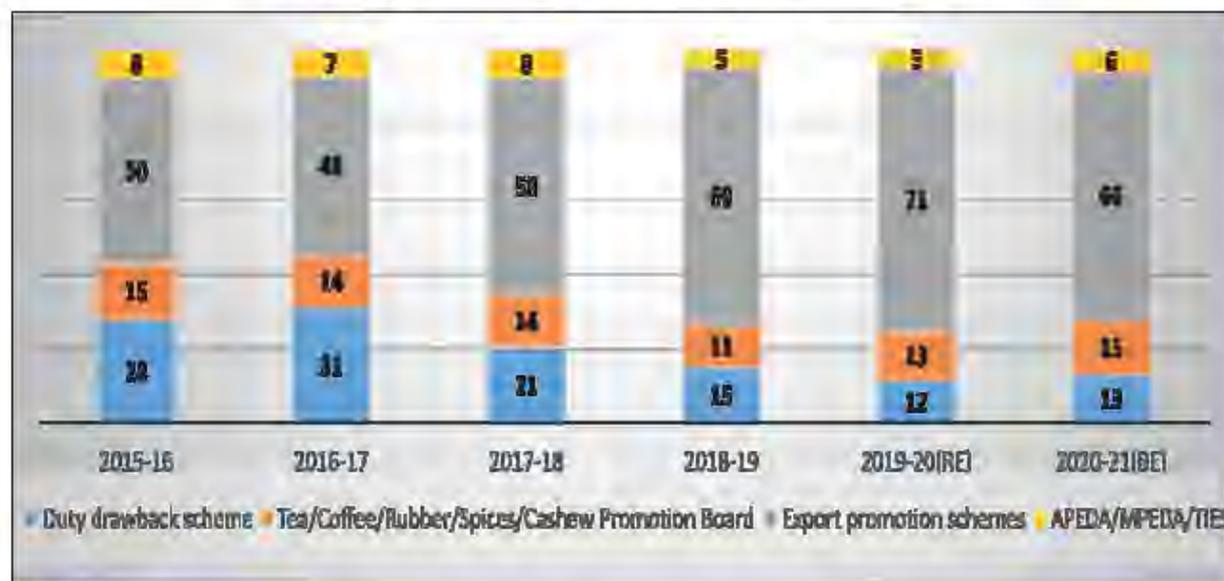
- Figure 2 indicates the head-wise expenditure of the department. Almost 85-86 per cent of the department's expenditure is on Central sector schemes. Figure 3 shows the break-up of spending on these schemes from 2015-16 to 2020-21 (BE). The bulk of expenditure is on the export promotion schemes.

Figure 2: Head-wise Expenditure (%)



Source: Union Budgets

Figure 3: Spending on Central Sector Schemes (%)



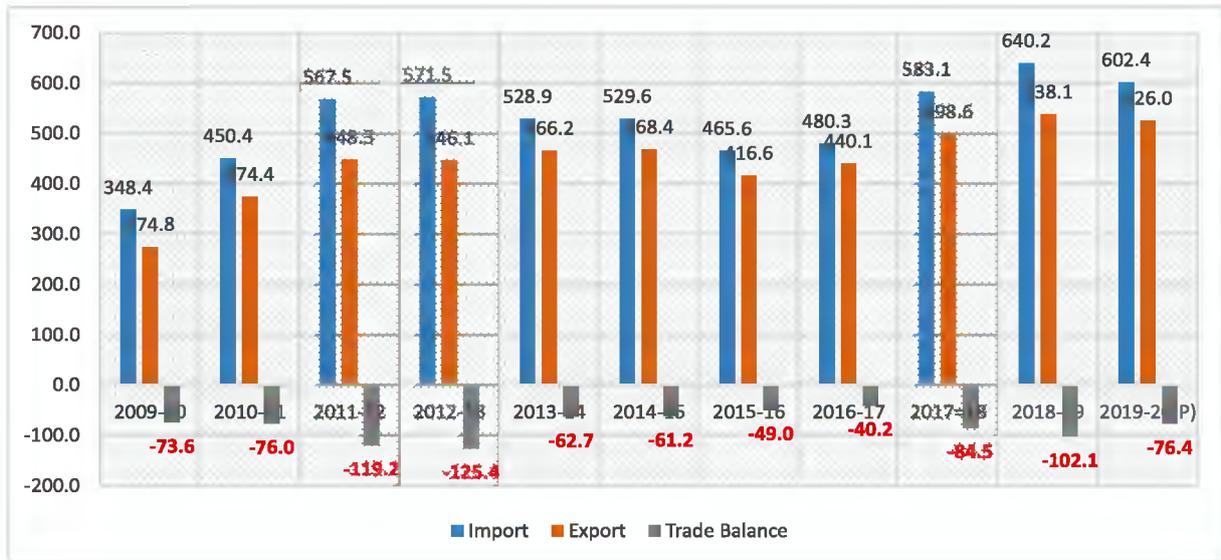
Note : APEDA: Agricultural and Processed Food Products Export Development Authority

MPEDA : Marine Products Export Development Authority

TIES : Trade Infrastructure for Export Scheme

3. Figure 4 indicates the overall trade balance of India in the recent years, while Figure 5 and Figure 6 give a disaggregated view. It can be seen from Figure 6 that though net trade in services is always positive, the overall trade in India is in deficit mainly due to deficit in merchandise trade (Figure 5).

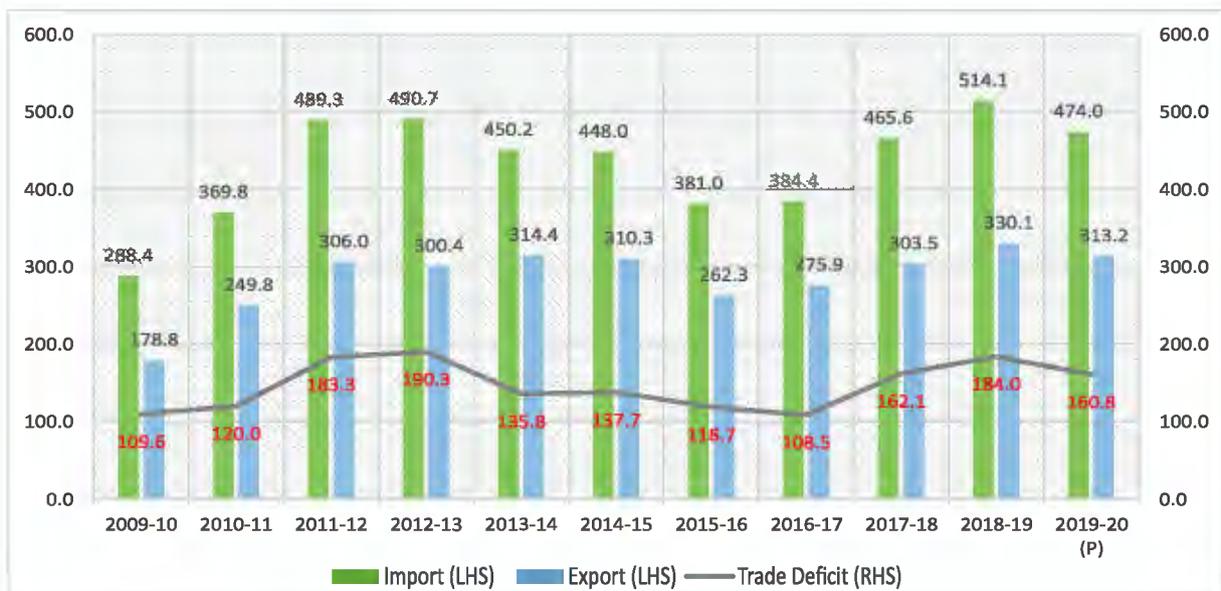
Figure 4: Trend in Overall Trade (US\$ billion)



Source: Ministry of Commerce and RBI (Monthly Bulletins)

Note: P: Provisional

Figure 5: Trend in Merchandise Trade (US\$ billion)



Source: Ministry of Commerce and RBI (Monthly Bulletins)

Note: P: Provisional

Figure 6: Trend in Services Trade (US\$ billion)



Source: Ministry of Commerce and RBI (Monthly Bulletin)

Note: P: Provisional

4. Table 1 indicates the top ten commodity exports and imports from India. Table 2 indicates the top ten export destinations and sources of imports of India.

Table 1: India's Merchandise Trade (Commodity-wise)

Exports of Top Ten Commodities in 2018-19						Imports of Top Ten Commodities in 2018-19					
In US\$ billion						In US\$ billion					
Rank	Commodity	Apr-Mar	Apr-Mar	Growth	Share	Rank	Commodity	Apr-Mar	Apr-Mar	Growth	Share
		2018	2019	(%)	(%)			2018	2019	(%)	(%)
1	Petroleum products	37	47	24.3	14.1	1	Petroleum: Crude	87	114	30.5	22.2
2	Pearl, precious, semi-precious stones	26	26	0.4	7.9	2	Gold	34	33	-2.2	6.4
3	Drug formulations, biological	13	14	11.5	4.4	3	Pearl, precious, semi-precious stones	34	27	-21.0	5.3
4	Gold and other precious metal jewellery	13	13	1.1	3.9	4	Petroleum products	21	27	26.3	5.2
5	Iron and steel	11	10	-13.4	3.0	5	Coal, coke and briquettes etc.	23	26	14.3	5.1
6	Organic chemicals	7	9	30.6	2.8	6	Telecom instruments	22	18	-18.0	3.5
7	RMG Cotton incl. accessories	9	9	2.2	2.6	7	Electronics components	10	16	54.6	3.1
8	Motor vehicle/cars	8	9	0.3	2.6	8	Organic chemicals	12	14	14.7	2.8
9	Electric machinery and equipment	7	8	25.6	2.6	9	Iron and steel	10	13	20.6	2.5
10	Products of iron and steel	7	7	7.2	2.2	10	Industrial machinery for dairy etc.	10	12	19.0	2.4

Table 2: India's Merchandise Trade (Country-wise)

Values in US\$ billion						Values in US\$ billion					
Rank	Country	Apr-Mar	Apr-Mar	Growth (%)	Share (%)	Rank	Country	Apr-Mar	Apr-Mar	Growth (%)	Share (%)
		2018	2019					2018	2019		
1	United States	48	52	9.5	15.9	1	China	76	70	-7.9	13.7
2	United Arab Emirates	28	30	7.0	9.1	2	United States	27	36	33.6	6.9
3	China	13	17	25.6	5.1	3	United Arab Emirates	22	30	37.0	5.8
4	Hong Kong	15	13	-11.5	3.9	4	Saudi Arab	22	28	29.0	5.5
5	Singapore	10	12	13.4	3.5	5	Iraq	18	22	27.0	4.4
6	United Kingdom	10	9	-3.9	2.8	6	Switzerland	19	18	-4.4	3.5
7	Bangladesh	9	9	6.9	2.8	7	Hong Kong	11	18	68.5	3.5
8	Germany	9	9	2.5	2.7	8	Korea RP	16	17	2.4	3.3
9	Netherlands	6	9	40.7	2.7	9	Singapore	7	16	118.1	3.2
10	Nepal	7	8	17.4	2.4	10	Indonesia	16	16	-3.6	3.1

Source: Annual Report, Department of Commerce

5. Table 3 gives the ranking of the world's leading merchandise exporters and importers in 2019. India ranked nineteenth as exporter and tenth as importer.

Table 3: Leading Merchandise Exporters and Importers in 2019

Rank	Exporters	Value (US\$ Billion)	Share (%)	Annual Change (%)	Rank	Importers	Value (US\$ Billion)	Share (%)	Annual Change (%)
1	China	2487	12.8	10	1	United States	2614	13.2	9
2	United States	1664	8.5	8	2	China	2136	10.8	16
3	Germany	1561	8	8	3	Germany	1286	6.5	11
4	Japan	738	3.8	6	4	Japan	749	3.8	11
5	Netherlands	723	3.7	11	5	United Kingdom	674	3.4	5
6	Korea, Rp	605	3.1	5	6	France	673	3.4	9
7	France	582	3	9	7	Netherlands	646	3.3	12
8	Hong Kong, China	568	2.9	3	8	Hong Kong, China	628	3.2	6
9	Italy	547	2.8	8	9	Korea, Rp	535	2.7	12
10	UK	486	2.5	10					
19	India	325	1.7	9	10	India	511	2.6	14
	World	19451	100	10		World	19867	100	10

Source: World Trade Organization, 2019

Challenges

Overvalued Rupee

- Germany, Japan, Korea and China became export powerhouses not just on the basis of their competitiveness in manufacturing but also by the policy of having a competitive currency exchange rate. Unfortunately, India's political lexicon equates a strong (overvalued) rupee as a symbol of national strength. The real export strength can only be derived from a competitive exchange rate. This is all the more important for India as foreign direct investment (FDI) inflows have tended to make the rupee appreciate and harmed its export competitiveness. Corrections that come later due to high inflation and high trade deficits then tend to be volatile, with sudden sharp drops in exchange rate. Such kind of volatility harms exporters excessively.

Structural Constraints

- There are severe structural constraints on the supply side, resulting in an investment crunch for small-scale manufacturers and exporters on account of:
 - ◇ a high-cost, distorted manufacturing environment with quantitative and qualitative deficiencies in utility, logistics and infrastructure services;
 - ◇ virtual approval processes under ease of doing business initiatives have still not been extended to physical issues of land, power, water, rail, road, port etc.
 - ◇ shortcomings remain in policy, regulatory and operational governance, resulting in high transaction costs at the pre-/post-investment stage, in spite of significant steps towards making doing business easier; and
 - ◇ there is still a need for comprehensive single-window clearance.

Suggested Areas of Reforms

Under the standard expenditure approach, $GDP^3 = C + I + G + X - M$. Maximising X and minimising M is therefore an important element of foreign trade policy. This does not mean complete import substitution. Instead, M should be used as a parameter which does not harm long-term GDP growth and does not hinder job creation opportunities for India's large and growing population.

³GDP = C+I+G+X-M

where: C=Consumer spending on goods and services, I=Investor spending on business capital goods
G=Government spending on public goods and services, X=exports and M=imports

Foreign Trade Policy

- As the Indian economy approaches the US\$ 5 trillion mark, the nation should aspire to touch the US\$ 1 trillion mark in exports. For this, the Foreign Trade Policy should do the following:
 - ◇ Push for establishment of export enclaves/zones near major ports. These should be set up in the 'plug and play' mode so that foreign and domestic investors have easy access to land, power, water and other world-class infrastructure. The labour regulations in these zones should be benchmarked to regulations in similar zones of other countries in order to enable companies located in them to be competitive in world markets.
 - ◇ Enable India to become a part of global value chains. In order to facilitate this, components imported for manufacturing exported items should be zero duty rated. India should ensure that it is not limited to being in the lower end of global value chains. Zero duty on imports required for exports can be misused by such imports being diverted into the domestic tariff area. Therefore, much of the important global value chain integration should happen through the special economic zones, which should ideally be near coastal areas as is the case in China.

Export Powerhouse

- India should strive to become an export powerhouse by addressing the following:
 - ◇ Enable production in large volumes in order to get benefits of economies of scale. This can be done through cluster zones for products and their ancillaries.
 - ◇ Bring down logistics costs of infrastructure and transport. Many products are competitive at factory gates, but not at port prices because of high freight costs. Rail freight rates should be made internationally competitive by ending cross subsidy with passenger fares. Energy and electricity costs must be competitive with competing manufacturing countries.
 - ◇ Bring down capital costs, which are high compared to competing nations. Capital costs of exporters should be at par with the working capital interest rates of their competitors.
 - ◇ Enable industry to build required skills in the labour pool.
 - ◇ Integrate petroleum and electricity into the goods and services tax (GST) at the earliest. Giving input tax credit will further the competitiveness of exports.

Quality Standards

- It is necessary to harmonise domestic quality standards with prevailing global standards. When India manufactures high quality goods for the domestic market, it can scale this for foreign markets as well.

Free Trade Agreements

- It is time to re-examine the costs and benefits to India from free trade agreements (FTAs). If the costs are found to have outweighed the benefits, these FTAs need to be re-negotiated. Quick market surveys should be conducted among major domestic exporters to countries with which India has FTAs. If it is found that these companies are not able to export at the preferential tariffs but at the most favoured nation (MFN) rates, then the product tariffs of imports from those countries should also be calibrated at the MFN, and not FTA, rates.

Promoting Services of Human Capital and Medical and Tourism

- As indicated earlier (Figures 4, 5 and 6), India has had a services trade surplus and this has played a crucial role in bringing down the overall trade deficit. The services sector has enormous potential and effective policy formulation and implementation can provide huge benefits in this sectors. Some of the reform measures are:
 - ◇ Re-imagine India's ancient ability to attract foreign students and scholars and leverage the country's significant comparative advantages in high-quality education at reasonable cost. Instead of Indian students going abroad for higher education, India has the ability to become a hub for medical, engineering, management and social sciences education. Opportunities should be opened up for private – domestic and foreign – investment in education under the oversight of the University Grants Commission and other regulators.
 - ◇ Aggressively leverage India's competitive strengths in the medical sector. Indian services must become synonymous with “highest quality at most competitive costs”.
 - ◇ Promote Indian services exports in health and tourism, among other sectors, by dismantling all vestiges of visa raj. Visa on arrival from all countries, except for a limited negative list, must be promoted. Visa fees should be kept low; the revenue lost from low rates would be more than made up by an increase in tourist arrival. Long-term (ten-year) multiple-entry visas should be the rule rather than an exception.

- ◇ Build world-class R&D capabilities in emerging and potential areas. FDI should be fully leveraged in this area and collaborations between academia and domestic manufacturers should be encouraged. An aggressive approach to patents should be adopted to protect intellectual property rights.

Oil and Coal Imports

- Crude oil and coal are among the top ten items of import. A focused approach is required to reduce imports of these commodities by switching increasingly to solar wind and hydropower.

Agricultural Exports

- The High Level Group (HLEG) on Agricultural Exports⁴ has stressed that it is important to encourage agriculture exports. These have a very high component of value addition. Even in cases of domestic price spikes there should be no ban/control on agriculture exports, as this is an anti-farmer policy.
- India's aspirations regarding increasing agriculture exports from US\$ 40 billion to US\$ 100 billion are well suited to capture the opportunity offered by global food and agriculture trends. The HLEG estimates that this will have an impact on the domestic agriculture market and result in meaningful job creation. The HLEG, after extensive consultations, recommended that India can almost double its agriculture exports by:
 - ◇ Prioritising twenty-two crop value chains with potential competitive advantage and establish lighthouses in seven crop value chains (rice, shrimp, spices, buffalo meat, fruits and vegetables, vegetable oil and wood), with a focus on the United States, European Union and the Gulf and West Asia regions.
 - ◇ Implementing State-led crop value chain clusters, dedicated to a single-crop value chain within the State. This will be designed as a comprehensive ecosystem of producers, farmer produce organisations (FPOs), agri-businesses, financiers, commodity boards, Union and State Governments and agencies, complemented by country-level interventions in destination markets.
 - ◇ Building high-quality, well-funded State-led value-chain specific export plans that bring all stakeholders together, converge resources and are anchored by the private sector.

⁴Report at Finance Commission Website
Growing India's agricultural exports through crop-specific, state-led plans

- ◇ Setting up a two-part Union-State institutional framework with the right governance mechanism to evaluate, track and monitor these plans. The State Governments will identify clusters, attract private investors, develop and operationalise plans while ensuring convergence of all Union and State schemes related to agricultural exports to ensure adequate funding and provide residual funding, where necessary. The Union Government can also align with the State Governments and support their efforts. It will also evaluate and approve the plans, while providing oversight and inter-ministerial coordination and provide any additional funding.

Other Reforms

- Give 'infant industry tariffs' for emerging environmental goods like solar power panels and modules, lithium ion and other emerging large storage batteries. FDI policies should be kept very liberal in all emerging sectors, but the sector needs to be incentivised by having moderate tariffs to support Make in India efforts.
- Dismantle the Export Promotion Capital Goods (EPCG) scheme, since India no longer has prohibitive tariffs on capital goods imports. This will boost domestic manufacturing companies and avoid the over-invoicing problems that were associated with EPCG.
- Build sector- and product-specific strategies in conjunction with export councils. In the pharmaceuticals sector, strategic security interests should be used to build Active Pharmaceutical Ingredient (API) bulk manufacturing of “mother drugs” capabilities for further pharma formulations. Indian manufacturing has scale advantages in vaccines and this should be used to make India the export leader in the world for vaccines.

Chapter 4

Department of Drinking Water and Sanitation

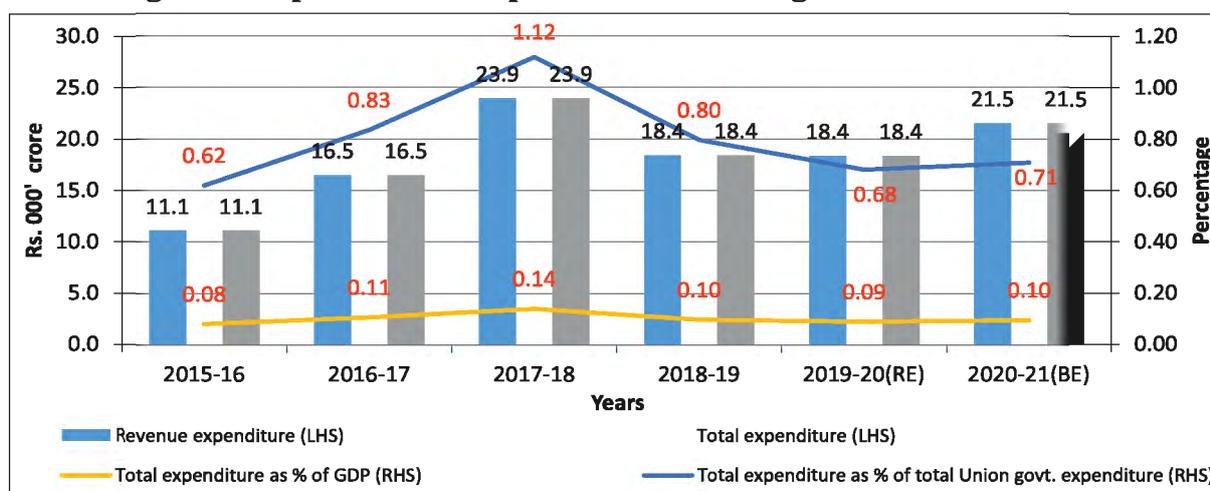
The Department of Drinking Water and Sanitation (DoDWS) is responsible for two flagship programmes: the National Rural Drinking Water Programme (NRDWP) for rural drinking water supply (now restructured and subsumed under Jal Jeevan Mission) with an aim to provide functional household tap connection to every rural household, and the Swachh Bharat Mission (Grameen) for sanitation. The subjects of drinking water and sanitation are part of the State List of the Constitution.

The Department has played a pivotal role in India's progress towards SDG-6 to ensure availability of clean water and sustainable management for sanitation for all. Greater reliance on surface water for piped water supply to households, dedicated funds for ensuring piped water supply in aspirational districts, making the open defecation free status sustainable through provision of piped water supply and need to shift focus towards ODF Plus, should be part of the Department's future strategy.

Overall Profile of the Department

1. The Department of Drinking Water and Sanitation in the Ministry of Jal Shakti is responsible for two flagship programmes: the National Rural Drinking Water Programme (NRDWP)/Jal Jeevan Mission (JJM) for rural drinking water supply and the Swachh Bharat Mission (Grameen) (SBM-G) for sanitation.
2. The budget allocation for the DoDWS in 2020-21 is Rs. 22,000 crore, which is 0.71 per cent of the Union Government's total budget and 0.1 per cent of estimated gross domestic product (GDP) (Figure 1).

Figure 1: Expenditure of Department of Drinking Water and Sanitation



Source: Union Budgets and CSO

Figure 2: Scheme-wise Expenditure on CSS (in %, 2018-19)

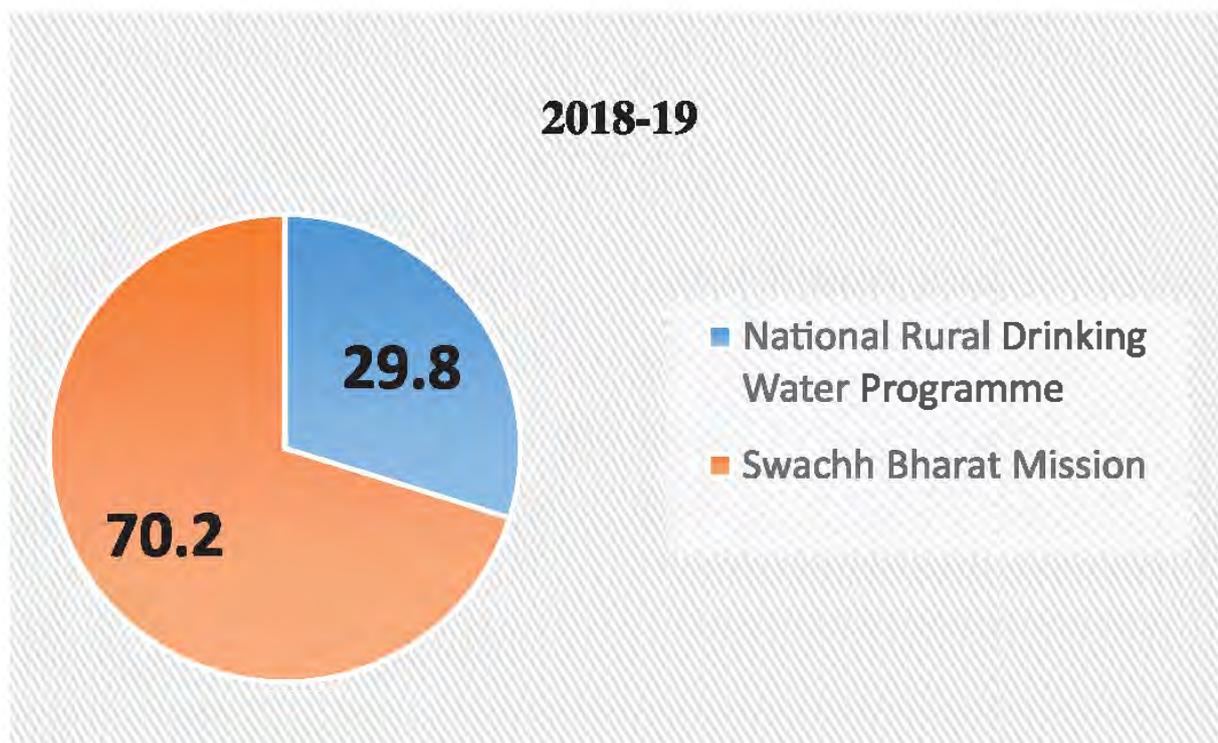


Table 1 : Expenditure on CSS by Department as a % of Union Government Expenditure on CSS

Years	Percentage
2015-16	5.4
2016-17	6.8
2017-18	8.4
2018-19	6.2
2019-20 (RE)	5.8
2020-21 (BE)	6.3

Source: Union Budgets

Key Achievements of CSS

Sanitation (Swachh Bharat Mission-Grameen)

- Large-scale behavioural change, construction of household-owned and community-owned toilets and established mechanisms for monitoring toilet construction and usage.
- Thirty-two States/Union Territories have been declared ODF, as of 2 October 2019. No State had this status on 2 October 2014.
- As of 6 August 2019, 99.86 per cent of rural households had access to toilets.

Drinking Water (Jal Jeevan Mission)

- As of 29 July 2020, 25.17 per cent households had a functional tap connection.
- As of 19 September 2019, 1.1 per cent of rural habitations have been fully covered with 40 litres per capita per day (lpcd) of water supply and 15.6 per cent households have been partially covered.
- As of 19 September 2019, 18.3 per cent of rural households have been covered with piped water supply.

Sustainability of the decentralised drinking water and sanitation programme : Water falls under the State list of the Constitution and active participation of States is crucial for the success of the mission to provide clean drinking water. In order to improve the sustainability of resources and systems, the Government of India has embarked on an ambitious programme of demand-led delivery of water and sanitation. The central principles of the programme are:

- Local government and communities will plan, implement, operate and manage water supply schemes.
- State Government's role will shift from that of service provider to facilitator.
- Gram Panchayats and user groups will be empowered.
- Consumers will be brought on board to pay for a certain minimum level of service such that a portion of the capital cost and all future recurrent costs are covered.

Source : Strategy Plan of Jal Shakti, 2011-2022

Key Suggestions by the Department

- Fifty per cent of the Finance Commission grants to panchayati raj institutions for water supply and sanitation should be placed with the DoDW&S in order to achieve the targets of JJM.
- To achieve drinking water security, DoDW&S requires Rs. 82,000 crore as part of 'sectoral allocation for infrastructure development'.
- Finance Commission grants to urban local bodies should be linked with outcome and performance and be placed with the Ministry of Housing and Urban Affairs.
- Fifty per cent of untied Finance Commission grants to panchayati raj institutions may be placed with the Ministry of Panchayati Raj for other works as requirement dictates and based on gross state domestic product. The grant of funds should be linked with performance.

Box 1: Grants by Finance Commissions

	Purpose of Grants¹	States (Amount of Grants in Rs. crore)
FC-XII	Provision of safe drinking water	Andhra Pradesh (325), Himachal Pradesh (38), Rajasthan (150), West Bengal (600)
FC-XIII		Andhra Pradesh (550), Gujarat (200), Haryana (400), Himachal Pradesh (150), Karnataka (300), Meghalaya (50), Rajasthan (500), Sikkim (20)
FC-XIV	Sector-specific and State-specific grants not given.	
In addition, FC-XII and FC-XIV recommended that local bodies grants should strengthen, among other things, water supply and sanitation sectors.		
FC-XV (FY 2020-21)	Grants to rural local bodies (Rs. 60,750 crore), 50 per cent basic and 50 per cent tied to: a) sanitation and maintenance of ODF status and (b) supply of drinking water, rain water harvesting and water recycling.	
FC-XV (FY 2021-26) (Volume I, Chapter 7)	Grants to rural local bodies (Rs. 2,36,805 crore). To supplement the resources needed to fulfil national priorities, 60 per cent of the grants to rural local bodies is tied to supporting and strengthening the delivery of two categories of basic services: (a) sanitation and maintenance of ODF status; and (b) drinking water, rain water harvesting and water recycling.	

¹Specific grants recommended only for drinking water supply schemes (rural, urban or both) have been mentioned. In addition, the grants had also been recommended for irrigation schemes or for drinking water/sanitation as a subset of various defined purposes (wherein their exact shares cannot be calculated).

International Perspective

Figure 3a: – Drinking Water^{2,3}

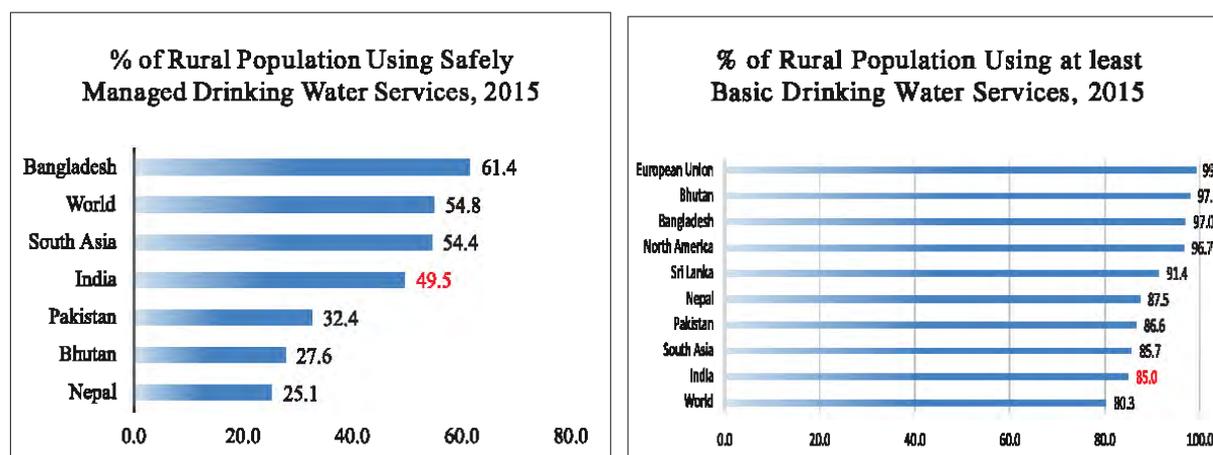
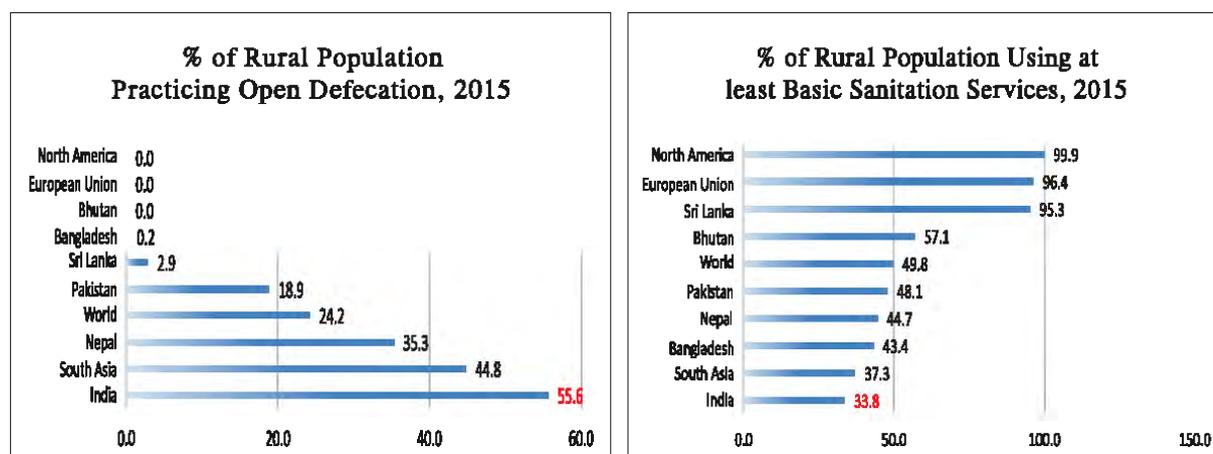


Figure 3b: - Sanitation^{3,4}



²Data sourced from World Bank. Data pertains to FY 2015 after which India has implemented two flagship programmes to address the issue.

³*Safely Managed Drinking Water Services*: It captures the percentage of people using drinking water from an improved source that is accessible on premises, available when needed and free from faecal and priority chemical contamination. Improved water sources include piped water, boreholes or tubewells, protected dug wells, protected springs and packaged or delivered water. *Basic Drinking Water Services*: It encompasses both people using basic water services as well as those using safely managed water services. Basic drinking water services is defined as drinking water from an improved source, provided collection time is not more than thirty minutes for a round trip.

⁴*Safely Managed Sanitation Services*: It captures percentage of people using improved sanitation facilities that are not shared with other households and where excreta are safely disposed of in-situ or transported and treated offsite. Improved sanitation facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines: ventilated improved pit latrines, composting toilets or pit latrines with slabs. *Basic Sanitation Services*: The percentage of people using at least basic sanitation services, that is, improved sanitation facilities that are not shared with other houses. This indicator encompasses both people using basic sanitation services as well as those using safely managed sanitation services.

Linkage Between 'Wash' Practices and Economic/Health Outcomes

Economic Impact

- According to a World Bank study in 2011, inadequate sanitation caused India economic losses equivalent to 6.4 per cent of GDP in 2006 (US\$ 53.8 billion).
- A 2016 study by Oxford Economics estimated that India lost almost 5.2 per cent of GDP due to poor access to sanitation.
- An International Monetary Fund research study in 2017 has shown that improving public sanitation in India reduces the time spent by women in household and childcare work by close to 10 per cent and increases their labour force participation by 1.5 percent.

Impact on Health

- A study conducted in rural areas of five Indian states by the Bill & Melinda Gates Foundation has revealed both significant reduction in diarrhoea prevalence and improvement in nutrition among children in ODF areas as compared to otherwise similar non-ODF areas. This study also indicates that more women in ODF areas have normal body mass index as compared to their counterparts in non-ODF areas.

Figure 4: Annual Benefits of 100% Toilet Usage (Rs.)



- In terms of faecal contamination from human origin, UNICEF has estimated that non-ODF villages in India are, on average, 12.7 times more likely to have their groundwater sources contaminated, 1.1 times more likely to have their soil contaminated, 2.16 times more likely to have food contaminated and 2.48 times more likely to have household drinking water contaminated.

- According to UNICEF, on an average, households in ODF villages save Rs. 50,000 a year and that there is an additional one-off benefit of rise in property value of Rs. 18,991 per house.

Challenges

- The Covid-19 pandemic has underlined the criticality of the drinking water and sanitation sector. Greater emphasis has been laid on working towards ensuring availability of safe drinking water supply and sanitation services to protect human health during all infectious disease outbreaks. There are, however, issues that need to be addressed.

ODF sustainability

- There is need to sustain the behaviour change of people in terms of using toilets. Several studies have revealed that people still practice open defecation despite having access to toilets. The incidence of partial usage of toilets is high.
- The provision of adequate water supply to toilets, along with regular cleaning of public toilets, is a challenge. Water becomes a scarce commodity during droughts, which are now becoming regular. This is imperative in order to ensure that the infrastructure created during the JJM is maintained and used.

High cost of Jal Jeevan Mission

- The Ministry has a large budgetary support of an estimated Rs. 3.6 lakh crore (from both Union and State Governments) under JJM for providing piped water supply to all rural households. Further, a substantial additional amount of Rs. 1.8 lakh crore is expected to be mobilised through convergence of schemes/programmes.

Water supply service levels

- The Working Group on Domestic Water and Sanitation for the Twelfth Plan period (in the erstwhile Planning Commission) had, among other things, recommended increasing drinking water supply service levels in rural areas from 40 lpcd to 55 lpcd. In addition, a target of at least 55 per cent of rural population getting access to 55 lpcd by 2017 was set. However, the Department is yet to incorporate this 55 lpcd target in the JJM.

Expenditure on NRDWP

- Though the targets set for NRDWP have not been achieved, the budget provision for the programme had been substantially reduced by more than one-fifth – from Rs. 7,038 crore in 2017-18 to Rs. 5,500 crore in 2018-19 (RE). This is less than the actual expenditure incurred in 2016-17.

Excessive reliance on groundwater

- More than 63 per cent of rural habitations are being provided piped water from groundwater sources. However, this will become unsustainable given the rapidly depleting water table in the country. This issue becomes more pronounced in view of the launch of the JJM, which aims to ensure piped water for every household by 2024.

‘Dry-pipe’ problem

- Even after creating infrastructure to supply piped water to all rural households in the country, the non-availability of water, especially during summer seasons, will lead to the ‘dry-pipe’ problem.

Quality affected habitations

- The Union Government launched the National Water Quality Sub Mission on Arsenic and Fluoride in 2017 to provide safe drinking water to about 28,000 affected habitations in the country by March 2021. The number of quality-affected habitations may rise substantially in the future as deeper drilling for exploiting drinking water sources may lead to chemical contamination of ground water.

Comprehensive and holistic approach

- There is a need to strengthen the institutional framework for participatory ground water management and bring about behavioural change at the community level for sustainable ground water resource management. Hence, the two Departments under the Ministry of Jal Shakti – DoDW&S and Department of Water Resources, River Development and Ganga Rejuvenation (DoWRRD&GR) – should work in tandem to ensure that the JJM under DoDW&S could work towards delivering piped water supply to every house and the Atal Bhujal Yojana (ABY) under DoWRRD&GR could focus on those areas where the ground water is very low. The role of both the

departments in executing and implementing the community-driven social sector schemes pertaining to ground water and drinking water increases manifold during pandemics. Hence, better preparedness is required for future so that the cross-fertilization of demand and supply takes place.

Asymmetric dissemination of information

- During the Covid-19 pandemic, a large number of advisories were issued by various ministries and government organisations, some being Home Affairs, Health and Family Welfare, Housing and Urban Affairs, Panchayati Raj and the Central Pollution Control Board. It would have been more meaningful if there were a nodal Department or Ministry coordinating with everyone in issuing such advisories and guidelines at one forum.

Projection on availability and need of water in India for various uses

- The National Water Policy that is currently being revised stipulates water allocation priorities broadly in the following order: drinking water; irrigation, hydro-power, navigation, industrial and other. Hence, as mentioned earlier, there is a dire need for a comprehensive and holistic approach to address the present and future water needs of the nation.

Suggested Areas of Reforms

Appropriate water pricing

- It is imperative to fix an appropriate price for water on a graded basis, wherein higher consumption entails higher charges. This is necessary because inappropriate water pricing is one of the major causes of over-exploitation of water in domestic sector. Tariffs do not get revised on periodic basis, resulting in a large gap between the cost of supply of water and the revenue collected.

More reliance on surface water

- There is need to ensure optimum utilisation of surface water for the JJM in view of groundwater being overexploited in large parts of the country. Further, the DoDW&S should incentivise the creation of rainwater harvesting structures and reuse of grey water, in order to augment the availability of water. Finally, the laws/rules regarding creation of rainwater harvesting structures need to be enforced strictly.

Focused intervention in 112 aspirational districts

- A certain percentage of JJM funds should be earmarked for the 112 aspirational districts, preferably in proportion to their population. These districts have far lower piped water supply coverage – as of 19 September 2019, it was only 8.7 per cent of rural households against the national average of 18.3 per cent. It is important to bring them on par with the national average.

ODF sustainability

- Provision of piped water supply in rural households is necessary to sustain the ODF status of villages. It has been seen that people do not prefer using toilets in areas where there is no supply of water. Therefore, it is crucial to substantially enhance the coverage of piped water supply from the current low levels of 18.3 per cent of rural households.

ODF Plus

- India will soon achieve ODF status. The next obvious step would be to encourage all aspects of sanitation, including solid and liquid waste management, faecal waste management in case of septic tanks, overall cleanliness of the villages etc.
 - ◇ The goal should be to ensure that all solid waste is segregated, collected and treated within next five to seven years.
 - ◇ Innovative, community managed, decentralised systems should be adopted for solid and liquid waste management.
 - ◇ Along with strong local ownership, such waste management systems should have low operations and maintenance costs considering low paying capacity of rural households.

Grants to rural local bodies

We recognise that the country's achievements on the sanitation front need to be sustained and strengthened at all levels. For this, all the three levels of government will have to join hands in the spirit of cooperative federalism. Local governments form a crucial link for implementation and execution of such schemes. In view of the above and to supplement resources of local bodies to meet the broader objective of fulfilling national priorities, we recommend the following:

Chapter 4 : Department of Drinking Water and Sanitation

- ◇ 40 per cent of the total grants to be disbursed to rural local bodies shall be untied and can be used by them for felt needs under the twenty-nine subjects enshrined in the Eleventh Schedule, except for salaries and other establishment costs. The expenditure required for auditing of accounts by external agencies approved by the State Government, however, may be borne from this grant.
- ◇ 30 per cent of the total grants to be disbursed to rural local bodies shall be earmarked for drinking water, rainwater harvesting and water recycling.
- ◇ 30 per cent of the total grants to be disbursed to rural local bodies shall be earmarked for sanitation and maintenance of ODF status, and this should include management and treatment of household waste, and human excreta and faecal sludge management in particular.

Independent survey

- Though the verification of ODF status of villages is undertaken diligently by Union and State Governments, it is desirable to institute a large independent survey that can offer a nationally representative estimate of the percentage of persons defecating (or not defecating) in the open. This mechanism would also lend more credence to achievements of SBM-G.

Universalisation of coverage of SBM (G)

- SBM (G) provides financial incentives for the construction of individual household latrines for all below poverty line (BPL) households and selected above poverty line households. Since there are considerable exclusion and inclusion errors in identifying BPL households, there is a pressing need to universalise the coverage of this scheme in order to achieve 100 per cent ODF status.

Updation of Baseline Survey, 2012

- It is understood that only those households without toilets that were identified by Baseline Survey (BLS), 2012, have been covered under SBM (G). Despite the provision for updating this data, a large number of States have not undertaken this exercise, as noted by the Comptroller and Auditor General's Audit Report on Local Bodies and several other studies. Therefore, there is an urgent need to update the baseline data of households without toilets to capture the true picture of ODF status.

Need for regulatory measures during times of natural disaster

- As pointed out earlier, coordinated regulatory measures during natural disasters could help curb the asymmetric dissemination of information among stakeholders working on the ground and improve the outcome of the CSS implemented by the Department. India needs to be more prepared to deal with such emergencies/natural disasters and a dedicated policy is required for this.

Chapter 5

Ministry of Education

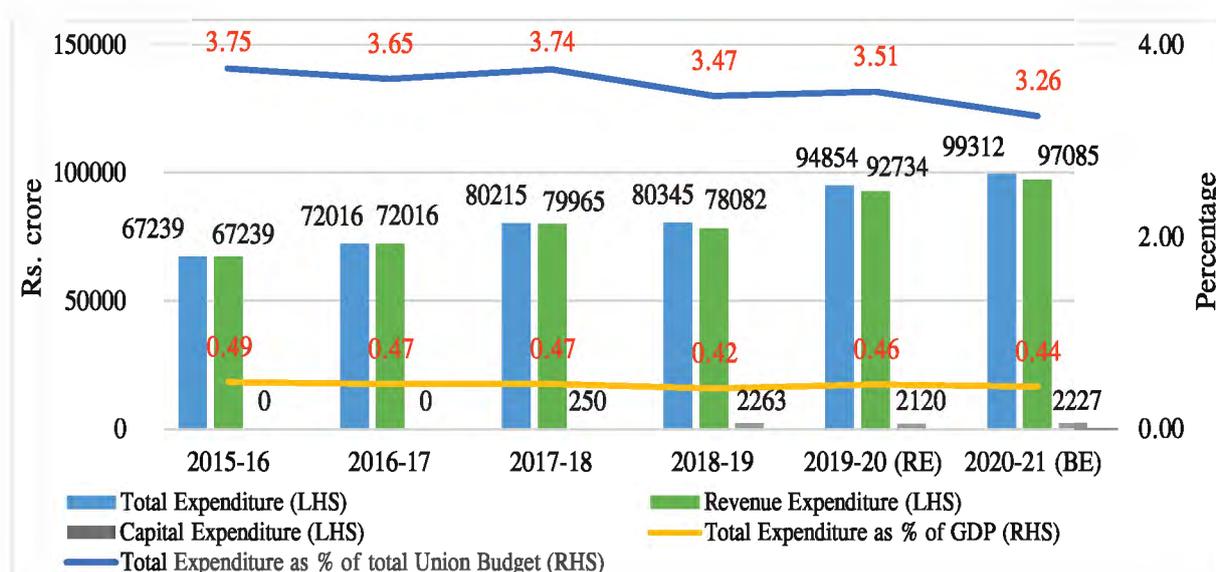
The Ministry of Education has the overall responsibility of expanding access to education and improving the quality of educational institutions across the country. It is also responsible for implementing the National Policy of Education, while paying special attention to economically and socially disadvantaged groups including women, the minorities and scheduled castes and scheduled tribes. It provides scholarships, loan subsidy and other financial assistance to deserving students from the deprived sections of society. The Ministry is the nodal agency for international cooperation in the field of education, working closely with the UNESCO and foreign governments as well as universities, to enhance educational opportunities in the country.

India enjoys an unprecedented demographic advantage as more than 65% of its population is in the working age group. To capitalise on this demographic dividend, it is important to educate children and train them well so they can contribute to the development process. India spends about 3 per cent of its gross domestic product on education which is much below the average of developed countries. Besides low investment, the education system faces various challenges like poor learning outcomes, inadequate teacher training, stifling regulatory regime etc. Use of technology, encouraging private sector participation and better governance can help in bringing desired outcomes.

Overall Profile of the Ministry

1. The Union Budget expenditure by Ministry of Education in the year 2020-21 (BE) is estimated at Rs. 99,312 crore, out of which revenue expenditure is Rs. 97,085 crore and capital expenditure is Rs 2,227 crore. This constitutes about 0.44 per cent of gross domestic product (GDP) and 3.26 per cent of the total Union Budget. The expenditure on education as a percentage of Union Budget has declined from 3.75 per cent in 2015-16 to 3.26 per cent in 2020-21 (BE). In terms of GDP, too, it declined from 0.49 per cent to 0.44 per cent over the same period (Figure 1).

Figure 1: Expenditure of Ministry of Education

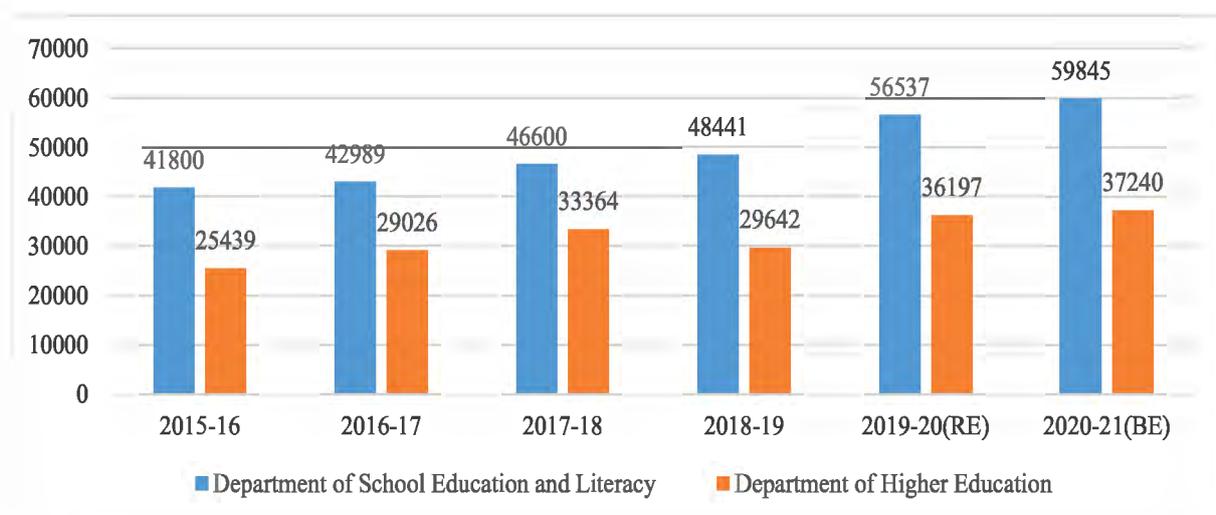


Source: Union Budgets and CSO

- As shown in Figure 2, in 2020-21 (BE), the Department of School Education and Literacy received about 60 per cent of the allocated revenue expenditure of the Ministry, while the Department of Higher Education received 40 per cent.

Figure 2: Revenue Expenditure of Department of School Education & Literacy and Department of Higher Education

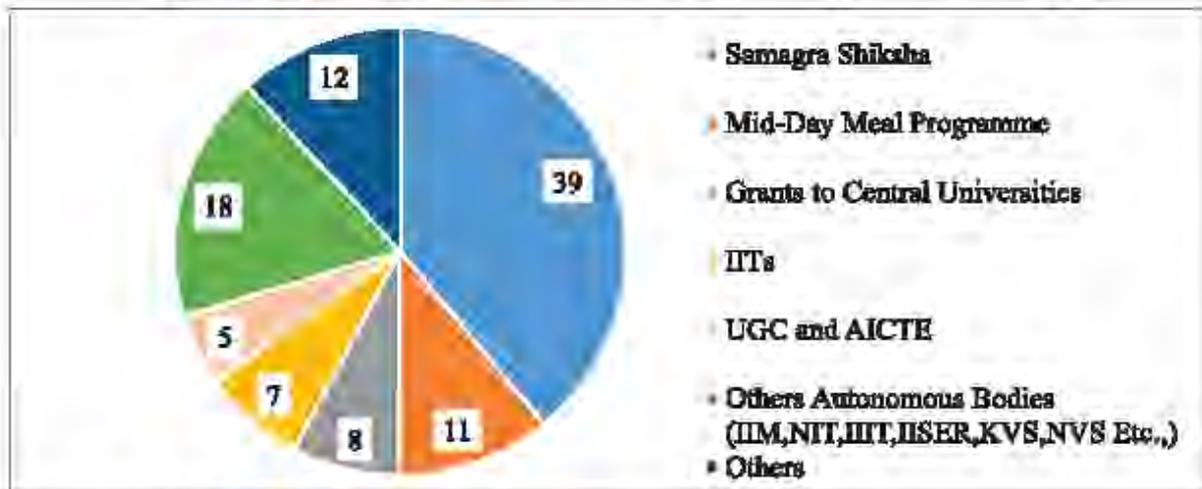
(Rs. crore)



Source: Union Budgets

3. Figure 3 shows the major heads of expenditure of the Ministry. In the budget estimates of 2020-21, expenditure on Centrally sponsored schemes (CSS) - Samagra Shiksha and Mid-Day Meal Programme in Schools – account for 50 per cent of spending, followed by expenditure on autonomous bodies such as the Kendriya Vidyalaya Sangathan (9 per cent) and grants to Central universities (8 per cent).

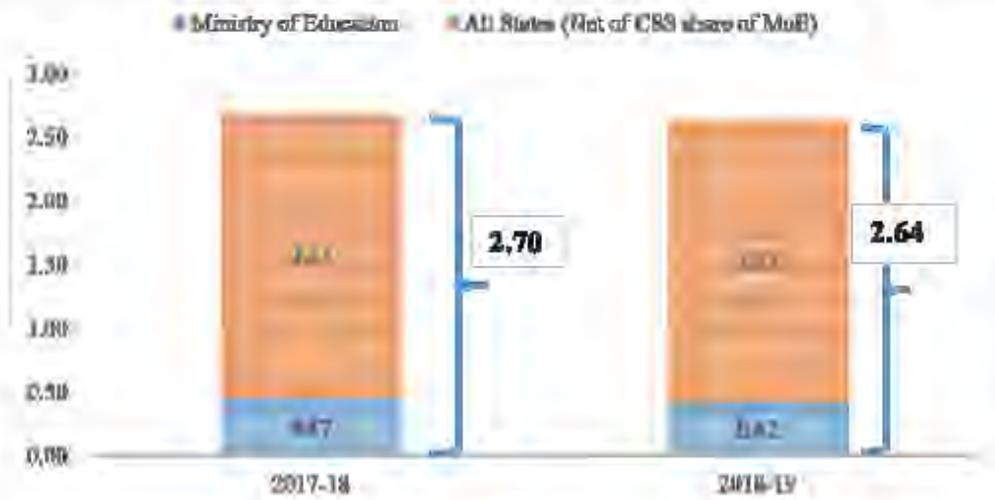
Figure 3: Major Expenditure Heads of the Ministry, 2020-21 BE (%)



Source: Union Budget 2020-21

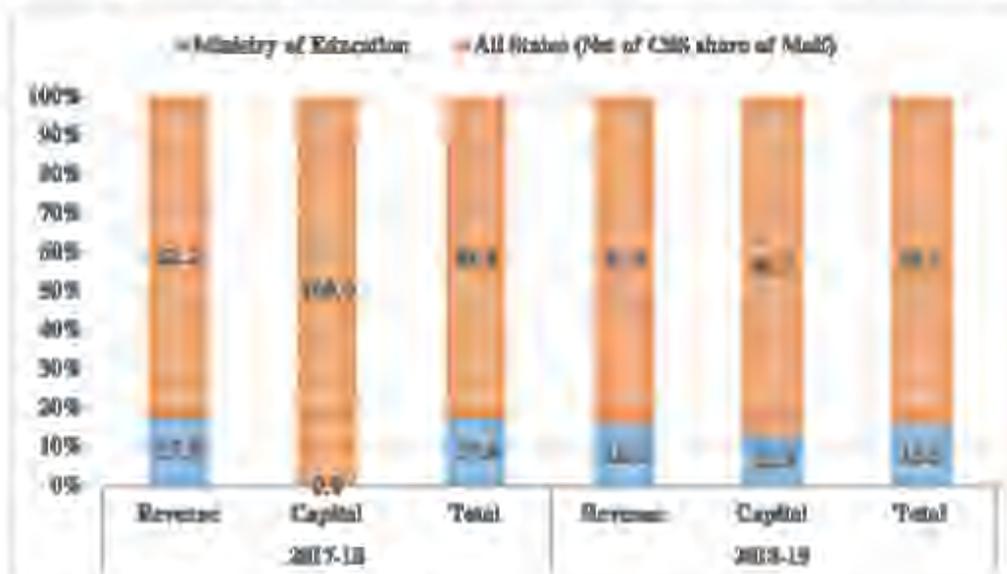
4. Data for 2018-19 shows that the total public expenditure on education is 2.64 per cent of GDP, of which States spend about 2.22 per cent while the Union Government spends 0.42 per cent. States account for the majority share of public spending on education – 84 per cent and the Union Government’s share is only 16 per cent.

Figure 4: Expenditure on Education as % of GDP



Source: Union Budgets, State Finance Accounts and CSE

Figure 5: Share of Expenditure by Union (MoE) and States on Education (%)



Source: Union Budget and State Finance Accounts

Policy Proposals in Budget 2020-21

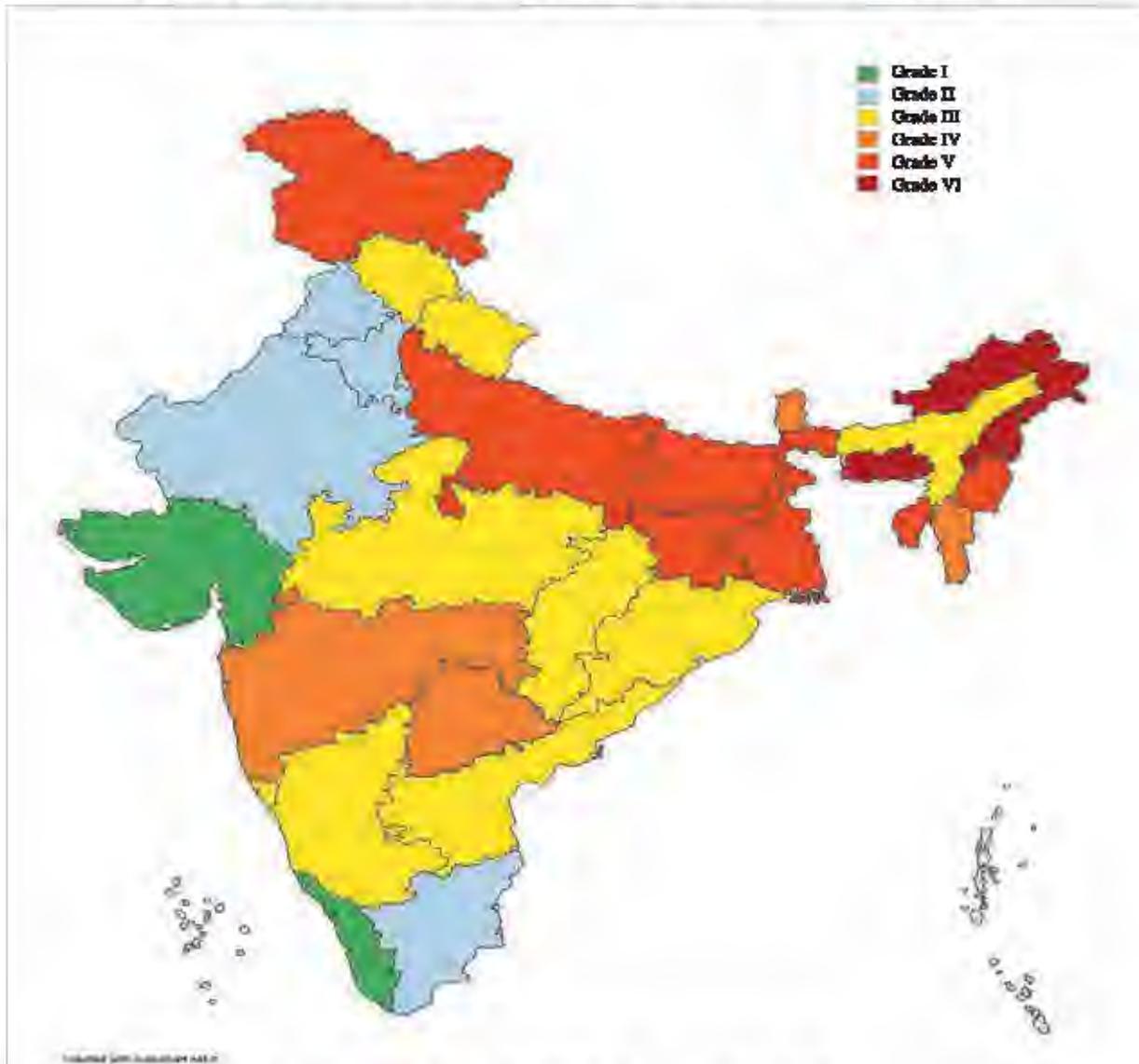
- To ensure greater flow of finance into education, steps will be taken to enable sourcing of external commercial borrowings and foreign direct investment in India.
- About 150 higher educational institutions will start apprenticeship-embedded degree and diploma courses by March 2021.
- As part of the 'Study in India' initiative, which focuses on bringing foreign students to study in Indian higher educational institutions, the Government will hold the Ind-SAT (Indian Scholastic Assessment) in Asian and African countries.
- In order to provide quality education to students of the deprived sections of society as well as those who do not have access to higher education, it is proposed to start degree-level full-fledged online education programmes. This shall be offered only by institutions which are ranked within the top 100 in the National Institutional Ranking framework.

Inter-State Comparison

- There are large inter-State variations in educational performance. The Performance Grading Index (PGI) developed by the Ministry of Education in 2017-18 shows gaps in school education in each State. The PGI is based on seventy indicators relating to, among other things, access, equity, quality, infrastructure and governance. Figure 6

shows grading of States using PGI, where Grade I is the highest level and Grade V the lowest. Arunachal Pradesh, Nagaland and Meghalaya are at the lowest grade, while Uttar Pradesh, Bihar, West Bengal, Jharkhand, Manipur, Tripura and the erstwhile State of Jammu and Kashmir are in the second lowest grade.

Figure 6: Performance Grading Index for School Education, 2017-18



Source : Summary Report on Performance Grading Index (PGI) for States and UTs by MoE.

- Table 1 shows that literacy levels of States vary from 61.8 per cent in Bihar to 94 per cent in Kerala. The pupil-teacher ratio is poor in Bihar, Uttar Pradesh, Jharkhand and Haryana. The gross enrolment rate (GER) in higher education is the lowest in Bihar, Assam, Jharkhand and Odisha.

Table 1: Educational Indicators of States

State	Literacy rate (Census, 2011)	Pupil-teacher ratio (primary school) (Analytical Tables, DISE 2016-17)	Gross enrolment ratio for higher secondary education (Flash Statistics DISE, 2016-17)
Andhra Pradesh	67	22	60.56
Arunachal Pradesh	65.4	12	51.17
Assam	72.2	24	39.74
Bihar	61.8	44	28.82
Chhattisgarh	70.3	20	54.45
Goa	88.7	19	78.65
Gujarat	78	22	43.17
Haryana	75.6	25	60.78
Himachal Pradesh	82.8	12	91.97
Jammu & Kashmir	67.2	10	52.91
Jharkhand	66.4	28	37.06
Karnataka	75.4	16	41.91
Kerala	94	16	79.37
Madhya Pradesh	69.3	22	47.12
Maharashtra	82.3	24	70.72
Manipur	79.2	9	64.36
Meghalaya	74.4	19	40.56
Mizoram	91.3	12	54.6
Nagaland	79.6	6	36.3
Odisha	72.9	18	40.09
Punjab	75.8	20	72.24
Rajasthan	66.1	20	60.31
Sikkim	81.4	4	64.22
Tamil Nadu	80.1	20	83.69
Telangana	67	23	50.57
Tripura	87.2	10	41.89
Uttar Pradesh	67.7	33	58.96
Uttarakhand	78.8	16	77.07
West Bengal	76.3	20	50.89
India	73	25	55.4

Source: Census, 2011, District Information System for Education (DISE)-2016-17

Note: Andhra Pradesh and Telangana figures taken to be same for literacy rate

- Table 2 shows the variations in average per capita revenue expenditure by States. It can be seen that among the North-East and Himalayan States, Assam, Manipur, Meghalaya and Tripura are spending lower than the average. In the case of the general States, Bihar, Jharkhand, Madhya Pradesh, Punjab, Telangana, Uttar Pradesh and West Bengal are spending lower than average.

Table 2: States with Below Average Per Capita Revenue Expenditure on Education (2018-19)

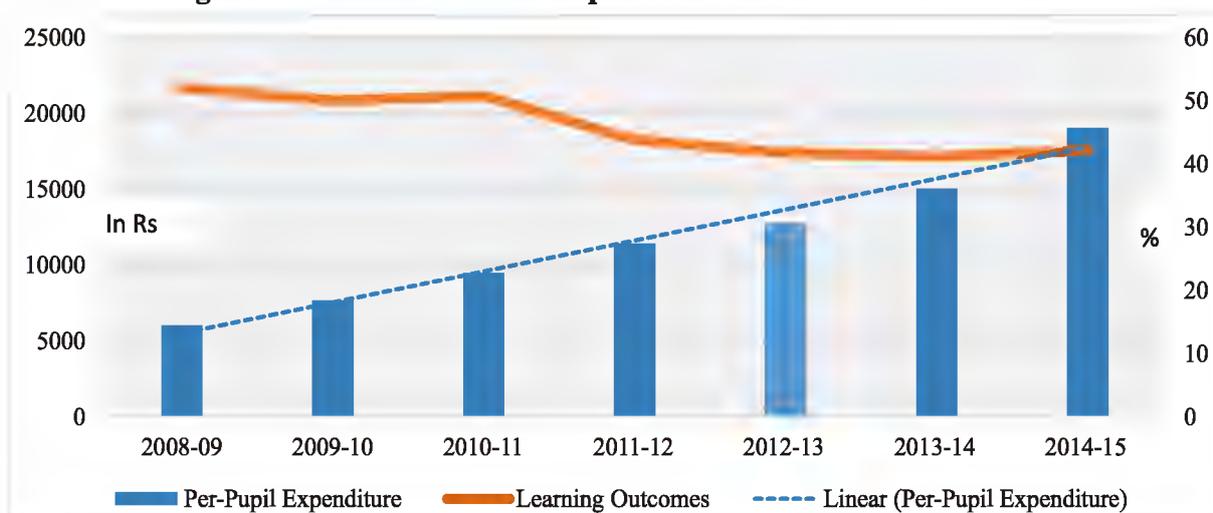
North-Eastern and Himalayan States with per capita spending less than NEH States average of Rs. 5,970	General States with per capita spending less than average of general States of Rs 3,267
Assam, Manipur, Meghalaya and Tripura	Bihar, Jharkhand, Madhya Pradesh, Punjab, Telangana, Uttar Pradesh and West Bengal

Source: State Finance Accounts, Projected population by Central Statistics Office (CSO)

Relationship between Expenditure on Education and Outcomes

- Figure 7 shows that there is a broken link between expenditure on education and educational outcomes. Higher expenditure may not necessarily show improvement in learning outcomes. Dr. Karthik Muralidharan, Tata Chancellor's Professor of economics at the University of California, San Diego, in his presentation to us, has shown that between 2008-09 and 2014-15, per pupil expenditure for elementary education increased from Rs. 6,000 to Rs. 19,000. However, the percentage of children in Class V who could read a Class II level text actually declined over the same period.

Figure 7: Relation between Expenditure and Education Outcome

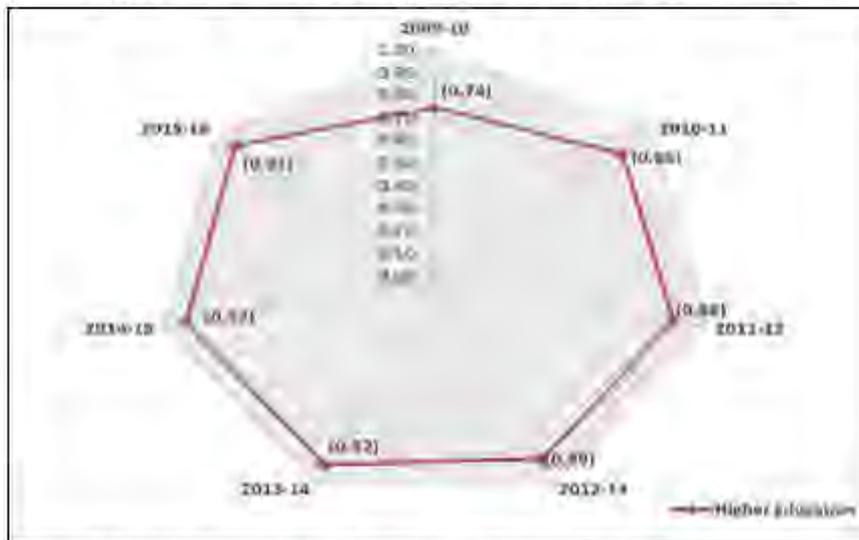


Source: Ministry of Education Statistics 2008 to 2018; Unified District Information System for Education (UDISE); Learning Outcomes (ASER trends over time)

Gender Parity in Education

- The gender parity index (GPI), based on the gross enrolment ratio, shows female participation at all levels of education increasing. Figure 8 shows GPI in higher education increasing from 0.74 in 2009-10 to 0.92 in 2015-16.

Figure 8: Gender Parity Index in Higher Education



Source: Education Statistics at a Glance-2018, Ministry of Education

International Perspective

- When compared with other countries, India, on average, fares poorly in terms of literacy rate and mean years of schooling. However, it has made progress in terms of GER and pupil teacher ratio.

Table 3: Global Comparison in Key Education Indicators (2015)

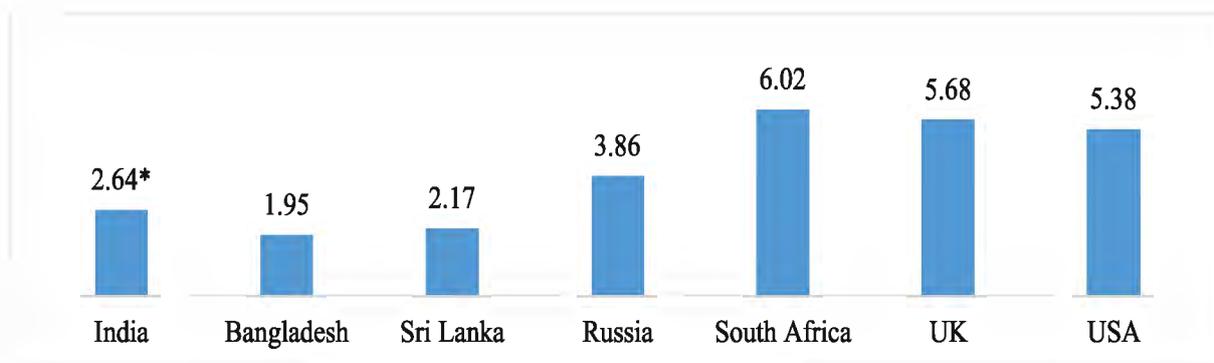
Indicators	India	Bangladesh	China	Russia	South Africa	United Kingdom	United States
Literacy rate (%)	73 ¹	92.95 ¹¹	99.64 ⁶	99.71 ⁶	98.96	-	-
Mean years of schooling	5.30 ⁴	6.06 ¹²	7.33 ⁵	11.47 ⁸	10.13 ⁸	13.16 ⁸	13.41 ¹³
GER - primary (I to V) (%)	99.2	120.4	104.1	100.5	99.7 ²	108.7	100.2
GER - lower secondary (VI-VIII) (%)	92.8	83.4	99.1	101.0	97.1 ⁵	112.7 ¹	102.1
GER - tertiary (%)	24.5	13.4 ¹	43.4	80.4	19.4 ²	56.5 ¹	85.8
Pupil-teacher ratio (primary) (%)	23	36.1	16.3	19.8 ¹	33.6 ¹	17.4 ¹	15 ¹
Pupil-teacher ratio (lower secondary) (%)	17	36.9 ²	12.5	-	-	15.3 ¹	14.8 ¹

Source: Education Statistics at a Glance 2018, Ministry of Education, and UNESCO Institute for Statistics (UIS)

Note: A^x: x years back of 2015, the value was A
A^x: x years ahead of 2015, the value is A

- India's public expenditure of 2.64 per cent of GDP is much lower than in advanced countries like the United States, United Kingdom and South Africa.

Figure 9: Public Expenditure on Education (% of GDP)



Source: Education Statistics at a Glance, 2018, Ministry of Education

Note: This figure is from Finance Accounts, 2018-19, for States and Ministry of Education combined.

Education Grants by Previous Finance Commissions

- In the past grants for education have been given by FC-XII and FC-XIII. FC-XII gave equalisation grants aggregating to Rs. 10,172 crore for education to Assam, Bihar, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and West Bengal. FC-XIII recommended Rs. 24,068 crore for the Sarva Shiksha Abhiyan to all States.

Recommendations by FC-XV in Report for 2020-21

- **Incentives for education:** Though education is a key area for harnessing the demographic dividend, the learning outcomes of school children remain abysmal, even after achieving 100 per cent gross enrolment at primary levels. Another area that concerns us the most is the low ratio of girls transitioning from upper primary to secondary level of education. Education of girls is a critical determinant of age of marriage, age of first pregnancy, total fertility and child health and nutrition.
- Considering this, we may consider introducing financial incentives for best performing States in terms of incremental change in a few focused indicators which form a subset of the PGI of the Ministry of Education. During 2020-21, the Ministry and the State Governments should prepare State-wise targets based on these indicators and take action so that they can avail incentives from 2021-22 onwards.

National Education Policy (NEP) 2020

I. School Education

- a. **Early childhood education:** Over 85 per cent of a child’s cumulative brain development occurs prior to the age of six, indicating the critical importance of appropriate care and stimulation of the brain in the early years in order to ensure healthy brain development and growth. Recognising this, the NEP states that ‘universal provisioning of quality early childhood development, care, and education must thus be achieved as soon as possible, and no later than 2030, to ensure that all students entering Grade 1 are school ready’. For universal access to early childhood care and education (ECCE), anganwadi centres will be strengthened with high-quality infrastructure, play equipment, and well-trained anganwadi workers/teachers. Also, it is envisaged that prior to the age of five, every child will move to a “preparatory class” or “Balavatika” (that is, before Class I), which has an ECCE-qualified teacher. The learning in the preparatory class shall be based primarily on play-based learning with a focus on developing cognitive, affective and psychomotor abilities and early literacy and numeracy. The impact of malnutrition on the development of the brain, and hence on early education, is significant and thus nutrition and learning are inextricably linked. Hence, under the new NEP, the midday meal programme will be expanded and both a nutritious breakfast and a midday meal will be provided to pre-primary and primary school students.
- b. **Foundational literacy and numeracy:** Special attention will be paid to early language and mathematics in Grades I-V. The Policy aims to ensure that every student in Grade V and beyond must achieve foundational literacy and numeracy by 2025.
- c. **Curriculum and pedagogy:** A new developmentally appropriate curriculum and pedagogical structure for school education based on principles of brain development and learning has been developed based on a 5+3+3+4 design. This will replace the existing 10+2 model. There will be equal emphasis on all subjects – science, social sciences, art, languages, sports, mathematics – with integration of vocational and academic streams in school. Curriculum and pedagogy will be transformed by 2022 to promote skill-based, and minimise rote-based, learning.
- d. **Universal access:** The Policy aims to achieve 100 per cent GER for all school education by 2030 through various measures.
- e. **Learning outcomes :** Census assessments to be started at key stage in Classes III, V and VIII to track achievement of essential learning outcomes. Assessment of core

concepts and knowledge, higher-order skills and its application in real-life situations will be done instead of rote learning. AI-based software will be used to help track the progress of students to enable them to make optimal career choices.

II. Higher Education

- a. A new vision and architecture for higher education has been envisaged with large, well-resourced, vibrant multidisciplinary institutions. Even engineering institutions, such as IITs, will move towards more holistic and multidisciplinary education with more arts and humanities. Students of arts and humanities will aim to learn more science and all will make an effort to incorporate more vocational subjects and soft skills.
- b. The Policy recommends that by 2040, all higher education institutions shall aim to become multidisciplinary institutions, each of which will aim to have 3,000 or more students. There shall, by 2030, be at least one large multidisciplinary higher education institution in or near every district. The aim will be to increase the GER in higher education including vocational education from 26.3 per cent in 2018 to 50 per cent by 2035.
- c. The regulatory system of higher education will ensure that the distinct functions of regulation, accreditation, funding, and academic standard setting will be performed by distinct, independent and empowered bodies. Four independent verticals within one umbrella institution of the Higher Education Commission of India (HECI) will be set up: National Higher Education Regulatory Council (NHERC), National Accreditation Council (NAC), Higher Education Grants Council (HEGC) and General Education Council (GEC).
- d. A National Research Foundation (NRF) will be set up and its overarching goal will be to enable a culture of research to permeate through our universities.

III. Teacher Education

Teacher preparation programmes will be rigorous and will take place in vibrant, multidisciplinary higher education institutions. The four-year integrated stage-specific, subject-specific Bachelor of Education offered at multidisciplinary institutions would be the predominant way of becoming a teacher.

IV. Vocational education

This will be an integral part of all education and the Policy aims to provide access to vocational education to at least 50 per cent of all learners by 2025.

V. Adult Education

The Policy aims to achieve 100 per cent youth and adult literacy by 2030.

VI. Promotion of Indian languages

The Policy will ensure the preservation, growth, and vibrancy of all Indian languages. The medium of instruction up to Grade V, and preferably till Grade VIII and beyond, will be the home language/mother-tongue/local language.

Key Proposals of Ministry to FC-XV

- Either ring-fence a certain percentage (about 20 per cent) of the funds devolved to the States for school education or consider a clear award to the States for implementation of the Right to Education Act, 2009, on the lines of the FC-XIII.
- Grants may be given for incentivising the performance of States on achievement of pre-specified outcomes, for example, using the PGI.
- Department of School Education and Literacy gave a revised memorandum indicating requirement of Rs. 6.24 lakh crore for five years (2021-22 to 2025-26) and the Department of Higher Education submitted a requirement of Rs 4.01 lakh crore for the same period.

Initiatives to Deal with Fallout of Covid-19 Pandemic

- In March, State Governments across the country shut down schools and colleges as an immediate measure to stop the spread of the Covid-19 pandemic. Closure of schools and universities will not only have a short-term impact on the continuity of learning for students but will also have far-reaching economic and social consequences. The Government took several measures to deal with the pandemic.

Technology-driven Online Education

- SWAYAM PRABHA direct to home channels were started to support and reach those who do not have access to the internet. Three channels were already earmarked for school education and another twelve channels are to be added.
- Provision was made for the telecast of live interactive sessions with experts over Skype on these channels.
- The Ministry of Education coordinated with States Governments to share air time (four

hours daily) on the SWAYAM PRABHA channels to telecast their education related contents.

- 200 new textbooks added to e-Paathshaala portal for online education.

Technology-Driven Education with Equity

- PM eVIDYA, a programme for multi-mode access to digital/online education, was launched. It included:
 - ◇ DIKSHA for school education in States/Union Territories that has e-content and QR-coded energised textbooks for all grades (One Nation, One Digital Platform).
 - ◇ Extensive use of radio, community radio and podcasts.
 - ◇ Special e-content for visually and hearing impaired.
 - ◇ Universities were permitted to start online courses.

Challenges

Challenges posed by Covid-19

- Educational institutions closed down in the second week of March 2020 even before the lockdown was imposed. All examinations and evaluations got postponed. This has hampered learning by students, especially those who do not have access to online education.

Poor learning outcomes

- While access to basic education has been achieved, with 100 per cent gross enrolment at primary levels, learning outcomes have remained very low.
- According to Annual Status of Education Reports (ASER) Survey, only 27.3 per cent children in Class III can read Class II text and only 28.2 per cent children can do subtraction.
- Sub-scale schools and high teachers' vacancies combined with teacher absenteeism lead to poor learning outcomes and low effectiveness of any government intervention. About four lakh schools have less than fifty students, according to NITI Aayog's India Three Year Action Agenda. Further, these schools have only one or two teachers, no supporting staff and poor infrastructure.

Low investment in education sector

- Various committees on education, starting with the Education Commission chaired by D.S. Kothari in 1966 have recommended that expenditure on education should be 6 per cent of GDP. However, as of 2018-19, the Union and State Governments together spent only 2.64 per cent of GDP on education.
- Bulk of the enrolment in higher education is handled by State universities and their affiliated colleges. However, the grants that these universities receive are insufficient compared to their task. Nearly 65 per cent of the University Grants Commission budget is utilised by Central universities and their colleges while State universities and their affiliated colleges get only the remaining 35 per cent, according to the Standing Committee on Human Resource Development chaired by Dr. Satyanarayan Jatiya in February 2017.
- Resources for higher education are thinly spread out.

Teachers' training

- State Councils of Educational Research and Training (SCERT) and District Institutes for Education and Training (DIET) are understaffed and lack skills like curriculum design or assessment design and analysis.
- Evidence shows that a large number of teachers in primary schools lack the desired skills.

Regulatory issues in school education

- Stifling regulations have acted as barriers for entry of private players in the education sector. Some of these are:
 - ◇ The registration of schools is subject to requirements of maintaining minimum financial requirements and infrastructure. Some of these conditions sound unreasonable and result in a few players monopolising the sector.
 - ◇ Various permissions need to be sought from different public institutions. These are State-specific and not uniform.
 - ◇ Most of the States grant permission or issue no-objection certificates only to non-profit entities.
 - ◇ Private unaided schools do not have freedom to determine their own fee structure. This is subject to assessment by State authorities to ensure reasonableness of fees and show that it does not lead to profiteering and commercialisation.

Low gross enrolment rate in higher education

- In India, the GER in higher education has more than doubled over a period of eleven years – from 9 per cent in 2002-03 to 24.5 per cent in 2015-16. However, this is still fairly low as compared to other countries such as the United Kingdom and the United States.

Table 4: GER in Tertiary Education

(per cent)

India (2015)	United Kingdom (2015)	United States (2015)	Bangladesh (2014)	Sri Lanka (2015)	China (2015)	Germany (2015)	South Africa (2013)
24.5	56.5	85.8	13.4	19.8	43.4	68.3	19.4

*Source: UNICEF***Lack of employable skills**

- India has one of the largest youth populations in the world. Estimates suggest that only 2.3 per cent of India's workforce has undergone formal skill training compared to 96 per cent in South Korea, 80 per cent in Japan, 75 per cent in Germany, 68 per cent in the United Kingdom and 52 per cent in the United States, according to NITI Aayog's Three Year Action Agenda, 2018-18 to 2019-20. Hence, there is a huge gap between the demand and supply of skills.

Regulatory issues in higher education

- Currently, foreign educational institutions are not permitted to establish an independent campus in India for the purpose of degree programmes. As a step towards liberalisation of the heavily regulated higher education sector, the Union Government had, on 10 September 2013, issued a press release informing various stakeholders about its proposal to allow foreign universities to set up campuses in India as not-for-profit companies (without having to collaborate with domestic educational institutions). However, no action has been taken on this front as of now. A bill titled 'The Foreign Educational Institutions (Regulations of Entry and Operations) Bill, 2010', was introduced in Parliament to regulate the entry and operations of foreign educational institutions in India. However, the bill lapsed in 2014. Currently, the only way a foreign educational institution can enter the sector is by collaborating with Indian institutes.

- The higher education sector is regulated by a multiplicity of regulatory agencies, with overlapping mandates – University Grants Commission (UGC), All India Council for Technical Education (AICTE) and various professional Councils.
- Higher educational institutions lack autonomy.

Teachers' vacancies in higher education

- The Standing Committee on Human Resource Development has pointed to the extent of vacancies in higher education. Out of the total sanctioned teaching posts in Central universities, there are vacancies of 35 per cent for professors, 46 per cent for associate professors and 26 per cent for assistant professors.

Accountability and performance of teachers

- At present, there is no mechanism for ensuring the accountability of professors in universities and colleges, unlike in foreign universities where the performance of the college faculty is evaluated by their peers and students.

Suggested Areas of Reforms

Build resilience in India's public education system

- In the light of the Covid-19 pandemic, it is necessary to design an amalgamation of digital and physical classes curriculum. To ensure that children do not suffer because of closure of schools, every school must have an information and communication technology (ICT) lab and smart classroom. Underprivileged children should be given pre-loaded devices.

Private sector in education should be seen as a partner and not a competitor

- The government alone may not be able to fill the huge resource gap in education. Hence, private investment, including foreign direct investment, needs to be encouraged. The following reforms may be undertaken:
 - ◇ Onerous requirements like minimum infrastructure, especially land, other financial requirements and multiple approvals from various authorities should be rationalised.
 - ◇ Foreign universities should be allowed to run independent campuses in India, as

it will help meet the demand for higher education, increase competition and subsequently improve standards of higher education. Their operations may be controlled by law. This will also reduce the number of students going abroad for higher studies.

- ◇ Public-private partnership (PPP) models could also be explored where the private sector adopts government schools while being publicly funded on a per-child basis.

Bring in reforms to improve learning outcomes in schools

- Attaining foundational literacy and numeracy for all children should become the core target for States.
- State Governments need to work towards having **functional schools** which have minimum size, adequate teachers and basic infrastructure.
- There should be focus on **foundational learning**. There is compelling evidence that children who fall behind in basic literacy and numeracy skills in early grades maintain an almost flat learning curve later because the material being taught in class moves past their level and they have no way of catching up.
- It is necessary to develop and establish an integrated foundational curricular and pedagogical framework, and corresponding teacher preparation, for the critical foundational stage of a child's development.
- **Large-scale teacher rationalisation** is needed, that is moving teachers from surplus to deficit schools, restructuring complicated teacher cadres, and increasing investments in teacher recruitment through better planning and more stringent processes.

Improve skill sets of primary teachers and teacher attendance

- The Ministry should work towards bringing pay parity between private and government schools.
- Performance-based pay should be introduced in order to reduce absenteeism.
- Contractual hiring of the teaching staff should be discouraged.
- Monitoring and assessment of teachers should be done using MIS (management information system).

Use of technology

- MIS needs to be put in place by all States which can have information like teacher attendance, enrolment data and learning levels. It may also contain feedback. This can become a basis for making policy decisions.
- Based upon the information from MIS, a targeted approach can be followed where the schools at the bottom on certain parameters can be identified and resources may be accordingly be devolved.
- All out-of-school children need to be mapped digitally in order to bring them back to school. Similar system needs to be developed for vulnerable children. The data should be fed into a centralised database.

Restructure vocational education courses

- To capitalise on the demographic dividend, it is important to educate the youth and train them well for the job market. Courses for enhancing employability and closing the gap between job market and post-graduation courses should be done.
- Needs of the job market should be assessed annually and vocational courses should be re-oriented.
- Norms/standards and/or outcome-based certification for institutions that focus on skills and trades closely tied to employment should be established and promoted.
- Courses which will see high demand from the public sector in the near future (public health workers, foundational skills teaching, nursing and paramedics) should be promoted.

Promote autonomous colleges

- More established colleges should be brought under the autonomous colleges scheme in order to take them out of the centralised control of the university they are affiliated to and provide greater flexibility in academic matters. Such colleges should be encouraged to adopt higher levels of transparency.

Encourage innovative financing mechanisms

- Mobilisation of funds for State universities should be explored through other means such as endowments, contributions from industry and alumni.

Set up a new regulatory body for higher education

- There needs to be an overarching regulatory body which can subsume the multiple existing regulatory bodies. Such a body would be responsible for monitoring standards and licensing accreditation bodies in the sector. Rationalising the roles of professional councils is important.

Encourage increased inflow of foreign students.

- Systematic brand-building, marketing, social media and digital marketing campaigns should be adopted to increase the intake of foreign students. Exchange programmes with foreign universities need to be enhanced. This will not only help attract foreign students to the universities (which will help earn foreign exchange) but also encourage Indian students to study within the country (which will save foreign exchange).

Set up a digital system of performance audit/rating of professors

- This should be based on the feedback given by students and colleagues. Other inputs like research papers, publications by teachers should be taken into account in the performance auditing.

Encourage and promote research

- The Ministry should promote collaboration between higher educational institutes and top international institutes. It could also explore establishing linkages between national research laboratories and research centres of top global institutions as this could promote better quality and collaborative research outputs.
- Productive academic cooperation should be encouraged in the areas of joint research projects, exchange of faculty and students, joint degrees etc.
- Visits and long-term stay of top international faculty in Indian institutions to pursue teaching and research, visits of Indian students for training and experimentation in premier laboratories world-wide and international conferences should be encouraged.

Start a National University on Agriculture

- The Ministry may consider starting a national university on agriculture. This could promote fair competition among the existing agricultural universities.

FC-XV recommendations in its final report

- **School Education:** A prime area of concern in the field of education is the poor learning outcomes of school children which exist even after 100 per cent gross enrolment at primary levels. Also, there are issues relating to equity and access outcomes. We have, therefore, recommended incentive grants of Rs. 4,800 crore for States to improve these outcomes of school education using the PGI.
- **Higher Education:** State Governments across the country shut down schools and colleges as an immediate measure to stop the spread of the Covid-19 pandemic. Closure of schools and universities will not only have a short-term impact on the continuity of learning for students but will also have far-reaching economic and social consequences. Hence, this has prompted us to provide a grant (Rs. 6,143 crore) for technology-related solutions for higher education to promote learning through DTH channels and online modules. There is also a dearth of professional courses in regional languages, thus creating a hindrance for many coming from rural areas. Thus, we have also recommended grants for this purpose.

Chapter 6

Ministry of Environment Forest and Climate Change

The Ministry of Environment and Forest and Climate Change is the nodal agency in the Union Government for overseeing the implementation of India's environment and forest policies and programmes relating to conservation of the country's natural resources and prevention and abatement of pollution. While implementing these policies and programmes, the Ministry is guided by the principle of sustainable development. The Ministry is also the nodal agency for various international and regional groupings/alliances on environment-related issues.

Forests are the green lungs of the nation and provide various ecological services like clean air, water and maintenance of soil-moisture regime by checking soil erosion etc. Forests maintain environmental stability and ecological balance. Natural forests, with a vast variety of flora and fauna, are hubs of biodiversity. Healthy forest eco-systems are necessary for reversal of land degradation in the country.

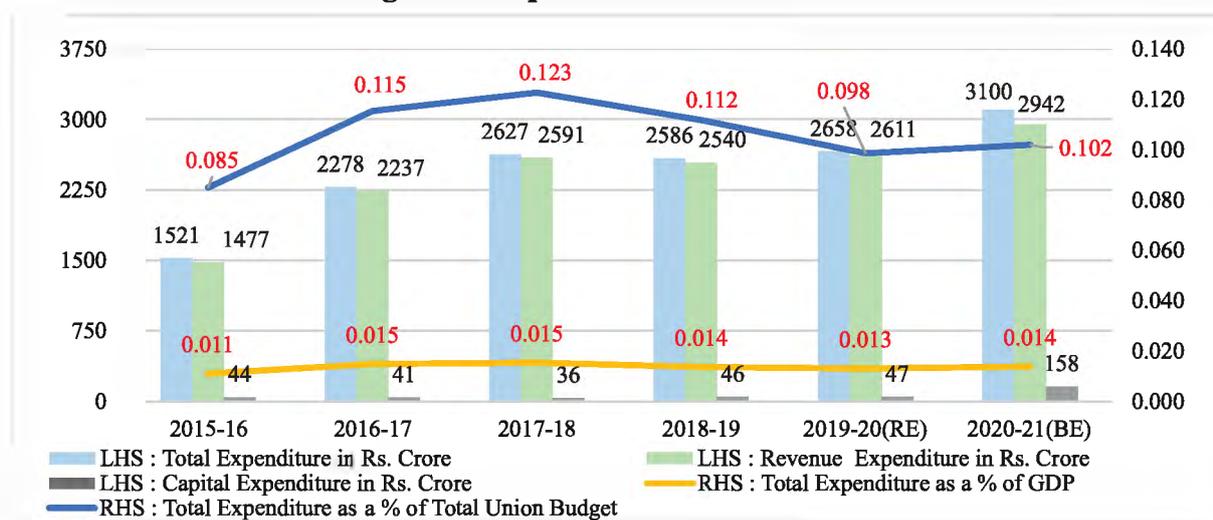
Data from the National Air Monitoring Programme reveal that particulate matters far exceed the permissible levels at many locations, particularly in urban areas. The problem of air pollution is complicated by the multiplicity and complexity of sources of pollution (industries, automobiles, generator sets, domestic fuel burning, roadside dust, construction activities, among others). The issue of air quality is directly linked to SDG 7 of affordable and clean energy and SDG 13 of climate change. While the share of renewables in total power generation has increased from 6 per cent in 2014-15 to 10 per cent in 2018-19, India still needs investment in renewable energy. India also needs to give a major push to electric vehicles.

Overall Profile of the Ministry

1. The Ministry of Environment and Forest and Climate Change (MoEF&CC) has the responsibility of overseeing the implementation of India's environment and forest policies and programmes. The broad objectives of the Ministry are:
 - Conservation and survey of flora, fauna, forests and wildlife
 - Prevention and control of pollution
 - Afforestation and regeneration of degraded areas
 - Protection of environment, and ensuring the welfare of animals.
2. These objectives are well supported by a set of legislative and regulatory measures. In addition, a National Conservation Strategy and Policy Statement on Environment and Development, 1992, National Forest Policy, 1988, a Policy Statement on Abatement of Pollution, 1992 and a National Environment Policy, 2006, also guide the Ministry's work.

3. The Ministry is broadly divided into three divisions - Establishment, Environment and Forest and Wildlife.
4. The National Compensatory Afforestation Fund Management and Planning Authority (CAMPA) was constituted in 2009 primarily to lay down guidelines for and to monitor/assist State CAMPA and resolve any contentious issues that may arise.
5. The Union Budget of 2020-21 allocated Rs. 3,100 crore to the MoEF&CC. This is 0.1 per cent of the Union Government's total budget for 2020-21 and 0.014 per cent of estimated gross domestic product (GDP). The year-wise allocation of the Ministry is given in Figure 1.

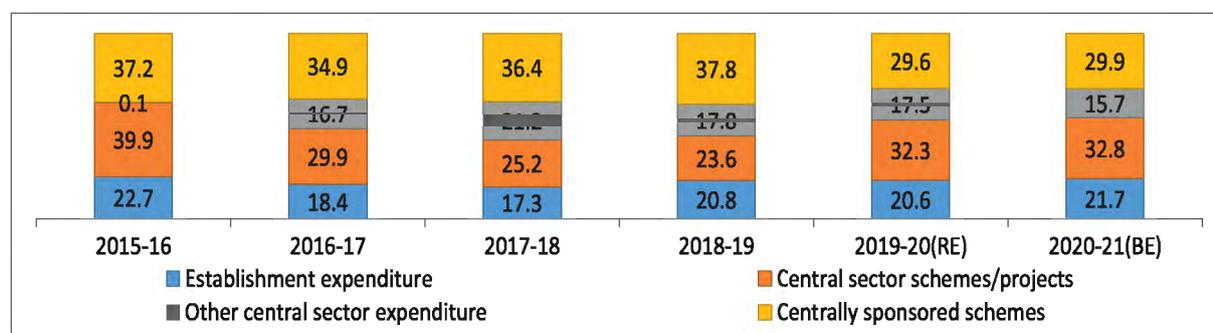
Figure 1: Expenditure of MoEF & CC



Source: Union Budget and CSO

6. There has been a decline in the proportion of expenditure on Centrally sponsored schemes (CSS) and other Central sector schemes in recent years. However, the proportion of expenditure on Central sector schemes has exhibited a rising trend.

Figure 2: Head-wise Expenditure (%) of MoEF&CC



Source: Union Budget

7. The Ministry's expenditure on Central sector schemes as a percentage of total Union expenditure on these schemes has been in the range of 0.10-0.12 per cent. Expenditure on CSS as a percentage of total Union expenditure on CSS was in the range of 0.25-0.33 per cent.

Table 1: Central Sector & Centrally Sponsored Schemes

	2015-16	2016-17	2017-18	2018-19	2019-20 (RE)	2020-21 (BE)
MoEF&CC expenditure on Central sector schemes as a % of total Union expenditure on Central sector schemes	0.12	0.12	0.11	0.10	0.11	0.12
MoEF&CC expenditure on CSS as a % of total Union expenditure on CSS	0.28	0.33	0.33	0.33	0.25	0.27

Source: Union Budgets

8. The Ministry monitors only one CSS of Environment, Forestry and Wildlife. Scheme-wise spending for Central sector schemes for year 2018-19 (in percentage) is depicted in Figure 3.

Figure 3: Central Sector Schemes of MoEF & CC



Central Pollution Control Board and State Pollution Control Boards

- Under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Union Government constituted the Central Board for the Prevention and Control of Water Pollution on 23 September 1974. The Central Pollution Control Board (CPCB) has been entrusted with the added responsibility of control of air pollution since May 1981 under the provisions of the Air (Prevention and Control of Pollution) Act, 1981. The enactment of the Environment (Protection) Act, 1986, which is the umbrella legislation for the enforcement of measures for the protection of the environment and several notifications of Rules under the Act, widened the scope of activities of the CPCB.
- The CPCB has been playing a key role in the abatement and control of pollution by generating, compiling and collating data, providing scientific information, rendering

technical inputs for the formulation of national policies and programmes, training and development of manpower and through activities for promoting awareness at different levels of the government and the public at large.

- **National Water Quality Monitoring Programme:** Under this programme, the CPCB, in association with the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs), regularly monitors the water quality of aquatic resources across the country through a network of 3,500 monitoring locations: 1,821 on rivers, 473 on lakes/ponds/tanks, 52 on creeks/sea water/coastal waters, 53 on canals, 52 on drains, 50 on sewage treatment plants, 10 on water treatment plant and 989 on wells.
- **National Ambient Air Quality Monitoring Programme:** This nation-wide programme is executed by the CPCB. Presently there are 731 operating stations in 312 cities/towns in twenty-nine States and six Union Territories.

National Clean Air Programme

- The National Clean Air Programme (NCAP) is a five-year action plan with 2019 as the first year.
- The tentative national level target of 20-30 per cent reduction of PM_{2.5} and PM₁₀ concentration by 2024 is proposed under the NCAP, with 2017 as the base year for the comparison of concentration.
- The approach includes collaborative, multi-scale and cross-sectoral coordination between the relevant Union ministries, State Governments and local bodies.
- The Smart Cities programme will be used to launch the NCAP in the forty-three smart cities falling in the list of the 102 non-attainment cities.
- Other features of the programme include increasing the number of monitoring stations (including rural monitoring stations), technology support, emphasis on awareness and capacity building initiatives, setting up of certification agencies for monitoring equipment, source apportionment studies, emphasis on enforcement and specific sectoral interventions.

India and Recent International Commitments

- India has formally joined the Climate & Clean Air Coalition (CCAC), becoming the sixty-fifth country to join the partnership.
- India will work with CCAC member countries to adopt cleaner energy, sustainable

production and consumption patterns and environment-friendly transport, agriculture, industry and waste management to promote clean air.

- In 2015, India initiated the International Solar Alliance, a global coalition of nations tackling climate change by leveraging the power of solar energy. It has increased its vehicle emissions standards to BS6, which is similar to Euro 6 standards. In 2017, the Union Government announced that from 2030, all new vehicles sold in the country would be powered by electricity.
- The national commitment pledged in the Paris Agreement, United Nations Framework Convention on Climate Change (UNFCCC), in 2015 was:
 - ◇ To have 40 per cent of power generated from renewable resources by 2030. It is noteworthy that currently India has over achieved the target and is well on track to ensure that more than 50 per cent of installed power generation capacity will come from renewable sources by 2030.
 - ◇ To reduce the emission intensity of the economy by 33-35 per cent by 2030 from 2005 levels.
 - ◇ To create additional carbon sink of 2.5-3 billion tonnes of CO₂ equivalent through additional forest and tree cover.

India's Post-2020 Climate Goals

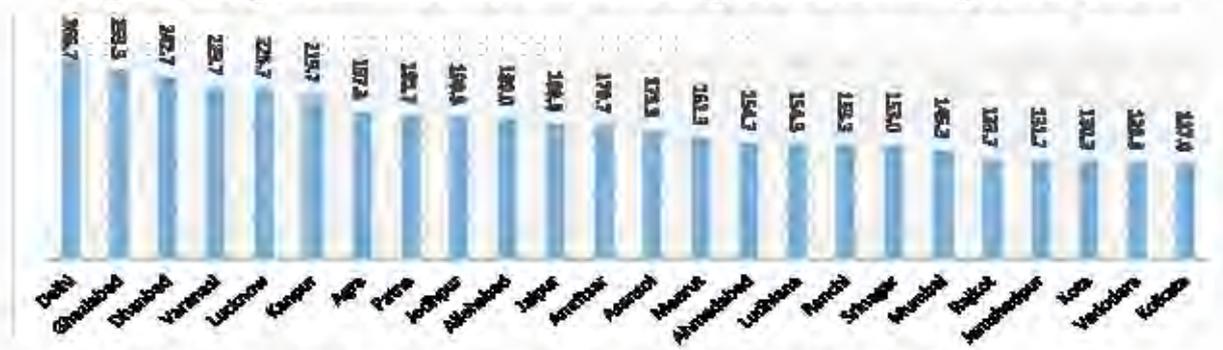
- India submitted its Nationally Determined Contribution for the post-2020 period to UNFCCC on 2 October 2015, outlining the climate actions it intends to take under the Paris Agreement. The key action points are:
 - ◇ To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation.
 - ◇ To adopt a climate-friendly and a cleaner path than the one followed hitherto by others at a corresponding level of economic development.
 - ◇ To abide by the commitments of the Paris Agreement.
 - ◇ To create an additional carbon sink of 2.5-3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.
 - ◇ To better adapt to climate change by enhancing investments in development programmes in sectors and areas vulnerable to climate change, particularly agriculture, water resources, health and disaster management as well as the Himalayan region and coastal regions.

- ◇ To mobilise domestic and new and additional funds from developed countries to implement the above mitigation and adaptation actions to meet any resource gap that emerges.
- ◇ To build capacities, create a domestic framework and international architecture for quick diffusion of cutting edge climate technology in India and for joint collaborative R&D for such future technologies.

Inter-State Comparison

- Million-Plus cities have been experiencing high pollution rates in the recent years. This is risking the life of the high population concentrated in these areas.

Figure 4: Top 25 Million-Plus Cities with PM₁₀ Levels Exceeding NCAP Norms



Source: Data shared by MoEFCC - PM 10 Levels indicates average of 2015, 2016 and 2017

- Both FC-XIV and FC-XV have taken forest cover as an important criterion for devolution. Figure 5 indicates both the present stock of forest area in 2019 and proportional increase over 2017.

Figure 5: State-wise Comparison of Forest Area

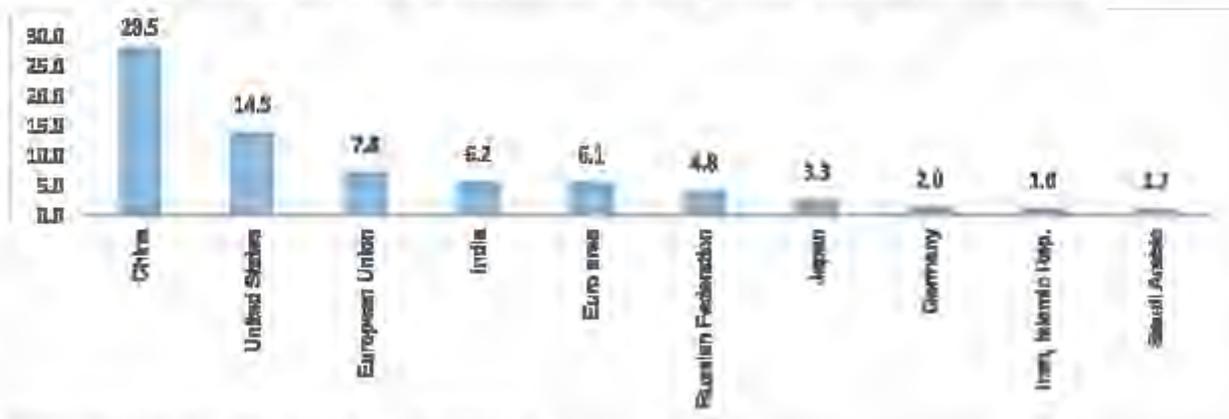


Source: Forest Survey of India Report 2019

International Perspective

- China, the European Union, the United States and India are the top contributors to CO₂ emissions, accounting for 57 per cent of the global world emissions.

Figure 6: Top Ten Contributors to CO₂ Emissions (kt) (2014 data)



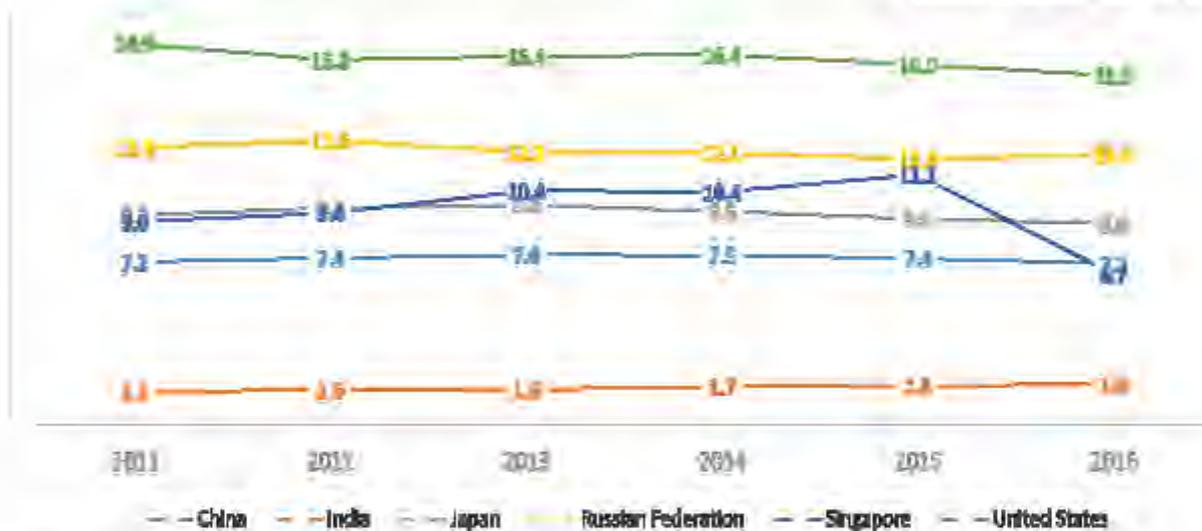
Source: World Development Indicators, World Bank

Note: Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring.

- India's CO₂ emissions are low as compared to other major economies, but the trend has been going up in recent years.

Figure 7: CO₂ emissions – India and Major World Economies

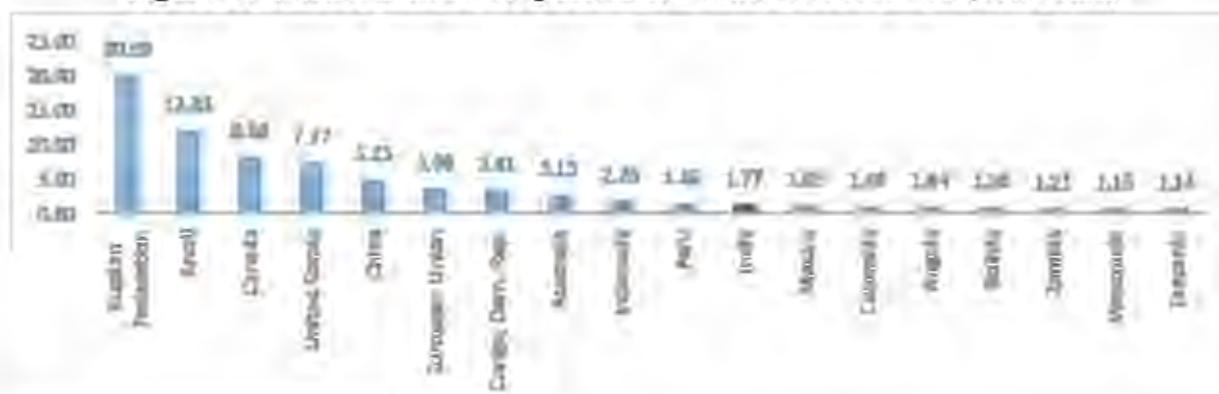
(metric tons per capita)



Source: World Development Indicators, World Bank

- Compared to other world economies, India has only 1.77 per cent of the world's forest area. Russia, Brazil, Canada and the United States have a major proportion of the world's forest area.

Figure 8: Forest Area as Proportion of World Forest Area (2016 data)



Source: World Development Indicators, World Bank

Note: Forest area is land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems (for example, in fruit plantations and agroforestry systems) and trees in urban parks and gardens.

Box 1 : Grants by Finance Commissions

	Observation	Grants Proposed
FC-XII	Forests are national wealth, and the country as a whole has a responsibility in preserving it.	Recommended grants of Rs. 1,000 crore for maintenance of forests
FC-XIII	<p>a) Forest grants are a reward for contributing to the ecology and bio-diversity of India, as well as compensation to States for the opportunity loss on account of keeping areas under forests.</p> <p>b) The power sector has great potential for reduction of greenhouse gases. There is, hence, a need to incentivise States to promote clean energy.</p> <p>c) Injudicious inter-sectoral and intra-sectoral distribution of water among various categories of water users, low water use efficiency, fragmented approach to water resources planning and development, low water user charges and meagre recovery are some of the major problems associated with the management of water resources.</p>	Recommended grants of Rs. 15,000 crore. (Rs. 5,000 crore each for forests, incentive for grid-connected renewable energy and water sector management)
FC-XIV	Large forest cover provides huge ecological benefits, but there is also an opportunity cost in terms of area not available for other economic activities and this also serves as an important indicator of fiscal disability.	7.5 per cent weight to the forest cover in the horizontal devolution formula

Recommendations of FC-XV in Report for 2020-21

- Forest, a global public good, is a resource that ought to be preserved and expanded through afforestation of degraded and open forests for national benefit as well as to meet our international commitments. In our Report for the Year 2020-21, we allocated 10 per cent weight to forest cover in the horizontal devolution formula.
- As indicated in Figure 4, there is a problem of air quality in the Million-Plus cities. Realising that these cities are future centres of urban growth and that there is a need to increase the livability of these cities to attract investment, we recommended, in our report for 2020-21, **Rs. 4,400 crore for the Million-Plus cities in 2020-21 for the purpose of improving ambient air quality.** The MoEF&CC, as the nodal Ministry, shall, in consultation with State Governments, develop city-wise and year-wise targets on ambient air quality based on annual average concentrations of PM10 and PM2.5, monitor and evaluate the improvement and recommend disbursement of grants of such cities.
- **How has assigning weight to forest cover in the horizontal devolution formula incentivised the States?**
 - ◇ As indicated in Figure 8, India constitutes 1.77 per cent of the world's total forest area and is committed towards achieving the targets of the Paris Agreement and other international obligations. There is a clear need to protect, preserve and nurture the rich heritage of this natural resource. Hence, FC-XIV assigned 7.5 per cent weight to the forest cover in the horizontal devolution formula. While this was a positive step in recognising and compensating for the fiscal disabilities that States faced due to forest cover, absence of earmarking of funds has adversely affected the protection of forests in some States.
 - ◇ In our report for 2020-21, we assigned a higher weight of 10 per cent for the forest and ecology criterion. The increase in weight is also recognition of forests, a global public good, as resources that ought to be preserved and expanded (through afforestation of degraded and open forests) both for national benefit as well as to meet our international commitments.

Key Proposals of Ministry to FC-XV

- The Ministry proposed that a weightage of 7.5 per cent should be given to forests in the horizontal devolution formula.
- The Ministry also proposed sector-specific grants in the following areas:

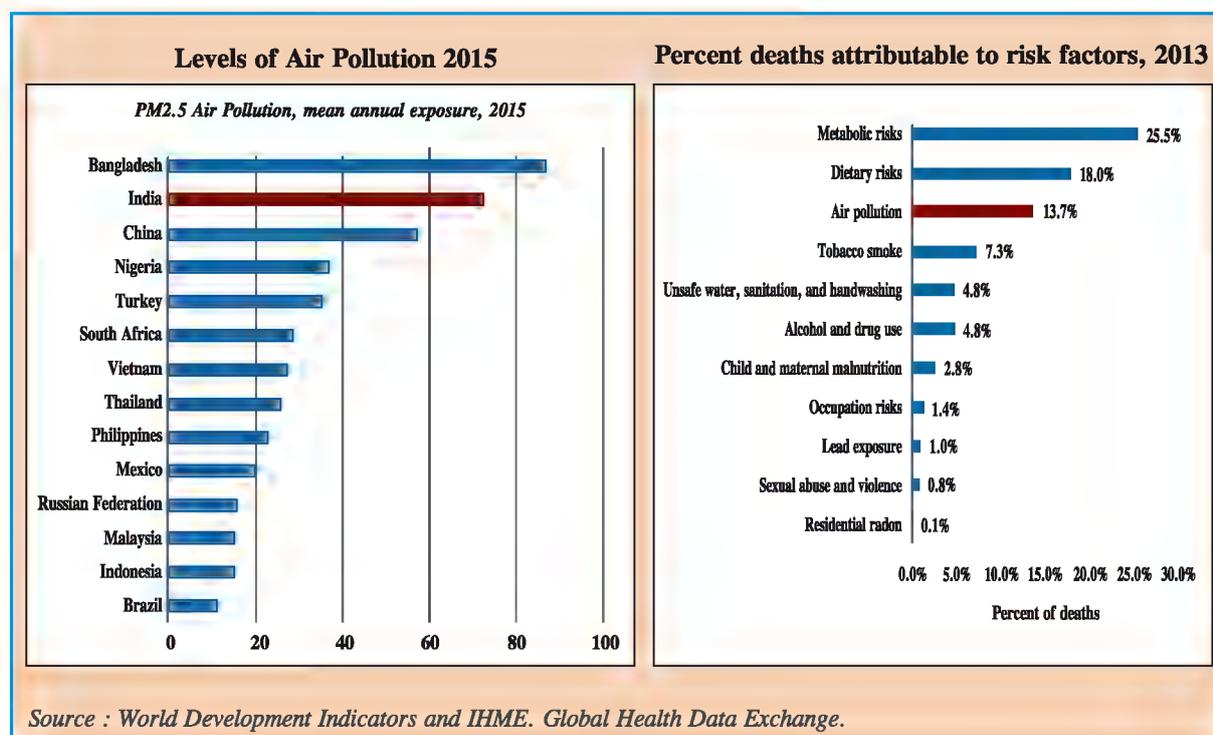
- ◇ Rs 1.69 lakh crore for pollution abatement and performance.
- ◇ Rs 1.35 lakh crore for meeting Goal 5 under NDC of Climate Change.
- ◇ Rs 0.62 lakh crore for catchment area treatment and forest restoration.
- The Ministry also suggested that evaluation on the improvement of the air quality for a State should be based on four parameters: (a) strengthening of the institutional framework; (b) source-wise cause analysis for air pollution; (c) progress on action plans and compliance with statutory guidelines; and (d) quantification of air quality improvement. The relative weight assigned to these factors will shift over time, with more emphasis on institution and capacity building in the initial years and to outcomes in later years.

Challenges

Air Pollution

- The World Bank, in its report Systematic Country Diagnostics 2018, highlighted that in 2016, Delhi was the world’s most polluted megacity. India experienced one of the worst deteriorations in air quality of any country between 1990 and 2013.

Figure 9: High Levels of Air Pollution and Associated Costs



- In Delhi, the share of days with severe pollution in the winter months rose from one-third in 2014-15 to two-thirds in 2015-16.
- More than 99 per cent of India's population breathed levels of PM2.5 (higher than World Health Organisation guidelines), and 70 per cent (more than 900 million people) inhaled polluted air that exceeded Indian standards for ambient air quality.

Urban Governance

- India is experiencing significant urban growth and this is unevenly distributed across the country.
- Although India's urban areas are engines of growth and poverty reduction, the so-called 'demons of density' – disease, crime, pollution, congestion – are increasingly prevalent.
- This is largely due to the limited and uneven progress in developing a coherent framework for urban governance, despite the Seventy-Fourth Constitutional Amendment. Progress is undermined by the structure of urban governance, with the local tier having:
 - ◇ narrow jurisdictional (geographic) boundaries
 - ◇ lack of functional assignments for the management of the urban built environment
 - ◇ limited fiscal assignments
 - ◇ poor city-level governance, including weak public expenditure and revenue management systems and low level of transparency over governance processes and service delivery outputs.

Dependence on Thermal Energy

- While there has been tremendous increase in the country's renewable energy capacity, fossil fuels, especially coal, continue to remain an important source of energy. Almost 60 per cent of India's installed capacity is in thermal power, within which coal-based thermal power plants account for the largest share. As mentioned earlier, though India contributes less in terms of CO₂ per capita (Figure 7) as compared to other world economies, it is a significant contributor in CO₂ emissions worldwide (Figure 6).

Suggested Areas of Reforms

Adopt a Hybrid, Performance-Based Approach

- Such an approach would incentivise States to pursue incremental reforms to the enabling environment for effective air quality management, while supporting the broader reform of State Government-local government relations. This approach will serve the longer-term vision for decentralised urban governance. Key dimensions of the approach would include:
 - ◇ **Specific eligibility (prior action) requirements** for States and local bodies to receive funding, including:
 - a) establishment of an air quality coordination mechanism at the State-level and establishment of city (airshed) level data systems (a compliant air quality monitoring system);
 - b) completion of a compliant pollution source apportionment study to be updated at least every three years;
 - c) completion of a compliant abatement action plan by the major source of pollution.
 - ◇ **Faster Adoption and Manufacturing of Electric Vehicles (FAME):** According to FAME guidelines, there is a need for increasing the charging facilities as well as the market share of electric vehicles which, according to the Economic Survey 2019, is only 0.06 per cent, against 2 per cent in China and 39 per cent in Norway. There is a need to enhance the network of charging infrastructure which should be installed across all Million-Plus cities, smart cities, state capitals and major highways connecting major cities.

Frame a Comprehensive Energy Policy

- A comprehensive energy policy should take into consideration the economies of both coal and renewables as they are interdependent. India has been undertaking one of the world's largest renewable energy expansion programmes in the world. The share of renewable energy in the Indian electricity mix is progressively increasing.
- Unlike gasoline and diesel, whose prices are closer to internationally efficient levels, reflecting global warming externalities, those of coal, natural gas, and kerosene are below such levels, partly reflecting the provision of subsidies to select consumers of LPG and kerosene. The challenge is to bring their prices closer to environmentally

efficient levels, consistent with India's NDC pledge and commitments made in the 2015 Paris agreement, along with carefully targeted assistance to potentially affected vulnerable households.

FC-XV recommendations in its final report

- ◇ The forest and ecology criterion in the formula for horizontal devolution set out in Chapter 6 of Volume I has factored in both the ecological services being provided by States' forest cover to the country as well as the cost disabilities. This is arrived at by calculating the share of the dense forest of each State in the aggregate dense forests of all the States. We have assigned a weight of 10 per cent for the forest and ecology criterion. The increase in weight is also a recognition of forests, a global public good, as a resource that ought to be preserved and expanded through afforestation of degraded and open forests for national benefit as well as to meet our international commitments.
- ◇ Open waste burning on the streets, activities of small informal industries (for example, rice popping using burning tires), spontaneous combustion in landfills are significant, but overlooked, sources of pollution. Waste decomposition and poorly managed composting also affect air quality by releasing toxic gases as well as methane into the atmosphere. We are also of the view that ending open waste burning, proper solid waste management and composting at landfill sites can play significant role in air quality management. Hence, we have recommended in Chapter 7 of Volume I, that both informal burning as well as spontaneous combustion at landfills should be monitored carefully. This could include:
 - a) Monitoring of open waste burning and chemical traces from waste burning at landfill sites as well as the development of an app to allow reporting by citizens by sending pictures.
 - b) Process-tracing of waste management in each city to identify where the breakdown in waste management occurs.
- ◇ We also took feedback from other experts from the World Bank and WRI about our recommendations in the report for 2020-21. It appears that only persistent efforts lead to a reduction in the complex problem of poor air quality. Furthermore, the improvement in ambient air quality observed in 2020-21 may simply be the outcome of the lockdowns triggered by the Covid pandemic. In view of this, we recommend that a preparatory period of one year be provided to put in place the necessary equipment and procedures to move towards the

desired objective of clean air in the medium term. Hence, in the year 2021-22, as suggested by MoEF&CC, the relative weightages for assessment of city performance on air quality may be based on four parameters: (a) strengthening of the pollution monitoring mechanism; (b) source-wise cause analysis for air pollution; (c) progress on action plans and compliance of statutory guidelines; and (d) quantification of air quality improvement with the weights as prescribed in the following table.

Table 2: Relative Weightage for City Performance Assessment

Parameter	2021-22	2022-23	2023-24	2024-25	2025-26
Strengthening of pollution monitoring mechanism	10	-	-	-	-
Source-wise cause analysis for air pollution	10				
Progress on action plans and compliance of statutory guidelines.	10	-	-	-	-
Quantification of air quality improvement	70	100	100	100	100
Total	100	100	100	100	100

- ◇ Quantification of improvement in air quality has two parts, namely, reduction in particulate matter (PM98) and increase in the number of good days according to improvement in the air quality index (AQI). Management of open waste burning and combustion at landfill sites should constitute an integral part of the air quality improvement index, with suitable weights arrived at on the basis of source-wise cause analysis for air pollution in specific urban agglomerations. After 2021-22, for all the remaining four years of the award period, the entire weightage will be on the fourth parameter of quantification of improvement in air quality.
- ◇ While the MoEF&CC shall handhold and monitor the urban local bodies in these efforts, the MoHUA shall take initiative in implementing parameters (b) and (c) and also management of open waste burning and combustion at landfill sites by the concerned urban local bodies, once the MOEFCC, as technical adviser, agrees to the source-wise analysis for air pollution and year-wise action plans from 2021-22 to 2025-26.

Chapter 7

Department of Fertilizers

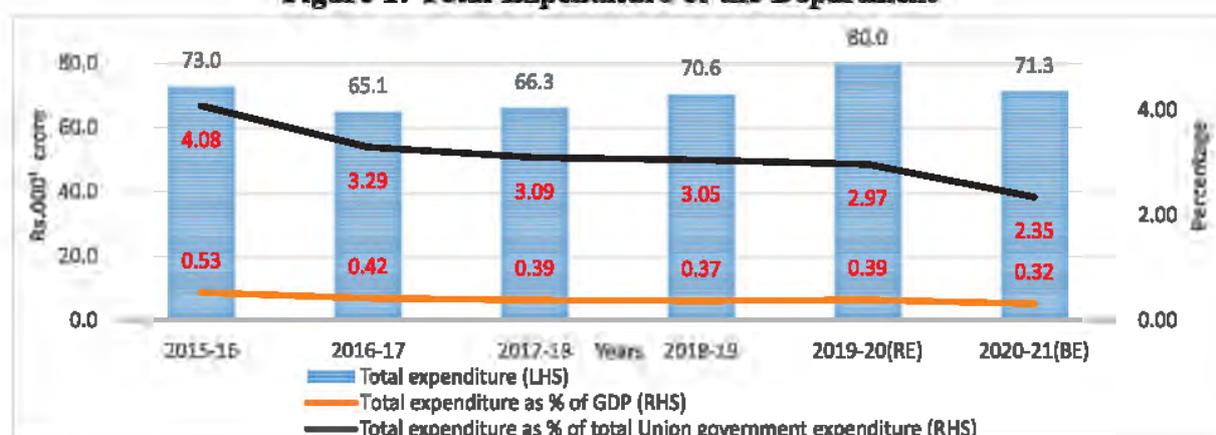
The main objective of the Department of Fertilizers is to ensure adequate and timely availability of fertilizers at affordable prices so as to maximise agricultural production. The key functions of the Department include planning, promotion and development of the fertilizers industry, planning and monitoring of production, import and distribution of fertilizers and management of financial assistance by way of subsidy/concession for indigenous and imported fertilizers. The Department also administers nine public sector undertakings.

In view of the challenges that the Department faces, some of the suggested reforms include the need for balanced use of fertilizers, direct benefit transfer, promoting R&D with the objective of restoration of soil health balance, turning to organic and natural farming and promoting need-based training programmes for farmers.

Overall Profile of the Department

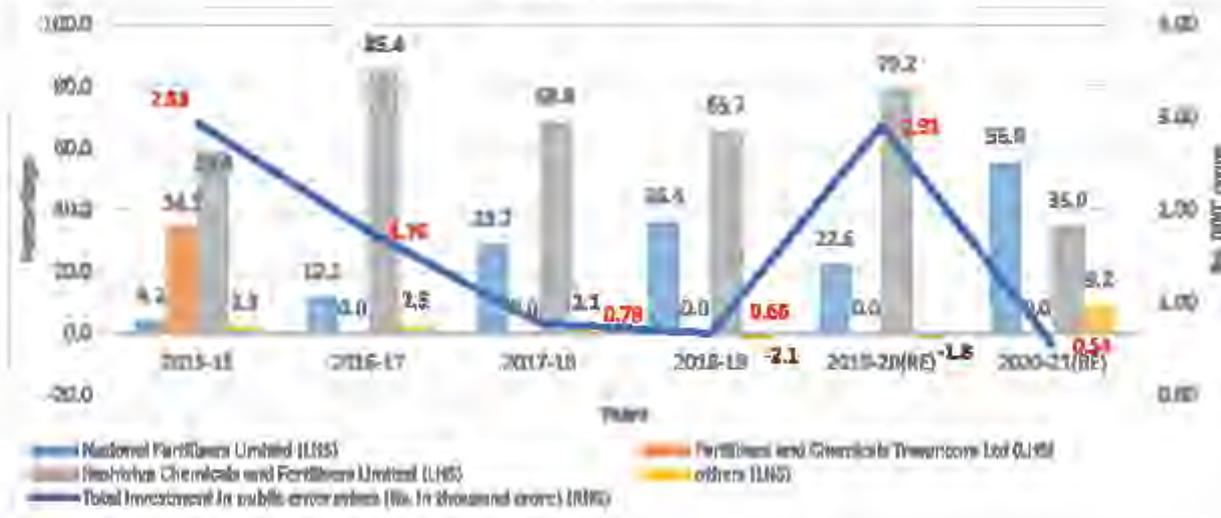
- The main objective of the Department is to ensure the timely availability as well as affordability of fertilizers to the agriculture sector. To this end, it is responsible for promoting the development of the fertilizer industry and has oversight over the production, import and distribution of fertilizers and administering the subsidy regime. It has nine public sector undertakings under its jurisdiction.
- The Union Budget 2020-21 allocated around Rs. 71,000 crore to the Department of Fertilizers, which is 10.9 per cent lower than the allocation in the revised estimates (RE) of the Union Budget 2019-20. This allocation is 2.35 per cent of the Union Government's total budget of 2020-21 and 0.32 per cent of estimated gross domestic product (GDP). The year-wise allocation of Department of Fertilizers is given below in Figure 1.

Figure 1: Total Expenditure of the Department



Source: Union Budgets and CSO

Figure 2: Break-up of Investment Financing of the Department via Budget Support and IEBR

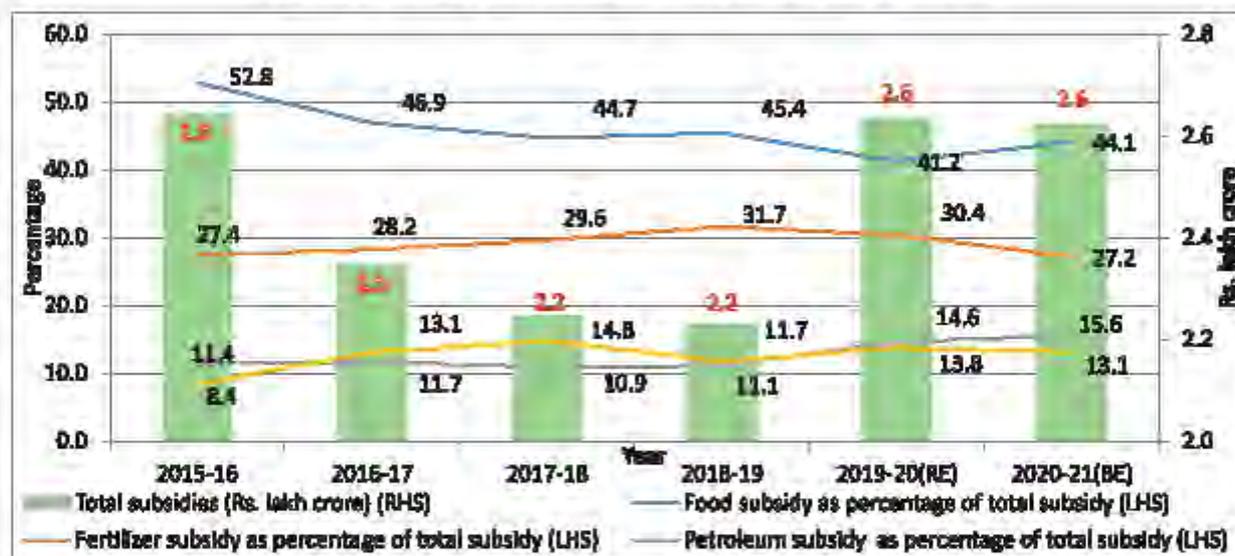


Source: Union Budgets

Fertilizer Subsidy

- Expenditure on the fertilizer subsidy is the second highest after food subsidy. In 2020-21 (BE), the total expenditure on subsidies is budgeted at Rs. 2.62 lakh crore, which is 0.5 per cent lower than the 2019-20 revised estimate figure of Rs. 2.64 lakh crore. The share of fertilizer subsidy in overall subsidies is estimated to decline from 30.4 per cent in 2019-20 (RE) to 27.2 per cent.

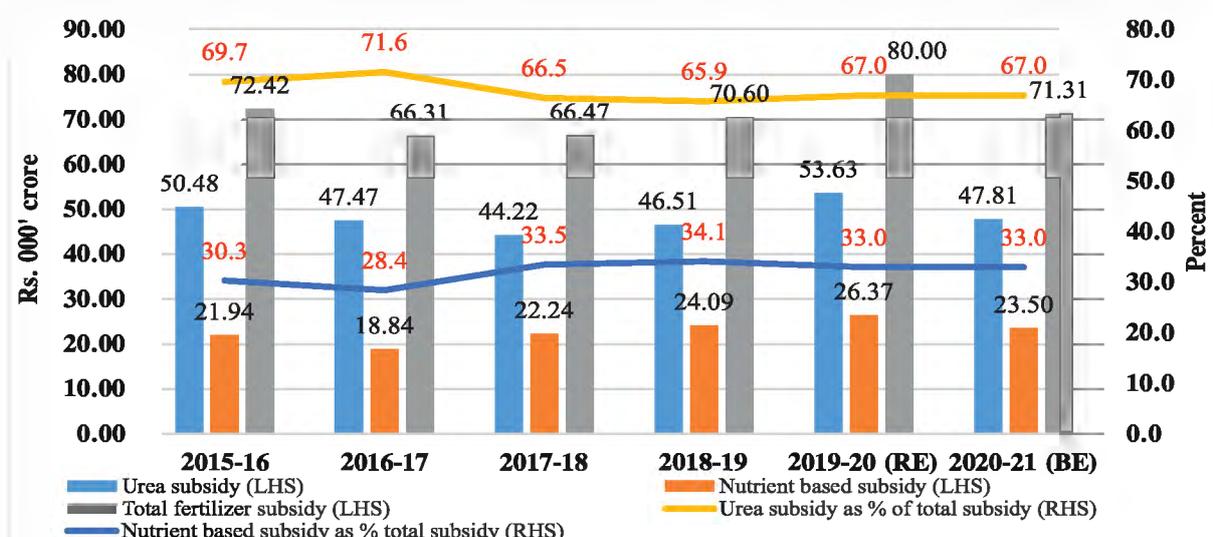
Figure 3: Major Subsidies of the Union Government



Source: Union Budgets

- In the last two years, the expenditure on subsidy has been increasing. This is due to the increasing use of fertilizer and rise in the per unit subsidy for urea. The import prices of fertilizers as well as price of feedstock and intermediaries affect fertilizer prices. It is, therefore, imperative on the part of the Union Government to rationalise the subsidy expenditure for urea as well as phosphate (P) and potash (K) fertilizers (nutrient-based subsidy) to sustainable levels without impacting the agricultural productivity. Figure 4 presents the year-wise and category-wise details of the fertilizer subsidy.

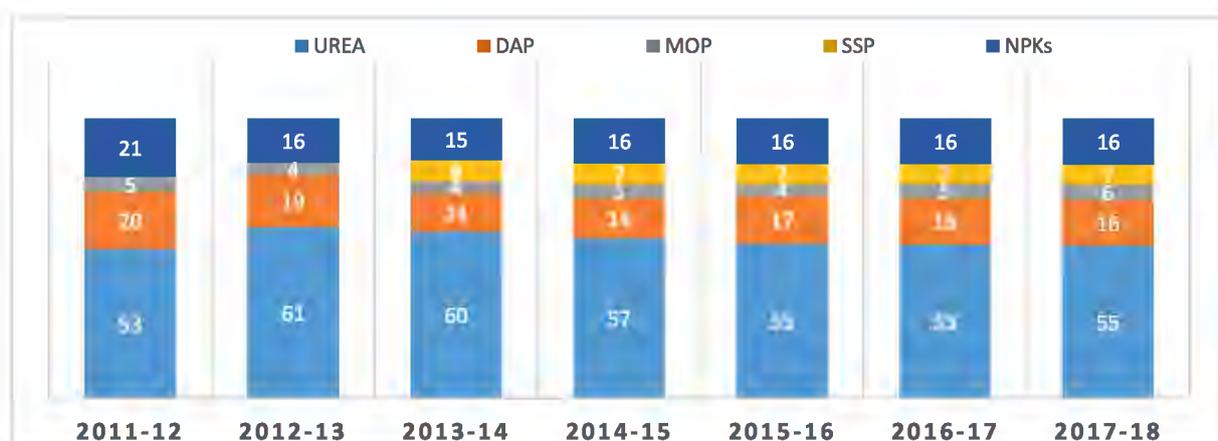
Figure 4: Break-up of Fertilizer Subsidy



Source: Union Budgets

- The Union Government makes urea and twenty-one grades of P&K fertilizers available to farmers at subsidised prices. The subsidy is paid to fertilizer manufacturers and importers who then sell at lower rates to farmers. Since April 2020, the subsidy on P&K fertilizers is being governed by the nutrient-based subsidy (NBS) scheme. The NBS subsidy rates are revised annually. Also, based on the farmer-friendly approach, the Government is committed to ensuring the availability of P&K fertilizers to farmers at an affordable price.
- While urea (N) prices are controlled by the Government, the prices of P&K fertilizers are market-driven. This has kept urea prices low and this has led to its overuse, as also of di-ammonium phosphate (DAP) and muriate of potash (MOP). This is one of the reasons for imbalanced use of soil nutrients. While the recommended ratio of use of the N, P and K fertilizers is 4:2:1, this ratio in India was at 6.7:2.7:1.34 in 2016-17. It is important to ensure balanced usage of fertilizers through appropriate pricing of primary, secondary and micro-nutrients. Figure 5 gives details of the consumption of N, P and K fertilizers.

Figure 5: Consumption of Fertilizer (%)



Source: Movement Division, Department of Fertilizers

- India is heavily dependent on imports for fertilizer raw materials like natural gas, rock phosphate and potash. Its entire requirement of potash is imported. In the case of phosphate (raw material as well as finished product), the import dependence is 90 per cent, while in the case of natural gas it is 60 per cent. Table 1 gives details of production and import of fertilizer from 2011-12 to 2017-18.

Table 1: Indigenous Production and Import of Fertilizer (%)

	Urea Indigenous	DAP Indigenous	NPKs Indigenous	SSP Indigenous	Total Indigenous	Urea Import	DAP Import	NPKs Import	MOP Import	Total Import
2011-12	37	7	13	7	64	13	12	6	5	36
2012-13	43	7	12	9	70	15	11	1	4	30
2013-14	44	7	13	8	73	14	6	1	6	27
2014-15	40	6	14	8	68	16	7	3	7	32
2015-16	40	6	14	7	68	14	10	3	5	32
2016-17	44	8	14	8	74	10	8	1	7	26
2017-18	43	8	15	7	73	11	8	1	8	27

Source: Fertilizer Statistics, Fertilizer Association of India (FAI) and Movement Division, Department of Fertilizer

Note: DAP: Di-ammonium phosphate; NPK: nitrogen, phosphorus and potassium; SSP: single superphosphate; MOP: muriate of potash

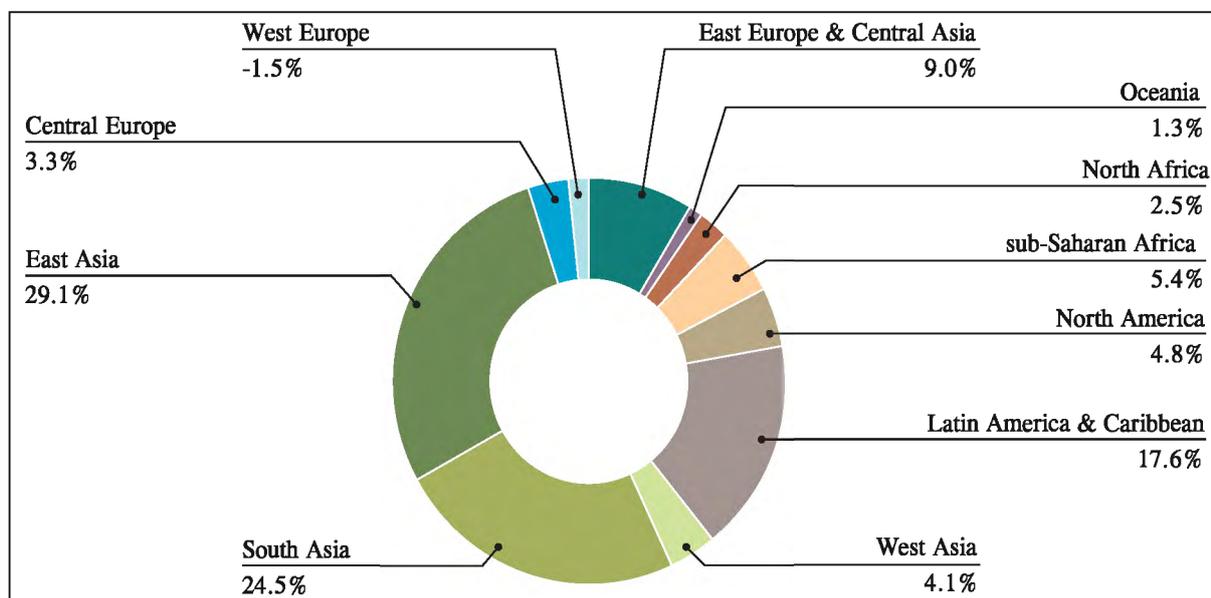
- The Government introduced direct benefit transfer (DBT) of subsidies in fertilizers in October 2016. The Department of Fertilizers chalked out a programme to implement DBT in modified form initially through pilot projects in sixteen districts. The first phase was implemented across the country from March 2018 and the second phase (DBT 2.0) was launched in July 2019. DBT in fertilizer subsidy is a step in the direction of

leveraging technology to plug leakages and check pilferages and black marketing while making life easy for farmers. The new initiatives taken under DBT 2.0 include DBT dashboards, PoS 3.0. software, desktop PoS version and initiatives taken to address issues relating to network connectivity, peak season sales and malfunctioning of PoS devices.

India’s Fertilizer Consumption when Compared Globally

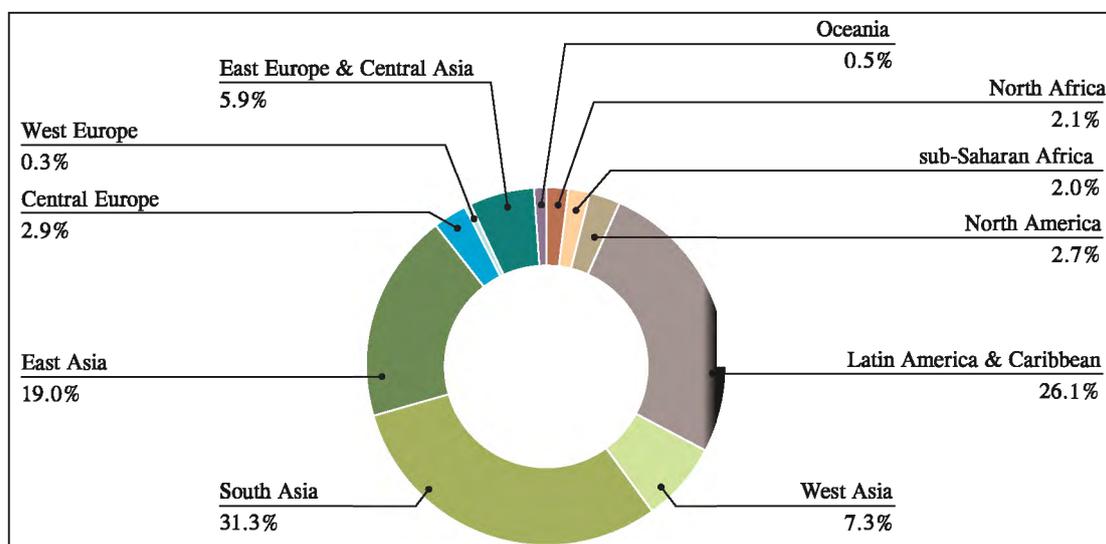
- Fertilizer consumption in South Asia (including India) has been increasing rapidly and the sub-continent is the second largest fertilizer consuming region in the world. Its share in world consumption of nitrogen, phosphate and potash is 19.8 per cent, 18.4 per cent and 9.1 per cent, respectively.
- a. **Consumption of nitrogen:** In 2018, among the Asian countries, the bulk of the increase in world demand for nitrogen came from China (18 per cent) and India (17 per cent), followed by Indonesia (6 per cent), Pakistan (4 per cent), Bangladesh, Vietnam (2 per cent each) and Malaysia and Thailand (1 per cent each).

Figure 6: Regional and Sub-Regional Share of World Increase in Nitrogen Fertilizer Consumption, 2014-18



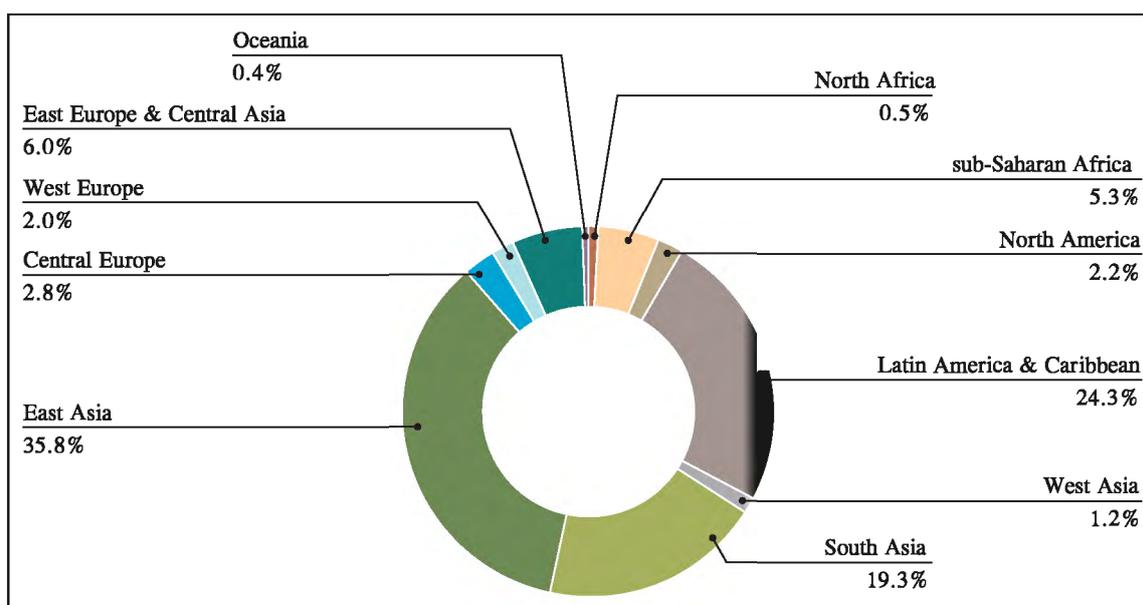
- b. **Consumption of phosphate:** In 2018, among the Asian countries, about 27 per cent of the growth in world demand of phosphate came from India, 10 per cent from China, 5 per cent from Indonesia, 3 per cent from Pakistan and 2 per cent from Bangladesh.

Figure 7: Regional and Sub-Regional Share of World Increase in Phosphate Fertilizer Consumption, 2014-18



- c. **Consumption of potash:** In 2018, among the Asian countries, China accounted for 23 per cent of the growth in world demand for potash, followed by India (17 per cent), Indonesia (7 per cent), Malaysia (2 per cent) and the rest of Asia (1 per cent).

Figure 8: Regional and Sub-Regional Share of World Increase in Potash Fertilizer Consumption, 2014-18



Source: World Fertilizer Outlook-2018, FAO (Figure 6 to 8)

Challenges

Decline in marginal productivity of soil

- Over the years, the increased usage of fertilizers has helped improve agriculture productivity significantly. However, recent trends in agriculture have indicated a decline in the marginal productivity of soil. Declining efficiency of fertilizers use is also one of the factors for low productivity. Another reason is the comparatively high usage of straight fertilizers (urea, DAP and MOP) as against complex fertilizers (NPKs), which are considered agronomically better. Low or non-usage of secondary and micro-nutrients has also contributed towards reduced productivity. The pricing of fertilizers is also responsible for the high usage of straight fertilizers and skewed usage of nutrients.

Heavy dependence on imports

- As noted earlier, India lacks in fertilizers raw materials and is heavily dependent on imports for natural gas, rock phosphate and potash. Globally, P&K fertilizers is a seller's market with a few countries controlling the raw material, intermediates and finished fertilizers. They, therefore, heavily influence international prices. India's over-dependence on imports impacts international pricing of these commodities and makes it vulnerable to volatility in international prices and also makes fertilizer subsidies unsustainable. The use of organic fertilizer can help in reducing this import dependence. It is necessary to ensure the optimum use of fertilizers and soil nutrients for increased productivity and to reduce the subsidy burden on the exchequer.

Issue of planning and logistics

- It is necessary to arrange supplies of essential kind of fertilizers to more than 600 districts in the country at the right time which entails appropriate demand assessment for state/districts in which fertilizer type for appropriate cropping season. This also helps in ascertaining levels of imports to meet the demand-supply gap.

Increased subsidy expenditure

- Expenditure on subsidy has been showing a rising trend. While this indicates growing consumption which leads to increased productivity expenditure, rising costs and import prices are also a significant factor. As noted by the Comptroller and Auditor General (CAG) in its Report on Compliance of The Fiscal Responsibility and Budget

Management Act, 2003 (Report 20 of 2018), the Union Government has resorted to deferring dues on account of fertilizer subsidies in one year to the following year. This not only leads to increased cost in terms of interest but also affects the cash flow of fertilizer companies, affecting their operations.

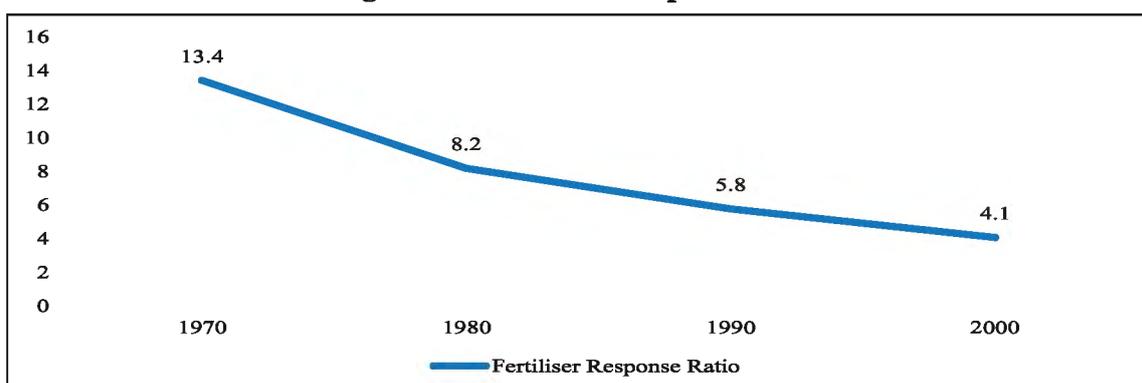
Diversions and leakages

- Subsidised fertilizer is meant only for use in agriculture but some portion, especially urea, is used for non-agriculture purposes. This means that sectors not entitled to subsidy are availing it. In addition, because of the higher prices of fertilizers in neighbouring countries, there are reports of illegal cross-border trade in subsidised fertilizer, which results in farmers in other countries benefiting from subsidies meant for Indian farmers.

Declining fertilizer response ratio

- The fertilizer response ratio is showing a declining trend, which indicates lower responsiveness of the soil to fertilizer application. According to the Department of Fertilizers, this is because of demand-supply mismatches resulting in imbalance in fertilizer usage, increasing multi-nutrient deficiency, lack of farmers' awareness about balanced plant nutrition and poor crop management.

Figure 9: Fertilizer Response Ratio



Source: Department of Fertilizers.

Measuring soil health standards

- A Soil Health Card Scheme was launched in 2015 with the objective of assessing the current status of soil health and to determine changes in soil health over time. A Soil Health Card displays soil health indicators and associated descriptive terms. The indicators are typically based on farmers' practical experience and knowledge of local

natural resources. However, inadequate trained staff, lack of power supply and internet connectivity are adversely affecting implementation of the scheme.

Revival of sick fertilizer plants

- Revamping and revival of existing fertilizer public sector undertakings in West Bengal and other states in eastern India is one of the major challenges the Department of Fertilizer faces. Presently, the Barauni unit of Hindustan Fertilizer Corporation Limited (HFCL) and the Sindri, Gorakhpur, Ramagundam and Talcher units of Fertilizer Corporation of India Limited (FCIL) are being revived. The progress on these would determine the decision on the revival of the Haldia and Durgapur units of HFCL, based on an assessment of the demand-supply gap of urea.

Key Recommendations of the Standing Committee Report dated 17-03-2020 on : ‘System of Fertilizer Subsidy’

- The Standing Committee on Chemicals and Fertilizers submitted its report on the subject ‘System of Fertilizer Subsidy’. Key observations and recommendations of the Committee include:
 - ◇ The Committee noted that any drastic change in the existing fertilizer subsidy policy would have a huge bearing on the country’s food security and must be preceded by an in-depth study and wider consultations with all stakeholders. It also recommended that interests of small and marginal farmers should be kept in mind, best international practices should be carefully studied and that education and awareness of farmers about balanced use of fertilizers should be an integral part of the policy.
 - ◇ **Direct subsidy to farmers:** The Committee observed that many fertilizer manufacturing plants are operating with very old technology and systems, and not at their highest levels of efficiency. The Government bears the cost of their inefficiency in the form of higher subsidy payouts. The Committee recommended that the companies should be free to manufacture, supply, and sell fertilizers. A farmer should be free to buy his choice of fertilizers from the market, while getting the subsidy directly credited into his bank account. Such a system will push manufacturers to produce and sell fertilizers in the most cost-effective manner, and push the inefficient firms out.

Suggested Areas of Reforms

Impact assessment of New Urea Policy, 2015

- The Department, in its memorandum to the Fifteenth Finance Commission, noted that due to the implementation of the New Urea Policy 2015, the country had witnessed the highest-ever production of urea of 24.462 million metric tonnes (MMT) in 2015-16. This has led to a decrease in the import of urea from 8.750 MMT in 2014-15 to 5.480 MMT in 2016-17. The use of urea may reduce further over time, due to the use of neem-coated urea, which was made mandatory from 2015, and with the commencement of urea production from the five public sector plants that are to be revived, each with a capacity of 1.27 MMT and two private sector urea plants of 1.34 MMT capacity each, commencing production. The import of urea may also reduce to nil by 2021-22. However, it suggested that an impact assessment of the substitution of urea with neem-coated urea be conducted.

Need for balanced fertilizer use for increasing agricultural productivity

- The Union Government's objective of doubling the income of the farmers by 2022 may see an increased use of chemical fertilizers, especially urea, the price of which is presently controlled. Hence, it is suggested that measures should be taken for the maintenance of soil health, so that the marginal productivity of soil remains unaffected.

India is turning out to be the biggest virtual exporter of water

- India is a large virtual net export of water because of the high use of fertilizer in agriculture. For example, in 2019-20, India exported 37.72 lakh tonnes of basmati rice, in the production of which around 12 trillion litres of water was consumed. This could have been much less if natural/organic manuring/fertilizer was adopted. In these times of global climate change, water is one commodity where India should not have a trade surplus. Switching to fertilizers which consume less water and also enhance productivity could be an optimum solution.

DBT in fertilizers

- Implementation of DBT in fertilizer subsidy will not only help in plugging leakages but will also reduce the import bill. Also, the pan-India roll-out of DBT was implemented in March 2018. The impact of total savings achieved because of DBT needs to be critically analysed.

Promoting organic and natural farming

- The Union Government should aggressively promote organic farming through various models like natural farming, vedic farming, cow farming, homa farming and zero budget natural farming. States can be given the flexibility to adopt any model of organic farming depending on what farmers prefer.

Addressing problems in Soil Health Cards scheme

- Issues relating to the implementation of the Soil Health Cards scheme – availability of trained staff, lack of power supply, internet connectivity, among others – needs to be addressed.

Need-based training programmes for farmers

Fertilizer use efficiency can improve if farmers are aware about the right product, dosage, time and method of application. Some of the suggested measures are the use of optimal dose based on soil health status, promotion of neem-coated urea, promotion of micronutrients, promotion of organic fertilizers, and promotion of water-soluble fertilizers.

Chapter 8

Department of Food and Public Distribution

The Department of Food and Public Distribution, under the Ministry of Consumer Affairs, Food and Public Distribution, is responsible for ensuring food security through the procurement, storage and distribution of food grains and for regulating the sugar sector.

The major challenges of the Department relate to the implementation of the National Food Security Act, 2013, digitalisation of ration cards/ beneficiaries' records, de-duplication due to Aadhaar seeding, direct benefit transfer and automation of fair price shops. The suggested reforms for the Department include restructuring of the Food Corporation of India, rationalising the food subsidy bill and maintaining the nutritional balance, revision of the central issue price, diversification in the basket of choice and initiatives towards plugging leakages.

Overall Profile of the Department

1. The Department of Food and Public Distribution, under the Ministry of Consumer Affairs, Food and Public Distribution, is responsible for ensuring food security through the procurement, storage and distribution of food grains and for regulating the sugar sector. The Department is also responsible for implementing the National Food Security Act (NFSA), 2013.
2. The Union Budget, 2020-21, allocated Rs. 122 thousand crore for the Department, which is 4.0 per cent of the Union Government's total budget and 0.5 per cent of estimated gross domestic product (GDP). The year-wise allocation of the Department's budget is given in Figure 1.

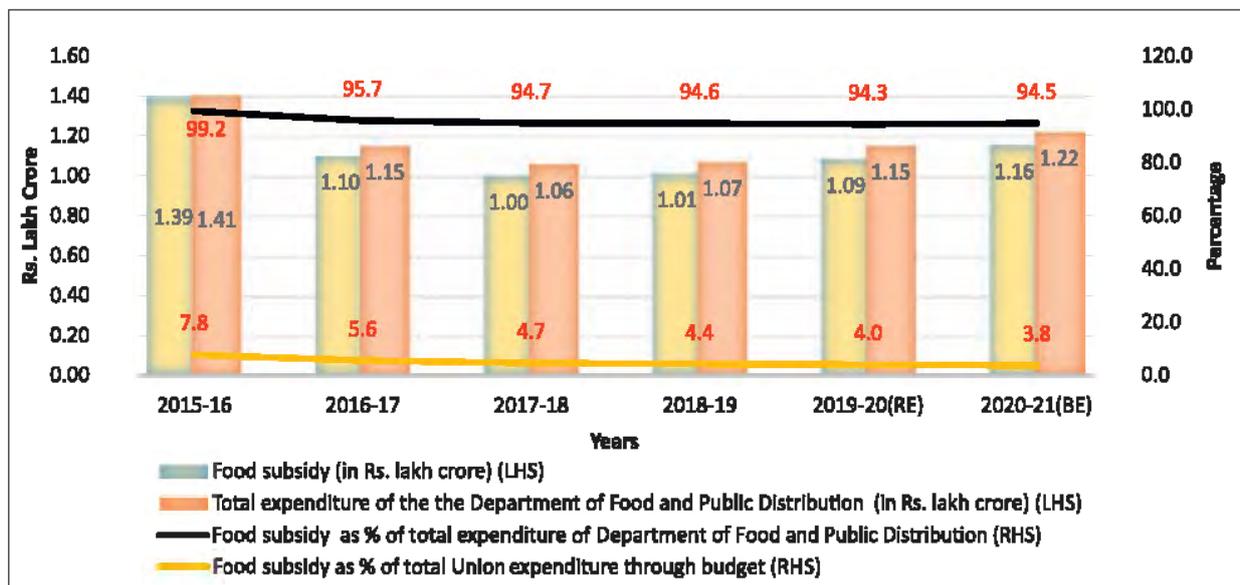
Figure 1: Expenditure as Share of Total Union Government Expenditure and GDP



Source: Union Budgets

- The cash outgo on account of food subsidy has been declining – from Rs. 1.39 lakh crore in 2015-16 to Rs. 1.10 lakh crore in 2016-17 and further to Rs. 1 lakh crore in 2017-18. The food subsidy in 2018-19 was Rs.1.01 lakh crore. But these numbers do not reflect the true outgo. For instance, in 2016-17 the Union Government gave a loan of Rs. 70,000 crore to the Food Corporation of India (FCI) from the National Small Saving Fund (NSSF). When this amount is included, the actual expenditure on food subsidy works out to Rs. 1.80 lakh crore in 2016-17. Similar loans amounting to Rs. 65,000 crore and Rs. 97,000 crore was given in 2017-18 and 2018-19 respectively. These are not reflected in the overall food subsidy figures appearing in Figure 2. In the budget estimates for 2020-21, the Department has allocated Rs. 1.16 lakh crore for food subsidy, which is 95 per cent of the total allocation towards food and public distribution.
- This subsidy is given to the FCI under the NFSA for the targeted public distribution system (TPDS) or to States for the decentralised procurement of food grains. The NFSA is mandated to cover 75 per cent of the rural population and 50 per cent of the urban population. It currently covers 810 million people.

Figure 2: Expenditure on Food Subsidy



Source: Union Budgets

- Table 1 shows the expenditure on food subsidy between 2010-11 and 2020-21 (BE). The expenditure on food subsidy increased from Rs. 63,844 crore in 2010-11 to Rs. 1.39 lakh crore in 2015-16.

Table 1: Expenditure on Food Subsidy from 2010-11 to 2020-21

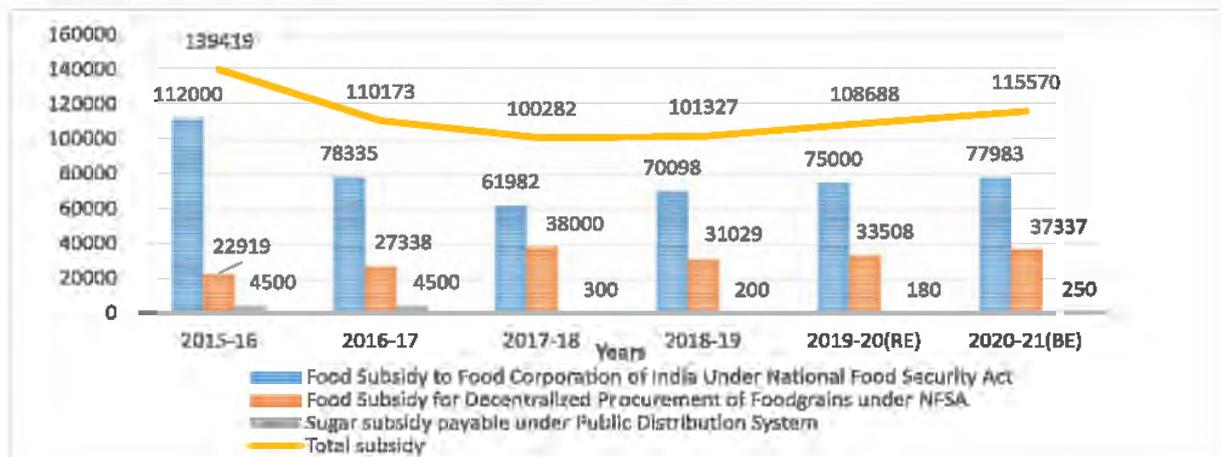
(Rs. crore)

Year	Food subsidy	% increase over the previous year	% of allocation utilised vis-à-vis BE
2010-11	63844		115
2011-12	72822	14	120
2012-13	85000	17	113
2013-14	92000	8	102
2014-15	117671	28	102
2015-16	139419	18	112
2016-17	110173	- 21	82
2017-18	100282	- 9	69
2018-19	101327	1	60
2019-20 (RE)	108688	7	59
2020-21 (BE)	115570	6	-

6. The Standing Committee on Food, Consumer Affairs and Public Distribution noted in 2016-17 the following reasons for increase in food subsidy: (i) increase in the procurement cost of food grains, (ii) non-revision of the central issue prices (CIP) since 2002 and (iii) implementation of the NFSA in all States.
7. In 2019, the Cabinet Committee on Economic Affairs approved an increase in the authorised capital of the FCI from the existing Rs. 3,500 crore to Rs. 10,000 crore. With the increase of authorised capital, additional equity capital can be infused in the FCI through the Union Budget, to fund the food grains stock perpetually held by it. This will reduce the borrowings of the FCI, save interest costs and reduce expenditure on food subsidy.
8. Food subsidy is the cost incurred and subsequently reimbursed by the Department for the procurement, storage and distribution of food grains. The subsidy amount is the difference between the cost of procuring food grains and the price at which they are given to the beneficiaries (the CIP). As seen in Figure 3, expenditure on food subsidy is classified under three heads: (i) subsidy to FCI for TPDS, (ii) subsidy to States for decentralised procurement and (iii) sugar subsidy.

Figure 3: Break-up of Food Subsidy

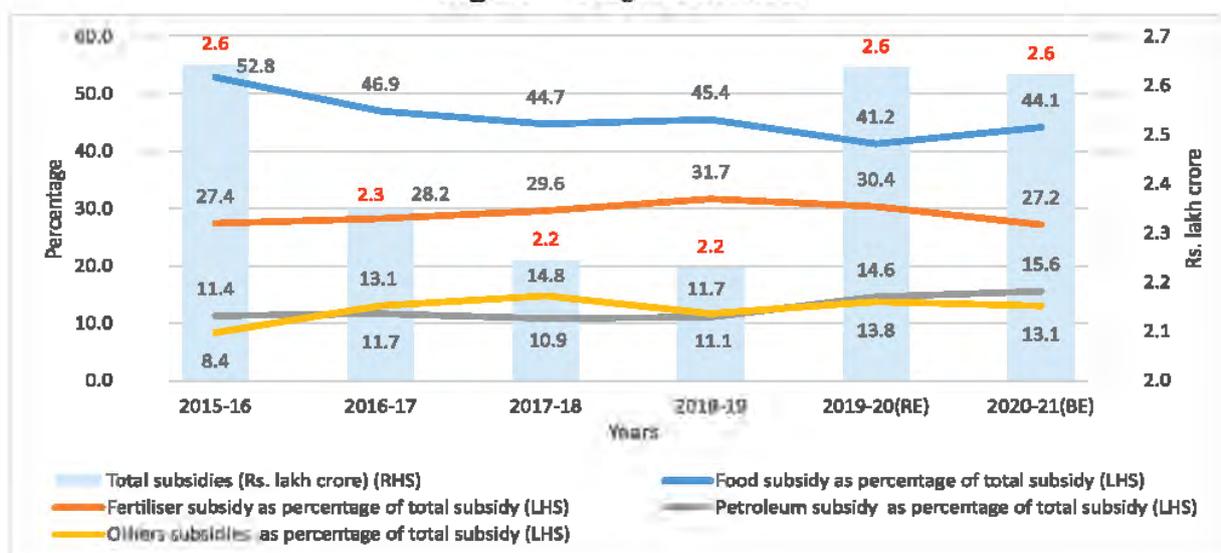
(Rs. crore)



Source: Union Budgets

- The Union Government provides food subsidy to FCI as reimbursement of the loss it incurs in its procurement, storage and distribution operations. When the budget for food subsidy is not sufficient to clear the dues of FCI, these dues are carried over to the following year. Further, due to delay in payment of subsidy dues, FCI borrows money from various sources for funding its operations.
- Major subsidies of the Union Government:** Food subsidy has the largest share in the overall subsidy expenditure of the Union Government, followed by fertilizer and petroleum. It is also the largest component of the Department's expenditure, accounting for 95 per cent of the allocation in 2020-21.

Figure 4: Major Subsidies



Source: Union Budgets

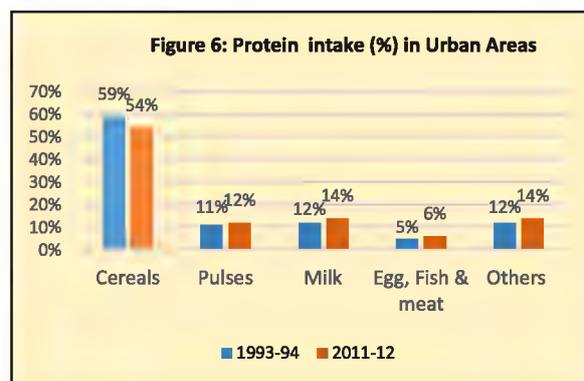
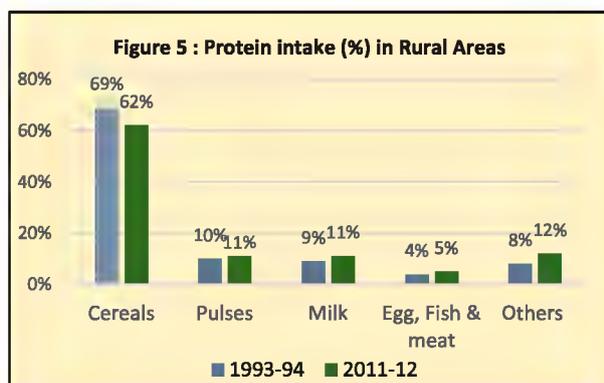
Challenges

Budget for food subsidy

- As mentioned earlier, in addition to the expenditure on subsidies, the Department is required to provide additional funds for payment of interest on borrowings by the FCI.

Nutritional balance

- The NFSA guarantees five kg of food grains per person per month to entitled beneficiaries. Households that are beneficiaries of the Antyodaya Anna Yojana, which constitute the poorest of the poor, are entitled to 35 kg per household per month.
- Figure 5 and Figure 6 shows there has been a change in the pattern of nutritional intake among people both in rural and urban areas.



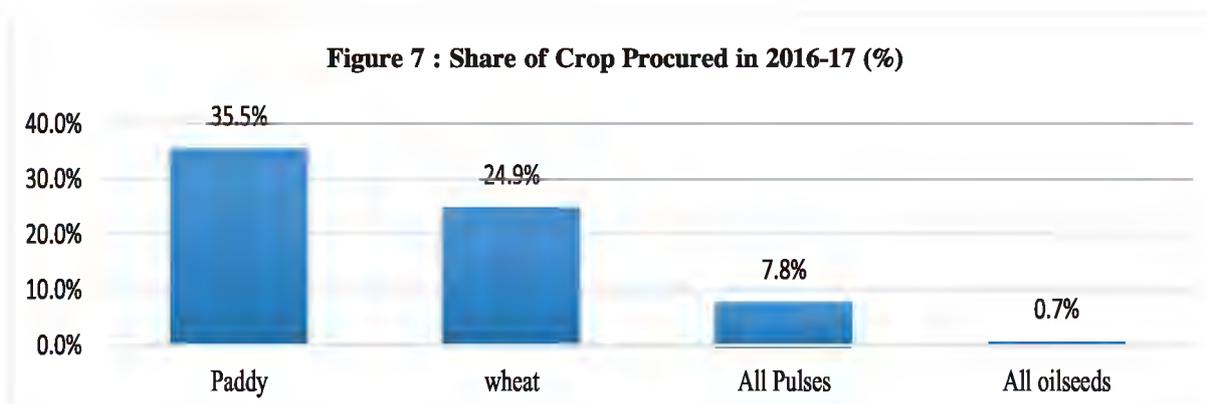
Source: Nutritional Intake in India 2011-12, NSSO

- Although cereals or food grains contain only 10 per cent protein, their share as a percentage of the total protein intake has been over 50 per cent in both rural and urban areas. However, other foods such as meat and pulses, which contain more than 20 per cent protein, account for only 15 per cent of the total protein intake of the country.
- The share of cereals in food consumption has reduced by 7 per cent in rural areas and 5 per cent in urban areas, whereas that of milk, eggs, fish and meat has increased. This indicates a reduced preference for wheat and rice, and a rise in preference for other protein-rich food items. The NFSA states that the Union and State Governments should take steps to diversify commodities distributed under the TPDS.

Imbalance in farm production

- The minimum support price (MSP) is the price at which the government purchases a farmer's produce and seeks to incentivise farmers to grow crops on which the support is

offered. Food grains for the public distribution system are procured at the MSP. Because of the need to maintain a buffer stock for the PDS, procurement under MSP has been dominated by wheat and paddy. This has tended to skew 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. Figure 7 shows the share of crop produce procured in 2016-17.



Source: Committee on Doubling Farmers' Income 2017, Ministry of Agriculture and Farmers Welfare

Revision of central issue price

- Under the NFSA, food grains are given to beneficiaries at the CIP, which was last revised in 2002. The CIP for wheat is Rs 2 a kg and for rice it is Rs 3 a kg (Table 2).
- Against this, the economic cost (which includes costs incurred in procurement, stocking, distribution) as of August 2020 is Rs. 26.83 a kg for wheat and Rs. 37.26 a kg for rice. Food subsidy is calculated as the difference between the economic cost and the CIP.

Table 2: Economic Cost, Central Issue Price and Subsidy

(Rs per kg)

Commodity	CIP (AAY and Priority Households)	CIP (APL)	Economic Cost 2020-21 (BE)	Subsidy for AAY and Priority Households	Subsidy for APL
Rice	3.00	8.30	37.26	34.26	28.96
Wheat	2.00	6.10	26.83	24.83	20.73

Source: Food Grain Bulletin, August 2020, Department of Food and Public Distribution

Note: AAY – Antyodaya Anna Yojana, APL – above poverty line.

- While the economic cost for rice has increased from Rs. 1,098 per quintal (Rs. 11 per kg) in 2001-02 to Rs. 3,727 per quintal (Rs. 37 per kg) in 2020-21, and of wheat from Rs. 853 per quintal (Rs 9 per kg) to Rs. 2,684 per quintal (Rs 27 per kg) over the same period, the CIP has not been revised since then. This has led to a gap between the economic cost and CIP growing, leading to an increase in expenditure on food subsidy. Trends in economic cost, CIP and subsidies for wheat and rice can be found in Figure 8 and Figure 9 below.

Figure 8: Subsidy on a Kg of Rice (Rs.)

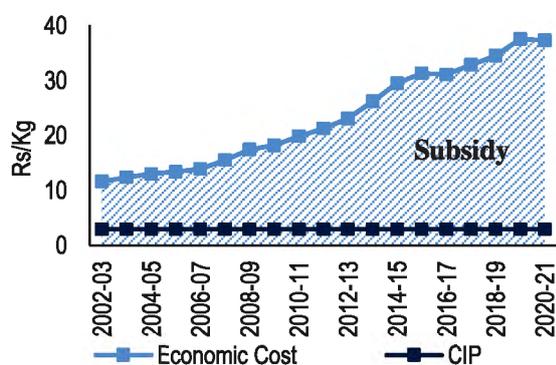
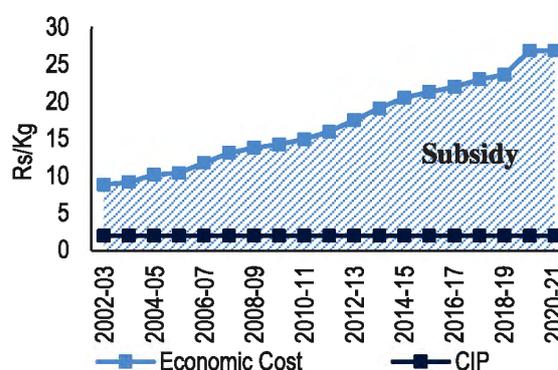


Figure 9: Subsidy on a Kg of Wheat (Rs.)



Source: Food Corporation of India

- Increasing the CIP could be one of the measures to bridge the gap between the funds requires and allocated.

Alternative subsidy systems

- The NFSA states that the Union and States should introduce schemes for cash transfers to beneficiaries. Various experts and committees have also suggested replacing TPDS with a DBT system and emphasised end-to-end computerisation of the entire public distribution system.
- DBT under the public distribution system is being implemented in two models. In the first, the subsidy amount is being transferred in cash into the bank accounts of beneficiaries, who then have the choice to buy food grains from the open market. This is being implemented in the Union Territories of Chandigarh and Puducherry and in the urban areas of Dadra & Nagar Haveli. The second mode involves automation of fair price shops, for distribution of food grains through an electronic Point of Sale (e-POS) device which authenticates beneficiaries at the time of distribution. It also electronically captures the quantum of food grains distributed to the family.

- Complete digitisation and de-duplication of beneficiaries' data are necessary pre-requisites for the implementation of DBT in either mode. In this regard, the Department has stated that during the process of digitisation and implementation of the NFSA, 2.75 crore ration cards have been deleted since January 2013 on grounds of ghost/fraudulent/duplicate/ineligible beneficiaries, migration and deaths of beneficiaries, among other reasons. This has resulted in annualised better targeting of food subsidy amounting to Rs. 17,500 crore per year. This, however, has not led to any reduction in allocation or any savings in the budget expenditure, as deleted rations cards were replaced by inclusion of new eligible beneficiaries under the NFSA. This, therefore, has no bearing on the fiscal federal structure.

Table 3: Achievements of TPDS Computerisation

Scheme Components	Achievement
Digitization of ration cards/ beneficiary's data	Completed in all States/UTs
Online allocation of food grains	Completed in all States/UTs except UTs of Chandigarh & Puducherry, which have adopted DBT/Cash transfer scheme
Computerization of supply chain management	Completed in 25 States/UTs and the work is in progress in the remaining States/UTs
Transparency portals	Set up in all States/UTs
Intra-State portability of ration cards to enable purchase from any FPS in the State	Operational in 11 States
Grievance redressal facilities	Toll-free helplines/online registration facility is available in all States/UTs

Source: Department of Food & Public Distribution, Economic Survey 2018-19

Initiatives to Deal with Fallout of Covid 19 Pandemic

- The Covid-19 pandemic has thrown all global economies, including India, into a crisis, with the International Monetary Fund and rating agencies revising GDP growth projections downwards. This is expected to have a serious impact on food security. According to the Food and Agricultural Organization, the four pillars of food security are availability, access, stability and utilisation. Availability and access become extremely important in the present context.
- The lockdowns and resultant stoppage of transport networks across the country

affected the availability of labour and inputs for agricultural operations. It also disrupted food supplies. The consequent fall in rural incomes is expected to adversely impact food demand as well as overall economic growth. Under the given circumstances, the Union Government has taken the following measures:

- ◇ As part of the Rs 1.70 lakh crore Pradhan Mantri Garib Kalyan Anna Yojana (PMGAY), the Union Government announced distribution of free food grains and cash payment to economically vulnerable women and senior citizens and farmers. More than 420 million people received financial assistance of Rs. 65,454 crore under the package. The Union Government has extended PMGAY till November 2020.
- ◇ Under the Atmanirbhar Bharat package, the Government of India has decided that five kg of food grains will be provided free of cost per month for two months – May and June 2020 – to about 80 million migrant labour who are not covered under NFSA or State-specific schemes. The all-India allocation of food grains under this scheme is eight lakh metric tonnes. The Union Government will fully bear the total estimated cost of about Rs. 3,500 crore for implementation of this scheme. State Governments are responsible for identification of migrants and distribution of food grains.
- ◇ Another initiative of the government is the “One Nation One Ration card” programme, which seeks to use technology to enable migrants to access the public distribution system from any part of the country by March 2021. At present, migrant families are not able to access food in States other than their domicile State. This scheme will enable a migrant beneficiary to access the public distribution system from any fair price shop in the country. Intra-State portability has been introduced in twenty States. As many as 670 million beneficiaries in twenty-three states covering 83 per cent of beneficiaries of the public distribution system will be covered by national portability by August 2020 and 100 per cent national portability will be achieved by March 2021. All the States/Union Territories are expected to complete full automation of fair price shops by March 2021.

Suggested Areas of Reforms

Restructuring of FCI

- The entire food grain management system must be made more efficient by reorienting

the role of the FCI in MSP operations, procurement, storage and distribution of grains under the TPDS. This was one of the key recommendations of the Report of the High Level Committee on Reorienting the Role and Restructuring of Food Corporation of India (Shanta Kumar Committee) Report and we agree with this recommendation.

Revision in the rates of CIP

- The issue of the burgeoning food subsidy bill needs to be addressed by the Union Government for the sustainability of food security operations. The rates of CIP were fixed under the NFSA initially for a period of three years from the date of commencement of the Act on 13 July 2013. Since then these rates have not been revised. The wider coverage provided under the Act, together with lower CIPs than the pre-NFSA regime, have obvious implications for the food subsidy bill.

Issue of procurement under stocking norms and transparency in the subsidy mechanism

- Open-ended procurement of food grains by FCI far beyond buffer stocking norms creates a shortage in the open market at a particular point of time. Later, FCI resorts to open market sale. In 2018-19, FCI godowns were stocked with three times more food grains than the stocking norms/buffer norms required, following which it started an open market sale scheme to bulk buyers. It was also seen that the infrastructure required for storage of the food grains was short of requirement. Adequate efforts should also be made to address this issue.

Accountability with responsibility

- Improving government accountability, efficiency and effectiveness along the chain from inputs to outcomes is perhaps India's biggest economic policy challenge. More than a third of the value of food subsidies does not reach the intended beneficiaries because food stocks are either wasted or sold illegally in the open market. The Government needs to strengthen the implementation mechanism and ensure that subsidies reach the beneficiaries without any leakages.

Switch to DBT

- It is recommended that all the States should strive to switch to DBT as this can help in reducing the food subsidy bill of the Government. It is also suggested that 100 per cent

introduction of biometric identification and Aadhaar can plug the leakages in the public distribution system.

Diversification in basket of choice

- In order to maintain nutritional balance and looking at the change in the food consumption pattern from cereals to other protein-rich foods, the Union and State Governments should take steps to diversify commodities distributed under the public distribution system.

Rationalisation of sugarcane pricing

- In line with recommendations of the Commission for Agricultural Costs & Prices, it is suggested that rationalisation of sugarcane pricing is extremely important for improving the efficiency of the sugar industry. Fair and remunerative price (FRP) must be implemented in all the States and the announcement of the State-advised price (SAP) by States could be reconsidered. Also, if a State Government decides to continue with the SAP, the difference between SAP and FRP should be paid by it directly to the farmers.

Sustainable planning and implementation

- The Department of Food and Public Distribution has mentioned in its memorandum that in the medium term, subsidy rationalisation and better targeting may result in a reduction in the subsidy bill. It also pointed to many factors influencing the procurement price, which is part of the economic cost. The Government may often increase the minimum support price to help farmers in distress or because of market conditions. The Government needs to look closely at this issue as well in order to manage the rising subsidy bill.

Chapter 9

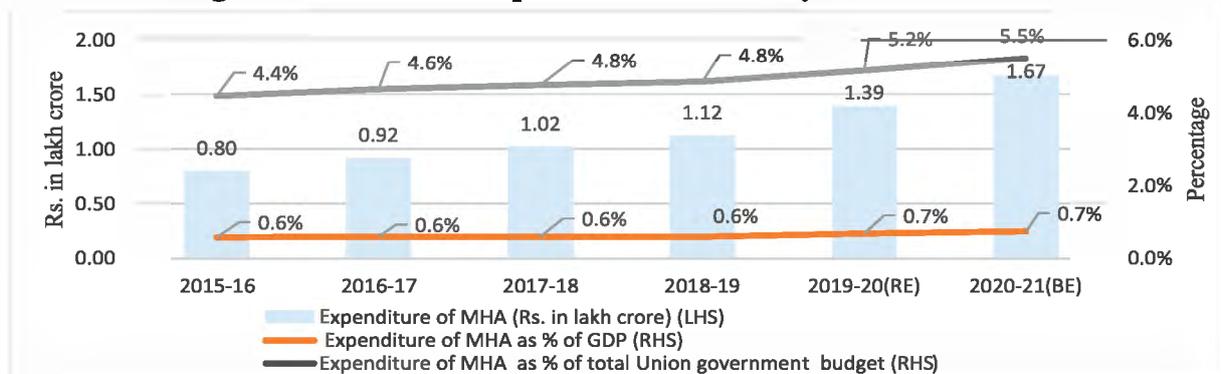
Ministry of Home Affairs

The Ministry of Home Affairs (MHA) has varied responsibilities, the most important among them being internal security, border management, Union-State relations, administration of Union Territories, management of the Central Armed Police Forces and disaster management. Though 'public order' and 'police' are the responsibilities of States under the Seventh Schedule to the Constitution, Article 355 charges the Union with the responsibility to protect every state against external aggression and internal disturbance and to ensure that the government of every state is carried on in accordance with the provisions of the Constitution. In pursuance of these obligations, the Ministry of Home Affairs continuously monitors the internal security situation, issues appropriate advisories, shares intelligence inputs, extends manpower and financial support, guidance and expertise to State Governments for the maintenance of security, peace and harmony without encroaching upon the constitutional rights of the States.

Overall Profile of the Ministry

1. The Union Budget 2020-21 allocated Rs. 1.67 lakh crore to the Ministry of Home Affairs (this includes police and Union Territories). This allocation is 5.5 per cent of the Union Government's total budget of 2020-21 and 0.7 per cent of estimated gross domestic product (GDP). This is an increase of 20 per cent over the revised estimates in 2019-20, which was Rs. 1.39 lakh crore. Further, this is 41 per cent higher than the budget allocation of 2019-20, which was Rs 1.19 lakh crore. A significant part of the increase is because funds to Jammu and Kashmir and Ladakh are being allocated through the Ministry of Home Affairs in 2020-21, following the reorganisation of Jammu and Kashmir into two Union Territories of Jammu and Kashmir and Ladakh.
2. The allocation to the Ministry of Home Affairs is the fourth highest allocation among all Union Ministries. The year-wise allocation is given in Figure 1.

Figure 1: Year-Wise Expenditure on Ministry of Home Affairs

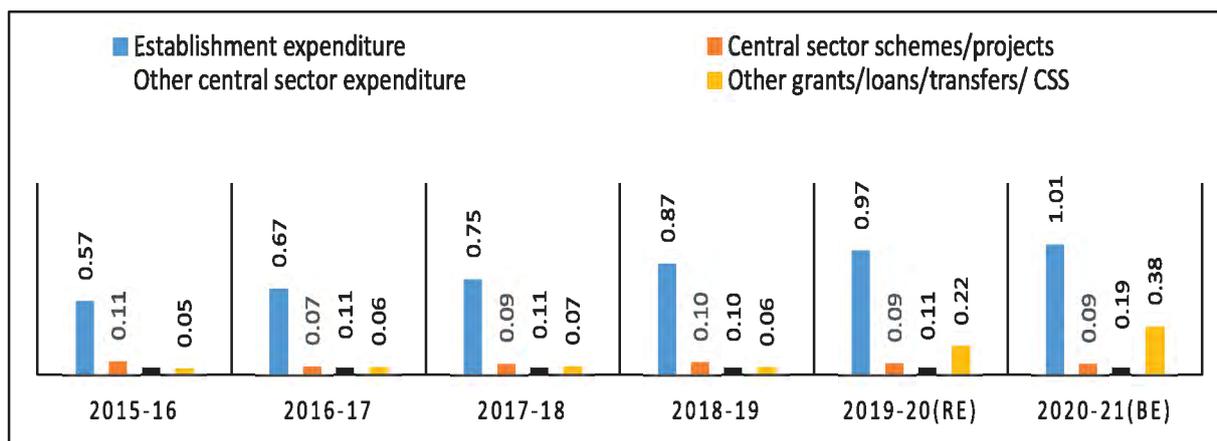


Source: Union Budgets and CSO

- The Ministry spends 60 per cent of its allocation on establishment alone, followed by expenditure on other grant/loans/transfers.

Figure 2: Composition of Budget Allocation

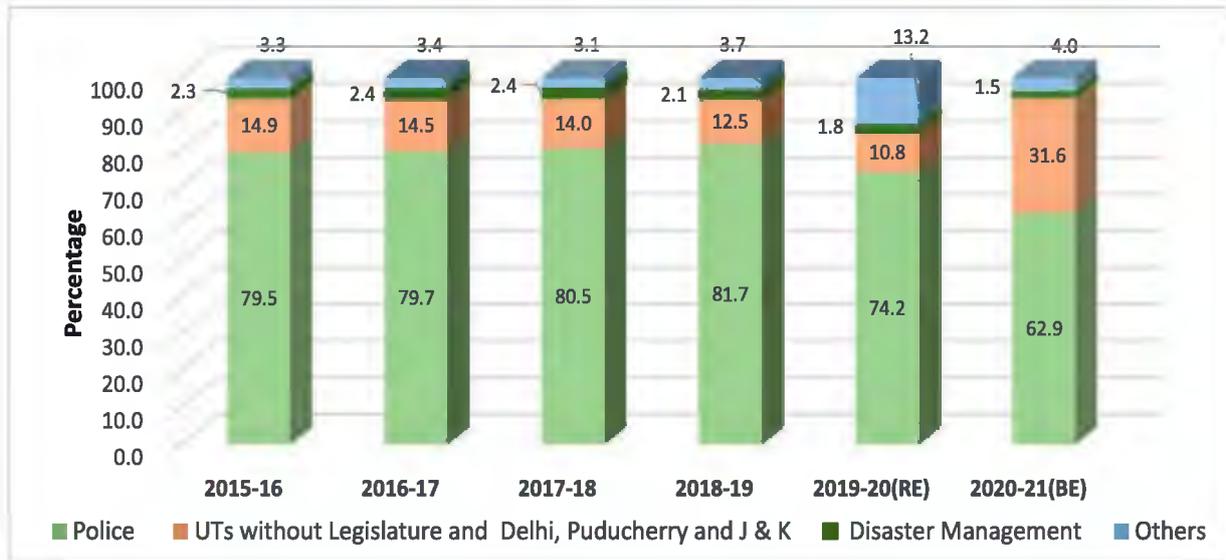
(Rs. lakh crore)



Source: Union Budgets

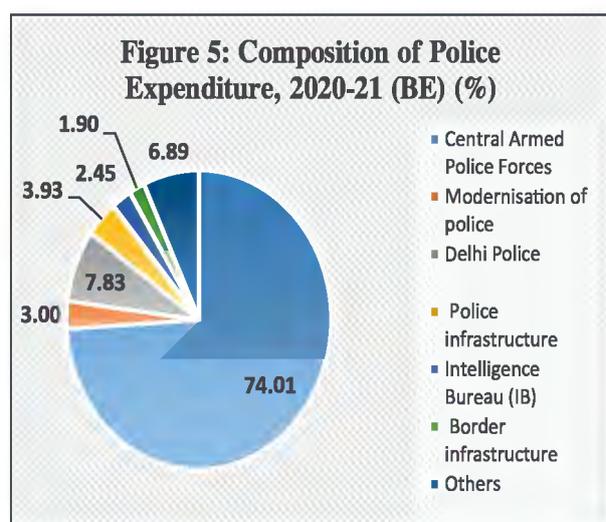
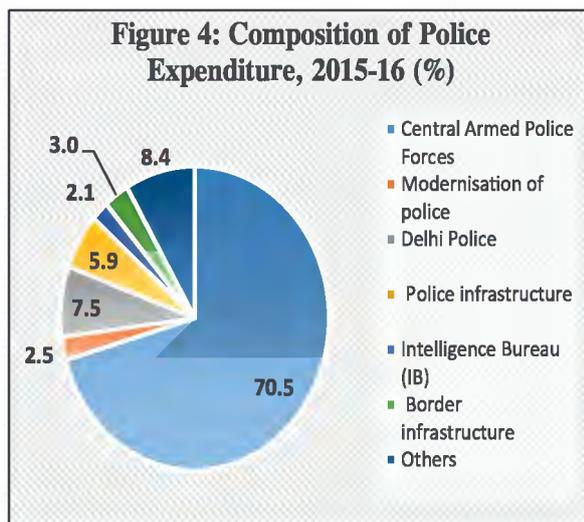
- Of the total budget provision for 2020-21, 62.9 per cent is allocated for the police, 31.6 per cent for Union Territories, and 1.5 per cent for disaster management and the balance 4 per cent for miscellaneous items.
- The expenditure on Union Territories declined from 14.9 percent in 2015-16 to 10.8 percent in 2019-20 (RE). It increased to 31.6 percent in 2020-21 (BE) due to the reorganisation of Jammu and Kashmir. In our Report for the Year 2020-21 we stated that since Union Territories are the responsibility of the Union Government, they are within the purview of the Union Budget. After notional estimation, the share of the erstwhile State of Jammu and Kashmir would have come to around 0.85 per cent of the divisible pool. We took a view that there is a strong case for enhancing it to 1 per cent of the divisible pool in order to meet the security and the other special needs of the two Union Territories. Since this enhancement is to be met from Union Government's resources, we recommended that the share of States in the Union's taxes be decreased from 42 per cent to 41 per cent for 2020-21.

Figure 3: Sector-Wise Expenditure (%)



Source: Union Budgets

- Under the Constitution, police and public order are State subjects. However, the Union Government supplements the efforts of the States to fight extremism. The Union is responsible for the seven Central Armed Police Forces (CAPFs) and the Delhi Police. In addition, it provides the infrastructure for border management and intelligence gathering. The Union Government also supports the expenditure on the state police through the Centrally sponsored schemes (CSS), Assistance to States for Modernisation of Police Forces etc.



Source: Union Budgets

- Following the recommendations of the Fourteenth Finance Commission (FC-XIV), it was decided that the CSS for modernisation of police forces would be delinked from Union Government funding from 2015-16. 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. The Ministry advocated for continuation of the scheme and also extended Central assistance to the States.

Figure 6: Union Funds for Modernisation of State Police Forces and Crime and Criminal Tracking Network and Systems

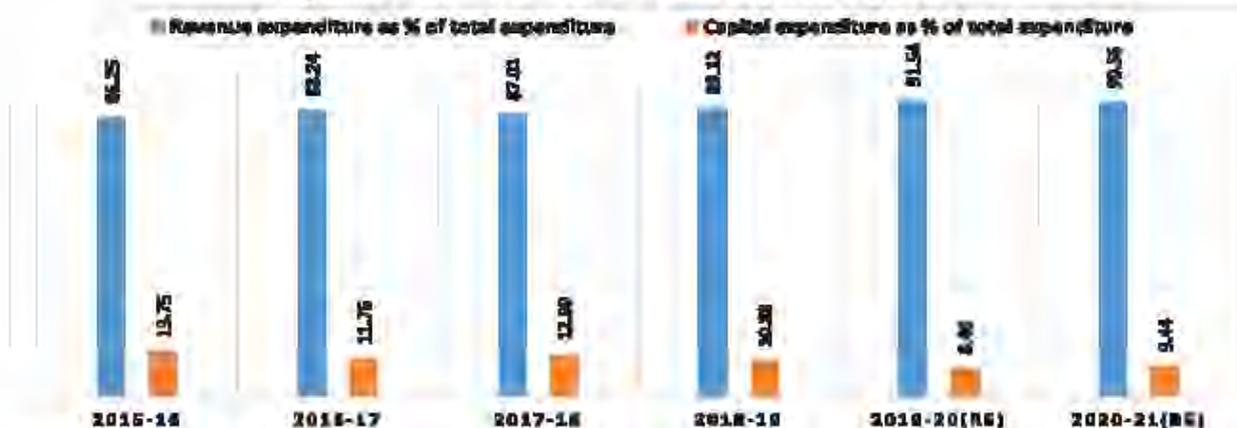
(Rs. crore)



Source: Expenditure Budgets, Union Government

- The share of revenue expenditure in the total expenditure of the Ministry has increased from 86.25 per cent in 2015-16 to 91.54 per cent in 2019-20 and the share of capital expenditure has, correspondingly, declined from 13.75 per cent to 8.46 per cent over the same period. However, the revenue expenditure is estimated to decrease by 0.98 per cent and the capital expenditure increase by the same ratio in the budget estimates of 2020-21.

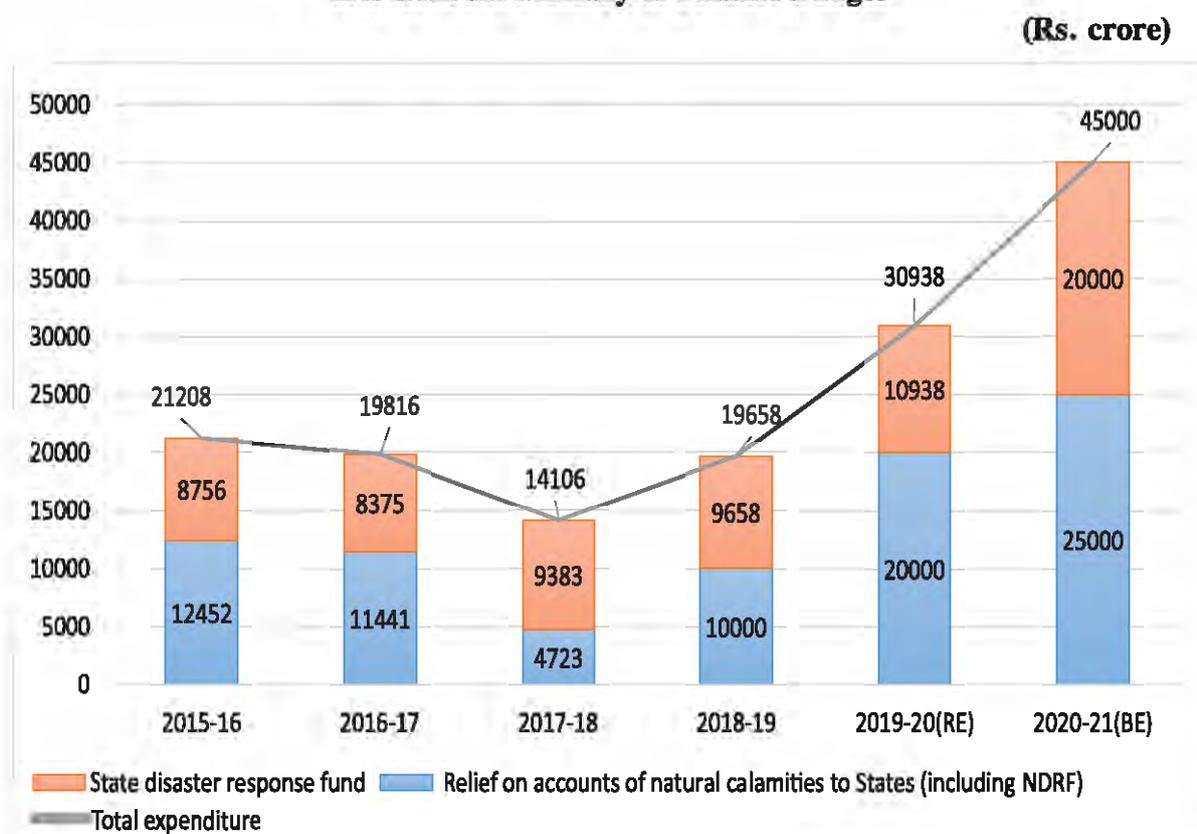
Figure 7: Ratio of Revenue and Capital Expenditure



Source: Union Budgets

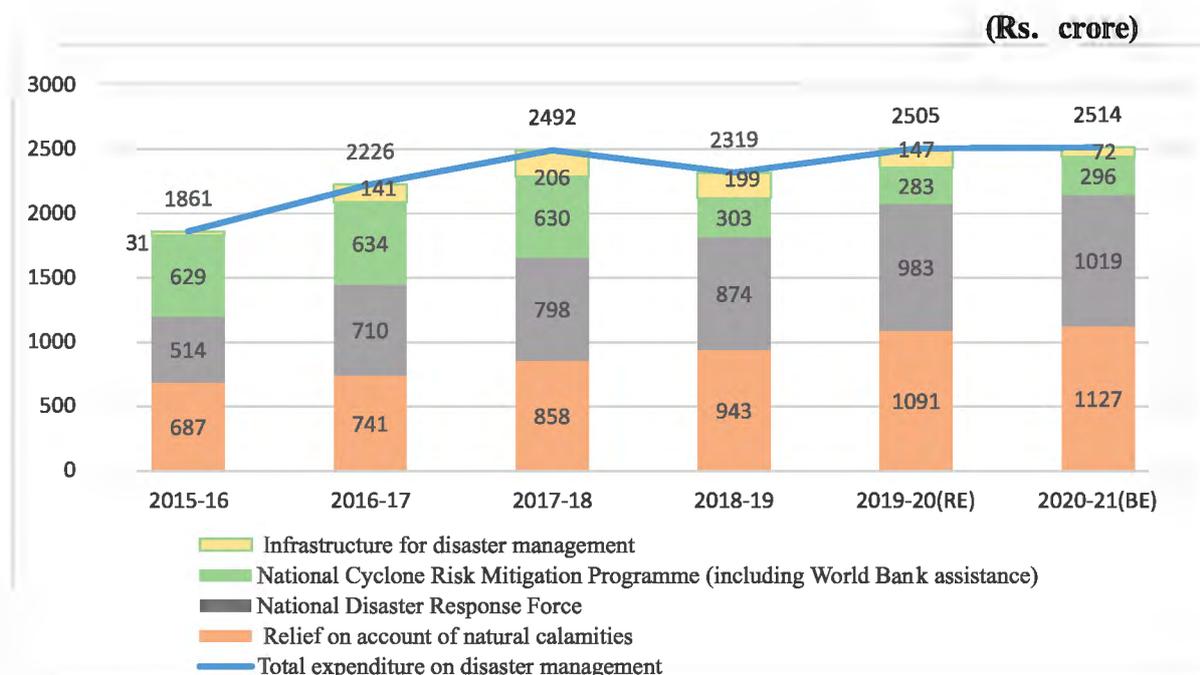
9. **Disaster Management:** The Ministry of Home Affairs is the nodal Ministry for handling all types of disasters other than drought, which is handled by the Ministry of Agriculture. It is responsible for various aspects of disaster management, including capacity building, mitigation and response to natural calamities and man-made disasters. With the outbreak of the novel Corona virus disease (Covid-19) globally, it is for the first time that a pandemic has been recognised as a ‘notified disaster’. The move has enabled State Governments to spend a larger proportion of funds from the State Disaster Response Fund (SDRF) to fight the pandemic. Subsequently, the Disaster Management Act has also been invoked for the first time to effectively manage this crisis. In April 2020, the Union Government released an amount of Rs. 11,092 crore in advance to States under the SDRF to fight the pandemic. Figures 8 and 9 show the item-wise allocation related to disaster management. The major portion of the expenditure on disaster management is spent by the Ministry of Finance, while the Ministry of Home Affairs has a smaller share in spending.

Figure 8: Expenditure on Disaster Management met from the Ministry of Finance Budget



Source: Union Budgets

Figure 9: Expenditure on Disaster Management met from the Ministry of Home Affairs Budget



Source : Union Budgets

Challenges

Insufficient budget allocation

- In its memorandum to us, the Ministry of Home Affairs has mentioned that the budget allocation is not sufficient to meet its requirements, as a result of which capital spending has stagnated. There is an immediate need to increase spending on security, including expenditure on police. It will also facilitate ease of doing business and attract foreign investment.

Need for separate funding mechanism for internal security

- The Ministry has proposed that a separate fund for internal security be set up, which could be utilised to meet the capital expenditures of the Union and States on a priority basis. The shortfall between budgetary projections and allocations for capital heads for CAPFs and also for the scheme for modernisation of police forces could be an indicator for quantifying the amount for the separate fund.
- The Ministry estimated specific grants for internal security to the tune of Rs. 63,385

crore over the five years of our award period. This was based on the shortfall between budgetary projections and allocations for capital heads for CAPFs and other organisations under the Ministry's purview and also for the Scheme for Modernisation of State Police Forces. This may be allocated in the form of a separate fund and not clubbed with defence.

- The mechanism for funding of internal security and defence should be evolved separately for both, as the States have a shared responsibility for internal security but not for defence.

Central Armed Police Forces

- In 2017, the Standing Committee on Home Affairs expressed concern over the working conditions of personnel of forces guarding the borders (Border Security Force, Indo-Tibetan Border Police, Sashastra Seema Bal and Assam Rifles). The Committee also observed that the hard-area allowance for personnel of these forces guarding the borders was much lower than that of the armed forces, despite being posted in the same difficult terrains and facing harsh weather conditions.
- Some common issues related to the CAPFs are:
 - ◇ The police-population ratio remains low in India, with only 160 personnel for 100,000 population. The United Nations recommends 222 personnel for every 100,000 population, while the United Kingdom has 307 and the United States 256. There is a need to raise more battalions across the forces in order to ensure operational preparedness. This can also help in addressing the issue of low police-population ratio.
 - ◇ There is a backlog of equipment, which will become larger when battalions are raised.
 - ◇ Service and security-related issues pertaining to dedicated women battalions raised across the forces have not been addressed.
 - ◇ There is need for simplification of procedures pertaining to procurement of land as it has to be in proportion to the size of the Force.
 - ◇ Issues pertaining to human resources management and ensuring availability of family accommodations for all ranks of officers and staff across the forces need to be addressed.
 - ◇ Assessment of prospects of career advancement and training needs across the forces should be done.

Border management and infrastructure

- Funds should be provided for office and residential buildings, especially family accommodation, as these are the major reasons of high stress and dissatisfaction amongst the personnel, as well as for purchase of land.
- Border infrastructure along the open and porous borders with Pakistan, Bhutan, Nepal and Bangladesh needs to be scaled up to ensure mobility of troops and preparedness of the forces guarding these. Emphasis should be laid on better integrated border outposts.
- It is necessary to beef up essential infrastructure such as border fencing, all-weather roads and lighting of borders as it can help in strengthening the security of campuses.
- There should be need-based procurement of unmanned aerial vehicle (UAVs) for surveillance, life-saving vehicles and other essentials.
- Need-based Air Force support should be provided for the delivery of essentials for forces based in sensitive and difficult terrains.

Disaster management

- The National Disaster Response Force (NDRF) needs to be strengthened on a continuous basis by increasing its manpower as well as providing it modern equipment and training infrastructure. In addition, the various schemes under the National Disaster Management Authority (NDMA) also need to be revisited and the requirements for disaster management for the 2020-25 period need to be meticulously worked upon in consultation with various stakeholders.
- Allocation to the SDRF may be enhanced to Rs. 1.50 lakh crore during the FC-XV award period.
- The National Disaster Mitigation Fund (NDMF) needs to be set up and various Central schemes relating to disaster mitigation should be brought under its purview.
- A certain percentage of allocations to States and urban local bodies should be earmarked for revamping of fire services.

Union Territories without legislature

- Union Territories without legislature should be provided adequate financial support to bridge the resource gaps they face. This should be duly supplemented by appropriate delegation of administrative and financial powers by making suitable Constitutional and executive interventions in a phased manner.

Suggested Areas of Reforms

General

- The Union Government could direct State Governments to promote skill and competence among police personnel at the grass-root level, encourage attitudinal changes in the police, encourage gender sensitisation, harness technology and ensure community policing.
- The National Crime Records Bureau (NCRB) database needs to be updated.

Police and CAPFs

- There is a need to balance the inter-se priority between the different CAPFs. An optimal manner to distribute the funds among the different forces may be developed.
- Steps must be taken to build residential units to meet the shortages of houses for police and CAPFs personnel.
- Need-based skill development schemes may be introduced. Existing training programmes at all levels of the organisational set-up may be reviewed.
- Steps should be taken to improve the working conditions of forces at border and the CAPFs and the hard area allowance may also be suitably revised.

Security

- As suggested by the Standing Committee, the Ministry of Home Affairs should make efforts to procure mine-resistant vehicles. This could be done through import or domestic manufacturing under the 'Make in India' programme. The Committee had recommended this in the light of the fact that police and paramilitary personnel fighting left-wing extremism were getting killed because of mine blasts and ambushes.
- The Standing Committee noted that the proposal to construct 509 outposts along the borders with Bangladesh and Pakistan had been reduced to 422 outposts in 2016. It recommended that such a reduction should be reconsidered since 509 outposts would reduce the inter-outpost distance to 3.5 km, which would strengthen security. We endorse this recommendation.
- We also endorse the Standing Committee recommendation that the Ministry of Home Affairs should adopt a multi-pronged strategy to prevent youth from taking to militancy and curb financing of militant groups and simultaneously launch counter-insurgency operations.

Disaster Management

- In our Report for the Year 2020-21, we proposed comprehensive treatment of the entire gamut of functions of the disaster management cycle and had made the following recommendations:
 - ◇ Mitigation funds shall be set up at both the national and State levels in the form of a NDMF and State Disaster Mitigation Funds (SDMF).
 - ◇ Creation of funds for disaster mitigation along with disaster response, which will together be called National Disaster Risk Management Fund (NDRMF) and State Disaster Risk Management Funds (SDRMF).
 - ◇ Total amount allocated to the States for SDRMF shall be Rs. 28,983 crore in 2020-21, of which the Union share is Rs. 22,184 crore (which is 114 per cent more than the Rs. 10,344 crore provided for SDRF in the 2019-20 budget estimates). Out of this amount of Rs. 28,983 crore, the share of SDRF shall be 80 per cent and the share of SDMF 20 per cent. Within the SDRF allocation of 80 per cent, there would be three sub-allocations: Response and Relief (40 per cent), Recovery and Reconstruction (30 per cent) and Preparedness and Capacity-building (10 per cent).
 - ◇ We recommended a total national allocation for disaster management (NDRMF) at Rs. 12,390 crore in 2020-21 by using the expenditure-based methodology.
- **FC-XV recommendations on disaster management in its final report**
 - ◇ The ratio of contribution by Union and States to the State-level allocations for disaster management recommended by FC-XIII should be maintained. Thus, States are to contribute 25 per cent of funds of SDRF and SDMF except the North-east and Himalayan States which shall contribute 10 per cent, and the rest is to be provided by the Union Government.
 - ◇ Mitigation Funds should be set up at both the national and State levels, in line with the provisions of the Disaster Management Act. The Mitigation Fund should be used for those local-level and community-based interventions which reduce risks and promote environment-friendly settlements and livelihood practices.
 - ◇ Allocation of disaster management funds to SDRMFs should be based on factors of past expenditure, area and population, and disaster risk index (which reflect States' institutional capacity, risk exposure, and hazard and vulnerability

respectively). Assuming an annual increase of 5 per cent, we arrive at the total corpus of Rs.1,60,153 crore for States for disaster management for the duration of 2021-26, of which the Union share is Rs. 1,22,601 crore and States share is Rs. 37,552 crore.

- ◇ Total States' allocation for SDRMF should be subdivided into funding windows that encompass the full disaster management cycle. Thus, the SDRF should get 80 per cent of the total allocation and the SDMF 20 per cent. The SDRF allocation of 80 per cent should be further distributed as follows: Response and Relief – 40 per cent; Recovery and Reconstruction – 30 per cent; and Preparedness and Capacity-building – 10 per cent. While the funding windows of the SDRF and SDMF are not interchangeable, there could be flexibility for re-allocation within the three sub-windows of SDRF.
 - ◇ The allocation for the NDRMF should be based on expenditure in previous years. Assuming an annual increase of 5 per cent, the total national allocation for disaster management is estimated to be Rs. 68,463 crore for the duration of 2021-26.
 - ◇ The allocation for the NDRMF should also be subdivided into funding windows similar to that of States' allocation for disaster management. Hence, the NDRF should get 80 per cent of the total allocation for the NDRMF, with further division into 40 per cent for Response and Relief, 30 per cent for Recovery and Reconstruction and 10 per cent for Preparedness and Capacity-building. The NDMF should be allotted 20 per cent of the total allocation for the NDRMF. If required, the Ministry of Home Affairs may examine the need for amending the Disaster Management Act to create three sub-windows within the NDRF. While the funding window of NDRF and NDMF should be maintained, there could be flexibility for re-allocation within these sub-windows.
- **FC-XV recommendations on Defence and Internal Security in its final report**
 - ◇ The Union Government may constitute in the Public Account of India, a dedicated non-lapsable fund, Modernisation Fund for Defence and Internal Security (MFDIS), to bridge the gap between projected budgetary requirements and budget allocation for defence and internal security. This may be called *Rashtriya Suraksha Naivedyam Kosh* or any other appropriate name. The proceeds of the fund will be utilised for the following three purposes:

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- (a) capital investment for modernisation of defence services;
- (b) capital investment for CAPFs and modernisation of State Police forces as projected by MHA; and
- (c) a small component as welfare fund for our soldiers and para-military personnel.

The fund shall have the standard notified rules for its administration, public reporting, and audit by the Comptroller and Auditor General.

- ◇ The details are given in Chapter 11 (Defence and Internal Security) of Volume I of the report.

Chapter 10

Ministry of Housing and Urban Affairs

The Ministry of Housing and Urban Affairs has the overall responsibility of formulating policies, sponsoring and supporting programmes, coordinating the activities of various Union Ministries, State Governments and other nodal authorities and monitoring programmes relating to all aspects of housing and urban development.

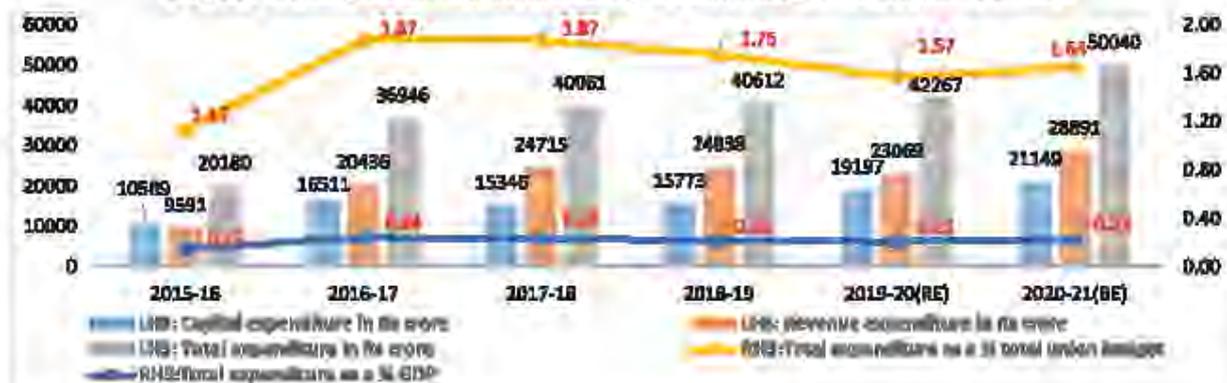
India is urbanising rapidly. The Census 2011 reports India's urban population at 377.1 million, having risen from 286 million in 2001. Million-Plus cities are faces with increasing responsibilities and deteriorating finances. These cities are, of late, facing challenges of urban sprawl and migration leading to severe strain on infrastructure, ecological degradation, especially rising air and water pollution, amongst others. These are constraining their capacity to act as engines of growth, thereby hampering their capacity to generate "agglomeration economies".

There is a need to adopt an integrated and holistic approach by developing more compact and eco-friendly cities. Revenue mobilisation methods to financially empower the municipalities should be amongst the key agenda items of the Ministry.

Overall Profile of the Ministry

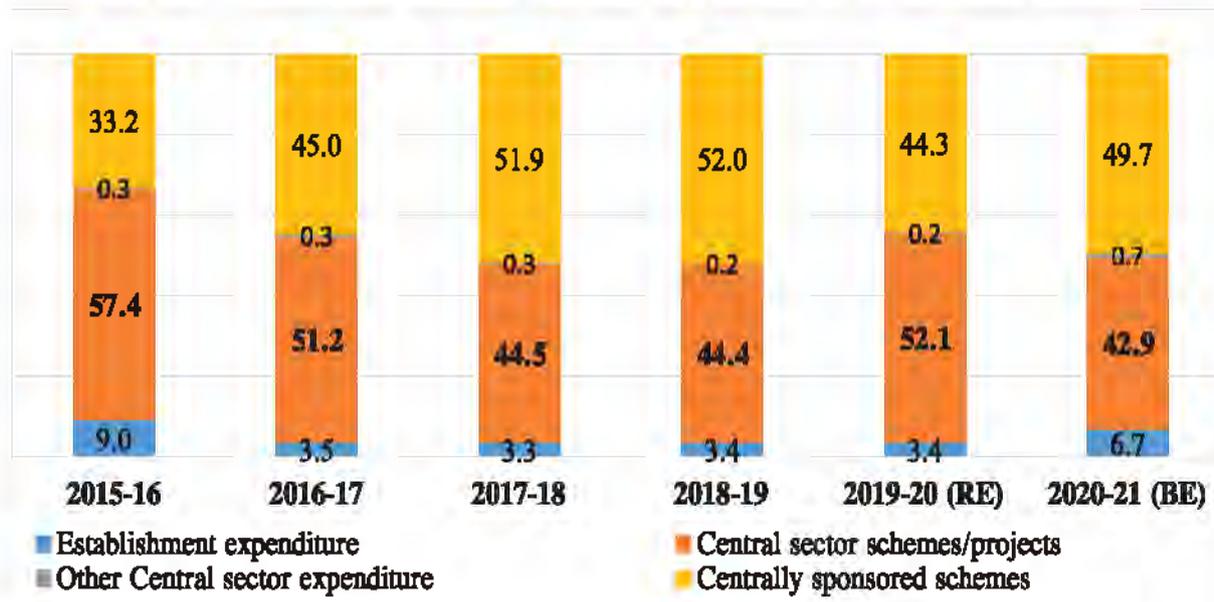
1. In the Union Budget of 2020-21, the Ministry of Housing and Urban Affairs has been allocated Rs. 50,040 crore, which is 1.64 per cent of the Union Government's total budget and 0.22 per cent of estimated gross domestic product (GDP). The year-wise allocation of the Ministry is given in Figure 1.
2. In the last few years, almost 96-97 per cent of the Ministry's expenditure is on Central sector schemes and Centrally sponsored schemes (CSS). The year-wise head-wise expenditure is detailed in Figure 2. The Ministry implements a few of the core schemes of CSS relating to urban planning, infrastructure and urban transport (Figure 3).

Figure 1: Expenditure of Ministry of Housing and Urban Affairs



Source: Union Budget

Figure 2: Head-wise Allocation of Ministry of Housing and Urban Affairs



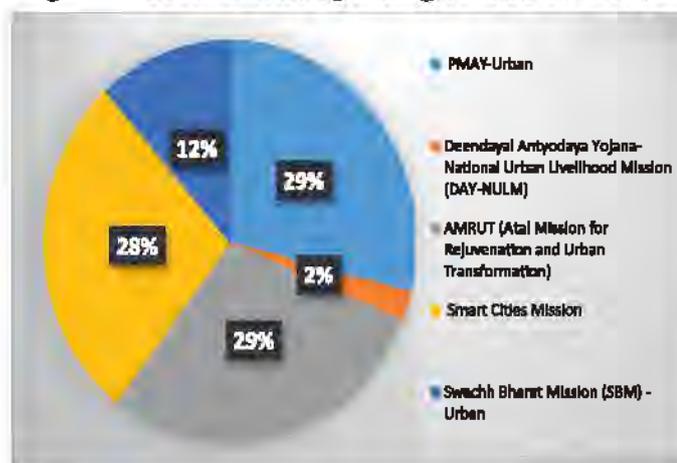
Source: Union Budgets

Table 1: Central Sector and Centrally Sponsored Schemes

	2015-16	2016-17	2017-18	2018-19	2019-20 (RE)	2020-21 (BE)
Ministry expenditure on Central sector schemes as % of Union expenditure on Central sector schemes	2.22	3.21	3.03	2.82	2.85	2.58
Ministry expenditure on CSS as a % of Union expenditure on CSS	3.29	6.89	7.29	7.13	5.92	7.31

- Of the total expenditure on Central sector schemes around 80 per cent is spent on metro rail projects.
- Scheme-wise spending for CSS for 2018-19 (in percentage) is depicted in Figure 3.

Figure 3: Scheme-wise Spending on CSS for 2018-19



Source: Union Budgets

Major Schemes Undertaken By the Ministry

Deendayal Antyodaya Yojana – National Urban Livelihoods Mission: The DAY-NULM aims to reduce poverty and vulnerability of the urban poor by access to gainful

Employment generated for over 12.4 lakh beneficiaries
More than 13 lakh urban poor imparted skill training
Over 3.7 lakh self-help groups formed
Over 9 lakh street vendors given ID cards

self-employment and skilled wage employment opportunities, build strong grassroots level institutions, provide shelters with essential services to the urban homeless and address livelihood concerns of the urban street vendors.

Pradhan Mantri Awas Yojana (Urban): PMA Y-U aims to provide housing for all by 2022 and is being implemented since June 2015. It provides Central assistance to urban

79.77 lakh houses sanctioned
43.83 lakh houses grounded for construction
18.07 lakh houses completed
Over 5.07 lakh beneficiaries under Credit Linked Subsidy Scheme (CLSS)

local bodies and other implementing agencies for: in-situ rehabilitation of existing slum dwellers; Credit Linked Subsidy Scheme (CLSS); affordable housing in partnership and beneficiary-led construction/enhancement.

Swachh Bharat Mission (Urban): SBM-U was launched on 2 October 2014 for a five-year period with the objective of achieving 100 per cent open defecation free (ODF) status and 100 per cent solid waste management in all urban local bodies.

All cities of twenty-three States/Union Territories declared ODF
62.7 lakh (94 per cent) individual household toilets and 5.12 lakh (100 per cent) community/public toilets constructed
52 per cent scientific processing of municipal solid waste, up from 18 per cent in 2014

Atal Mission for Rejuvenation and Urban Transformation: (AMRUT) was launched on 25 June 2015 with the objective of providing universal water supply, improvement in sewerage network, developing green spaces and parks friendly to children-and differently

4,758 projects worth over Rs. 62,704 crore under implementation/completed
Over 59 lakh street lights replaced with LED lights
Municipal bonds worth over Rs. 3,390 crore issued by eight cities
Online Building Permission Systems (OBPS) implemented in 1,668 urban local bodies, of which all urban local bodies of eleven States/Union Territories

abled; improvement in storm water drainage and non-motorised urban transport and incentivising States/Union Territories to implement a reform agenda.

Smart Cities Mission: The Smart Cities Mission, launched on 25 June 2015, aims to strengthen urban infrastructure through the application of smart solutions and provide a better quality of life to citizens.	No. of Smart Cities: 100
	4,758 projects worth over Rs. 62,704 crore under implementation/ completed
	5,151 projects worth Rs. 2.05 lakh crore sanctioned
	2,676 projects worth Rs. 86,693 crore grounded
	823 projects worth Rs. 14,236 crore completed
	16 Smart City Centres operationalised

Heritage City Development and Augmentation Yojana: This is a Central sector scheme launched on 21 January 2015 with a provision of Rs. 500 crore. The scheme aims to bring together urban planning, economic growth and heritage conservation in an inclusive manner in Ajmer, Amaravati, Amritsar, Badami, Dwarka, Gaya, Kanchipuram, Mathura, Puri, Varanasi, Velankanni and Warangal.	77 projects worth over Rs. 423 crore approved
	31 projects worth over Rs. 196 crore completed

Urban Transport : There is an urgent need to conserve energy and land, control pollution and greenhouse gas emissions. Urban transport is a solution to these issues. Hence, planning and management of urban transport services (especially metro services) require immediate attention.	400 km of metro projects commissioned
	647 km of Metro Rail operational in eighteen cities
	880 km of Metro Rail under implementation in eighteen cities
	Approval of 82 km of Delhi-Meerut Regional Rapid Transit System (RRTS) project

Source: e-Book Ministry of Housing and Urban Affairs, Transforming Urban Landscape 2014-2019

International Comparison

Global Liveability Index (GLI) 2018

- The GLI, developed by the Economic Intelligence Unit ranks 140 cities (Mumbai and New Delhi from India) in terms of security, affordability, education, and healthcare, urban lifestyle and infrastructure. New Delhi was ranked 112 and Mumbai 117 in the 2018 index.

Global Competitive Index (GCI) Ranking 2018

- The GCI, developed by the World Economic Forum (WEF), ranks 140 countries on competitiveness on the basis of indicators organised into twelve pillars: institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labour market, financial system, market size, business dynamism, and innovation capability.
- The pillar of infrastructure captures the quality and extension of transport infrastructure (road, rail, water and air) and utility infrastructure. Well-developed infrastructure lowers transportation and transaction costs and facilitates the movement of goods and people and the transfer of information within a country and across borders. India lags in key indicators of service delivery as highlighted in Table 2.

Table 2: Ranking of India with Key World Economies on Parameters of Service Delivery

	India	Brazil	Russia	China	South Africa	Singapore	United States
Quality of roads	51	112	104	42	58	1	11
Electrification rate (% of population)	105	73	1	1	102	1	1
Electric power transmission and distribution losses (% output)	110	96	64	21	50	1	26
Exposure to unsafe drinking water (% of population)	106	57	54	75	95	25	1
Reliability of water supply	74	78	53	68	93	3	27
Infrastructure	63	81	51	29	64	1	9

Source: Global Competitiveness Report, WEF

Note: Ranking Order: Ascending Order (Best to Worse)

Property Rights and Quality of Land Administration

- India still has a weak land administration regime as compared to key world economies. Land is a State subject, which has led to variations across States in the digitisation of land records, mutation, and real-time updating of the Record of Rights. According the GCI 2018 ranking, India lags in quality of land administration; its position is 112, as compared to eighty-two for Brazil, fifteen for Russia, fifty-one for China and eighty-three for South Africa.

- According to the World Bank’s Doing Business Report 2019 too, India lags in the areas of registering property and enforcing contracts.

Table 3: India's Rank in Property-related Reforms

Economy	Ease of doing business rank	Reforms making it easier to do business									
		Starting a business	Dealing with construction permits	Getting electricity	Registering property	Getting credit	Protecting minority investors	Paying taxes	Trading across borders	Enforcing contracts	Resolving insolvency
Djibouti	99	✓			✓	✓	✓			✓	✓
China	46	✓	✓	✓	✓		✓	✓	✓		
India	77	✓	✓	✓		✓		✓	✓		
Kenya	61				✓	✓	✓	✓			✓

Source: Doing Business Report 2019, World Bank

Initiatives to Deal with Fallout of Covid-19 Pandemic

- According to a United Nations Policy Brief on the impact of Covid-19, urban areas are the epicentre of the pandemic, hosting an estimated 90 per cent of total cases. With sectors such as tourism, housing, healthcare being negatively affected by the pandemic, coupled with difficulties in access to clean drinking water, urban areas might find it more challenging to address the crisis. The Government of India has launched various relief packages for this sector.

Affordable rental housing complexes for migrant workers/urban poor

- The Union Government announced the building of affordable rental housing complexes (ARHCs) as a sub-scheme of PMAY-U in order to provide housing to the urban poor and migrant workers close to their places of work workplace at affordable rents. This could follow two models:
 - ◇ **Model 1:** Converting existing government-funded vacant houses in cities into ARHCs through a concessionaire in a public-private-partnership arrangement.
 - ◇ **Model 2:** Construction, operation and maintenance of ARHCs by public or private organisations on their own vacant land. These could be trade associations, manufacturing companies, educational/ health institutions, development authorities, housing boards, Central/State public sector undertakings.

Extension of registration and completion date of real estate projects under Real Estate Regulatory Authority (RERA)

- The Ministry issued an advisory on 13 May 2020 suo-moto extending, by six months, from 25 March 2020 the registration and completion date of all incomplete registered projects.

Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi

- The Union Government announced a Rs. 5,000 crore special credit facility to benefit fifty lakh urban street vendors.

Key Recommendations of FC-XV in its Report for the Year 2020-21

- The mandatory condition of growth of property tax in tandem with the growth of gross state domestic product (GSDP), made by us in the report for 2020-21, in order to qualify for grants may be removed as there is no correlation between the two. Instead, it should be mandatory for urban local bodies to notify a road map for increasing collection of property tax rates and user charges to cover operations and maintenance cost.
- The MoHUA must be made the nodal ministry with respect to grants for Million-Plus cities to take steps to check air pollution, like use of mechanical sweeping machines, promotion of non-motorised transport (pedestrian and cycle), paving the side flanks of the road with facility for water percolation, etc. The Ministry of Environment, Forests and Climate Change (MoEF&CC) may be given a separate grant for installation of systems to monitor air quality.
- Separate grants may be allocated to ULBs for public health infrastructure and primary health care clinics in informal settlements and low-income neighbourhoods.
- An active municipal borrowing market must be created through the cityfinance portal, which serves as a national framework of standardised, timely and credible financial information on cities. It facilitates benchmarking, comparison and peer learning between cities on a range of financial indicators¹.
- A substantial increase in grants is needed for bridging the resource gap of municipalities, which is anticipated at Rs. 12.27 lakh crore over the period 2021-22 to 2025-26.

¹<https://cityfinance.in/home>

- Devolution to municipalities may be increased by at least four times (Rs. 3,48,575 crore), as compared to the FC-XIV award.
- The MoHUA and the Controller General of Accounts (CGA) should develop an account maintenance system, National Municipal Accounting Manual (NMAM), which will be integrated with the Public Financial Management System (PFMS). For this, the Ministry suggested a total fund requirement of Rs. 213 crore (Rs. 193 crore to State Governments and Rs. 20 crore to the MoHUA).
- The Ministry sought Rs. 450 crore for building service centres shared by municipal-clusters.
- The Ministry was of the view that instead of a model property tax act, what is required is a toolkit consisting of (a) best practices across States/cities in each stage of the property tax lifecycle; and (b) model statutory provisions that can be incorporated within existing property tax rules to strengthen administration. It informed us that a consultative group of urban development ministers from six States (Gujarat, Odisha, Tamil Nadu, Punjab, Tripura and Uttar Pradesh), constituted to pursue our recommendations on property tax, has reviewed the municipal legislations of all twenty-eight states and identified the best practices in laws, procedures and on-ground activities.

Key Proposals of Ministry to FC-XV

The MoHUA, in its revised memorandum to us following the release of the report for 2020-21, made the following proposals:

- The mandatory condition of growth of property tax in tandem with the growth of GSDP in order to qualify for grants may be removed. Instead notification of, and adherence to, a road map for increasing property tax rates and user charges to cover O&M cost and part of capital expenditure must be made mandatory.
- MoHUA must be made the nodal ministry with respect to grants for Million-Plus cities to take steps to check air pollution, like mechanical sweeping machine, promotion of non-motorised transport (pedestrian and cycle), paving the side flanks of the road with facility for water percolation etc. The MoEF&CC may be given a separate grant for installation of systems to monitor air quality.
- Separate grants may be allocated to urban local bodies for public health infrastructure and primary health care clinics in informal settlements and low-income neighbourhoods.

- An active municipal borrowing market must be created through the cityfinance.in portal, which serves as a national framework of standardised, timely and credible financial information on cities. It facilitates benchmarking, comparison and peer learning between cities on a range of financial indicators.
- Substantial increase in grants is needed for bridging the resource gap of municipalities, which is anticipated as Rs. 12.27 lakh crore over the period 2021-22 to 2025-26.
- Devolution to municipalities may be increased by at least four times (Rs. 3,48,575 crore), as compared to the FC-XIV award.
- The MoHUA and the CGA should develop an account maintenance system, National Municipal Accounting Manual (NMAM), which will be integrated with PFMS. For this, the Ministry suggested total fund requirement of Rs. 213 crore (Rs. 193 crore to States and Rs. 20 crore to MoHUA).
- The Ministry sought Rs. 450 crore for building municipal clustered shared service centres.
- The Ministry noted that a consultative group of urban development ministers with regional representation from six States (Gujarat, Odisha, Tamil Nadu, Punjab, Tripura and Uttar Pradesh) has been constituted. A steering committee of the Principal Secretary of these has been constituted to support the consultative group.
- The Ministry is of the view that instead of a model property tax Act, what is required is a toolkit consisting of the following:
 - ◇ Best practices across States/cities in each stage of the property tax lifecycle;
 - ◇ Model statutory provisions that can be incorporated within existing property tax rules to strengthen administration.

Challenges

Rapid Urbanisation

- India is urbanising at a rapid pace, with the level of urbanisation increasing from 17 per cent in 1951 to 31 per cent in 2011. According to the World Urbanization Prospects: The 2018 Revision, the urbanisation level will reach 37-38 per cent in 2025 and the urban sector will start superseding the rural sector from 2045-46 onwards.

- The urban population has been rising much faster than the total population. The urban population, estimated at nearly 377 million in the 2011 Census, is poised to grow to 600 million by 2031². Urban areas contribute to approximately 62-63 per cent of GDP³, and this is estimated to increase to 75 per cent by 2030⁴.

Growth of Million Plus Cities

- The United Nations World Urbanization Prospects 2018 also projects most of the huge increase in urban population will be concentrated in the Million-Plus cities. These cities will have to act as economic power centres attracting and facilitating investments.

Table 4: No. of cities based on size of urban settlement⁵

Size of Urban Settlement	1990	2018	2030
3,00,000 to 5,00,000	40	71	94
5,00,000 to 1 million	30	49	70
1-5 million	20	52	62
5-10 million	2	4	2
10 million or more	2	5	7

The Perils of Urban Sprawl

- Cities have attracted huge migratory and floating population resulting in horizontal expansion through what is called urban sprawl, a particular form of urban development which poses several major challenges, including greenhouse gas emissions, air pollution, road congestion and lack of affordable housing.
- Cities are developing in a way that results in longer commuting distances and hence higher dependence on personal vehicles. This leads to more traffic jams, higher greenhouse gas emissions and more air pollution. It also substantially increases the per-user costs of providing public services that are the key for well-being, such as water, energy, sanitation and public transport.

Deteriorating Urban Environment

- According to the National Clean Air Programme (NCAP) as well as data generated from the National Air Monitoring Programme over the years, particulate matters (PM10 and PM2.5) far exceed the permissible levels at many locations, particularly in urban areas. The air pollution problem becomes complex due to the multiplicity and

²MOHUA presentation to XV FC

³Planning Commission (2008). Eleventh Five-Year Plan (2007-2012).

⁴MOUD (2011). Estimating the investment requirements for urban infrastructure services – Report of the High Powered Expert Committee

⁵Source: World Urbanization Prospects 2018

complexity of air polluting sources (for example, industries, automobiles, generator sets, domestic fuel burning, road side dusts, construction activities, etc.).

Low Revenue Base

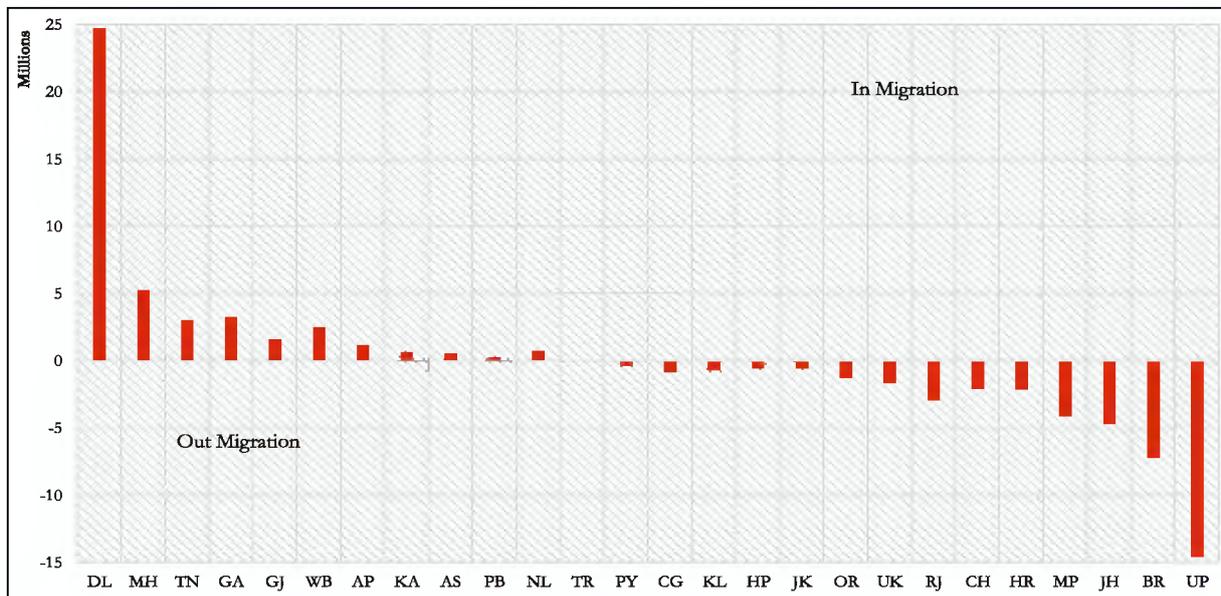
- Urban local bodies have a very narrow revenue base, coupled with inadequate revenue certainty and buoyancy. Municipalities' own sources of revenue have declined from 56 per cent in 2007-08 to 52 per cent in 2013-14 and 44 per cent in 2015-16⁶. According to a study done by the World Bank for us, the average collection from property taxes in the OECD group is about 1.1 per cent of national GDP. However, in India it is about 0.2 percent of GDP. For some OECD countries, such as Canada, the United Kingdom and the United States, property tax collections form the bedrock of local bodies revenues and are about 3 per cent of their respective GDPs.

Migration Management

- The Economic Survey of India 2017 estimates that the magnitude of inter-state migration in India was close to nine million annually between 2011 and 2016.
- Figure 4 shows the net flows for the twenty-six States. Positive numbers indicate in-migration and negative numbers denote out-migration. The largest recipient was the Delhi region, which accounted for more than half of migration in 2015. Uttar Pradesh and Bihar taken together account for half of total out-migrants. Maharashtra, Goa and Tamil Nadu had major net in-migration, while Jharkhand and Madhya Pradesh had major net out-migration.
- To sustain this churn, however, there is need for an integrated migration management policy. It is, therefore, crucial to address issues like portability of food security benefits, healthcare and a basic social security framework for migrants.

⁶Municipal Finance in India, Discussion Paper – September 10, 2018, UN Habitat, India.

Figure 4: Migration Across States



Source: Economic Survey of India 2017

Suggested Areas of Reforms

Making Cities Go More Compact

Need for a National Transit-Oriented Development Policy

- Transit-Oriented Development (TOD) focuses on the creation of high-density mixed land use development in the influence zone of transit stations, that is, within walking distance (500-800 metres) of transit stations or along the corridor in case the station spacing is about 1 km.
- Integrated land use and transport planning will provide a planned sustainable growth to urban centres.
- There is a need to involve community-based organisations, urban local bodies, State/Union Territory Governments, Union Government ministries/departments/agencies and all other stakeholders in urban development, in understanding the benefits of TOD and working out an implementation strategy.

Cities need to go vertical

- Restrictions on height of buildings prove a significant barrier to the emergence of a compact city. Floor space index (FSI) is typically in the 1.5-3 range for Indian cities. In contrast, FSI in most Asian cities varies from 5 to 15 and goes up to even 25 in many western cities.

Table 5 : Permissible Floor Area Ratio (FSI) in Major Cities

Ahmedabad	1.2 – central localities, 1.8 – outskirts
Bengaluru	Generally ranges from 1.75-3.35
Chennai	1.5 – ordinary buildings, 2 – high rises, >3 – influence zones
Delhi	Generally ranges from 1.2-3.5 and 4 – redevelopment projects
Gurgaon	Generally ranges from 1-1.45
Kolkata	Generally ranges from 1.5-2.5
Mumbai	1.33 – inland city , 2.5 – Maharashtra Housing and Area Development Authority (Mhada) Buildings
Noida	0.5-1 – Suburbs 2.75-3.5 – central localities

- An integration of TOD and flexible FSI norms in influence areas will accommodate higher population density and foster greater job generation as compared to the area around and beyond the influence areas.
- There is a need to adopt mixed land use and compact city norms for different scales of cities.

Co-living spaces

- A new trend – co-living – is emerging in the burgeoning student and working populations across Indian cities like Bengaluru, Mumbai, Gurgaon and Pune. NestAway, OYO and CoHo are some of the private players operating in the market.
- Co-living may offer a higher rental yield of as much as 8-11 per cent, as compared to the current average yield of 1-3 per cent on residential properties. Co-living spaces could also bring down the consumer’s average cost of living by as much as 10-15 per cent with optimal real estate utilisation and economies of scale. There is a definite need for orienting policy towards this segment of affordable housing.

Green building

- The norms suggested by the MoEF&CC with Green Rating for Integrated Habitat Assessment (GRIHA) guidelines for the development of green buildings should be encouraged, depending on the requirement.

National Clean Air Programme - Ease of Breathing

- State Governments and city authorities should be encouraged and enabled to meet local targets prescribed by NCAP for PM 2.5 and PM 10. The MoHUA needs to work in coordination with the MoEF&CC to achieve this objective.
- Faster Adoption and Manufacturing of Electric Vehicles in India (FAME) guidelines need to be promoted with a network of charging infrastructure to be installed across all Million-Plus cities, smart cities, State capitals and major highways connecting major cities.

Revenue Mobilisation

Property Rights

- According to a World Bank Study commissioned by FC-XV, only twelve out of thirty states examined had constituted Property Tax Boards, which was recommended by FC-XIII. The Ministry should urge the states to set up Property Tax Boards to increase the buoyancy in property tax revenue.
- Clearly defined regulations and equal access to property rights are essential for enabling businesses to expand their operations. Many countries have undertaken reforms in this area, a snapshot of which is provided from the World Bank's Doing Business Report 2019. Reforming property rights in integration with the Department of Land Resources needs to be a priority agenda for the Ministry. Property Tax is a State subject and reforms are required at the State level to address this issue (Table 6).

Municipal Bonds

- The Ministry should continue its support to local bodies to explore the issuance of municipal bonds as a source of finance. Larger municipal corporations should directly approach the markets while an intermediary could be set up to assist medium and small municipalities which may not have the capacity to access the markets directly.

Using land as resource to finance urban development

- Land value tax should be used as a value capture tool, which, apart from capturing any value increment, helps stabilise property prices and discourages speculative investments. It is considered to be most efficient among all value capture methods.

Table 6 : Some initiatives for making property registration easier

Feature	Economies	Some highlights
Increased reliability of infrastructure	Croatia, Djibouti, Pakistan, Sri Lanka, Tonga	Croatia became fully digitised, increasing the efficiency and transparency of services provided by the Land Registry and Cadaster. Sri Lanka worked toward implementing a fully digital Land Registry and Survey Department by rolling out a geographic information system and creating a single window counter for the issuance of certificates.
Increased transparency of information	Azerbaijan, Croatia, Eswatini, Gabon; Indonesia, Israel, Mauritius, Pakistan, Papua New Guinea	Gabon and Israel upgraded their official websites to include relevant information to the public at large regarding and registry services. Pakistan and West Bank and Gaza began publishing online official statistics tracking the no. of transactions at the immovable property registration agency.
Reduced taxes or fees	Chad, Congo, Dem. Rep., Congo, Rep., Djibouti, Guinea, Tonga	Democratic Republic of Congo reduced the cost of securing land and property titles. Guinea reduced the fees to transfer property from 2 per cent to 1.2 per cent of the property value.

Source: Doing Business Report 2019, World Bank

- Since land is a State subject, reforms are required at the State level to address this issue. For instance, Maharashtra and Tamil Nadu, through State laws, have expanded the scope of this mechanism to cover urban land also. Globally, land value tax is widely used in Denmark, Australia and New Zealand. There is a need for guiding and supporting States to undertake more of such initiatives.
- Development charges (impact fees) and market-linked area-based charges are the most widely used land-based fiscal tools in States. States like Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu and Madhya Pradesh levy impact fee and collect it upfront while granting development permissions. This can serve as an important revenue-generating tool especially in the newer developing townships.
- The Ministry, along with the Department of Public Enterprises in the Ministry of Heavy Industries and Public Enterprises should work out a plan for the release of land parcels available with Central public sector undertakings, which can be used for affordable housing projects.

FC-XV recommendations in its final report

- ◇ The total size of the grant to local bodies should be Rs. 4,36,361 crore for the

period 2021-26. Of this, Rs. 2,36,805 crore is earmarked for rural local bodies, Rs. 1,21,055 crore for urban local bodies and Rs. 70,051 crore for health grants through local bodies. We have also recommended Rs. 8,000 crore to States as grants for incubation of new cities and Rs. 450 crore for facilitating shared municipal services. The MoHUA will need to undertake both ecosystem-building as well as hand-holding for implementation of these shared services.

- ◇ To address the long pending issue of account, audit and property taxation, we have recommended that for urban local bodies, apart from the entry level condition of having both provisional and audited accounts of local bodies online in the public domain, after 2021-22, fixation of minimum floor for property tax rates by the relevant State will be an additional mandatory pre-condition to avail the urban local bodies, Grants. Specific recommendations regarding property taxes is highlighted in volume I, Chapter 7 on Empowering Local Government.
- ◇ Urban local bodies are categorised into two groups, based on population and different norms have been used for the flow of grants to each, based on their specific needs and aspirations. For the Million-Plus cities, 100 per cent of the grants are performance-linked through the Million-Plus cities Challenge Fund (MCF). Basic grants are proposed only for cities/towns having a population less than one million.
- ◇ Category I cities (urban agglomerations with a population of more than one million) will be treated as a single unit for monitoring of performance indicators of ambient air quality and service level benchmarks. One-third of the total MCF of each city is earmarked for achieving ambient air quality. The balance two-thirds of the city-wise MCF is earmarked for achieving service level benchmarks for drinking water (including rainwater harvesting and recycling) and solid waste management and sanitation. For drinking water (including rainwater harvesting and recycling) and sanitation and solid waste management criteria under service-level benchmarks, the MoHUA shall act as the nodal ministry for determining the eligible urban local bodies.
- ◇ Sixty per cent of the basic grants for urban local bodies for non Million-Plus cities should be tied to supporting and strengthening the delivery of: (a) sanitation and solid waste management and attainment of star ratings as developed by the MoHUA; and (b) drinking water, rain water harvesting and water recycling.
- ◇ The State Government while deciding the share of basic grant among various ULBs in cities other than Million-Plus cities, shall make allotment of grants (only under basic grants) on a per capita basis for the Cantonment Boards falling within the State.

Chapter 11

Ministry of Panchayati Raj

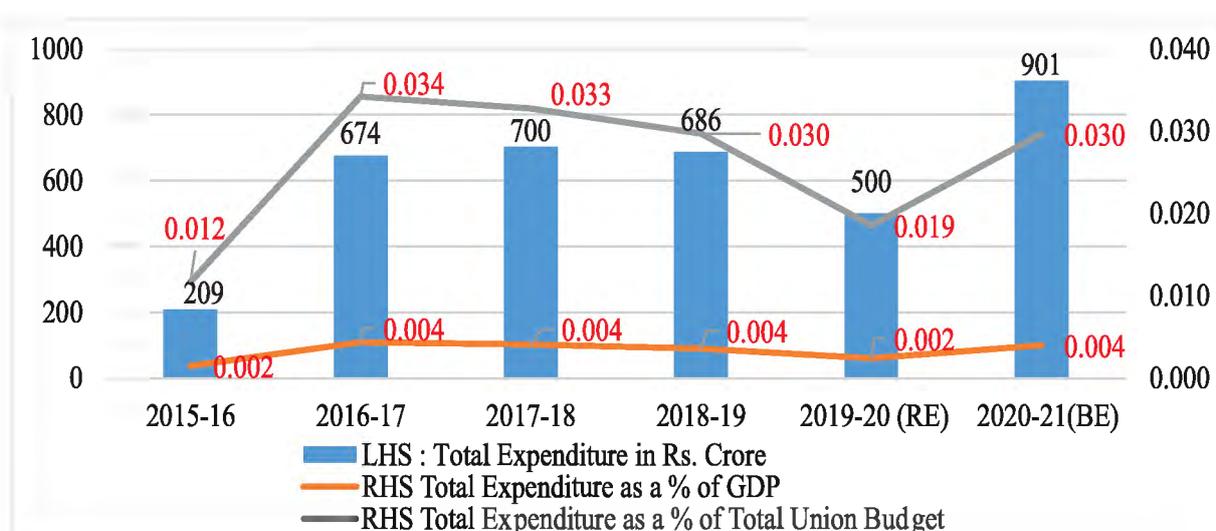
The Ministry of Panchayati Raj has played a pivotal role in democratic decentralisation by strengthening the panchayati raj institutions across the country. The PriSoft software for panchayat accounts initiated by the Ministry has played a key role in increasing the transparency and accountability of the accounts of panchayati raj institutions. Lack of interoperability of accounts owing to different coding structure at the local, State and Union Government levels remains one of the key issues to be addressed by the Ministry. There is a need for uniform standardisation of accounting standards across the three levels of Government.

Strengthening the institution of State Finance Commissions, acting on the recommendations of the Report of the Committee on Performance Based Payments for Better Outcomes in Rural Development Programmes (Sumit Bose Committee) for improving the human resource capability at the third tier of government and taking the digital revolution to the ground level need to be focus areas for the Ministry.

Overall Profile of the Ministry

1. The mandate of the Ministry of Panchayati Raj is to ensure compliance with the provisions of Part IX of the Constitution, provisions regarding the District Planning Committees as per Article 243ZD, and Panchayats (Extension to the Scheduled Areas) Act (PESA). The Ministry's mission is empowerment, enablement and accountability of panchayati raj institutions to ensure inclusive development with social justice, and

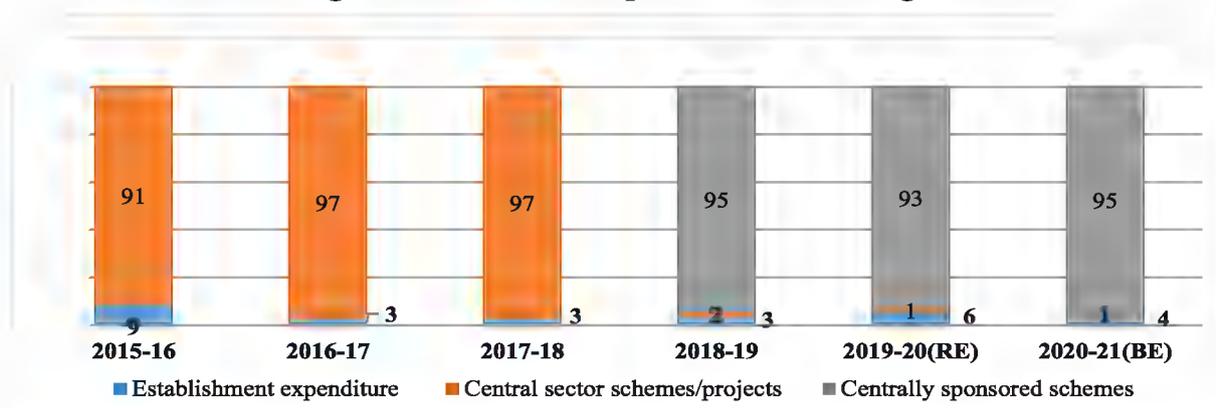
Figure 1: Expenditure of Ministry of Panchayati Raj



Source: Union Budget and CSO

efficient delivery of services. The Union Budget of 2020-21 allocated Rs. 901 crore to the Ministry, which is 0.03 per cent of the Union Government’s total budget of 2020-21 and 0.004 per cent of estimated gross domestic product (GDP). The year-wise allocation of the Ministry is shown in Figure 1. Figure 2 indicates the head-wise expenditure of the Ministry. In the recent years, the bulk of this expenditure is on Centrally sponsored schemes (CSS).

Figure 2: Head-wise Expenditure (Percentage)



Source: Union Budget

- Of the schemes being implemented by the Ministry, three major ones – Rashtriya Gram Swaraj Abhiyan (RGSA), Incentivisation of Panchayat and Mission Mode Project on e-Panchayats – were Central sector schemes till 2017-18 and have been converted to CSS from 2018-19.

Table 1: Central Sector Schemes and Centrally Sponsored Schemes

Heads	Central Sector Schemes (Rs. crore)			CSS (Rs. crore)		
	2015-16	2016-2017	2017-2018	2018-19	2019-20 (RE)	2020-21 (BE)
	Total Exp.	Total Exp.	Total Exp.	Total Exp.	Total Exp.	Total Exp.
Capacity Building – Panchayat Sashaktikaran Abhiyaan (PSA)/Rashtriya Gram Swaraj Abhiyan (RGSA)	184.4	592.8	622.4	598	433	791
Incentivisation of Panchayat		33	34	41	25	47
Mission Mode Project on e-Panchayats		16.6	12.8	10.1	7.5	20
Other schemes	6.3	12.6	12.3			
Total	190.7	654.9	681.5	649	465	858

Source: Union Government Budgets

Note : Other schemes include Action Research, International Contribution, Media and Publicity, ATM services in Panchayat Bhawans

Recent Initiative to Improve Village Mapping

SVAMITVA Scheme stands for Survey of Villages and Mapping with Improvised Technology in Village Areas

The main objective of the scheme is to demark abadi (inhabited) land and digitally prepare maps of these areas. The scheme has the following objectives:

- Provide an integrated property validation solution for rural India.
- Leveraging property as a financial asset by the citizens of rural India.
- Creation of accurate land records for rural planning.
- Determination of property tax.
- Creation of survey infrastructure and GIS map that can be leveraged by any other department for their use.
- Promote spatial planning in panchayats by focusing on 60,000 Gram Panchayats located along national and State highways. These spatial plans are to be levers for:
 - ◇ planning growth and change, thus providing for orderly and predictable development
 - ◇ setting priorities for developing and maintaining infrastructure and public facilities
 - ◇ strengthening local identity and creating a framework for future policy decisions
 - ◇ providing guidance to land-owners, developers, and Government authorities.

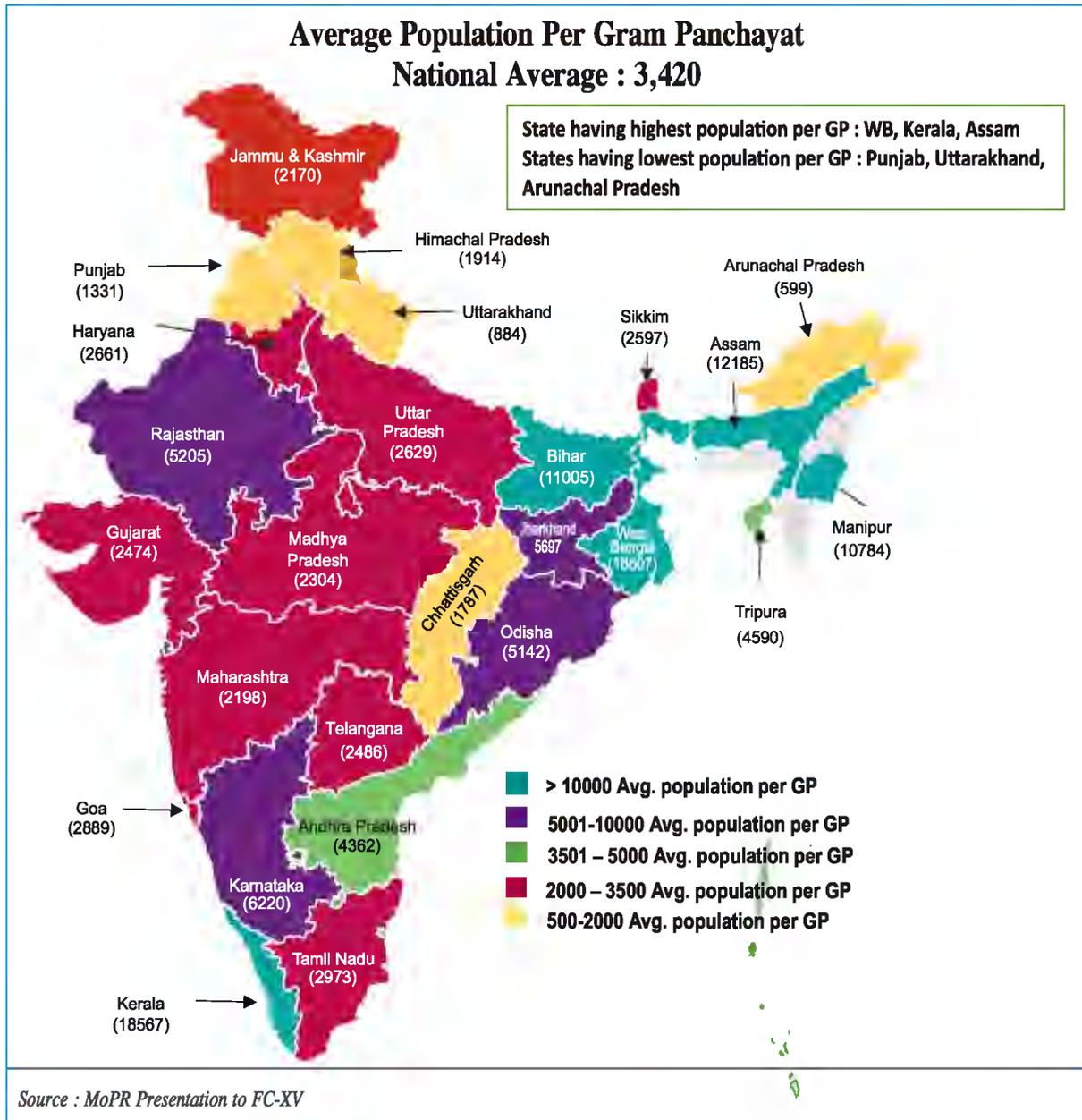
Inter-State Comparison

3. Table 2 indicates that approximately 3.1 million representatives are regularly elected to about 2.6 lakh rural local bodies all over the country. Providing basic services at the grassroots level makes them the primary interface between citizens and the government.

Table 2: Basic Data on Panchayati Raj Institutions

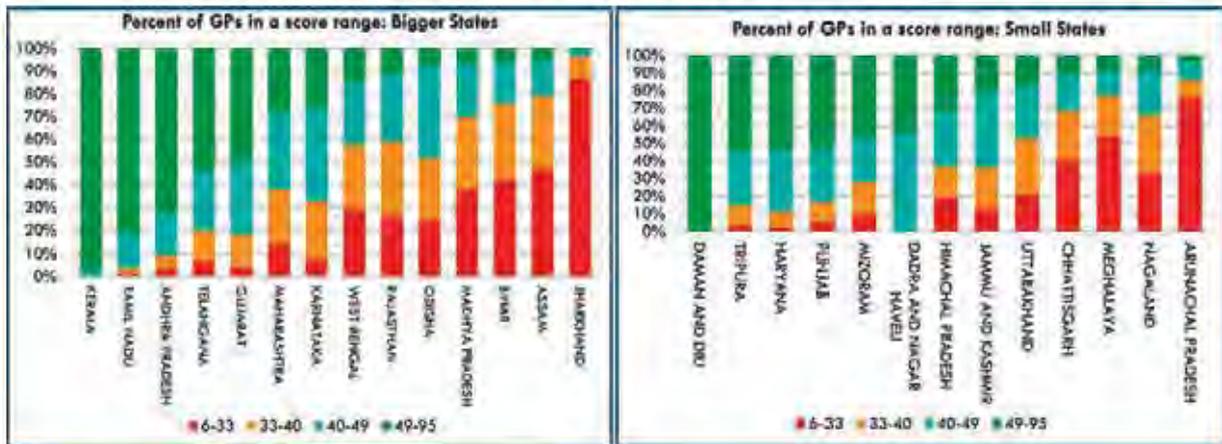
No. of Panchayati Raj Institutions	No. of Gram Panchayats	No. of Block Panchayats	No. of District Panchayats	No. of Elected Members of Panchayati Raj Institutions	No. of Elected Women Representatives
263028	255549	6825	654	31.00 lakh	13.76 lakh (44%)

4. The map below shows the average population per gram panchayat.



5. The Ministry has developed a score for Gram Panchayats in each State, based on the performance of the gram panchayat on indicators relating to infrastructure and access to services, social development and protection, economic development and diversification of livelihoods. This has been developed through data from the Socio Economic and Caste Census 2011 (SECC) and the 2011 Census. Kerala, Tamil Nadu and Andhra Pradesh are the leading States in the index.

Figure 3: State-Wise Scoring of Panchayats

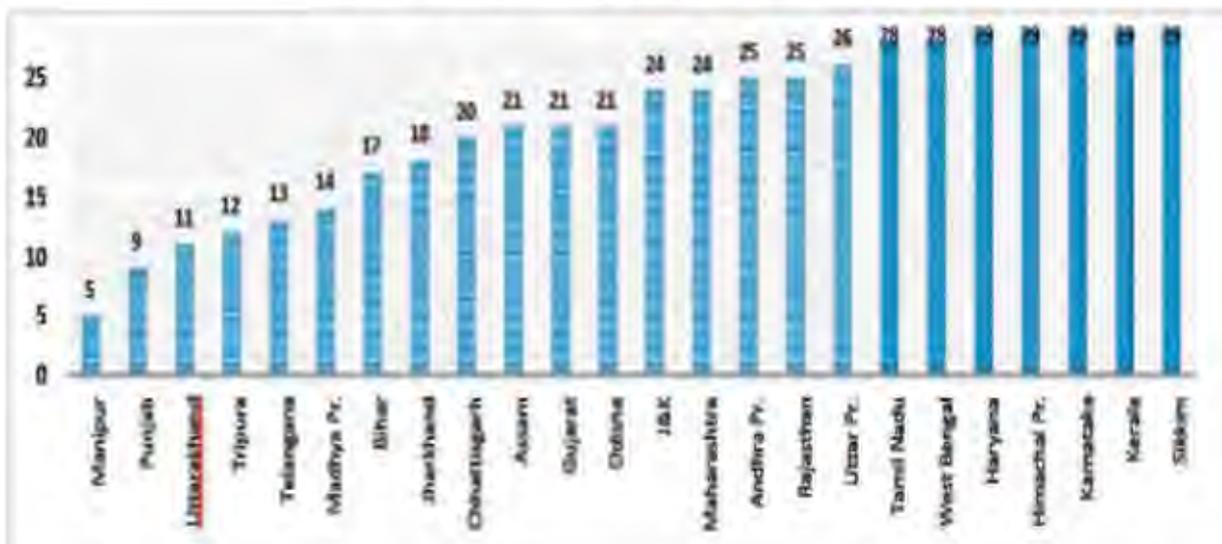


Source: MoPR and MoRD presentation to FC-XV

Note: Ranking order: high score-low score: best to worse

6. Figure 4 depicts the variation among States in the extent of devolution of twenty-nine functions of the Eleventh Schedule of the Constitution. Figure 5 indicates the scatter plot of how States rank in the devolution in policy and devolution in practice. It can be seen from both the figures that Kerala and Karnataka have effectively devolved functions both in practice and policy to the third tier.

Figure 4: Devolution of 29 Subjects in States



Source: MoPR and MoRD presentation to FC-XV

Figure 5: Comparison of States based on Indexes of Devolution in Policy and Devolution in Practice



Source: Report of Devolution Study 2015-16 commissioned by MoPR, <https://www.panchayat.gov.in/web/guest/activities/schemes>

Note: Ranking order: low rank to high rank: best to worse

Box 1: Grants Proposed by Finance Commissions

<p>FC-X</p>	<p>Since the FC-X was constituted in 1992, a year before the Seventy-Third and Seventy-Fourth amendments, its terms of reference did not specify considering grants for the local bodies. However, it still recommended grants which were equivalent to 1.38 per cent of the divisible pool to the rural and urban local bodies to enable them to discharge the new role assigned to them during its award period.</p>	<p>Recommended grants of Rs. 4,381 crore over the award period.</p>
<p>FC-XI</p>	<p>The terms of reference for FC-XI to FC XIV asked them to assess “The measures needed to augment the Consolidated Fund of a State to supplement the resources of the Panchayats and Municipalities in the State on the basis of recommendations made by the Finance Commission of the State”.</p>	<p>Recommended grants of Rs. 8,000 crore over the award period of FC-XI.</p>
<p>FC-XII</p>	<p></p>	<p>Recommended grants of Rs. 20,000 crore over the award period of FC-XII.</p>
<p>FC-XIII</p>	<p></p>	<p>Recommended grants of Rs. 65,161 crore over the award period of FC-XIII.</p>
<p>FC-XIV</p>	<p></p>	<p>Recommended grants of Rs. 2,00,292 crore over the award period of FC-XIV.</p>

Recommendations of FC-XV in Report for the Year 2020-21

- In our Report for the Year 2020-21, we recommended grants of Rs. 60,750 crore to rural local bodies. While 50 per cent of the grants were untied, the remaining 50 per cent were tied as grants for sanitation and water supply which are identified national priorities. No conditions were prescribed for getting the grants in 2020-21.

Key Proposals of the Ministry to FC-XV

- The Ministry submitted its revised memorandum to us highlighting the following key points:
 - ◇ The FC-XV may consider keeping its award for the panchayati raj institutions for the revised period 2021-2026 at Rs. 10 lakh crore.
 - ◇ In conformance with the provisions of the report for 2020-21, the devolution of grants to panchayati raj institutions may be kept as 50 per cent untied for ensuring basic services and 50 per cent tied towards drinking water supply and sanitation, for the initial four years of the award period (2021-25). After this, only 25 per cent may be tied for drinking water and supply and sanitation and 75 per cent left untied for 2025-26, taking into account the progressive saturation levels expected to be achieved in drinking water supply and sanitation. Out of the untied grants, the panchayati raj institutions may be allowed to carry out basic services through various modes of outsourcing, on contract or self-engagement. They may also utilise the grants towards various revenue/recurring expenditure such as operation, maintenance, wage payments, internet and telephone expenses, fuel expenses, rentals, contingency expenditure during calamities.
 - ◇ The Ministry proposed additional requirement of grants for Rs. 12,000 crore for the five-year period 2021-26 towards enabling the States to construct Gram Panchayat bhawans, in those which do not have them, in a time-bound manner.

Challenges

Audit and Accounts of Panchayats

- All Finance Commissions since the FC-XI have highlighted the lack of reliable financial data on panchayats and municipalities and the difficulty in realistically assessing the requirement of resources for carrying out core functions and development expenditure and stressed the need for proper maintenance of audit and accounts.

Status of State Finance Commissions

- Constitution of SFCs is mandated in Article 243-I (1) and 243-Y (1) of the Constitution. Though the constitution of the sixth SFC was due by 2019-20, only four States have done so. Several States are still in their second and third SFC.
- It is also observed that SFCs faced challenges of poor administrative support, inadequate resources for their smooth functioning and delays in placement of reports before State legislatures with Action Taken Reports (ATR). According to a report by the National Institute of Public Finance and Policy done for FC-XV, after constitution, average time taken by a SFC to submit its report is two and a half years and average delay has been about sixteen months.

Table 3: Status of Constitution of SFCs

State	Last SFC Constituted
Assam, Bihar, Punjab, Rajasthan	VI
Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, Sikkim, Tamil Nadu, Tripura, Uttarakhand and Uttar Pradesh	V
Andhra Pradesh, Karnataka and West Bengal	IV
Chhattisgarh, Goa, Gujarat, Jharkhand and Manipur	III
Arunachal Pradesh, Mizoram	II
Erstwhile Jammu & Kashmir, Telangana	I

Source: MoPR presentation to the FC-XV

Disparate and Varied SFC Transfers

- The NIPFP study indicated that there had been a huge variation in the SFC per capita devolution recommended across States during the award period of FC-XIII (2010-11 to 2014-15). The average per capita devolution varied from Rs. 48 in the case of Sikkim to Rs. 3,112 in the case of Karnataka. The all-State average was Rs. 599. During the award period of FC-XIV (2015-16 to 2019-20), the average per capita SFC devolution varied between Rs. 147 in the case of Odisha and Rs. 6,090 for Karnataka and the all-State average per capita devolution was Rs. 1,180.
- Overall, the average increase in per capita devolution by the States to local bodies on the basis of SFC awards (after excluding Karnataka¹), was around 62 per cent in the

¹Karnataka is an outlier in average per capita devolution. During the five-year period from 2015-16 to 2019-20, the average per capita devolution varies between Rs. 146.78 in case of Odisha to Rs. 6,090.06 for Karnataka. Including the State in calculation of all States average distorts the average.

period between 2010-11 and 2019-20. This is way below the 221 per cent increase in per capita Finance Commission devolution over the same period. The low levels of recommended per capita SFC devolution and the wide variation across States makes the role of Finance Commissions more critical than what was originally envisaged in the Constitution.

Figure 6: Per Capita Devolution by the States to Local Bodies



Human Resources in Local Bodies

- Gram Panchayats perform agency functions in programmes funded by the Union Government like MGNREGA, Pradhan Mantri Awas Yojana and National Social Assistance Programme. The core functions of Gram Panchayats include functions of service delivery associated with the Eleventh Schedule of the Constitution.
- It has been observed that Gram Panchayats are concentrating more on the agency functions (as these programmes are well funded) and neglecting their own core functions.
- There has been a general concern that most of the local bodies in the country are suffering from lack of adequate quality of human resources. Except for a few states, there is no systemic focus to improve this aspect in panchayati raj institutions.

PriSoft – Lack of Inter-Operability of accounts

- The PriSoft system has a four-level structure of accounting code – Major Code, Minor Code, Scheme Code and Object Code – while there is a six-level accounting code for the Union and State Governments. There is no consistency in the mapping of

the accounting codes at any level of the heads. Table 4 gives a snapshot of a few examples of inconsistency in the mapping of major codes at Major Head level.

Table 4: Example of Difference in Account Classification

Accounting Classification for State and Union Accounts	Accounting Classification for Panchayats (PriSoft)
2403 - Animal Husbandry 2404 - Dairy Development	2403 - Animal Husbandry, Dairying, Poultry and Fuel and Fodder
2210 - Medical and Public Health 2211- Family Welfare	2210 - Health and Family Welfare
0406 - Forestry and Wild Life	0406 - Forestry

Source: Priasoft Manual

Treatment of Excluded Areas

- Articles 243M and 243ZC of the Constitution stipulate that the Seventy-Third and Seventy-Fourth Amendments do not apply to the Scheduled Areas where the States have not enacted laws for establishing duly-elected panchayats and municipalities (Clause 1 of Article 244), to tribal areas (Clause (2) of Article 244) and areas specified in Clauses 2 and 3 of Article 243M and Clause 2 and 3 of Article 243ZC. Previous Finance Commissions have followed different approaches in treatment of these areas.

Box 2 : Grants by Finance Commissions

FC-XI	Stipulated that its award for excluded areas should be made available to the respective States only after the enactment of relevant legislative measures for the extension of the provisions of the Seventy-Third and Seventy-Fourth Amendments to such areas.
FC-XII	Did not indicate separate grants for normal and excluded areas and left it to the States to distribute the grants between them, after noting that a Bill for amending the Sixth Schedule for extension of certain provisions of the Seventy-Third and Seventy-Fourth Amendments to these excluded areas was then under consideration in the Ministry of Home Affairs.
FC-XIII	Recommended grants of Rs. 1,357 crore for the excluded areas after considering Parts IX and IX-A, Articles 244, 280 and 275 of the Constitution.
FC-XIV	Recommended no grants.
FC-XV(2020-21)	Recommended grants for the Fifth and Sixth Schedule Areas.

During the stakeholder's consultation, the States took the position that an inclusive and uniform approach should be adopted for all three tiers within rural local bodies, as well as the Excluded Areas (Fifth Schedule and Sixth Schedule) to augment resources for providing basic services by similar local level entities.

Suggested Areas of Reforms

Accounts and Audit - Peer Learning across States

- Many States have been certifying and auditing accounts through the Directorate of Local Fund Audit (DLFA). However, the practice of involvement of external agents like chartered accountants is growing. More efforts in this direction are required across all State Governments.

Table 5 : Status of Accounts and Audit of some State

States	Status
Chhattisgarh	Preparation of annual account and audit of the urban local bodies are entrusted to chartered accountant firms and are placed before the general body of each urban local body for perusal.
Madhya Pradesh	Accounts of local bodies are prepared and certified by chartered accountants
Rajasthan	DLFA and chartered accountants certify the accounts of urban local bodies.
Sikkim	<ul style="list-style-type: none"> • The DLFA audits the accounts of the local bodies and submits a consolidated report to the Sikkim Legislative Assembly. • Chartered accountant appointed by the State Government certifies the accounts on a year-to-year basis.

Source: Compiled from inputs received from CAG

Timely Constitution of SFCs

- The Ministry should work with State Governments towards timely constitution of SFCs as laid down in the Constitution.

Devolution in Policy versus Devolution in Practice

- States like Bihar, Jharkhand, Uttar Pradesh, Punjab and Chhattisgarh have weak devolution in practice as compared to policy devolution. The Ministry of Panchayati Raj should play an advisory role to these States to ensure real and effective devolution of funds, functions and functionaries at the ground level.

Segregation between Core and Agency Functions

- While the cost of functionaries for agency functions of panchayati raj institutions should be borne by the sponsoring agencies, the cost of establishment for core functions should be borne by the panchayati raj institutions themselves through budgetary support from the States, internal revenues, grants from SFC and basic grants from Finance Commissions.
- State Governments must ensure continuous capacity building of personnel of panchayati raj institutions in coordination with the Ministries of Panchayati Raj and Rural Development.
- The benchmarks for annual appraisal of human resources should be decided in consultation with the Ministries of Panchayati Raj and Rural Development.
- These two ministries should facilitate States to develop a comprehensive competency framework for all staff at across hierarchies.

Panchayati Raj versus District Rural Development Agencies

- There is a need for administrative restructuring by merging the State-level Panchayati Raj Department and District Rural Development Agencies (DRDAs) into a single entity in order to ensure coordination and better management and implementation of schemes related to rural areas.
- In the light of the Seventy-Third Constitution Amendment Act, the DRDAs need to work under the overall control and supervision of the Zilla Parishads. DRDAs have already been merged with the Zilla Parishads in Karnataka, Kerala and Madhya Pradesh. In Himachal Pradesh, Odisha, Rajasthan, Uttar Pradesh and West Bengal, the chairman of Zilla Parishads is also the chairman of the DRDAs.

Consistent Standardised Accounting Codes across Union, States and Local Bodies

- There is a need to upgrade the basic accounting system of local bodies and serious work should begin with the long-term objective of integration of the accounts of revenue and expenditure of the local bodies with the Government Finance Statistics (GFS). The Ministry of Panchayati Raj has started this process and the initiative needs to be speeded up.

Initiatives by Ministry for Auditing and Integration of Accounts

- For the **Integrated Accounts Maintenance System**, the Ministry, in February 2020, constituted a Technical Committee for Harmonisation Head of Accounts comprising representatives from the Comptroller & Auditor General of India, Controller General of Accounts, National Informatics Centre, National Institute of Rural Development and Panchayati Raj.
- The Ministry has initiated Audit-Online for facilitating financial audit of accounts of panchayats by auditors (either State Auditor General or Local Fund Auditors). The Audit-Online application not only facilitates the auditing of accounts but also provides for maintaining audit records.
- The Audit Online was launched during a video conference with States held on 15 April 2020, during which the various actionable items with the timelines relating to roll-out of Audit-Online were discussed with a view to ensuring timely completion of audit of panchayati raj institutions. A draft Audit Manual has also been prepared by the Ministry and shared with State Governments.
- In order to ensure the success of the rollout of Audit-Online, States have been requested to make sure that the following actions are completed in a time-bound manner:
 - ◇ Closure of account books for 2019-20 in PRIASoft.
 - ◇ Registration of auditors on Audit Online.
 - ◇ Preparation of audit plan.
 - ◇ Completion of training of officials involved in audit.
 - ◇ Completion of entire exercise of online audit of panchayat accounts.

FC-XV recommendations in its final report

- The total size of the grant to local bodies is Rs. 4,36,361 crore for the period 2021-26. Of this, Rs. 2,36,805 crore is earmarked for rural local bodies, Rs. 1,21,055 crore for urban local bodies and Rs. 70,51 crore for health grants through local bodies. We have also recommended Rs. 8,000 crore to States as grants for incubation of new cities and Rs. 450 crore for facilitating shared municipal services.
- To supplement the resources needed to fulfil national priorities, 60 per cent of the grants to rural local bodies is tied to supporting and strengthening the delivery of: (a) sanitation and maintenance of ODF status; and (b) drinking water, rain water harvesting and water recycling.

Fifteenth Finance Commission Volume-III

- Since every resident of India is eligible for the per capita grants, grants should be distributed to even those areas which are not required to have panchayats (Fifth and Sixth Schedule Areas and Excluded Areas), for augmenting their resources for providing basic services by similar local-level bodies.

Chapter 12

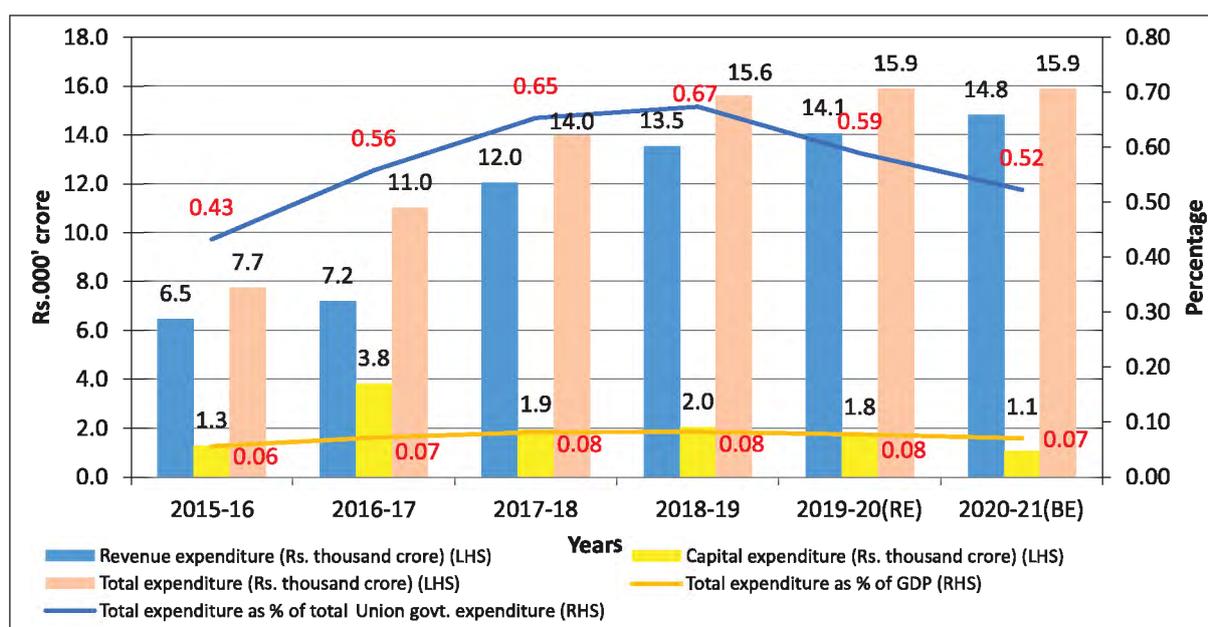
Ministry of Power

The Ministry of Power became an independent entity in July 1992; till then it was a department which was known as Ministry of Energy. The primary responsibility of the Ministry is the development of electrical energy in the country. To this end, the Ministry is involved in perspective planning, policy formulation, processing of project proposals, monitoring of the implementation of power projects, training and manpower development and the administration and enactment of legislation in regard to thermal, hydro power generation, transmission and distribution. The growth and health of the power sector is crucial for overall economic development as all sectors – from agriculture to services – are dependent on it. The Ministry is also responsible for the administration of the Electricity Act, 2003, and the Energy Conservation Act, 2001. Electricity is listed as a concurrent subject in the Seventh Schedule of the Constitution, which means the Ministry has to work in close collaboration with State Governments.

Overall Profile of the Ministry

1. In the Union Budget 2020-21, the Ministry of Power has been allocated around Rs. 16,000 crore which is 0.52 per cent of the Union Government's total budget of 2020-21 and 0.07 per cent of estimated gross domestic product (GDP). The year-wise allocation of Ministry of Power budget is given in Figure 1.

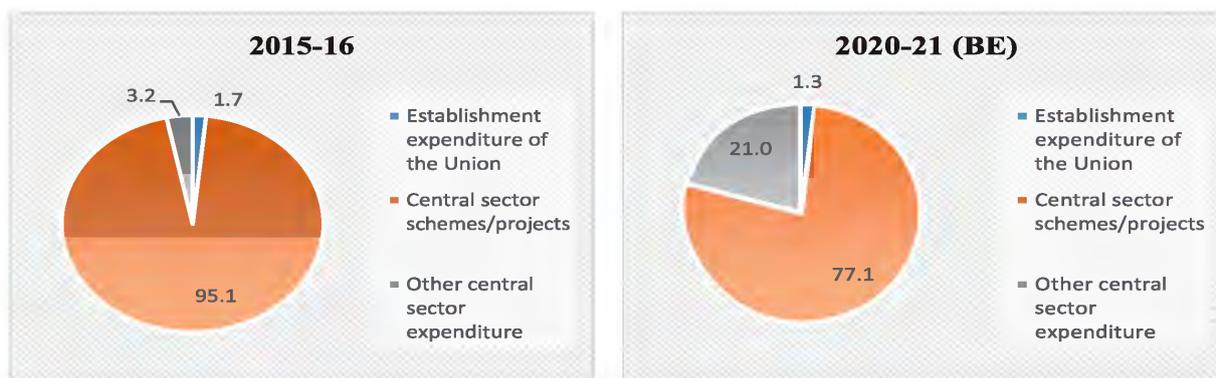
Figure 1: Total Expenditure of the Ministry



Source: Union Budgets

- The share of other Central sector expenditure in total expenditure has increased from 3.2 per cent in 2015-16 to 21 per cent in 2020-21 (BE), while the establishment expenditure has decreased from 1.7 per cent to 1.3 per cent in 2020-21. The expenditure on Central sector schemes, which was 95.1 per cent in 2015-16, came down significantly to 77.7 per cent in 2020-21.

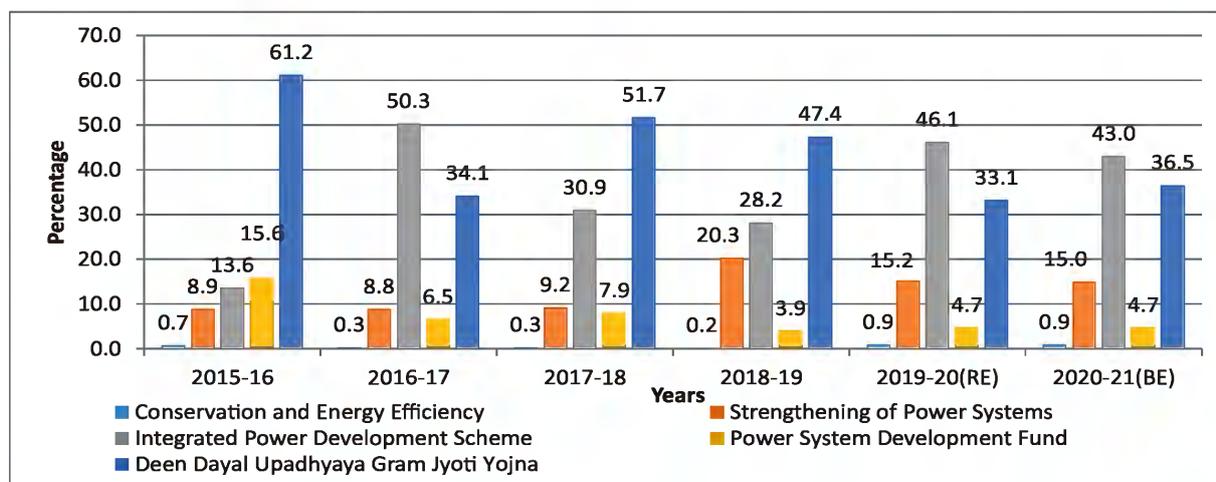
Figure 2: Head-wise Expenditure of Ministry as Percentage of Total Expenditure



Source: Union Budgets

- The expenditure on Deendayal Upadhyaya Gram Jyoti Yojana has increased from 34.1 per cent in 2016-17 to 36.5 per cent in 2020-21 (BE). The expenditure on the Integrated Power Development Scheme has also increased from 30.9 per cent in 2017-18 to 43 per cent in 2020-21 (BE) in relation to total expenditure on Central Sector Schemes. The pattern of expenditure speaks volume about the direction in which the power sector is currently moving.

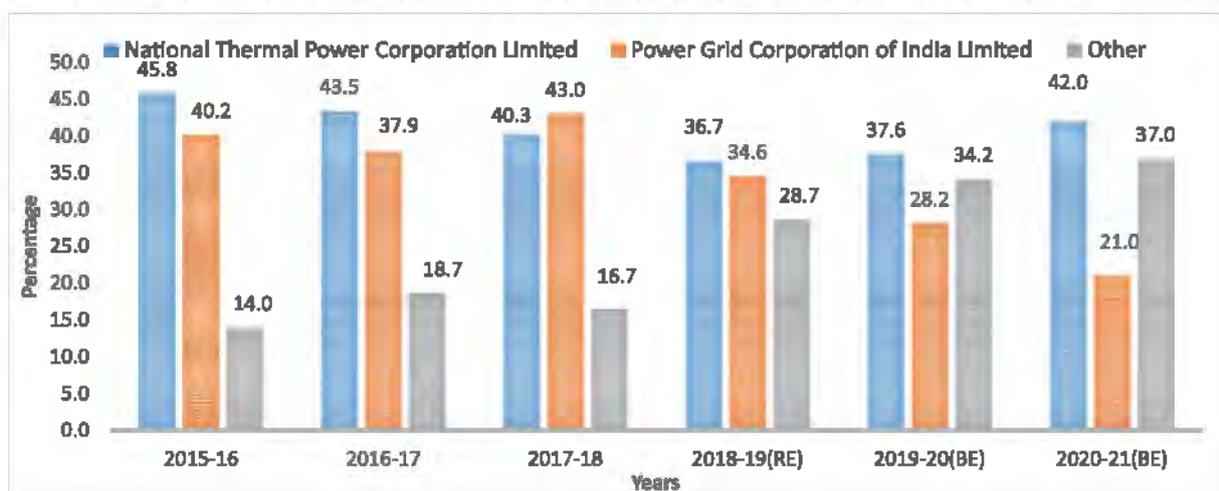
Figure 3: Expenditure in Central Sector Schemes/Projects as Percentage of Total Expenditure in Central Sector Schemes/Projects



Source: Union Budgets

- The investment in two major public enterprises administered by the Ministry has decreased between 2015-16 and 2020-21 (BE). In the National Thermal Power Corporation Limited (NTPC), it has decreased from 45.8 per cent of total investment in 2015-16 to 42 per cent in 2020-21 (BE) and for the Power Grid Corporation of India (PGCIL) it has fallen from 40.2 per cent to 21 per cent in 2020-21 over the same period.

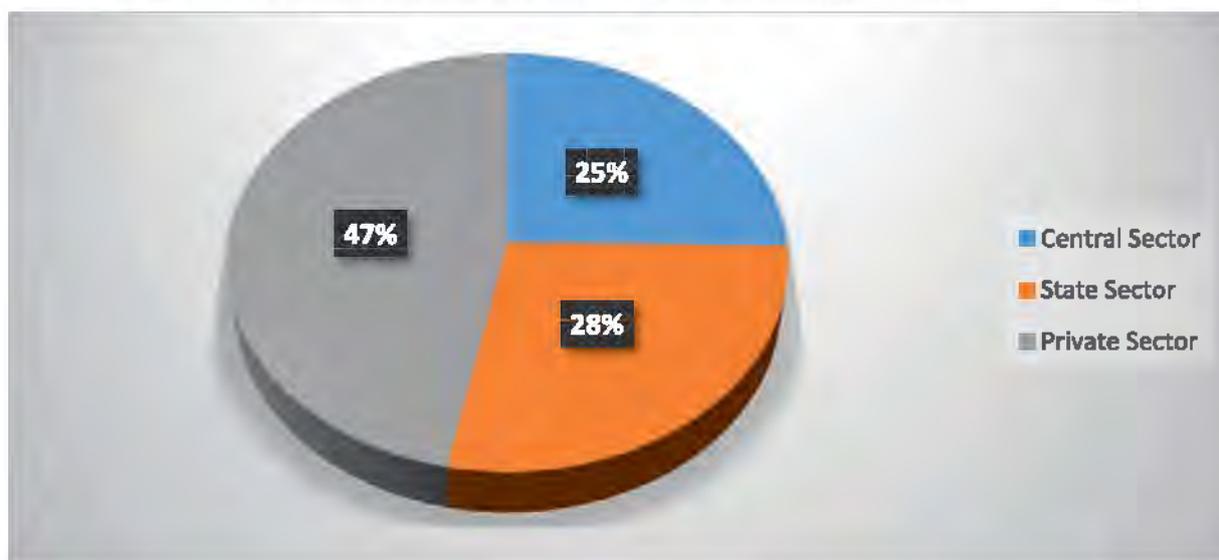
Figure 4: Details of Investment in Public Enterprises as Percentage of Total Investment



Source: Union Budgets

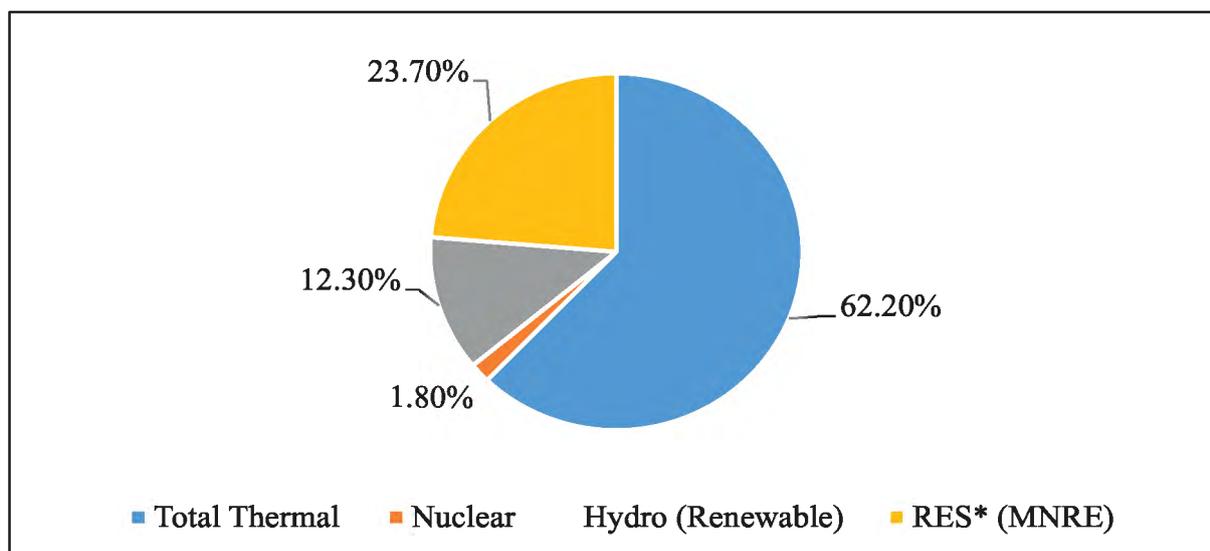
Note: The investment includes the internal and extra budgetary resources (IEBR) component for public sector undertakings.

Figure 5: Sector-wise Total Installed Capacity in Power (as on 31 July 2020)



Source: Central Electricity Authority

Figure 6: Fuel-wise Total Installed Capacity in Power (as on 31 July 2020)



Source: Central Electricity Authority (CEA)

Note: RES (Renewable Energy Sources) include Small Hydro Project, Biomass Gasifier, Biomass Power, Urban & Industrial Waste Power, Solar and Wind Energy.

Initiatives to Deal with Fallout of the Covid-19 Pandemic

5. The Covid-19 pandemic and the lockdowns resulted in a significant drop in power consumption. In the April-June 2020 period, the consumption of power declined by 18.3 per cent on a year-to-year basis. More importantly, there has been a steeper fall in industrial and commercial consumption – two major revenue earners for the distribution companies (DISCOMs). There is clearly a longer term impact of the Covid-related slowdown on electricity offtake, adversely affecting power demand and hence revenues.
6. The pandemic has had a serious negative impact on the resources of both Union and State Governments. To enhance the revenues of the State Governments, the Union Government provided an additional borrowing limit of up to 2 per cent of gross state domestic product (GSDP) in the current fiscal year (2020-21), out of which 0.25 per cent was linked to State Governments undertaking power sector reforms in this fiscal year on the lines recommended by us in our Report for 2020-21:
 - a. an additional borrowing limit of 0.05 per cent of its GSDP has been allowed for reduction in aggregate technical & commercial losses (AT&C) in a State as per targets.
 - b. an additional borrowing limit of 0.05 per cent of its GSDP has been allowed for reduction in the gap between average cost of supply and average revenue

realised (ACS-ARR gap) in a State as per targets.

- c. an additional borrowing limit of 0.15 per cent of its GSDP has been allowed for introduction of direct benefit transfer of subsidy amount to all farmers in a State in lieu of free electricity given to them. In order to become eligible for this, the State Government must (a) formulate the DBT scheme and (b) implement this scheme at least in one district by 31 December 2020.
7. In addition, the Government of India decided to make an infusion of liquidity of Rs. 90,000 core through the Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) as a part of the Atmanirbhar Bharat Abhiyan. The loans will be given against State Government guarantees in two equal instalments and the amount will be used by DISCOMs exclusively to pay their dues to transmission and generation companies. Under this intervention, REC and PFC would extend special long-term transition loans up to ten years to DISCOMs that have headroom for further borrowing within the working capital limits prescribed under the Ujjwal DISCOM Assurance Yojana (UDAY) scheme. A provision has also been made for DISCOMs that do not have this headroom.

Challenges

Thermal power generation

- Thermal power includes diesel, gas and coal-based electricity generation, which accounts for 62 per cent of total electricity generation capacity in India. The main challenges in this sector are:
 - ◇ The close relationship between consumption of electric energy and level of economic activity is well understood. With the onset of the pandemic, power demand has fallen dramatically in the industrial and commercial sectors that largely source power from thermal power plants.
 - ◇ The thermal power sector is being increasingly affected by non-availability of fuel. A significant gas-based capacity of more than 20,000 MW is idle due to non-availability of gas, while supply of coal is only around 65 per cent of actual requirement by coal-based thermal plants. This is leading to increased dependence on imported coal, which, in turn, results in higher cost of power generation.
 - ◇ Past efforts at providing coal linkages to thermal power plants have not been successful. Though an announcement has been made recently to auction forty-one new coal blocks to private players, there has to be a fundamentally new

approach to address this issue.

- ◇ The stress in the financial sector, along with the limits on bank exposure to certain sectors, has reduced the availability of funds. Further, promoters of thermal power generation projects are finding it difficult to bring in equity and service debt.
- ◇ Greenhouse gases emitted by the thermal sector are very harmful for the environment. Measures to mitigate this are costly, as exemplified by the recent actions by the power plants to comply with new emission standards by 2022. This entails compulsory installation of flue gas desulphurisation (FGD) system, which comes with a high cost.
- ◇ Years of populist tariff schemes, mounting AT&C losses and operational inefficiencies have adversely affected the financial health of State DISCOMs. This has not only suppressed demand, but also led to delayed payment of dues by DISCOMs. This has, in turn, strained the finances of thermal power plants.
- ◇ Low plant efficiency not only leads to burning of more coal in the plants but also adds to the volume of CO₂ produced. Thermal plants being the mainstay of power generation in India, there is urgent need to replace inefficient plants through a modernisation programme.

Distribution sector

- The distribution sector has been the weakest link in the entire power value chain and in most States the distribution-related reforms are incomplete. This segment has been grappling for a long time with questions of financial sustainability on account of below-cost tariffs to different consumer groups, supply of un-metered, free electricity to agriculture, State Governments not providing the promised subsidies to the utilities, high AT&C losses and poor regulatory governance.
- The impact of the UDAY scheme on state finances has been marginal and only a few States have been able to eliminate the ACS-ARR gap and meet the target of reducing AT&C losses to 15 per cent in 2019-20. In 2018-19, the ACS-ARR gap remained high at 72 paise per kwh and the national AT&C losses was 22.03 per cent.
- State Governments have been lending to the power sector mainly to fund the capital expenditure of transmission and distribution companies, as well as to cover the mounting financial losses accrued by them. In addition to direct lending, State Governments have been providing support to the State DISCOMs in the form of grants

and subsidies. State Governments also provide guarantees for the borrowings of DISCOMs from financial institutions. Given that the State Governments are guarantors, these resultant contingent liabilities are a risk to state finances, owing to the large outstanding debt and rising losses of DISCOMs. The aggregate losses (PAT on subsidy received basis) for all the utilities increased from Rs. 33,594 crore in 2017-18 to Rs. 61,360 crore in 2018-19. The total borrowings of the DISCOMs on 31 March 2019 stood at Rs. 4,78,452 crore, of which borrowings from State Governments is Rs. 91,228 crore.

- Attempts at reforming the sector have been primarily focused on the distribution end – control of AT&C loss and tariff rationalisation. At no point of time has any attempt been made to reform the inefficiencies of the upstream segment – coal production and transportation, cost of power generation and evacuation, etc. With the increasing cost of coal, transmission and taxes/duties, controlling AT&C loss and tariff rationalisation has not had much of an impact on the financials of the DISCOMs.
- These inefficiencies are the result of the cost-plus regime prevalent in almost all upstream activities such as coal production, coal transportation, transmission of power, etc. Even though the power generation sector has been delicensed and opened up to competition, it is still dominated by public sector entities which function on a cost-plus basis. All this affects the finances of the DISCOMs.
- These distortions in the competitive power sector landscape are detrimental to the consumers' interest. There is a need to move away from this cost-plus regime in generation, transmission and coal production. All policies and regulations in the sector should be ownership-neutral and efficiency-centric.

Suggested Areas of Reforms

- In our main report, we have noted that the measures taken by the Union Government in the course of addressing the pandemic have already set in a process of incentivising the States to improve the distribution sector. These, along with the proposed amendments to the Electricity Act 2003 and the likely approval of the New Tariff Policy, will further provide momentum to the reform agenda. These measures need to be continued as the attendant structural reforms are expected to be completed over the next four-five years.
- Accordingly, we have recommended, in Chapter 10 of Volume I, an extra annual borrowing space for the States, of the magnitude of 0.5 per cent of their GSDP for the each of the first four years of the award period, that is from 2021-22 to 2024-25.

- As an entry-level condition it has been recommended that a State will become eligible for this extra borrowing, once it ensures and certifies that all DISCOMs within the state have up-to-date audited accounts. This implies that in determining the eligibility of the State in the year (t), all the DISCOMs in the state should have filed their consolidated financial statements for the financial year (t-1) as per the statutory requirements.
- In addition to this entry-level condition, we have proposed to continue with the three indicators that have been mandated by the Ministry of Finance for a State to become eligible for extra borrowings for 2020-21: (i) reduction in AT&C losses; (ii) reduction in ACS-ARR gap; (iii) reduction in payment of cash subsidy by adopting DBT. All these three indicators were also identified by us in our first report. The third indicator has been expanded to include reduction in tariff subsidy as a percentage of revenue from the sale of power (including tariff subsidy booked). This will measure the extent to which State Governments are providing subsidy to the power sector. We have added a fourth indicator that looks at per capita consumption of units through metered supply that yield actual revenue, including subsidies on demand side made through DBT, and excluding supply side transfers through the State budget for unmetered supply.

Five-year Road Map for Reforms¹

Reforms in Distribution

- The three performance indicators identified by us will create the right incentive to increase metered energy for which revenue has actually been collected. Non-metered supply poses a problem for accurate measurement and the possibility of including figures that do not actually represent increased energy offtake but merely a juggling of T&D losses. Metered supply is also at the core of DBT of subsidies because such direct transfer of subsidy for consumption based on metered supply gets automatically captured. Supply of energy that is not metered or supplied free gets excluded unless there is an up-front payment of subsidy. The availability of up-to-date audited accounts will enable the capture of this vital information that is central to the three performance indicators identified.
- There is a need to progressively replace existing electricity meters with operational smart meters, including smart prepaid meters. This will help DISCOMs understand and manage their load better, while also reducing metering and billing losses and theft, while facilitating distributed rooftop solar and storage.

¹The Commission gratefully acknowledges the valuable inputs of Shri Rakesh Nath, ex-Member Appellate Tribunal for Electricity and ex-Chairperson, Central Electricity Authority

- The distribution companies are saddled with huge losses on account of long-term power purchase agreements (PPA) with costly and inefficient thermal power plants. These inefficient, highly polluting, end-of-life coal plants need to be closed down. This will result in huge savings from fixed charge payment for such assets and will also reduce pollution and carbon footprints. DISCOMs need to stop entering new long-term PPAs with costly, subsidised thermal plants which are still on the drawing board or where financial closure has not been achieved.
- The Electricity Act 2003 mandates that tariffs should reflect costs. However, due to several factors – including strong political vote-buying pressure for low tariffs, perceptions of DISCOMs’ inefficiencies and disagreements on the accuracy of subsidy claims – regulators have generally failed to allow prices to rise with the inflationary impact of rising power supply costs over time. A few States have not increased their tariffs at all in the last few years. There is need for timely revision of tariffs by State Governments.
- There is a need to move quickly to the separation of the content (electricity supply) and carriage (distribution network) business of distribution entities. This will make DISCOMs aggregators of power and owners of the distribution network. Such separation will allow multiple suppliers in an area to offer choice to consumers. Separation of network and supply in the right manner will help in capturing some supply risk and limit high-cost incremental purchases by commercial/industrial consumers.
- Carriage involvement of the private sector is integral to any reform in the distribution sector. The acceptable forms of private sector participation in distribution are the franchisee model and privatisation of distribution where the private entity obtains a distribution license. A public-private-partnership (PPP) model where the State keeps 49 per cent equity and the private company owns 51 per cent was adopted in Delhi and has been successful in reducing the AT&C losses and improving the operational performance dramatically. However, a different strategy has to be adopted for rural areas. Towns with population of more than one million account for most of total consumption of electricity in the country. Many of these towns have high AT&C losses and poor distribution networks, affecting the reliability and quality of power supply to the consumers. Privatisation or adopting a franchisee model or sub-licensee model in such towns will make commercial sense for the existing DISCOMs and the State Government.
- The tariff structure of most of the utilities today have complex categories and tariff

slabs which do not have much logical reasoning but are largely driven by social and political priorities. These multiple slabs have created multiple consumer categories, resulting in a very complex structure, which leads to significant inefficiencies. Too many tariff slabs, which may not necessarily reflect the cost of supply, lead to much higher administrative costs for monitoring consumers. Multiple slabs coupled with cross subsidies also incentivise the consumer to indulge in manipulation to maximise the subsidy benefits.

Strategy in Rural Area Distribution

- Electricity supply to agriculture accounts for about 20 per cent of total electricity consumption in India and is either free or heavily subsidised. The financial gap is partly subsidised by the State Government or by cross subsidy by high-end consumers through retail supply tariff. The subsidies to agriculture have been rising and have doubled in last five years. The subsidy by State Governments, paid at nominal rates, does not cover the actual cost of supply.
- Agriculture supply can be provided by installing solar plants developed by entrepreneurs on vacant and unused land in the nearby DISCOM sub-stations or in the nearby wastelands at much lower cost. This will not only result in saving but also in reducing T&D losses and meeting the renewable purchase obligation (RPO) targets of the DISCOMs. This will help in reducing losses of the DISCOMs; lowering the subsidy burden on State Government and cross subsidising by industrial and commercial consumers to agriculture; meeting RPO obligations and reducing greenhouse gas emissions.
- Even though connectivity has been provided to all villages, the continuity and quality of supply to rural households and rural industry is still an issue. There is no incentive to DISCOMs to ensure uninterrupted supply in rural areas, as the cost of supply to rural areas is more than Rs 7 per kWh but the recovery is much less. It is important to reduce the cost of supply to rural areas. Development of decentralised generation by renewable energy connected to 33/66 kV sub-stations in the vicinity of rural areas by entrepreneurs should be encouraged. There is a need to set a target that in the next five years 50 per cent of rural energy consumption (10 per cent every year) may be supplied by electricity from renewable energy resources through decentralised generation.

Deepening Power Markets to relieve DISCOMs distress

- The country has two power exchanges – India Energy Exchange Ltd and Power Exchange India Ltd – where price is discovered by double-sided auctions. These have contributed to better utilisation of national resources and reduced unmet energy and consequent economic losses. Over the years, the prices discovered in the exchanges have been lower than prices in bilateral contracts. However, the total energy transacted at these exchanges is still very low. In the last five years, the total short term trade has remained constant at 10 per cent of the total generation but the volume traded has grown from 2.9 per cent to 4.1 per cent of total generation. Power markets in developed economies trade 30-40 per cent of total demand. The major transactions in the country are through long-term PPAs, which burden DISCOMs with fixed charges of unutilised capacity. There is, therefore, a strong need to increase the share of short-term markets and exchange volumes.

Developing Fuel Markets

- The cost of power procurement is about 65-75 per cent of the total annual revenue requirement of a distribution licensee. The cost of fuel is a major component of the overall procurement cost. Coal linkages have been given to only power projects with long-term PPAs. It would be necessary to develop fuel markets which can align with power market operations and facilitate the supply of coal and gas, as the case may be, to power generating stations wanting to enter into shorter duration contracts on term-ahead, day-ahead and intra-day basis. An electronic bidding platform for coal may be considered to enable clearing house operations and enable short-term trades under market clearing prices. As an immediate step, progressive decoupling of coal linkages with long-term PPAs would be necessary to enable power plants with untied capacity to participate in the short-term power market and supply power at competitive rates.
- Market dynamics warrant that the operations of power exchanges will multiply as DISCOMs will economise their cost of power procurement and benefit from the marginal cost of generation discovered through the market. Aligning fuel supplies to the short-term power market will enable generators to respond to demand dynamics impacted by the uncertain nature of generation from renewable sources, supply imbalances and changes in aggregate demand.

Development of Transmission System through Tariff Based Competitive Bidding

- In order to bring in competition in transmission, the development of an inter-State transmission system is taking place through tariff-based competitive bidding (TBCB), except for transmission system identified as being of strategic importance, which is assigned to POWERGRID. POWERGRID also participates in the competitive bidding along with private developers and this concept should be encouraged so that all assets get formed on market-based pricing, both at State and Union levels. Development of intra-State transmission systems is generally being carried out by the State-owned transmission companies. It is recommended that the States should also develop the intra-State transmission system through TBCB.

Regulatory Measures

- Independence, transparency, predictability, timely disposal of case and enforcement of decision and institutional capability are the key attributes of a regulatory authority. One of the objectives of the Electricity Act was to separate the regulatory responsibilities from the government. There is a perception among the stakeholders that the State electricity regulators are not balancing the interests of generating companies and state distribution licensee and that the State Government is exercising some influence in their decisions. Large regulatory assets have been created in many DISCOMs by the State Electricity Regulatory Commissions (SERCs) denying fair retail supply tariff, after having accepted the legitimate expenditure, to avoid tariff rise. Also, the increase in number of private players in the sector has resulted in an increase in appeals being filed in the appellate tribunal.
- There is a need to separate the adjudication function of electricity regulators from the regulatory and tariff determination role and vest this in a separate Electricity Dispute Resolution Authority. The selection of all members of the regulatory commissions, including the members of the SERCs, needs to be modified to introduce an element of impartiality in their selection so that the professionals with domain knowledge are selected. This is under consideration in the draft bill to amend the Electricity Act.

Chapter 13

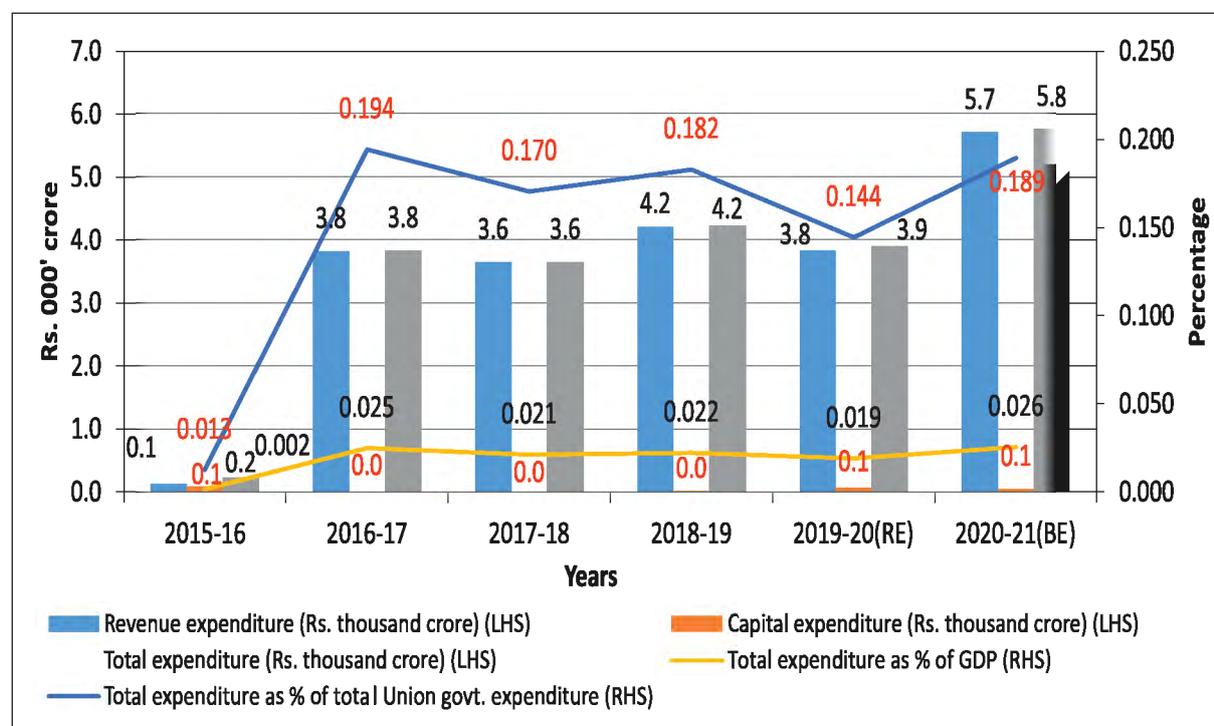
Ministry of New and Renewable Energy

The broad aim of the Ministry of New and Renewable Energy is to develop and deploy new and renewable energy in order to supplement the energy requirements of the country. The role of the Ministry has been assuming increasing significance in recent times because of the growing concern for the country's energy security. India has vowed to become a global leader in the solar energy space by 2030. It has already attained fourth and fifth positions globally in installed capacity of wind and solar power installed capacities and is now ranked fifth globally in overall installed renewable energy capacity.

Overall Profile of the Ministry

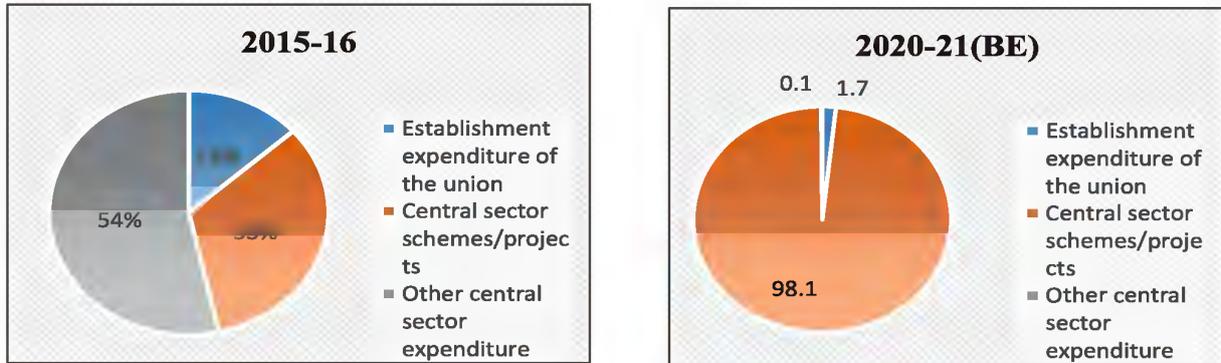
1. The Ministry of New and Renewable Energy (MNRE) has the overall responsibility of giving a boost to renewable sources of energy. The Union Budget 2020-21 allocated around Rs. 6,000 crore to the Ministry, which is 0.19 per cent of the Union Government's total budget of 2020-21 and 0.1 per cent of estimated GDP. The year-wise allocation of MNRE budget is given below in Figure 1.

Figure 1: Total Expenditure of the Ministry



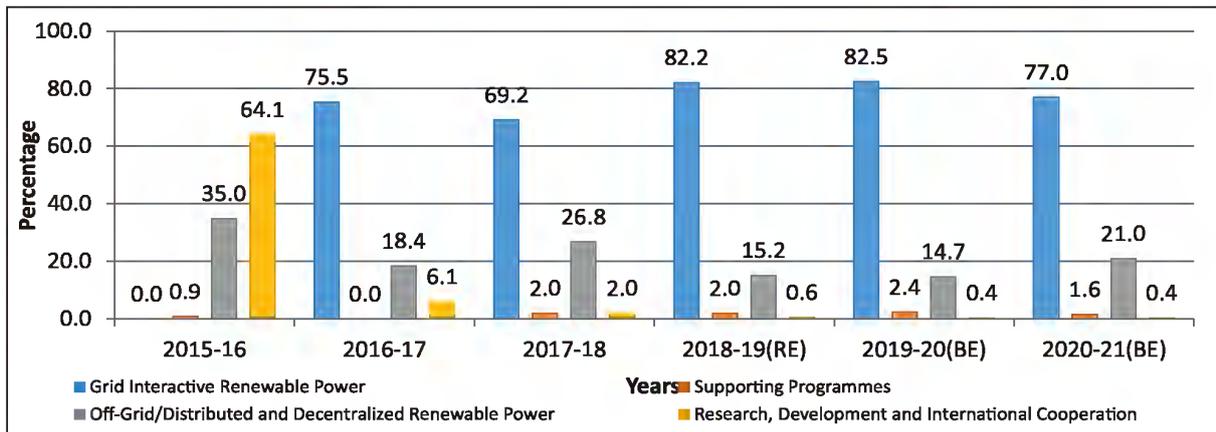
Source: Union Budgets

Figure 2: Head-wise Expenditure of the Ministry as Percentage to Total Expenditure (2015-16 and 2020-21)



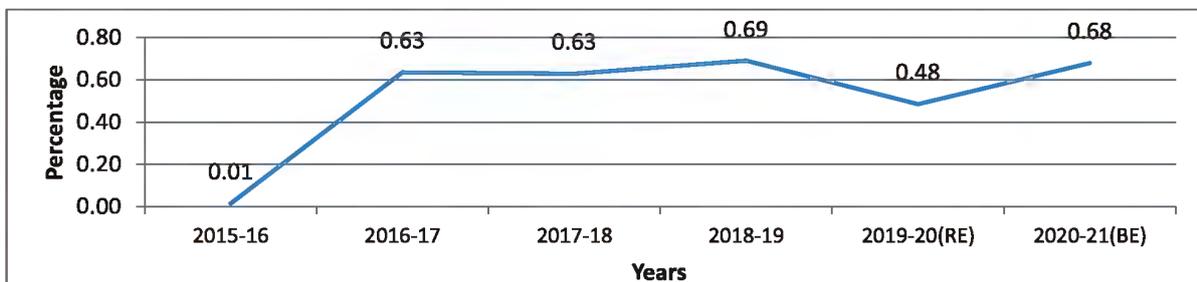
Source: Union Budgets

Figure 3: Expenditure in Central Sector Schemes/Projects as a Percentage of Total Expenditure in Central Sector Schemes/Projects



Source: Union Budgets

Figure 4: Expenditure on Central Sector Schemes/Projects by MNRE as Percentage of Total Union Expenditure on Central Sector Schemes



Source: Union Budgets

Note : Though the percentage-wise expenditure, when compared to total Union expenditure, is low, it is interesting to see the attention this segment has received post 2015-16.

Commitment to Renewable Power

2. Buoyed by the growth in the clean energy sector, the Government of India, in its submission to the United Nations Framework Convention on Climate Change (UNFCCC) in Intended Nationally Determined Contribution (INDC), has stated that India will achieve 40 per cent cumulative electric power capacity from non-fossil fuel-based energy resources by 2030. This will be done through transfer of technology and with the help of low-cost international finance, including from the Green Climate Fund.

Table 1: Renewable Power – Global Perspective

Country	Capacity (GW)	% Share
World	1081	
1. China	334	30.90
2. United States	161	14.90
3. Germany	107	9.90
4. India	61	5.64
5. Japan	54	5.00

Source: MNRE

Increasing Relevance of Hydropower

3. Till March 2019, only hydro projects up to 25 MW capacity were considered as renewables and were eligible for various incentives like financial assistance and cheaper credit. In March 2019, these incentives became applicable to hydro projects above 25 MW as well. This also paved the way for adding hydro capacities of about 45 GW to the renewable energy basket of 74 GW, which includes solar, wind and small hydro.
4. Significant reforms made in recent years include the Hydro Power Policy of 2008, which encouraged private sector participation in hydro power generation and the National Tariff Policy 2016 on frequency response markets and extended certainty of PPAs. Some of these policy proposals include new ancillary service markets, separate purchase obligation benefits and more integrated planning.
5. Some of the key challenges in the hydro power sector include the high cost of projects, which are generally located in remote areas, technical challenges due to fragile geology, issues related to land acquisition, environment and forests and the rehabilitation and resettlement of displaced people.

6. Table 2 gives the basin-wise assessed potential of hydro power in the country. In addition, fifty-six pumped storage projects have also been identified with potential installed capacity of 94,000 MW. Further, hydro potential from small, mini and micro schemes has been estimated as 6,782 MW from 1,512 sites. In sum, India is endowed with hydro power potential of about 2,50,000 MW, according to the Forty-Third Report of Standing Committee on Energy, 2018-19.

Table 2: Basin/Rivers Probable Installed Capacity (MW)	
(As on 30-06-2020)	
Indus Basin	33832
Ganga Basin	20711
Central Indian River System	4152
Western Flowing Rivers of Southern India	9430
Eastern Flowing Rivers of Southern India	14511
Brahmaputra Basin	66065
Total	148701

Source: Central Electricity Authority

7. According to the National Electricity Plan (2022-27), the electricity requirement in 2027 is expected to be 2,047 BU and the peaking demand 298.77 GW. Keeping this in mind, the capacity of hydro power will need to be enhanced by 46,420 MW. This additional capacity should be preferably from flexible sources of generation to meet the peaking, balancing and ramping requirement of the grid.
8. As part of India's INDC for climate change, 40 per cent of total generation is to come from non-fossil sources by 2030. This expansion of renewable energy will require balancing power of grid stability which can be provided by hydro power.

Challenges

Inordinate delays in payments from State DISCOMs

- State-owned DISCOMs delay payments for the power purchased by them from renewable energy generating companies. This has adversely affected the investment climate, causing a slowdown in the credit flow to projects in the sector. If this is not arrested immediately, achievement of renewable energy targets may suffer, severely damaging one of the most important initiatives to meet the challenge of climate change.

Non-compliance with renewable purchase obligation

- RPO is the single most important policy instrument for increasing the share of renewables in the overall electricity mix. RPO compliance is central to achieving the obligation under the Paris Climate Agreement. The RPO trajectory, as notified by the Ministry of Power, requires 21 per cent share of renewables by the year 2022. However, currently the share is only around 9 per cent, mainly due to RPO non-compliance by a large number of States. Regulatory provisions for ensuring RPO compliance provide for invoking penal provisions by the respective SERCs. However, these have not yielded the desired results.

Emissions Level (Paris Climate Change Accord, 2015)

- India has achieved reduction of 21 per cent in the emission intensity of its GDP between 2005 and 2014, thereby meeting its pre-2020 voluntary target. Further, it is required to reduce the emissions intensity of GDP by 33 to 35 percent by 2030 from the 2005 level.

Intermittency of renewable power

- The power from renewable energy sources is prone to frequent fluctuations, forcing the grid operator to make multiple adjustments in operations. This also requires flexible reserve capacity to maintain the stability of the grid.

Policy needs to be more consistent

- An emerging sector that seeks to attract global investors cannot have ad hoc and abrupt policy changes. An example is that of the solar module manufacturing industry. Import duties have been applied and then removed; currently, no duty is being levied on imported modules but a proposal to do so is under consideration.

Underperforming DISCOMs

- The most recent attempt to reform DISCOMs, UDAY, has not yielded the desired results. The financial stress that DISCOMs are in has meant delays in payments for developers, cancellation of auctions and lack of enforcement of contracts. All this dampens investor confidence and interest of developers.

Lack of encouragement of rooftop solar

- Rooftop solar has failed to make any headway in the current market, which is skewed towards large-scale renewable energy. There is a preference for commercial and industrial installations while residential consumers, who hold immense potential, account for less than 20 per cent of the total installed capacity. The country is aiming for a 40 GW capacity by 2022, but till December 2018, only 1,889 MW of grid-connected solar rooftop systems had been installed.

Distributed energy pushed to the back-burner

- Almost all the schemes that have been floated for ensuring access to energy for the people, such as SAUBAGHYA, are tied to extending the grid and connecting un-electrified households to centralised distribution and transmission networks. The CSE analysis shows that grid connectivity does not lead to availability of electricity or consistent supply. The focus on grid-based power supply to ensure universal access needs to be reconsidered.

Suggested Areas of Reforms

Create infrastructure for renewables

- States need to be given support for creating infrastructure for renewables, including Renewable Energy Management Centres and renewable power evacuation systems. The on-going Green Energy Corridor projects seek creation of grid infrastructure for renewable power evacuation.

Ensure contract enforcement

- An increasing number of State Governments are attempting to renegotiate PPAs with solar power developers. This hurts the country's ability to attract investments and also creates a perception of uncertainty over the sanctity of legal contracts. The creation of an Electricity Contract Enforcement Authority (ECEA) to deal with contractual disputes in the power sector as a whole will also help the renewable sector to tackle such issues.

Encourage rooftop solar systems

- States should encourage distributed solar rooftop deployments by creating policy

certainty and an environment where self-generation is promoted. This will help reduce system-wide AT&C losses and reduce the burden of funding massive grid transmission and distribution infrastructure that is needed to be installed over the coming one or two decades as electricity demand doubles. This will also help in setting up mini-grids.

Boost adoption of solar pumps

- The Government must encourage the use of solar pumps under the PM-KUSUM (Pradhan Mantri Krishi Urja Suraksha evam Utthan Mahabhiyan) scheme. This will help States in curbing losses by reducing the aggregate cross subsidy burden on other high-paying customer categories. It will also bring down cost of power procurement by DISCOMs and transmission losses by building domestic distributed generation capacity at the end of the grid.

Encourage ‘smart grids’

- Such grids use communications infrastructure, control systems and information technology for efficient delivery.

Invest in developing inexpensive energy-storage capacity

- Indigenous research can improve upon existing technology in terms of both cost and performance. Policy support can drive scale for the battery industry. The energy storage infrastructure in renewable resources in States needs to be ramped up in order to address variability of renewables. Energy shortage will be a key element in enabling the transition to a greater share of renewables in the electricity mix. States would require support for setting up energy storage capacity in conjunction with renewable power and also for promoting indigenous manufacturing of storage technologies.

Incentivise States for undertaking waste to energy projects with different waste substrates

- Waste to Energy projects will be taken up in around 100 Class A cities to address waste management as well as energy demand. The Union Government may consider providing support for creating an incentive grant to these cities.

Reassess the hydro power potential in the country

- The last assessment of hydro power potential was conducted in 1987. There is now

robust scientific data available on updated hydrological and topographical information, and information relating to land use and submergence. The north-eastern and Himalayan States have huge potential for hydro power generation and there is scope for external assistance programme funding which can help in increasing the non-tax revenue of States as well as reducing their need for revenue-deficit grants. The total potential for renewable energy in the North-eastern region from solar, small hydro and bio-energy is estimated at 65,838 MW, a substantial part of which is suitable for grid-connected applications. The installed capacity as of December 2019 was only 415 MW.

Chapter 14

Ministry of Rural Development

Rural development is about both economic betterment of people and greater social transformation. Increased participation of people in rural development programmes, decentralisation of planning, better enforcement of land reforms and greater access to credit will help in providing people in rural areas with better prospects.

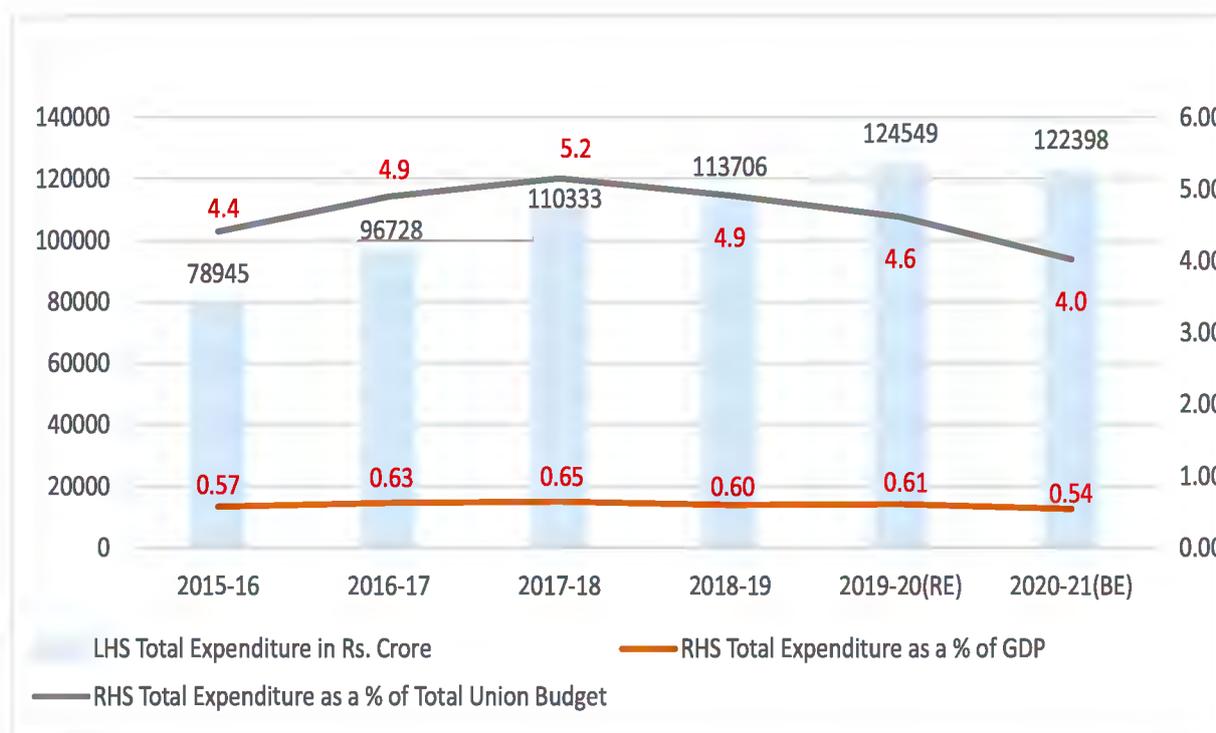
The Ministry of Rural Development has played a pivotal role in meeting the SDG-1 of poverty reduction, connectivity through rural roads, social protection for senior citizens/widows/disabled and promoting accountability and transparency of panchayats through PrioSoft software.

Reducing inter-state disparity in rural roads network, maintenance of rural assets, standardising social security, empowering panchayats through enhancing human capabilities and digitisation of land records should be the development strategy for the Ministry to meet the broader objective of inclusive growth.

Overall Profile of the Ministry

1. The Ministry of Rural Development (MoRD) comprises of two departments – Department of Rural Development and Department of Land Resources. The objective of the Ministry is sustainable and inclusive growth of rural India through a multi-pronged strategy for eradication of poverty by increasing livelihoods opportunities, providing social safety nets and developing infrastructure for growth. This is expected to improve the quality of life in rural India and to correct developmental imbalances, aiming, in the process, to reach out to most disadvantaged sections of the society.
2. The Union Budget, 2020-21, allocated Rs. 1,22,398 crore to the Ministry, which is the fifth highest allocation for the financial year. This is 4 per cent of the Union Government's total budget and 0.54 per cent of estimated gross domestic product (GDP). The year-wise allocation of the Ministry is given in Figure 1.

Figure 1: Expenditure of Ministry of Rural Development



Source: Union Budget

- The Department of Rural Development accounts for 98 per cent of the MoRD expenditure, and the Department of Land Resources only 2 per cent. This trend has been broadly consistent over the past five years. As much as 95-99 per cent of the expenditure of both the departments is on Centrally sponsored schemes (CSS), as Table 1 shows. Almost 35-40 per cent of total Union Government expenditure on CSS is on the department's CSS (Table 2).

Table 1: Average Head-Wise Expenditure (2015-16 to 2020-21, BE)

Expenditure Heads (in %)	Department of Rural Development	Department of Land Resources
Establishment expenditure	0.04	0.56
Central sector schemes/projects	0.46	4.49
Centrally sponsored schemes	99.51	94.96

Source: Union Budget

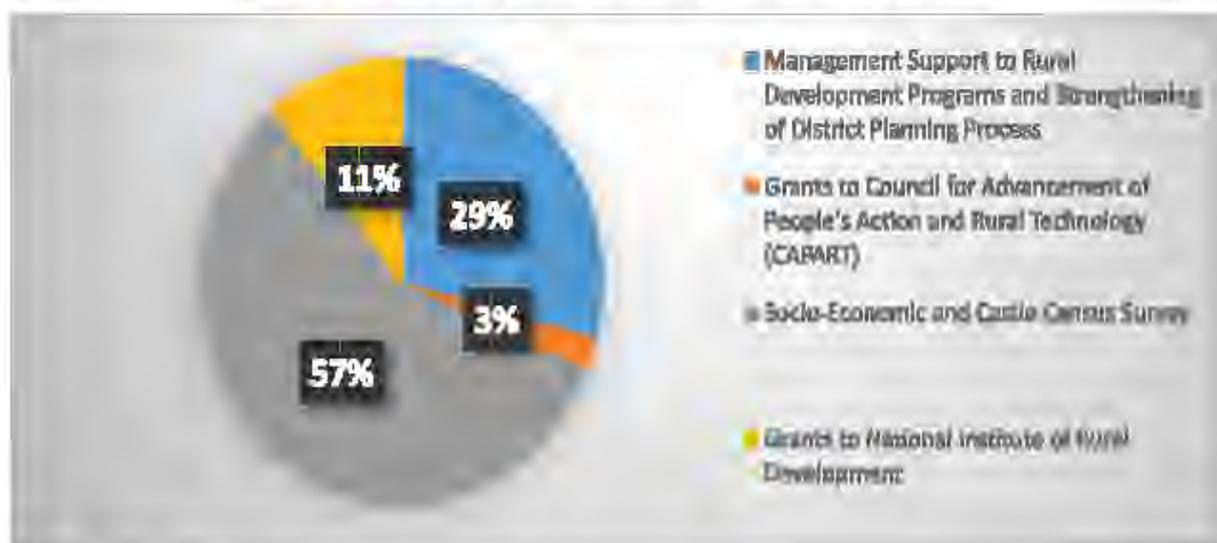
Table 2: Department of Rural Development Expenditure on Central Sector and Centrally Sponsored Schemes

	2015-16	2016-17	2017-18	2018-19	2019-20 (BE)	2020-21 (BE)
Expenditure on Central sector schemes as percentage of total Union Government expenditure on Central sector schemes	0.09	0.05	0.06	0.10	0.06	0.04
Expenditure on CSS as percentage of total Union Government expenditure on CSS	37.75	39.30	37.90	37.55	38.53	35.16

Source: Union Government Budgets

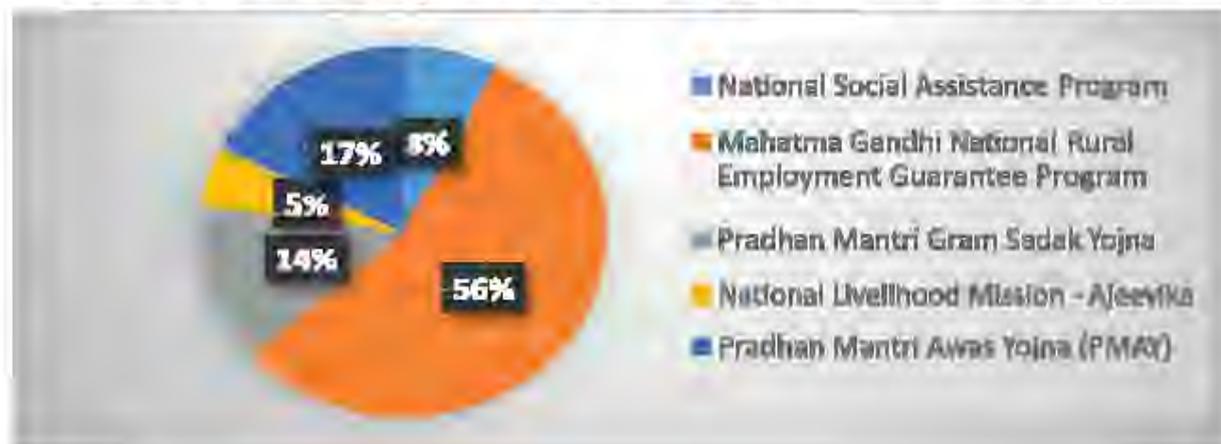
- The Department of Land Resources implements only one Central sector scheme, Digital India Initiative - Land Records Modernisation Programme, and one CSS scheme, Pradhan Mantri Krishi Sinchai Yojana (PMKSY). The Department of Rural Development administers many Central sector schemes and CSS (Figure 2 and Figure 3).

Figure 2: Scheme-Wise Expenditure on Central Sector Schemes of Department of Rural Development



Source: Union Budgets

Figure 3: Scheme-wise Expenditure on CSS of Department of Rural Development



Source: Union Budget

Achievements of CSS Schemes¹

Mahatma Gandhi National Rural Employment Guarantee Programme

- The Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGA) programme is implemented in 691 districts and 6,919 blocks covering 2.62 lakh Gram Panchayats. As of 31 March 2019, there were 118.1 million active MGNREGA workers across the country.

Table 3: Achievements of MGNREGA from 2014-15 to 2018-19

Expenditure Heads (in %)	Department of Rural Development	Department of Land Resources
Person days generated so far (crore)	166.21	265
No. of completed works (lakh)	29.44	86.33
Total expenditure through eFMS ² (%)	77.35	99
Payments generated within 15 days (%)	26.85	92

Pradhan Mantri Awas Yojana - Gramin

- In order to achieve the objective of 'Housing for All 2022', the Indira Awas Yojana (IAY) was restructured as the Pradhan Mantri Awas Yojana - Gramin (PMAY-G) and was launched on 20 November 2019.
- Under Phase-I of PMAY-G a target of completing one crore houses between 2016-17

¹Source: State Performance Report 2018-19 and Action Plan 2019-20 – MoRD

²eFMS- electronic Fund Management System

and 2019-20 was set. As on 1 March 2019, 71.47 lakh houses have been constructed. The top performing states were: Madhya Pradesh (89 per cent of the target), West Bengal (86 per cent), Tripura (84 per cent), Himachal Pradesh (83 per cent) and Uttar Pradesh (81 per cent). In two States, Bihar and Odisha the shortfall from the target was as high as 26 per cent and 15 per cent respectively. They should take necessary steps to meet the target.

8. Under Phase-II of PMAY-G, the Union Government has set a target of completion of 1.95 crore houses between 2019-20 and 2021-2022.

Pradhan Mantri Gram Sadak Yojana

9. The Pradhan Mantri Gram Sadak Yojana (PMGSY) is a CSS with the objective of providing all-weather road connectivity in the rural areas. The programme envisages connecting all eligible unconnected habitations with a population of 500 persons and above (as per 2001 Census) in plain areas and 250 persons and above (as per 2001 Census) in North-East and Hill States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura Himachal Pradesh, and Uttarakhand), tribal or Fifth Schedule areas, the desert areas (as identified in the Desert Development Programme) and in selected tribal and backward districts (as identified by the Ministry of Home Affairs/erstwhile Planning Commission).
10. PMGSY-II has been launched to consolidate the existing rural road network. It aims to take up upgradation of selected rural roads to make the road network vibrant. The routes would be selected with the objective of identification of rural growth centres and other critical rural hubs and places of importance (connectivity to other growth poles, markets, rural hubs, tourist places and the like).
11. In December 2016, the Cabinet approved a new vertical under PMGSY – Road Connectivity Project for Left Wing Extremist Areas (RCPLWE) – in forty-four districts of nine States. All sanctions have been given for the first phase of RCPLWE of 4,313.36 km of road length and 216 bridges with a total estimated value of Rs. 4,721.62 crore.
12. The Prime Minister’s dream of “New India 2022” requires connectivity and also consolidation of roads that connect markets in order to enable farmers to get access to, and benefit of, markets. Realising the importance of good quality and wide roads to connect agriculture markets, there is a proposal to consolidate the rural road network by providing for upgradation of existing selected rural roads based on their economic potential and their role in facilitating the growth of rural market centres and rural hubs.

The Improved Access to Market by 2022 (PMGSY-III) scheme proposes to upgrade 1.25 lakh km. This will further strengthen Phase-II of the programme which is already under implementation. PMGSY-III is in the final stage of approval.

Deendayal Antyodaya Yojana – National Rural Livelihood Mission

13. The Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) was launched in 2011 with the objective of improving the livelihood of 70-80 million poor households and helping them come out of abject poverty by 2024-25. This is to be done by social mobilisation in 600 districts, 6,000 blocks, 2,50,000 Gram Panchayats and 6,00,000 villages over a period of eight to ten years. Women – one from each rural poor household – are to be organised into self-help groups (SHGs), train them, help them develop micro-livelihood plans and facilitate access to financial resources and credit from banks and lending institutions.
14. As of January 2019, 752 additional blocks have been covered under an “intensive” implementation strategy, bringing the total number of blocks covered by the scheme to 5,207.

National Social Assistance Programme

15. The National Social Assistance Programme (NSAP) is a social assistance programme for the aged, widows, disabled and to below poverty line (BPL) families in the case of death of the breadwinner. This scheme is in line with Article 41 of the Constitution of India, which directs the State to provide public assistance to its citizens in case of unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capacity and development. The programme gets 100 per cent Central assistance.

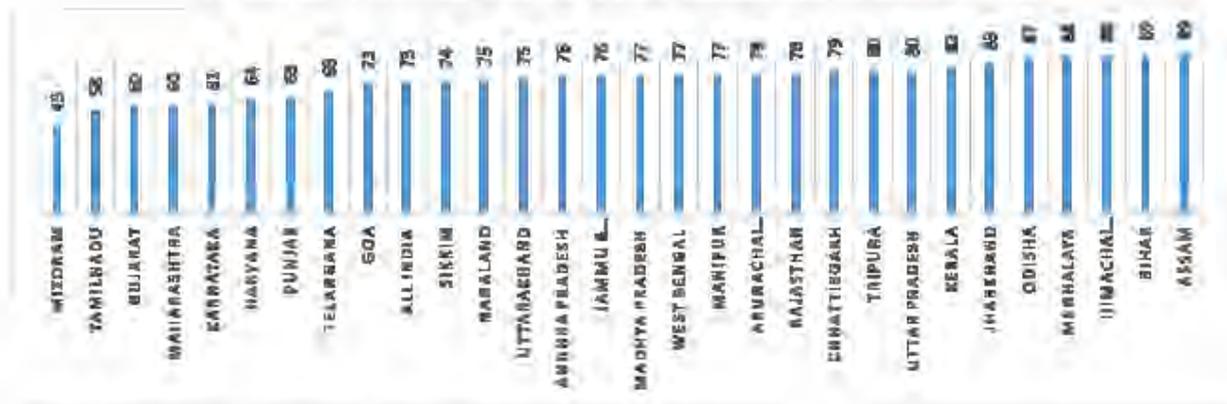
Table 4: National Social Assistance Programme (NSAP)

Indira Gandhi National Old Age Pension Scheme		Rs. 200 per month for elderly in the age group of 60-79 years. Rs. 500 per month for elderly who are above 80 years of age.
Indira Gandhi National Widow Pension Scheme		Rs. 300 per month for widows in the age group 40-79 years. Rs. 500 per month for widows above 80 years.
Indira Gandhi National Disability Pension Scheme	BPL	Rs. 300 per month for persons suffering from severe or multiple disabilities in the age group 40-79 years and Rs. 500 per month for those above 80 years.
National Family Benefit Scheme		One-time assistance of Rs. 20,000 in case of death of primary breadwinner in the age group of 18-59 years.
Annapurna		10 kg of food grains is provided free of cost per month to the eligible households.

Inter-State Comparison

16. Figure 4 indicates the State-wise distribution of deprived people based on the Socio-Economic and Caste Census, 2011 (SECC-2011). This index is based on the combined score of seven deprivation criteria. This index is used by Ministry of Rural Development to assess target beneficiaries of various schemes under its purview.

Figure 4: Percentage of Deprived Household in Rural Areas



Source: Socio Economic and Caste Census 2011

17. Figure 5 provides details of the total road network in the country (56,03,293 km). Figure 6 provides the state-wise percentage of targeted habitations connected by all-weather roads under PMGSY.

Figure 5: Total Road Network

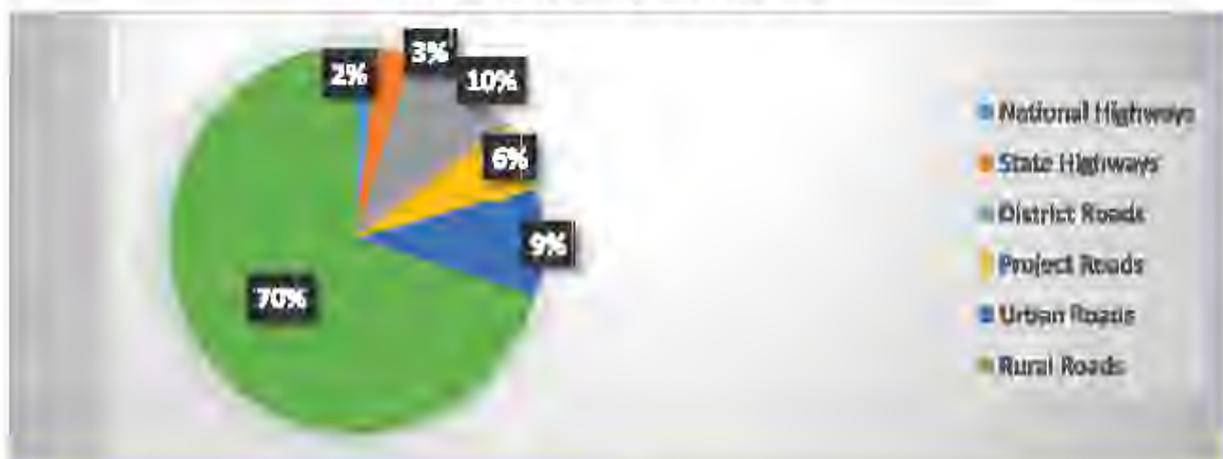
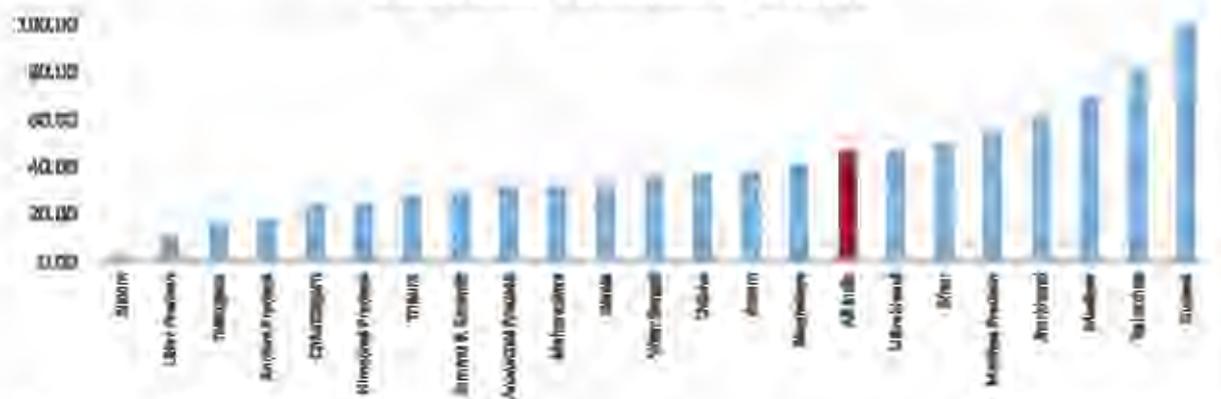


Figure 6: Percentage of Targeted Habitations Connected by All-Weather Roads under PMGSY



Source: NITI Aayog SDG Index 2018

Initiatives to Deal with Fallout of Covid-19 Pandemic

18. People and businesses in rural areas have had to deal with the pandemic and associated containment measures. Demographic characteristics (a higher share of elderly population) and geographic features (larger distances to access health care centres), along with reduced health care staff and facilities, affect the ability of rural regions to respond to the pandemic. Moreover, the overall slowdown in aggregate demand has affected some primary sectors, and the expected further slowdown in trade and global demand will hit rural economies severely, given their higher reliance on tradable activities, such as mining and tourism.
19. As a part of the initiatives taken under the Atmanirbhar Bharat package, the budget allocation in 2020-21 for MGNREGS was increased by Rs. 40,000 crore. This is expected to:
 - ◇ provide a boost to employment by generating nearly 300 crore person days of work;
 - ◇ address need for more work including for returning migrant workers;
 - ◇ lead to the creation of a larger number of durable and livelihood assets including those relating to water conservation; and
 - ◇ boost the rural economy through higher production.
20. On 20 June 2020, the Prime Minister inaugurated the Garib Kalyan Rojgar Abhiyaan, an employment generation-cum-rural infrastructure creation programme which aims to provide employment to returnee migrant workers at their native places in the following four months. A web portal of the programme was inaugurated on 26 June 2020.

Box 1: Grants for Roads and Bridges by Previous Finance Commissions

	Observation	Grants Proposed
FC-XII	Maintenance of roads and buildings has not been given adequate importance by the States, hence there is a need for priority focus for this sector.	Recommended grants of Rs. 15,000 crore for maintenance of roads and bridges.
FC-XIII	PMGSY roads are high priority rural roads where quality has been the prime focus and, thus, need special attention.	Recommended grants of Rs. 19,930 crore for maintenance of roads and bridges. Provided grants in aid to an extent of 50 per cent of the requirement assessed for non-PMGSY roads and 90 per cent of the requirement assessed for PMGSY roads for four years starting 2011-12.
FC-XIV	Separate grants not given.	

Recommendations of FC-XV in Report for the Year 2020-21

21. Rural roads were recognised as catalysts to rural development and a significant element of poverty alleviation initiatives. Under the PMGSY, 5,50,528 km road length has been constructed and 89 per cent of all eligible habitations have been connected. This huge asset demands a recurring and predictable stream of funds for maintenance. It is extremely important to provide for maintenance of PMGSY roads, following the completion of the five-year maintenance contract.

Key Proposals of Ministry to FC-XV

- Rural roads form an important segment of the total roads network. Seventy per cent of all road length in India is rural roads and 18 per cent of all rural roads are PMGSY roads. Sectoral grants may be proposed for maintenance of PMGSY roads.
- Roads in hilly areas should be given a higher cost factor of 1.2 as compared to those in plain areas.
- States should be incentivised to operationalise the recommendations of the Sumit Bose Committee Report on capacity enhancements for Gram Panchayats.
- District Rural Development Agency (DRDA) should be owned and funded by the States.
- The Ministry proposed the following grants:

Table 5 : Grants Proposal of the Ministry

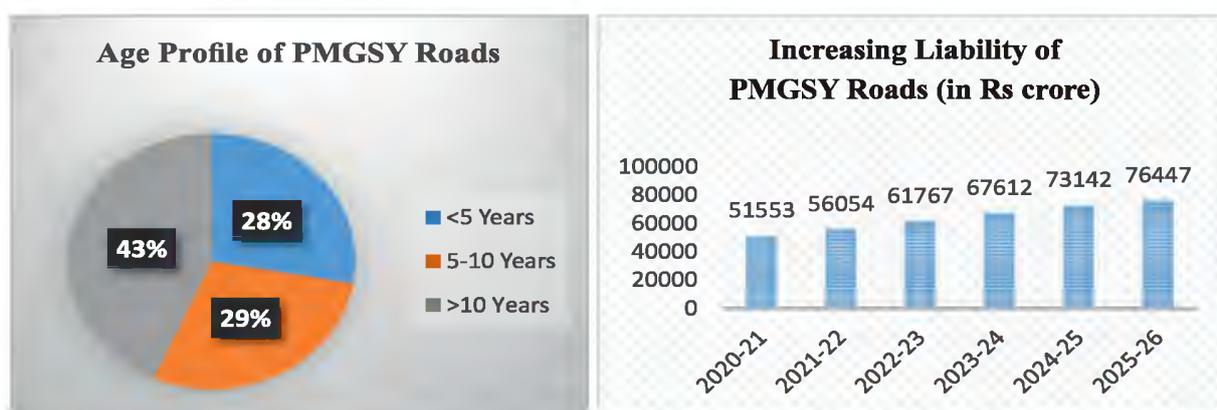
Item	Requirement of funds (Rs. crore)
Maintenance of roads under PMGSY	76446
Strengthening of human resources for Gram Panchayats	5000
DRDA	1500
Total	82946

Challenges

Last-mile Connectivity and Maintenance of PMGSY Roads

- All roads constructed under PMGSY are covered by five-year maintenance contracts. After this, State Governments are entrusted with the responsibility of maintenance of these assets. This has led to inter-State variations.
- Age profile shows that almost 64 per cent of the PMGSY roads are out of their five-year maintenance contract.
- Rural roads, of which 16 per cent are PMGSY roads (i.e. 6,32,423 km), are witnessing much higher traffic than before, which requires investment for upgradation and strengthening.

Figure 7: Age Profile of PMGSY Roads and Increasing Liability of the PMGSY Roads



Source: MoRD revised Memorandum to FC-XV

National Social Assistance Programme

- While the Union Government provides 100 per cent of funding, States can provide additional assistance from their own resources. Given the varying resource position of States, this has led to variations in social security provisions across States.

Status on Human Resources in Local Bodies

- Gram Panchayats perform agency functions in programmes like MGNREGA, PMAY and NSAP. The core functions of Gram Panchayats include service delivery associated with the twenty-nine functions enshrined in the Eleventh Schedule of the Constitution. Over time, it has been observed that Gram Panchayats are concentrating more on their agency functions (as these programmes are well funded) and neglecting their own core functions.
- There has been a general concern that most of the local bodies in the country are suffering from lack of adequate and quality human resources.
- Except a very few States, there is no systemic focus to improve this aspect in all panchayati raj institutions.

Digitisation of Land Records

- As much as 86 per cent of land records have been computerised. However, only 47 per cent of the mutation records (recording the transfer of ownership) have been computerised.
- Real-time updation of Record of Right (RoR) and maps has been done for only 15 per cent of the land records.

Suggested Areas of Reforms

Maintenance of PMGSY Roads

- **Bridge the inter-State gap:** There is a need to reduce the inter-State disparity in PMGSY roads. The Ministry should issue State-wise directions in this regard.
- **Revise terms of contract:** Usually the maintenance of PMGSY roads is the responsibility of the contractor for the initial five years, after which, as noted earlier, the responsibility of maintenance lies with the State Government. The terms of contract need to be modified and the maintenance clause needs to be continued beyond five years. State Governments need to ensure dedicated and continuous stream of funds to take care of maintenance.
- **Use of Central Road Fund:** The Ministry has proposed that a provision for maintenance of PMGSY roads can be made under the Central Road Fund.
- **Innovative methods of maintenance:** Many States have adopted innovative ways to tackle the problem of upgradation and road maintenance. Peer learning across States should be encouraged.

Table 6 : Innovative methods of maintenance of some States

States	Models Adopted
Chhattisgarh, Rajasthan	Zonal maintenance contracts with the contractor
Uttar Pradesh, Madhya Pradesh and Uttarakhand	ILO pilot project wherein SHGs were given the responsibility for maintenance of rural roads
Madhya Pradesh, Punjab and Rajasthan	Mandi cess used for funding maintenance of roads

Source: MoRD Memorandum to FC-XV

Social Security

- The States, in coordination with the MoRD and Ministry of Finance, need to work out a minimum uniform standardised annual per capita amount to be spent on social security across the country. The States should make the necessary budget arrangements under a separate head for this purpose.
- This additional top-up by the States should be directly credited to the beneficiary account through direct benefit transfer.
- States need to ensure social audit, at least once a year, to verify and update the list of beneficiaries.

Segregation between Core and Agency Functions

- While the cost of functionaries for agency functions of panchayati raj institutions should be borne by the sponsoring agencies, the cost of establishment for core functions should be borne by the panchayati raj institutions themselves through budgetary support from State Governments, internal revenues, grants from State Finance Commissions and basic grants from Finance Commissions.
- States must plan and ensure continuous capacity building of these personnel in coordination with the Ministries of Panchayati Raj and Rural Development.
- The benchmarks for annual appraisal of human resources should be decided in consultation with the Ministries of Panchayati Raj and Rural Development.
- These two ministries should facilitate States to develop a comprehensive competency framework for all staff across hierarchies.

Legislative Framework

- States need to extend the scope of their Town and Country Planning Acts beyond the planning areas for developing cluster villages. Karnataka has already extended its Town and Country Planning Act to the whole state.

Digitisation of Land Records

- Use of technology such as GIS, GPS and satellite imagery is the need of the hour for upgradation, registration, and maintenance of land records. Many States have developed successful models in this regard. More efforts in this direction are required across all State Governments.

Table 7 : Models Adopted by some States

States	Models Adopted
Karnataka	AASTHI project for GIS-based property tax system
Pune Municipal Corporation	GIS-based system for city mapping and creation of unique IDs for all properties
Raipur Municipal Corporation	Improvement of GIS-based municipal tax and fee collection system

Source: Property taxation study by World Bank, Commissioned by XV-FC

Note : Refer Chapter on Local Governments in Volume I for more details.

FC-XV recommendations in its final report

- We feel it is important to provide for the maintenance of the PMGSY roads beyond the end of the five-year maintenance contract. We have taken the projected expenditure on maintenance of roads from the MoRD for a period of five years and have covered a part of the maintenance cost by recommending grants for these roads. We have covered a higher proportion of the total maintenance cost for NEH States, considering that they have limited alternatives to fund it. Accordingly, we recommend Rs. 27,539 crore for the maintenance of PMGSY roads for the 2021-26 period.

Chapter 15

Significant Drivers of Economic Growth

As highlighted in Chapter 1, apart from the thirteen Ministries discussed in detail, there are ten others that are vital for the growth momentum and for the growth pattern to be socially inclusive. In this chapter, we examine these ministries succinctly and suggest reforms pertaining to them. Four of these ministries have high budget allocations and contribute significantly to economic development. These are Railways, Road Transport and Highways, Communications and Petroleum and Natural Gas. Six other ministries, which contribute significantly to the country's overall socio-economic development are also included in this chapter: Women and Child Development, Electronics and Information Technology, Tourism, Tribal Affairs, Culture and Skill Development and Entrepreneurship.

A. Ministry of Railways

1. Railways are the principal mode of transportation for freight and long-distance passengers in India. The Commission in its first Report for the Year 2020-21 mentioned that “Railways are the engine of economic growth and development of the country. Expansion and development of railways, particularly for efficient and cost-effective freight movement, has seriously lagged behind the economic progress of the country. The Government of India is planning to create infrastructure that would be capable of carrying twice the freight traffic over the next six to eight years and meet the passenger demands without undue crowding of passenger trains.”
2. Railways are an energy-efficient and cost-effective mode of long-distance transportation. Indian Railways is facing stiff competition from other modes of transportation and its share in freight movement has been declining primarily due to its high tariff structure. The finances of Indian Railways are also not very robust and it has been struggling to generate higher surpluses. The operating ratio (the amount spent to earn one rupee) has consistently been higher than 90 per cent for last ten years, and touched 98.4 per cent in 2017-18. Indian Railways' highest expenditure (approximately 41 per cent) is on staff, followed by expenses on pension fund (21 per cent) and fuel (17 per cent).
3. Recognising the importance of Indian Railways, the Union Government has focused on prioritising investment in important areas such as dedicated freight corridors, high speed rail, high capacity rolling stock, last mile rail linkages and port connectivity. We now suggest some key reforms for the consideration of the Ministry:

- i) **Human Resource Management:** There is a need to synergise the human talent pool within the organisation. The Commission suggests framing need-based training policies and breaking down of the erstwhile silo framework of different wings of the Railways.
- ii) **Capital and Development Works:** In the Union Budget 2020-21, the Government announced investment of Rs. 100 lakh crore on infrastructure over the next five years. This will include projects on modernising railway stations, metro and railway transportation and logistics and warehousing. We are of the view that steps need to be taken for modernising existing track and bridges and rolling stock, improving signalling, developing dedicated freight corridors and high-speed passenger train corridors and taking public-private-partnership initiatives. The key emphasis should also be on completion of long pending projects before taking up new ones.
- iii) **Passenger Safety:** Currently, the three vital functions relating to Indian Railways (rule-making, operations and regulation) are all vested in the Railway Board. In our view, there is need for an independent mechanism for safety regulation. The High-Level Safety Review Committee had recommended the creation of a statutory Railway Safety Authority with enough powers to have a safety oversight on the operational mode of Indian Railways. Also, earlier Committees have noted that the Research Design and Standards Organisation (RDSO), the apex technical wing of Indian Railways, works with numerous constraints. This has hampered the ability of the system to adopt emerging technologies. The Commission agrees with the general consensus on the need to restructure RDSO for greater empowerment. It also recommends that a Railway Research and Development Council (RRDC) be set up directly under the Union Government. We have also felt a need for adoption of an advanced signalling system (akin to the European Train Control System). All level crossings (both manned and unmanned) should be eliminated over five years.
- iv) **Electrification of Railway Routes:** In the Union Budget for 2020-21, it was announced that “large solar power capacity will be set up alongside the rail tracks, on the land owned by the Railways”. Indian Railways is a licensee in the field of generation, transmission and distribution. The Commission is of the view that Railways should be treated as one entity at the national level like the Power Grid Corporation of India Limited (PGCIL). This will bring clarity on various issues related to distribution of power, transmission systems and other electrical systems in which Railways is a major stakeholder and reduce disputes between Indian Railways and State Governments and enhance the progress of both railways and the power sector. The

delays in execution of electrification works may be reduced through better project monitoring, and the project teams should be adequately empowered to take decisions within reasonable time limits. Due diligence has to be ensured in performance evaluation of bidders. Contracts should include incentives to ensure the projects are completed in a timely manner. We expect that almost all railway routes should be fully electrified before 2023.

- v) **Inflation-linked Passenger Fares:** Indian Railways uses profits from its freight business to provide for losses in the passenger segment and to manage its overall finances. Such cross-subsidisation results in high freight tariffs, which leads to lower freight traffic, as business moves to cheaper modes of transportation. High railway freight rates also hurt India's export competitiveness. A clear roadmap needs to be developed by Indian Railways wherein cross-subsidisation of passenger fares needs to be capped at not more than 10-15 per cent, within a reasonable timeframe of not more than three years.
- vi) **Other suggestions**
 - a) There should be focus on better port connectivity and attracting private and foreign investment.
 - b) In-house solar/wind capacity should be rapidly developed on railway land, in such a manner that at least 70-80 per cent of the energy needs of Indian Railways are met from this captive source within four to five years.
 - c) Opt for more non-fare sources of revenue generation, including station redevelopment and putting vacant assets at stations to commercial use, monetising of surplus land along tracks by leasing it out to promote horticulture and tree plantation, and advertisements. Promote greater parcel delivery earnings.
 - d) Assess the surplus land value of railways and monetise these assets through sale/lease.

B. Ministry of Road Transport and Highways

1. Road transport is the dominant mode of transport in India, both in terms of traffic share and contribution to the national economy. The reforms pertaining to road transport and highways should be seen as part of an integrated multi-modal system of transport. The major constraints that the roads sector faces are availability of funds for financing large projects, lengthy processes in acquisition of land and payment of compensation to those whose land is acquired, environmental clearances, time and cost overruns of projects, procedural delays and lower than expected traffic growth. As a result, there has been an

increase in the risk profile of projects and shortfall in funds for maintenance. The Ministry is also facing challenges related to governance, namely, the need for a single regulator for the transport sector, safety of passengers, maintenance of roads and research and development. Inter-ministerial coordination and other interventions listed below will help yield better outcomes:

- i) Connectivity in remote and left-wing extremism-affected areas needs improvement.
- ii) Connectivity to ports, airports, mining areas and power plants should be an important consideration in the development of road projects.
- iii) Dedicated courts and arbitrators should be established for speedy resolution of conflicts and to address issues pertaining to safety, traffic, maintenance, disputes, among other things.
- iv) Attention should be paid to efficient transportation of agricultural commodities.
- v) There is urgent need for continuous upgradation of technology in the auto industry, especially the commercial vehicle sector, to meet the objectives of improved comfort, energy efficiency, safety and emission standards in line with international practices and standards.
- vi) Issues related to National Highways include increasing private sector financing for sectors which are less economically viable and enhancing public sector funding. The policy of collecting toll and monetizing highways can generate substantial resources that can fund both construction of new highway and periodical maintenance. Tolls should be levied on multi-lane highways, both access-controlled and non-access controlled, as also for spot improvement projects such as bridges, tunnels, flyovers and bypasses.
- vii) We are in agreement with the recommendation of the Standing Committee on Transport (2015 and 2016) and Committee on Public Undertakings (2017) that a coordination mechanism at the Union level with the Ministries of Finance, Environment, Forests and Climate Change and Defence will help speed up the process of clearances for roads projects. A similar mechanism could be established in the States.
- viii) Sufficient earmarking of funds should be done for proper maintenance of National Highways, including highways in the mountainous terrain of North Eastern and Himalayan States which require greater maintenance support.
- ix) A dedicated road design institute under the jurisdiction of MoRTH should be set up. Similar institutes should be set in each State. The MoRTH should entrust all national

highways and national expressways to the National Highways Authority of India (NHAI) and retain only planning, policy and budget functions with itself.

C. Ministry of Communications

1. The Ministry of Communications comprises two Departments: Department of Telecommunications (DoT) and Department of Posts (DoP). In today's digital world, telecommunication has become crucial for businesses, governments, communities and families to connect and share information, thus leading to value addition in the economy. The telecom sector has been facing severe financial stress and this has affected public sector as well private sector companies, with the former being in a more precarious situation. The DoP has been the backbone of the nation's communication for over 150 years and has played a crucial role in the country's social economic development. However, India Post, which was once regarded as the lifeline of the country's postal network, is in poor financial shape.

(i) Department of Telecommunications

2. According to the National Digital Communications Policy, 2018, there is a need to create a roadmap for harnessing emerging technologies such as 5G, Artificial Intelligence, Internet of Things, cloud computing, robotics and M2M (machine to machine). Given the fiscal stress in the telecom sector, an appropriate balance must be maintained between the need for revenue generation from future spectrum auctions and the financial viability of this sector, in order to ensure unhindered growth.
3. A large number of inhabited villages are yet to get basic mobile phone connectivity and a majority of these are located in left-wing extremism-affected areas. It is imperative to provide connectivity to such unconnected villages by expeditious deployment of unused funds in the Universal Service Obligation Fund (USOF).
4. According to the Telecom Regulatory Authority of India's recommendations on green telecommunications released in 2011, the sector accounts for 1 per cent of CO2 emissions of the country. Telecom firms need to be incentivised for deploying green energy for telecom towers.
5. India ranked 134 out of 176 countries on the ICT Development Index of the International Telecommunication Union in 2017. There is a need to propel India into the top twenty-five nations in this index within the next five years. A similar index may be developed at the State level.

(ii) Department of Posts

6. The differential pricing structure of postal services should be modified, with only rural areas getting a subsidy, against the current situation where even government departments are not paying the full cost of postal services. The post offices can be integrated with the Union Government's eNAM (National Agriculture Market) initiative, with trading terminals being available for use by farmers. The staff of post offices should be trained to sell financial products like mutual funds, insurance, sovereign gold bonds, providing the Department with an additional source of revenue. The India Post banking system needs to be systematically strengthened so that rural banking services are consolidated.

D. Ministry of Petroleum and Natural Gas

1. Currently, petroleum is the fuel driving the economy. Petroleum products are used for transport as well as heating and cooking. Close to 95 per cent of India's petroleum consumption is imported, up from 85 per cent in 2011-12. The Ministry will, over the next decade, need to align its objectives with India's Nationally Determined Contributions (NDCs) under the Paris Agreement related to reducing the emission intensity of the economy by 33 to 35 per cent by 2030 from the 2005 levels.
2. A sound policy, including fiscal incentives, needs to be framed to enhance production of domestic hydrocarbons and improve the productivity of existing oil fields. The policy should provide for systemic assessment of every field for its enhanced recovery potential, appraisal of appropriate enhanced recovery techniques and fiscal incentives to de-risk the cost involved in enhanced recovery projects and to make them economically viable.
3. In addition, a committee of experts may be constituted for a reassessment of the country's hydrocarbon resource potential. The north-east region has around 18 per cent (7634 MMT) of the country's total prognosticated hydrocarbon resources. About 2246.6 MMT of in-place hydrocarbon reserves have been established so far by exploration and production companies, which means about 73 per cent of hydrocarbon resources are under the 'yet to discover' category.
4. The Union Government should encourage States to promote alternative sources of energy like compressed natural gas (CNG), electricity (for vehicles), ethanol-blended petrol (EBP) and pipeline liquefied natural gas (LNG), and increase the share of non-fossil fuel, use of non-conventional energy sources like biomass, stubble etc.

5. Goods and service tax (GST) on five specified petroleum products (crude, petrol, diesel, aviation turbine fuel and natural gas) is to be applicable from a date to be recommended by the GST Council. These need to be included in GST, as tax credits are not transferable between the old and new systems and companies are forced to comply with two tax regimes. This non-inclusion in GST also affects India's export competitiveness.

E. Ministry of Women and Child Development

1. The Ministry of Women and Child Development is responsible for advancing the rights and interests of women and children who together constitute 67.7 per cent of the country's population (as per 2011 Census). It is necessary to improve the social, economic, health and nutritional status of women and the physical, mental, intellectual, and nutritional status of children for the overall development of society and the country. In our report for 2020-21 we had observed:

'Nutrition is both the maker and marker of development. Improved nutrition is a new building block for progress of health, education, employment, empowerment of women and reduction of poverty and inequality. FC-XV is of the opinion that this issue needs to be addressed and a delay of one year could adversely impact the future human capital of the country.'

2. We had recommended an additional grant of Rs. 7,735 crore to States for nutrition in 2020-21, apart from the grants allocated by the Union Government under the Centrally sponsored schemes. In the Explanatory Memorandum as to the action taken on the recommendations in the report for 2020-21, the Union Government had said: *'The Fifteenth Finance Commission has recommended for grants to States of Rs. 7,735 crore for nutrition in FY-2020-21. The Commission has recommended that the nutrition grants should not be substituted for either the State share or Union share and are additionality.'* The Explanatory Memorandum mentioned that *"The Commission may review its recommendation as a part of its overall proposal of measurable performance-based incentives for States as per ToR in the main Report."*
3. India has a higher percentage of children under five years who are underweight, stunted and wasted compared to even other South Asian countries. There are vast inter-State disparities in the nutritional status of children on these parameters. The major issue of concern is that even some better-off States like Maharashtra, Karnataka and Goa lag behind the all-India average on some of these indicators. Some of the key areas of reform are listed below:

- (i) **Reforms in Integrated Child Development Scheme:** (a) The report of the Standing Committee on Human Resource Development (2018) mentions large gaps between the number of sanctioned and operational anganwadi centres in Bihar and the erstwhile state of Jammu and Kashmir to the extent of 20 per cent and 7.3 per cent, respectively. Thus, there is an urgent need to fix such physical infrastructure gaps on a priority basis. (b) There is a need to ensure 100 per cent coverage of eligible beneficiaries under the ICDS scheme, which does not seem to be the case currently despite the universalisation of the scheme. (c) The anganwadi centres should be modernised so as to monitor the delivery of services and the progress of each beneficiary on real-time basis.
- (ii) **POSHAN Abhiyaan:** In 2017-18, the Government of India had launched the POSHAN Abhiyaan to reduce the level of stunting, under-nutrition, anaemia and low birth weight babies. However, the scheme is yet to achieve the desired scale and there is a need to expedite the roll-out of different components of the scheme on a war footing. Outcomes need to be closely monitored and targeted intervention is required to improve such nutrition outcome. We reiterate the urgent need to allocate higher resources to address persisting under-nutrition and hunger and recommend that the nutrition of children and pregnant and lactating mothers be accorded the highest priority.
- (iii) **Targeted Intervention in Aspirational Districts and Tribal Areas for Improving Child Nutrition:** There is a need to target tribal areas for targeted intervention in view of malnutrition among tribal children being more than non-tribal children as identified by the Expert Committee on Tribal Health (2018).
- (iv) **Women Empowerment:** There is a need to improve labour market outcomes for women by promoting flexible working-time arrangements, access to maternity leaves and child care, provision of safe and accessible transport. There is also a need to ensure higher resource allocation for the establishment of additional courts for crime against women. Better functioning is also required for speedy disposal of these cases. The Ministry may push States more vigorously to raise the representation of women in the police force to at least 33 per cent, in line with the 4 September 2009 advisory of the Ministry of Home Affairs.

F. Ministry of Electronics and Information Technology

1. The fast-growing electronics industry contributes to almost every field of economic

activity – space exploration, defence equipment, medical diagnosis, communication, information technology and computer systems. Information technology improves the overall productivity of businesses by leaps and bounds. The Ministry of Electronics and Information Technology envisages the e-development of India to propel it into the ranks of developed nations. The suggested reforms for the sector are:

- (i) **Electronics Manufacturing:** It is important to develop manufacturing capacities in all sub-sectors of electronics, including semiconductor facilities and display fabrication facilities. Building a semiconductor manufacturing ecosystem is essential for strategic reasons. The bottlenecks hampering the growth of electronics manufacturing should be removed expeditiously to enable India to become part of the global supply chain of electronics manufacturing.
- (ii) **Index for Electronics Manufacturing:** As mentioned in the National Policy on Electronics, 2019, there is a need to create an index for capturing the status and growth of the electronics manufacturing industry in the States. This would also spark off competition among States.
- (iii) **IT/ITeS:** It is imperative to develop India as the global software hub, driven by innovation, improved commercialisation, sustainable intellectual property rights, promotion of technology start-ups and specialised skill-sets.
- (iv) **Digital Economy:** According to a report, India's Trillion-Dollar Digital Opportunity, India can create up to \$1 trillion of economic value from the digital economy in 2025, against \$200 billion in 2017-18. For this, it is necessary that our own digital platforms are created which support our languages, run on our algorithms and solve our problems. Conducive regulations and policies are needed to enable this.
- (v) **Cyber Security:** With the rising penetration of digital technologies across different sectors and sub-sectors of the economy, the inherent vulnerabilities of cyber space have come to the fore. Therefore, it is imperative to strengthen the cyber networks.
- (vi) **Data Localisation:** To strengthen the internal and external security of the country, firms operating in India should be encouraged to store local data on Indian servers only. At the same time, it needs to be ensured that these requirements do not impose prohibitive costs on firms, creating significant barriers to digital trade.
- (vii) **E-waste:** The large quantity of e-waste generated in the country is recycled in the informal sector in a crude manner, leading to pollution of groundwater and soil and also having an adverse impact on health. Therefore, there is a need to create awareness among the citizens about the ill effects of e-waste recycling in the informal sector and

create mechanisms for collecting e-waste for recycling in the formal sector.

- (viii)**E-Governance:** There is a need to incorporate advanced technologies to facilitate government-to-government, government-to-citizens, and government-to-business interfaces. Such technological applications would also lead to elimination of dysfunctional procedures in administration.

G. Ministry of Tourism

1. The tourism industry has enormous spin-off benefits on employment and the overall economy. According to the Ministry of Tourism, the sector contributed close to 12.38 per cent to employment during 2017-18. The sector is also a major foreign exchange earner. Competition from neighbouring countries, high GST, non-integration of hotels in the Harmonised List of Infrastructure and weak tourism infrastructure are some of the key issues plaguing the sector.
2. There is need to increase tourist footfalls into India. For this it is necessary to extend the limit on the duration of stay in India by holders of e-tourist and e-business visas. Inter-convertibility of visas should be made easy and convenient. Multi-entry facility should be extended for all visas including e-medical visa and e-conference visa. Visa-on-arrival facility (currently available only to nationals of Japan and the Republic of Korea) should be extended to more countries. The Ministry could also explore the possibility of exemption/reduction of visa-fees during the off-season. The aim should also be to give long term tourist/business visas of at least ten-year validity.

H. Ministry of Tribal Affairs

1. The Ministry of Tribal Affairs has, since its establishment in 1999, played a pivotal role in the socio-economic development of tribals in the country. . It is responsible for the overall development and well-being of the scheduled tribes. The developmental interventions by the Ministry in vital sectors are meant to support the efforts of other Union Ministries and State Governments to promote the interests of scheduled tribes. The total allocation of the Ministry is around Rs. 7400 crore during 2020-21 (BE). The head wise percentage allocation of expenditure from 2015-16 to 2020-21 (BE) is given below in table 1.

Table. 1: Head-wise Allocation of Expenditure as a Percentage of Total Expenditure of Ministry

	2015-16	2016-17	2017-18	2018-19	2019-20 (RE)	2020-21 (BE)
Establishment expenditure	0.5	0.6	0.6	0.7	0.6	0.7
Central sector schemes/projects	2.9	4.2	3.8	5.9	5.9	24.5*
Centrally sponsored schemes	65.5	68.9	67.2	63.1	57.1	56.5
Other grants/loans/transfers	31.1	26.3	28.4	30.4	36.3	18.2

*- Revamped scheme of Eklavya Model Residential School.

- The scheme wise share of Central sector schemes and Centrally sponsored schemes (CSS) implemented by the Ministry during 2018-19 are given in Figures 1 and 2.

Central Sector Schemes and CSS of Ministry:

Figure. 1: Expenditure on Central Sector Schemes (in %, 2018-19)

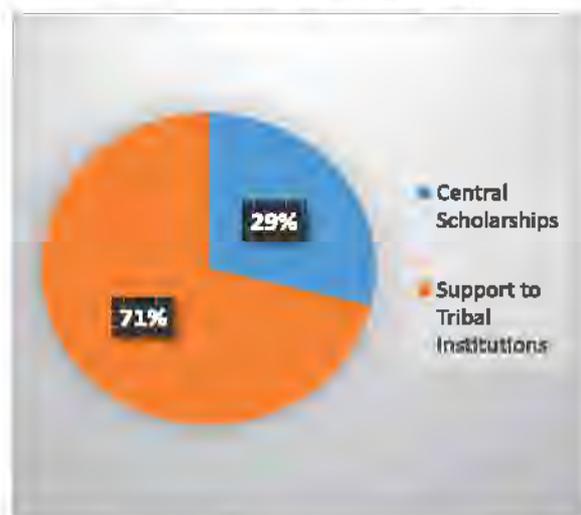
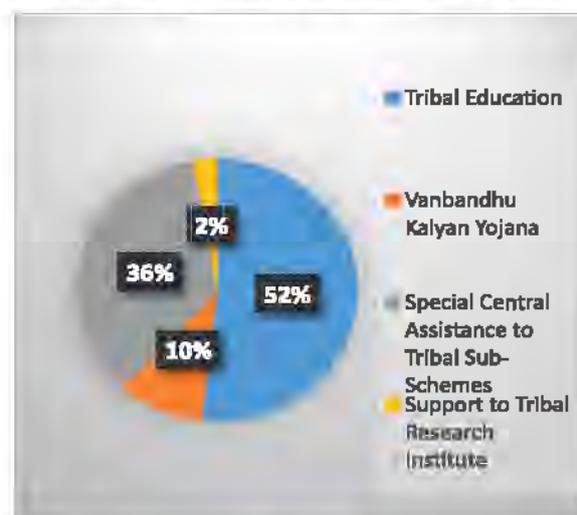


Figure. 2: Expenditure on CSS (in %, 2018-19)



- Given the large-scale deprivation of tribals compared to other categories of the population, there is a need to adopt a holistic approach towards their development. Therefore, the Ministry may formulate a five-year agenda, with annual milestones, for the development of tribals.
- Further, as recommended in the report of the Parliamentary Standing Committee on Science and Technology, Environment and Forests, there is a need to formulate a comprehensive, clear-cut and legally sustainable definition of forests. In line with what

the Expert Committee on Tribal Health (2018) recommended, we are of the view that a Tribal Health Index may be constructed to capture the status of tribal health. This index should be utilised for identifying the gaps in tribal health across States and for making more focused interventions to improve tribal health.

5. Health personnel see posting in tribal areas as a ‘punishment’ and this is one of the causes of the severe shortage of doctors, specialists, and other medical personnel in these areas. To overcome this problem, local tribal people should be trained in health services. Further, Maharashtra’s model of recognising diplomas from the College of Physicians and Surgeons may be examined in order to have more doctors available in remote and tribal areas. Telemedicine facilities should also be promoted in these areas. Although these actions lie broadly within the domain of Ministry of Health and Family Welfare and others, the Ministry of Tribal Affairs may collaborate with all concerned stakeholders for initiating immediate action in these areas.
6. A robust procurement mechanism has been instituted during the pandemic in a way that State Government agencies would step in to procure the minor forest produce if the price falls below the minimum support price. This may be continued.
7. To give impetus to the economic development of tribals, special efforts should be made for adequate irrigation facilities in tribal areas, with special thrust on the promotion of micro-irrigation systems and rainwater harvesting. Ministry of Tribal Affairs may collaborate with the Ministry of Agriculture to take this forward.
8. The Ministry may coordinate with Ministry of Skill Development and Entrepreneurship for imparting advanced skills to tribal population.
9. In the light of the majority of 117 aspirational districts, identified by NITI Aayog, being either tribal-dominated or having a substantial presence of tribals, the current focus on convergence of developmental programs, if backed by adequate financial incentives for such districts, can generate transformational outcomes.

I. Ministry of Culture

1. Culture enhances our quality of life and increases overall well-being for both individuals and communities. India has a long, rich and diverse cultural heritage that is deeply rooted in its pluralistic ethos. The country occupies an important place on the cultural map of the world. This is also an expression of its ‘soft power’.
2. A robust policy needs to be implemented for the development of infrastructure like the creation of cultural zones where art, artists and people in the creative sector could

interact and be nurtured. Indian participation in all major art and culture platforms across the world should be encouraged, so as to generate greater mileage for Indian art, culture and tourism.

3. To provide sustenance to, and showcase the richness of India's diverse cultural traditions, a National Network Centre on India's Intangible Cultural Heritage should be set up for mapping and documenting tangible and intangible cultural assets in different eco-cultural zones. The Union Government may seek international technical assistance wherever necessary, for designing such a system based on best international practice.
4. Further, the Union Government should devise a mechanism to promote cultural competitiveness among cities. Based on performance, a centrally monitored cultural index should be devised for these cities.
5. There is a need to create centres of excellence, with a marketplace, which will act as think tanks to nurture artists. Initiatives such as the formation of trusts with the objective of conserving and protecting India's natural heritage, like the Indian National Trust for Art and Cultural Heritage (INTACH), could be taken up. There is a need to bring in greater private sector involvement and explore innovative public-private partnership models. This could include measures such as the creation of crowd-funding platforms to raise funds for conservation of heritage sites, monuments and art galleries.

J. Ministry of Skill Development and Entrepreneurship

1. A confident and competent workforce can spur economic growth. In order for 'Make in India' to be effective, there is need to adopt a framework that supports the holistic development of the youth. With one of the youngest populations in the world, India can realise the demographic dividend through a workforce that is trained in 'employable skills' and is 'industry-ready'.
2. It is extremely important for the Ministry of Skill Development and Entrepreneurship to collaborate with all the stakeholders including the Union Ministries, State Governments, industries, academia and the non-profit sector to accelerate skilling efforts. India is one of the fastest growing economies and there is a need to expand the service sector and to integrate training courses with apprenticeship. There is vast employment potential within the health and education sectors and a dedicated focus is also required for the varied manpower needs of these sectors.

3. We are of the view that skill development alone will not suffice unless it is complemented with employment generation. There is also a need to focus on industries that are labour-intensive and not merely capital-intensive or technology-driven. Skill mapping and training would also be required for the labour-intensive service sector.

