NEWS ITEMS ON CAG/ AUDIT REPORTS (08.10.2022 to 10.10.2022)

1. Loss to Government Secretary, CAG can withhold, withdraw pension, gratuity of government servants *(thehindubusinessline.com)* 08 Oct 2022

This follows an amendment to the Government has amended Central Civil Services (Pension) Rules which came into effect on October 7

Now, the Secretary to the Government of India and Comptroller & Auditor General (C&AG) will also have the power to withhold or withdraw pension or even initiate recovery from the pension or gratuity of a civil servant on account of negligence in duty.

This follows amendment to the Central Civil Services (Pension) Rules. New changes have come into effect from October 7. The original and amended rules are applicable to government servants (except railway, contractual servants) who joined the service on or before December 31, 2003

Earlier rules restricted the power to the President only. Now, the amended rules say power to withhold or withdraw pension will be with the "the President, in the case of a pensioner who retired from a post for which the President is the appointing authority, the Secretary of the Administrative Ministry or Department, in the case of a pensioner who retired from a post for which an authority subordinate to the President is the appointing authority; and the Comptroller and Auditor-General of India, in the case of a pensioner who retired from the Indian Audit and Accounts Department, from a post for which an authority subordinate to the President is the appointing authority."

Further, it says, order may be issued in writing to withhold pension or gratuity or both. Pension can be withdrawn in full or in part, permanently or for a specified period. Orders can also be issued to make recovery from a pension or gratuity of the whole or part of any pecuniary loss caused to the Government. All these can be done if, in any departmental or judicial proceeding, the pensioner is found guilty of grave misconduct or negligence during the period of service, including service rendered upon re-employment after retirement.

All appointments to Central Civil Services, Group 'A' and Central Civil Posts, Group 'A', are made by the President. However, the President may delegate to any other authority, the power to make such appointments. All appointments to the Central Civil Services (other than the General Central Service) Group 'B', Group 'C' and Group 'D' are made by the authorities specified in this behalf. In respect of Group 'C' and Group 'D', Civilian Services, or civilian posts in the Defence Services, appointments may be made by officers empowered in this behalf by authorities. Similarly, all appointments to Central Civil Posts, Group 'B', Group 'C' and Group 'D', included in the General Central Service, are made by the authorities specified in that behalf by a general or special order of the President.

The amended rules provide that where a part of pension is withheld or withdrawn, the amount of such pension will not be reduced below the minimum pension. No appeal shall lie against any order made by the President. However, an appeal against an order passed by an authority other than the President, can be made to the President, who can decide in consultation with

UPSC. https://www.thehindubusinessline.com/news/secretary-cag-can-withhold-withdraw-pension-and-gratuity-of-government-servants/article65984182.ece

2. Big infra ministries push the pedal in capital spending in first five months *(indianexpress.com)* Updated: October 10, 2022

As the economy picks up the thread post Covid-19, at least two big infrastructure ministries — Railways, and Road transport and Highways — have recorded a fast pace of spending in the first five months of the current financial year.

In fact, these two ministries account for nearly half (Rs 3.24 lakh crore) of the entire capital expenditure (Rs 7.50 lakh crore) budgeted for 2022-23. What is, however, of importance in their first five months' spending pattern is that the bulk of it was capex — meaning expenditure that results is new asset creation or improving the quality of existing ones.

Of Rs 85,279 crore utilised by the Railways in April-August this year, 79 per cent or Rs 67,244.99 crore was capital spending. For Road Transport and Highways, 95 per cent of Rs 1.15 lakh crore total spending in the first five months was capital expenditure.

Just five ministries in the Union government account for 72 per cent of the total capex of Rs 7.50 lakh crore in 2022-23. These are: Road Transport and Highways (Rs 1.87 lakh crore), Defence (Rs 1.60 lakh crore), Railways (Rs 1.37 lakh crore), Telecommunications (Rs 54,150 crore), and Housing and Urban Affairs (Rs 27,341.01 crore).

This suggests the government has pressed the pedal on public expenditure to give an impetus to growth since the private sector continues to be averse to invest.

While the CAG data shows high capex ministries are taking the lead in spending, several ministries with smaller outlays are lagging. Ten departments have utilised less than 10% of their allocated funds. This will force them to spend in the last few months hurting the quality of expenditure.

According to latest data available with the Controller General of Accounts (CGA), the Union Ministry of Railways led by Ashwini Vaishnaw has already utilisied 61 per cent of its annual budgetary allocation in the first five months; of the total allocation of Rs 1,40,367.13 crore allocated for the full year, it has spent Rs 85,279 crore during April-August 2022. This is substantially higher than last year's; it had utilised only 29 per cent of the total allocation in the first five months in 2021-22.

The pace of spending by the Railways is also much higher than the government overall expenditure in the first five months this year. The government has utilised a little over one-third – Rs 13.90 lakh crore in April-August – of the total budgeted expenditure of Rs 39.44 lakh crore for the full year.

The Union Ministry of Road Transport and Highways (MoRTH) under Nitin Gadkari followed closely the Ministry of Railways in spending. It has utilised 58 per cent (or Rs 1.15 lakh crore in April-August) of its annual allocation of Rs 1.99 lakh crore for 2022-23. Though high, the MoRTH had spent a higher 66 per cent of its annual budget during the same period in 2021-22.

Apart from Railways and Road Transport and Highways, spending by the Rajnath Singh-led Ministry of Defence in the first five months as a percentage of total allocation is more than what it was in the corresponding period previous year. The Department of Telecommunications and the Ministry of Housing and Urban Affairs are lagging compared to their performance in the previous year, according to the CAG data.

Mansukh Mandaviya-led Ministry of Chemicals and Fertilizers has also utilised more than half its allocated expenditure for the year in the first five months. It has spent 57 per cent (or Rs 61,229.47 crore in the first five months) of its total outlay of Rs 1,07,715.38 crore for 2022-23.

The CGA data reveals that even after five months, at least 10 ministries or departments could not spend even a tenth of the total funds allocated to them for the full year. G Kishan Reddy-led Union Ministry of Tourism led this pack having utilised only 2 per cent (or Rs 41.79 crore) of its annual allocation of Rs 2,400 crore made in 2022-23.

The other nine are: Jyotiraditya Scindia-led Ministry of Civil Aviation and Reddy's Ministry of Development of North East Region— 4 per cent each; Hardeep Puri's Petroleum and Natural Gas, 5 per cent; Amit Shah-led Cooperation ministry, Dharmendra Pradhan's Skill Development and Entrepreneurship ministry and Smriti Irani's Women and Child Development ministry—6 per cent each; Parshottam Rupala-led Fisheries, Animal Husbandry and Dairying ministry 8 per cent; and Pashupati Kumar Paras-led Food Processing Industries and Raj Kumar Singh's New and Renewable Energy ministry – 9 per cent each.

To improve the quality of expenditure, the Union Ministry of Finance advises all departments to spread their spending throughout the year instead of bunching it at the end. "Rush of expenditure, particularly in the closing months of the financial year, shall be regarded as a breach of financial propriety and shall be avoided. The Financial Advisers of the Ministries/ Departments shall ensure adherence to the stipulated Monthly Expenditure Plan and the guidelines issued in this regard by the Budget Division, Department of Economic Affairs, from time to time," states the guidelines issued under the General Financial Rules by the Budget Division in the Union Ministry of Finance. https://indianexpress.com/article/india/big-infra-ministries-push-the-pedal-in-capital-spending-in-first-five-months-8199651/

STATES NEWS ITEMS

3. उदय योजना से बिजली वितरण कंपनियों को 52 हजार 978 करोड़ रुपये का नुकसान महालेखाकार की रिपोर्ट का हवाले से आरोप *(naidunia.com)* 08 Oct 2022

जबलपुर। बिजली वितरण कंपनियों की माली हालत को सुधारने के लिए 2015 में शुरू हुई उज्जवल डिस्काम एस्यूरेंस योजना (उदय) की वजह से मुनाफा होने की बजाय उल्टा 52 हजार 978 करोड़ रुपये का नुकसान हो गया। जबकि वितरण हानि और ऋण कम करने के लिए यह योजना लागू हुई थी। उक्त आरोप महालेखाकार (सीएजी) की रिपोर्ट का हवाला देते हुए एडवोकेट राजेंद्र अग्रवाल ने लगाए हैं।

राजेंद्र अग्रवाल ने कहा कि उदय योजना में वितरण कंपनियों के मार्च 2016 की ऋण की 75 प्रतिशत राशि को राज्य शासन द्वारा अनुदान के रूप में अंगीकृत करना था। इसके बदले में भारत सरकार द्वारा अनेक प्रोत्साहन देने की घोषणा की गई थी। वितरण कंपनियों के लिए लक्ष्य तय किया गया था कि वे अपनी वित

रण हानि को 15 प्रतिशत तक न्यूनतम स्तर पर लेकर आएं। वहीं, बिजली खरीदी और लागत वसूली के अंत र को खत्म कर दें। इस संबंध में भारत सरकार और मप्र पावर मैनेजमेंट कंपनी के बीच 10 अगस्त 2016 को करार दिल्ली में संपादित हुआ था।

योजना की समाप्ति और पांच वर्ष पूर्ण होने पर भारत के महालेखाकार की रिपोर्ट और वितरण कंपनियों के प्रदर्शन की रिपोर्ट विधानसभा के पटल पर 13 सितंबर 2022 को रखी गई थी। बिजली कंपनियों का घाटा जो 31 मार्च 2016 को 35 हजार 676 करोड़ रुपये था वह 17302 करोड़ रुपये बढ़कर 31 मार्च 2020 को 52 ह जार 970 करोड़ रुपये हो गया। विद्युत हानि जो 23.45 प्रतिशत थी वह बढ़कर 33 प्रतिशत तक पहुंच गई, जबकि लक्ष्य 15 प्रतिशत तक लाने का था। इससे 23 हजार करोड़ का अतिरिक्त नुकसान हुआ। वहीं बिज ली खरीदी लागत और बेचने से प्राप्त राशि का अंतर 92 पैसे प्रति यूनिट से मात्र 83 पैसे प्रति यूनिट हुआ, ज बकि इस दौरान लगभग 15 हजार करोड़ से ज्यादा आधारभूत ढांचे और उन्नयन के लिए खर्च किया गया, जि समें खुदरा टैरिफ भी बढ़ गया, लेकिन परफार्मेंस और गिर गया। महालेखाकर ने स्वयं रिपोर्ट में उल्लेख कि या है कि उदय योजना का उद्देश्य महज कागजों में था। इस बीच बिजली वितरण कंपनियों के प्रदर्शन में किसी तरह का सुधार नहीं प्रदर्शित हुआ।

योजना के पहले और बाद में वितरण कंपनियों का प्रदर्शन-

वितरण उदय योजना के पूर्व लक्ष्य योजना के बाद

कुल ऋण 34 हजार 739 करोड़ 00 34727 करोड़

कुल घाटा 35 हजार 676 करोड़ स्थिर 34727 करोड़

समग्र विद्युत हानि 23.45 प्रतिशत 15 प्रतिशत 33.08 प्रतिशत

बिजली लागत- 92 पैसे प्रति यूनिट- शून्य 83 पैसे प्रति यूनिट
https://www.naidunia.com/madhya-pradesh/jabalpur-52-thousand-978-crore-loss-to-power-distribution-companies-due-to-uday-scheme-7869061

4. किसानों को दिए जाने वाले अतिरिक्त मुआवजा राशि पर कैग की नजर, अधिकारियों में मचा हड़कंप *(jagran.com)* 08 Oct 2022

नोएडा। किसानों को दिए जाने वाले 64.7 प्रतिशत अतिरिक्त मुआवजा को लेकर कैग ने नोएडा प्राधिकरण पर फिर से नजर टेढ़ी कर दी है। प्राधिकरण से वर्ष 2011 में आए कोर्ट के आदेश के बाद कितना बढ़ा हु आ मुआवजा किसानों को दिया, इसका ब्यौरा मांगा गया है। उस रकम को जुटाने के लिए प्राधिकरण ने बि ल्डरों से कितनी राशि वसूली। कितने बिल्डरों ने राशि का भुगतान किया, यह जानकारी भी उपलब्ध कराने को कहा गया है।

आंकड़ा जुटाने में जुटे अधिकारी
अतिरिक्त मुआवजा राशि बिल्डरों ने कहां से और कैसे उपलब्ध कराया। इसका आंकड़ा भी हाउसिसंग, वा णिज्यक, औद्योगिक, संस्थागत विभाग से मांगा है। बताया जाता है कि प्राधिकरण के पास यह आंकडे उपल

ब्ध नहीं है। विभागीय अधिकारियों में हड़कंप मचा हुआ है। आंकड़ा जुटाने के लिए अधिकारियों की ओर से मशक्कत शुरू कर दी है।

सूत्र बताते है कि अब तक मिली जानकारी में जेपी इंफ्राटेक ने नोएडा प्राधिकरण ने वाणिज्यिक भवन से 247 करोड़ रुपये की मांग की थी, लेकिन बिल्डर की ओर से एक भी रुपया जमा नहीं किया। ऐसे में प्राधिकरण से अब तक बिल्डरों से वसूली के लिए प्रयास नहीं करने वाले अधिकारियों की इस प्रकरण में गर्दन फंसनी तय मानी जा रही है। हालांकि इस मामले पर नोएडा प्राधिकरण की मुख्य कार्यपालक अधिकारी रितु माहेश्वरी ने बताया कि आंकड़ों को तैयार करने का काम किया जा रहा है।

यह पूरा प्रकरण कैग की उस आपत्ति के पास उठ खड़ा हुआ है, जिसमें अतिरिक्त मुआवजा देने के लिए 22 गांव के किसानों को पात्रता सूची में तय की गई थी। 17 गांव के किसानों को जो अतिरिक्त मुआवजा बांटा गया, उसमें दो गांव के किसान पात्र ही नहीं थे, जिन्हें प्राधिकरण ने अतिरिक्त मुआवजा बांट दिया। जब कि

दिया जाए अतिरिक्त मुआवजा

उच्च न्यायालय ने 21 अक्टूबर 2011 निर्देश दिया कि 30 मार्च 2002 को या उसके बाद से 17 मार्च 2009 तक धारा-4 के तहत अर्जन के जारी अधिसूचना के अंतर्गत प्राप्त मुआवजे के अलावा 64.7 प्रतिशत की दर से अतिरिक्त मुआवजा दिया जाए। इस निर्णय के अनुसार एडीएम भूमि अर्जन ने 17 गांवों के किसानों को वितरित करने के लिए 1024.64 करोड़ रुपये मुआवजे की मांग नोएडा प्राधिकरण से की।

प्राधिकरण के तत्कालीन मुख्य कार्यपालक अधिकारी के आदेश के बाद राशि का 25 प्रतिशत यानी 255.41 करोड़ रुपये एडीएम भूमि अर्जन को दो किस्तों में दिया गया। इसमें दो गांव सदरपुर और सुल्तानपुर के किसान अतिरिक्त मुआवजे के हकदार ही नहीं था, फिर भी उन्हें इस मुआवजा सूची में शामिल किया गया। जबकि दोनों गांवों में धारा-4 के अंतर्गत अधिसूचना 30 मार्च 2002 से पहले की थी।

अतिरिक्त मुआवजे की राशि में इन दोनों गांवों का 8.18 करोड़ रुपये भी शामिल था। यह राशि बांटी नहीं जा सकी। ट्रेजरी में यह जमा है। ऐसे में प्राधिकरण को 7.50 करोड़ रुपये के राजस्व की हानि हुई । ऐसे तमाम उदाहरण को अपनी रिपोर्ट में प्रस्तुत किया है।

आपसी समझौता दिखाकर रिट कराई वापस

इसी तरह नोएडा प्राधिकरण ने करीब 950 किसानों अतिरिक्त मुआवजा दिया गया, जो कोर्ट नहीं थे। जिन्होंने कोर्ट में याचिका दायर कर रखी थी, प्राधिकरण ने आपसी समझौता दिखाकर उनसे रिट वापस करवा ली। ऐसे सभी किसानों को करीब 563 करोड़ रुपये से अधिक का अतिरिक्त मुआवजा दिया गया। अब सीएजी ने यह अतिरिक्त मुआवजा देने का सोर्स, राशि की रिकवरी जैसे तमाम सवालों के जवाब के साथ आंकड़ों की मांग की है। https://www.jagran.com/uttar-pradesh/noida-ncr-noida-news-cag-eye-on-additional-compensation-amount-to-be-given-to-farmers-23125826.html

5. CAG Audits in West Bengal Reveal Financial Irregularities, Corruption *(newsclick.in)* 07 Oct 2022

The appointment of Mukul Roy and then Krisna Kalyan as PAC chairman shows that the TMC government does not want an audit of vital issues.

In the war of words with the Mamata Banerjee-led Trinamool Congress (TMC) government over several issues, then-West Bengal (WB) governor Jagdeep Dhankar had alleged that

there had been no audit by the Comptroller and Auditor General (CAG) in West Bengal in the last 10 years.

Dhankar's statement is not based on facts. The principal accountant general (PAG) of WB has been submitting reports on the health of the state's finances and economic, general and social issues every year to the governor, who laid them before the Assembly, as required under Article 151 of the Constitution.

At the same time, it is true that the PAG could not audit the state's flagship social programmes—Sabuj Sathi, Khadya Suraksha/Khadya Sathi, Swasthya Sathi, MGNREGS, IAY/PMAY, SJDA, Uttarkanya, TMC meetings in districts in the name of administrative meetings at the state exchequer's costs, full/half-page ads in newspapers every time the chief minister visits districts for such meetings, grants to 40,000 puja committees, BGBS and Kanyashri.

Whatever audits have been done so far revealed financial irregularities, inefficiency in the planning and execution of programmes and large-scale corruption. Under the Geetanjali Housing Scheme, which aimed to provide 25 sq m houses to BPL families, the TMC government could complete only 1,81,826 units against the target of 2,18,709 between 2011 and 2016.

The programme was fraught with wrong selection of beneficiaries, providing less carpet area, making extra payments to contractors by way of allowing higher rates and parking large amounts in deposit accounts of district magistrates, and discrepancies in reports.

In her 2022-23 Budget Speech, state finance minister and former urban development minister Chandrima Bhattacharya claimed that 47.34 lakh housing units had been constructed under Banglar Bari scheme till 2021. Interestingly, there was no Budget provision for the number of units claimed to have been constructed.

Subsequently, the TMC government asked Panchayats to remove the Banglar Bari placards on houses constructed with IAY/PMAY funds following a recent investigation by a Central team. Audit reports revealed that such tall claims were not based on facts.

Funds spent on projects which were supposed to have benefitted people at large have been wasted due to the lack of planning. For example, under the Pathasathi project, 51 motels were supposed to have been constructed by the PWD and another 18 by the housing department by March 2017 without planning as to who will manage them.

The initial idea of handing over the motels to the tourism and youth services department did not materialise due to the lack of funds. In its March 2016 report, the CAG observed that motels constructed by the housing department at a cost of Rs 27.41crore were lying unused.

Inefficient planning and irregularities in implementation plague SC-ST schemes as well. Audits showed awarding of scholarships to financially ineligible students and those who didn't provide caste certificates, payments made to beneficiaries having no bank accounts and hostel fees paid to beneficiaries who didn't reside in hostels. In the case of loans disbursed by Central corporations—NSFDC, NSTFDC and NSKFDC—and state corporations like WBSCSTD&FC, targets were not met in most of the years.

Performance audits in health and education revealed glaring incompetence. The performance audit of the implementation of the National Rural Health Mission (NRHM)—with the Centre and the state sharing expenditure in the 75:25 ratio—revealed a shortfall of 43% in subcentres, 70% in primary health centres and 62% in community health centres. Strangely, the state spent only Rs 4,054.54 crore (55%) out of Rs 7,352.62 crore allocated to it under NRHM in 2011-16.

The centres do not have basic facilities and lack the required number of doctors, nurses and other staff. Newborn care corners and newborn stabilisation units were set up without proper planning and training for service providers, the audits showed.

Round-the-clock services are affected by the non-availability of ANMs, who don't reside in the allocated quarters mostly because of their dilapidated condition. Antenatal and postnatal care cannot be extended to a considerable number of villages due to the shortfall in the appointment of ASHAs.

Audit of the centrally sponsored scheme Integrated Rashtriya Madhyamik Siksha Aviyaan (RMSA), which intends to improve the quality of government and government-sponsored schools, for the period 2011-16 showed a significant dropout rate at the secondary level. Out of 90,9,274 rural students admitted in class nine in 2011, only 50,6,465 remained in class 12 and the number dropped from 98,4,499 to 52,3,715 in 2012.

The audit pointed out inadequacy in the number of classrooms, science laboratories, computer rooms, toilets, drainage systems and drinking water facilities and the lack of qualified teachers. The state has miserably failed in establishing/upgradation of schools under RMSA.

Audits in higher education revealed qualitative asymmetry in terms of college density and GER. Placement and career counselling cells, alumni associations and employability enhancement programmes are either non-existent or inadequate. The audit raised concerns about the shortage of teachers, including the non-availability of prescribed qualifications for college teachers, and the student-teacher ratio.

There is a shortfall in the number of colleges in terms of all-India average and regional asymmetry, a dearth of computers in colleges not sufficiently equipped with ICT and several colleges don't have the essential infrastructure for affiliation. Only 22% of government colleges are accredited by the NAAC. Quality control at all levels of higher education remains unmonitored. There is a large-scale mismatch between the All India Survey on Higher Education and the data supplied by state universities and colleges.

Though West Bengal gives top priority to MSME, audits showed incentives provided to ineligible enterprises and even closed units, irregular refund of VAT and uneven distribution of funds, etc. Only 26% of incentives were provided to the industrially backward regions in zones C and D each while zone B, consisting of Howrah, Hooghly and Burdwan, got 40%. Lack of supervision and delay in the allotment of funds are the other problems plaguing the sector.

Audits also found irregularities in departments concerned with major construction in the state. For instance, an audit of the records of three JNNURM-financed flyovers—Parama, Ultadanga and Wipro—constructed by KMDA in 2011-16 discovered non-adherence to the statutory requirements at various stages of planning, coordination and execution, especially with regard to quality-control activities.

KMDA did not have a formally documented quality policy, or quality assurance manual, and quality audit mechanism of its own. Further, essential quality-related records of the flyovers were not maintained. Important basic records like registers on inspection, measurement checks, work hindrance, concrete cube test, concrete pouring and materials brought to the site and their consumption were either not maintained or not produced before the auditors.

The main points of concern were deficiencies in DPR and geometric design case of the Parama flyover, preparation of inflated estimates in DPR-Wipro flyover, irregular acceptance of tender at higher rates in Parama and Ultadanga flyovers, contract awarded to a disqualified contractor for Ultadanga, inadmissible payment of Rs 5.02 crore to the Parama contractor, reimbursement made without supporting documents of detailed expenditure of Rs 6.45 to the Parama contractor, the contractor's liability of Rs 3.62 crore discharged by KMDA for Parama and so on.

The moot point is that KMDA, as the executor, had appointed consultants/specialised agencies for feasibility study, structural designs, drawings, estimates, etc. without having qualifying criteria for the selection of consultants appointed on ad hoc basis on negotiations or limited tender. Moreover, agreements did not explicitly state the accountability of consultants.

The audit also covered the under-construction Vivekananda Road flyover, a part of which collapsed in Posta area in March 2016 after 81% completion of work. Since the start of the construction in July 2009, the contractor was granted nine extensions to complete the work. The audit observed that in the absence of records relating to the selection procedure and technical qualification/competence of the working contractor and its design consultant, nothing could be assessed.

KMDA had appointed M/s IRCLASS as the third-party quality control agency, whose quoted rate was 531% less as compared to its competitor. Interestingly, the concrete work of the superstructure had been cast in the absence of KDMA engineering staff.

Irregularities committed by the finance department itself are too many. Huge amounts drawn in AC bills have been adjusted by DC bills (on actual expenditure) for years. As per the CAG's report, amounts requiring adjustment from 2012-13 to 2016-17 are Rs 800 crore, Rs 910 crore, Rs 1,587 crore, Rs 3,075 crore and Rs 2,357 crore, respectively.

The state government claims to have helped the unorganised labour sector. However, an audit showed that only Rs 8 crore against the payment obligation of their provident fund contribution of Rs 1,27.52 crore for 2018-19 has been paid and Rs 547.29 crore as outstanding dues still remains to be paid.

The most serious irregularity discovered was the issue of regularisation of excess expenditure by the state government in violation of Article 204 of the Constitution, which states that no money can be spent without the Legislature's approval. Money spent for whatever reason from the Consolidated Fund has to be regularised by the Assembly.

However, as per the CAG's report, excess expenditure of Rs 2,6695.26 crore pertaining to the years 2009-10 to 2017-18 was yet to be regularised by the Assembly.

But what is the use of audits if the observations and findings are not taken into account and corrective action is not taken? As soon as audit reports are laid before the Assembly, those relating to public undertakings go to the Committee on Public Undertakings and the rest to the Public Accounts Committee (PAC).

The committees scrutinise them and then take evidence from the concerned departments in respect of important and serious issues. Committees, particularly the PAC, play a vital role in bringing major irregularities and deficiencies to the Assembly's notice and the government for corrective action.

Exactly, for this reason, it has become a practice to appoint a PAC chairman in Parliament as also the state Legislatures from the Opposition. This is required to ensure the accountability of the government to the Legislature. The practice was accepted in West Bengal Legislature also and it continued till 2016 when Banerjee didn't want to leave any scope for criticism, including the PAC.

In 2016, Congress leader Manas Bhunia was appointed the PAC chairman in spite of the TMC's vehement opposition. In 2017, Sankar Singh, another congress leader, was appointed chairman. Both of them performed poorly and the Speaker was compelled to appoint me as the chairman following the Opposition's demand.

This writer was chairman for three years and submitted to the Assembly, despite the COVID-19 gap, as many as 12 reports that include the constitutional obligation of regularising excess expenditure from 2010 to 2018. The finance department, however, has been unable to act and Banerjee is yet to regularise the excess expenditure by way of moving Bills.

In 2022, Mukul Roy and then Krisna Kalyan—both of whom who had quit the BJP and joined the TMC—were appointed chairman. It is thus quite evident that Banerjee does not want an audit of vital issues for some obvious reasons.

Besides, the CM wants to take advantage of the non-availability of audit reports for putting ad hoc demands for funds claimed as outstanding dues from the Centre. An extreme example of such demand is the claim for outstanding dues of Rs 42,866 crore towards the expenditure on compensation for Bulbul, Amphan and Yas. While no report on the expenditure on Bulbul and Yaas is separately available, expenditure on Ampan was Rs 1,969 crore, as per the Economic Review 2020-21. But the state claimed a compensation of Rs 32,310 crore for Amphan. https://www.newsclick.in/CAG-Audits-West-Bengal-Reveal-Financial-Irregularities-Corruption

6. Masala bonds: HC bars ED from summoning Isaac, KIIFB officials for two months *(onmanorama.com)* October 10, 2022

Kochi: The Kerala High Court on Monday warned the Enforcement Directorate (ED) from sending further summons to former Finance Minister Thomas Isaac and Kerala Infrastructure Investment Fund Board (KIIFB) officials for two months in the 'masala bonds' case.

The court made the Reserve Bank of India (RBI) a party in the case and directed the ED to issue a notice to the country's central bank.

The court, however, stated that the ED can continue the investigation in the case.

A bench headed by Justice V G Arun passed the interim order.

The petitions will be heard next on November 15.

The ED action is over the controversial issue of 'masala bonds' by the Kerala government entity set up to raise funds for infrastructure projects. The ED had requested the Court, during the arguments in the case, to probe whether the funds received through masala bonds have been diverted for any other expenditure. The ED had stated that it is probing whether the funds have been diverted to the real estate sector.

However, Issac argued that the ED's probe is an infringement of privacy. The State Government's stand is that it has not violated the terms and norms set by the RBI and that the ED probe is aimed at sabotaging the trust in KIIFB.

The ED investigation was initiated based on the Comptroller and Auditor General (CAG) report that the activities of KIIFB do not comply with federal laws and that there are discrepancies. The probe is about receiving funds from abroad without the Central Government's approval and the lapses in seeking permission from the RBI to issue masala bonds.

The ED registered the case in March 2021.

Masala bonds are rupee-denominated bonds. It is a debt instrument issued by an Indian entity in foreign markets to raise money, in Indian currency, instead of dollars or local denomination. https://www.onmanorama.com/news/kerala/2022/10/10/kiifb-masala-bonds-hc-verdict-on-ed-summons-to-isaac.html

7. Andhra Pradesh's revenue collection around Rs 26,000 crore in first half of 2022-23: CMO *(deccanherald.com)* October 7, 2022

Andhra Pradesh government's revenue has touched Rs 25,928 crore in the first half of financial year 2022-23, the Chief Minister's Office said.

This was 94.47 per cent of the targeted Rs 27,445 crore for the first half of the year, the CMO said in a release on Thursday, citing officials who took part in a review by Chief Minister Y S Jagan Mohan Reddy on revenue earning departments.

The release said Goods and Services Tax (GST) collection in the state was 28.79 per cent in the April-September period as against the national average of 27.8 per cent. It also quoted the officials as informing the Chief Minister that the state's revenue was "on track" and that they were taking steps to "plug the leaks".

A couple of days ago, the Comptroller and Auditor General of India (CAG) released the state accounts for the first five months of 2022-23, putting AP's tax revenue at Rs 43,499.73 crore. This was Rs 6,448.94 crore excess as compared to the first five months in the previous fiscal.

Between April and August 2022, the state earned Rs 15,608 crore as GST revenue, Rs 3,473 crore as stamps and registration fee, Rs 7,592 crore as sales tax, Rs 6,594 crore as state excise duties and Rs 2,016 crore as other taxes.

Another Rs 8,209 crore came as the state share in Union taxes, according to the CAG accounts. Besides, the state has borrowed Rs 44,582 crore in the first five months alone, against the annual target of Rs 48,724 crore. https://www.deccanherald.com/national/south/andhra-pradeshs-revenue-collection-around-rs-26000-crore-in-first-half-of-2022-23-cmo-1151452.html

SELECTED NEWS ITEMS/ARTICLES FOR READING

8. Gross direct tax revenue jumps 24 pc to Rs 8.98 lakh cr; net collections cross 52 pc of budget target *(financialexpress.com)* October 9, 2022

The gross collection of tax on corporate and individual earnings jumped nearly 24 per cent so far in the current fiscal year to Rs 8.98 lakh crore, the tax department said on Sunday.

This includes a 32 per cent growth in personal income tax (including Securities Transaction Tax) mop up and 16.73 per cent increase in corporate tax revenues over the same period last year.

After adjusting for refunds, the net direct tax collections between April 1 – October 8 stood at Rs 7.45 lakh crore, which is 52.46 per cent of the Budget estimates (BE) for the full year tax collection target, the department said.

The Budget had estimated direct tax collection at Rs 14.20 lakh crore this fiscal, higher than Rs 14.10 lakh crore collected last fiscal (2021-22). Tax on corporate and individual income makes up for direct taxes.

"Direct Tax collections up to 8th October, 2022 show that gross collections are at Rs 8.98 lakh crore which is 23.8 per cent higher than the gross collections for the corresponding period of last year," the tax department said in a statement.

Refunds amounting to Rs 1.53 lakh crore have been issued between April 1-october 8, an increase of 81 per cent over the corresponding period last year.

After adjusting refunds, net direct tax collection stood at Rs 7.45 lakh crore, 16.3 per cent higher over the year-ago period. This includes a 16.25 per cent increase in PIT (including STT) and 16.29 per cent in corporate tax.

Tax collection is an indicator of economic activity in any country. But in India, the robust tax collection was despite a slowdown in industrial production and exports.

Some analysts believe that the economic growth has lost momentum but corporate profits are keeping the engine running.

Merchandise exports have lost on the momentum of last year's surge and shrunk by 3.5 per cent in September. Trade deficit has nearly doubled in the first six months.

IIP growth was subdued at 2.4 per cent in July while 'core sector' hit a nine-month low of 3.3 per cent in August.

Collection from levy of tax on goods and services sold (GST) has flattened at around Rs 1.45-1.46 lakh crore per month.

The Reserve Bank of India (RBI) last month cut its production of India's GDP growth in the current fiscal to 7 per cent from 7.2 per cent previously estimated.

Other rating agencies too have lowered the economic growth projection for India citing impact of the geopolitical tensions, tightening global financial conditions and slowing external demand.

Deloitte India Partner Rohinton Sidhwa said with inflation running between 6-7 per cent, it is imperative that tax collections show a healthy growth above the inflation rate.

"Strong economic growth coupled with better reporting seems to be supporting the collection figures. While collections remain strong the same also need to be supported by corporate investment cycles reviving post COVID," Sidhwa said. https://www.financialexpress.com/economy/direct-tax-collection-jumps-24-pc-in-first-half-of-fy23/2704880/

9. The challenging task of recovery amid a slowing global economy *(indianexpress.com)* Updated: October 8, 2022

With already stretched government finances, the possibility of worsening growth prospects, a higher subsidy outgo and uncertainty over revenues, the capacity of public spending to provide a fillip to growth is limited. With the drivers of growth exhibiting weakness, policy-makers will have to carefully weigh their options as they provide support to the economy.

With the global economic environment taking a turn for the worse, the outlook for the Indian economy also appears to have dimmed. On Thursday, the World Bank lowered its forecast for India's economic growth this year to 6.5 per cent, down from its earlier assessment of 7.5 per cent. The downward revision is based on the Bank's assessment that monetary policy tightening across the world and the spillovers from the Russia-Ukraine war will "weigh on India's economic outlook". This revised assessment comes days after the RBI had lowered its own forecast for the country's growth to 7 per cent, down from its earlier projection of 7.2 per cent. Till now the ruling dispensation had been rather sanguine about the country's growth prospects — after all, even despite these downward revisions, India is still likely to be one of the fastest growing economies in the world. However, policymakers have now begun to voice concerns over the state of the economy.

On the domestic front, the concern is that even as the economy has recovered to its pre-Covid level, large parts continue to be mired in stress. For instance, micro, small and medium enterprises continue to struggle. An indication of this is that 16.4 per cent of those who availed credit under the Emergency Credit Line Guarantee Scheme of the government defaulted and have not been able to repay their obligations owing to financial difficulties. Considering that MSMEs employ a sizeable section of the labour force, their continuing struggles are bound to affect labour market prospects. In fact, as per the latest periodic labour force survey, the labour force participation rate in urban areas is lower than pre-Covid levels, while in rural areas, wage growth continues to be subdued indicating labour market slack. And there is still no firm evidence of a broadbased revival in the private investment cycle even though the twin balance sheet problem — an over-leveraged corporate sector and banks saddled with bad loans — that was believed to be holding back investments no longer appears to be an obstacle. In such a scenario, tighter monetary policy is only going to complicate matters further. And with already stretched government finances, the possibility of worsening growth prospects, a higher subsidy outgo and uncertainty over revenues, the capacity of public spending to provide a fillip to growth is limited.

On Wednesday the World Trade Organisation lowered its forecast for global trade volume growth to 1 per cent, down from 3.4 per cent earlier. The effects of a slowing global economy are already being felt. After growing at 22 per cent in April-June, growth has tapered off sharply in the months thereafter. In such an environment, with the drivers of growth exhibiting weakness, policy-makers will have to carefully weigh their options as they provide support to the economy while navigating this tumultuous period. https://indianexpress.com/article/opinion/editorials/the-challenging-task-of-recovery-amid-a-slowing-global-economy-8196514/

10. Whistling in the dark *(indianexpress.com)* P Chidambaram | October 09, 2022

When the UPA demitted office, at the end of 2013-14 the CAD had been brought down to 1.7%, CPI inflation had been contained at 9.4% (which declined furtherto 5.9% in 2014-15), foreign exchange reserves had increased by $15.5 billion and the exchange rate was Rs 58.4. That is a slice of history for those who want to read history

The Reserve Bank of India (RBI) was disappointed when the GDP growth rate for Q1 of 2022-23 was below its forecast of 16.2 per cent and recorded 13.5 per cent. For the remaining three quarters, the RBI's estimates are 6.3, 4.6 and 4.6 per cent.

The estimated average of 7 per cent appears impressive but the truth lies not in the average but in the trend line: note that in quarter after quarter, the growth rate will decline. UNCTAD has a gloomy forecast of 5.7 per cent for 2022 and 4.7 per cent for 2023.

There are parallels. Since demonetization in 2016, the annual growth rates in 2016-17, 2017-18, 2018-19, 2019-20 and 2020-21 were 8.26, 6.80, 6.53, 4.04 and -7.25.

Similarly, the quarterly growth rates since the fourth quarter of 2017-18 were 8.93; 7.56, 6.49, 6.33, 5.84 (2018-19); and 5.39, 4.61, 3.28, 3.01 (2019-20). Take a close look and you will find the declining trend over four fiscal years and eight quarters!

The RBI Tutorial

Sound economic policy is always contextual. While some elements of economic policy in a liberal, market economy will be constant, other elements must be tailored according to the circumstances. Mr Shaktikanta Das, the RBI Governor, has explained the context: “In the last two years, the world has witnessed two major shocks — the Covid 19 pandemic and the conflict in Ukraine. Now, we are in the midst of a third major shock, a storm, arising from aggressive monetary policy actions and even more aggressive communications from advanced economy central banks.” In an era when the United States is the world’s largest economy and the U.S. dollar is the reserve currency, the prudent course is to ‘follow the leader’. The U.S. Fed will not stop raising interest rates until America’s inflation, currently 8.3 per cent, is tamed.

The RBI Bulletin for September 2022 has an essay on the ‘State of the Economy’.

The Introduction reads: “We live in times of conflicting possibilities — elevated inflation and rising recession risks: economic stagnation and increasing debt: strengthening US dollar and weakening currencies in the rest of the world: easing supply chain pressures and reshoring: synchronization in policy actions and deglobalisation: balance sheet normalization and liquidity stress.”

The above assessment is true for all countries. It is only in India that whistling in the dark is regarded as an effective policy response to the challenges! In this essay, I wish to list the heads under which you may conclude whether the government’s performance deserved a pass or a fail.

Inflation

The RBI’s mandate requires it to keep inflation at 4 plus/minus 2 per cent. Retail price inflation has been above the 6 per cent limit for most of the past 24 months. Wholesale price inflation has been in double digits for nearly 12 months. The current inflation rates are: CPI 7 per cent, WPI 12.37 per cent. At the post-monetary policy press conference, Governor Das candidly admitted, “We expect inflation to come close to the target over a two-year cycle, but there are so many uncertainties” (emphasis mine). Because of differences between the Finance Minister and the RBI about the efficacy of monetary policy the course of inflation management is uncertain.

Current Account Deficit

According to the RBI’s statistical tables, the current account deficit (CAD) in Q1 amounted to USD 23.9 billion or 2.8 per cent of the estimated GDP, mainly due to the deficit in merchandise trade. Preliminary data indicate that the merchandise trade deficit had ballooned to USD 149.5 billion in the period April-September, 2022 (source: MoCI). Gold imports were USD 20 billion. On the POL account, the deficit was USD 65.1 billion. After a promising start in Q1, goods exports in July, August and September have shown a declining trend: USD 36.27, 33.00 and 32.62 billion. At this rate, the CAD for the whole year will exceed 3 per cent and perhaps be close to 3.4 per cent.

Rupee: Dollar Exchange Rate

At the beginning of the fiscal year, the rupee:dollar exchange rate was Rs 75.91. Today, the rate is Rs 82.32. On April 1, 2022, the total foreign exchange reserves were USD 606 billion. By September 30, the total reserves had fallen to USD 537 billion. The RBI has used USD 69 billion to ensure 'non-volatility' in the exchange rate market, yet the rupee has depreciated by nearly 8 per cent in six months.

Slowing growth, high inflation, worsening CAD and a falling rupee make the macro-economic picture.

A History Lesson

The situation faced by the country is not without precedent. In 2012-13, thanks to the stimulus packages of FM Pranab Mukherjee, high gold imports and the 'taper tantrum' of U.S. Fed Chairman Ben Bernanke, India faced the same triple challenges. When the UPA demitted office, at the end of 2013-14 the CAD had been brought down to 1.7 per cent, CPI inflation had been contained at 9.4 per cent (which declined further to 5.9 per cent in 2014-15), foreign exchange reserves had increased by USD 15.5 billion and the exchange rate was Rs 58.4. That is a slice of history for those who want to read history. https://indianexpress.com/article/opinion/columns/p-chidambaram-writes-whistling-in-the-dark-8198055/

11. India misplaced about its optimism on growth prospects, says Nomura *(businesstoday.in)* October 10, 2022

Japanese brokerage Nomura has projected a sharp moderation in India's growth rate for FY24 to 5.2 per cent as compared to FY23, saying Indian policymakers are "misplaced" about their optimism on the country's growth prospects.

After a week-long meetings with policymakers, corporates, commercial banks and political experts, its economists said its FY23 GDP growth estimate is at 7 per cent – at par with the RBI's revised down forecast – but it expects a "sharp moderation" to 5.2 per cent in FY24.

"While we broadly agree with our interlocutors on the growth prospects in FY23, we believe the optimism in FY24 may be misplaced and that the spillover effects from the global slowdown are being underestimated," its economists Sonal Verma and Aurodeep Nandi said in a note.

The RBI has hiked repo rate by 190 basis points since May to tame inflation and is expected to do more, especially amid faster rate tightening by the US Fed, which is bound to impact growth.

The economy grew at 4 per cent in FY20 in a multi-year low. The estimated slowdown in growth in FY24 will come ahead of the next general elections.

Indian policymakers have frequently spoken about the need to have a sustained growth of over 7 per cent for achieving long-term economic ambitions.

The brokerage said the mood in the country is "relatively positive" with risks seen emanating from weaker global demand, and added that domestic recovery is getting broad-based as seen through pick-up in investments and higher credit growth.

It recommended policy vigilance amid the global headwinds, and underlined that macro stability should be the priority over growth.

The brokerage said it expects the RBI to go for a 35 basis points hike at the December meeting and deliver a 25 basis points increase in February to take the repo rate to 6.50 per cent.

It expects inflation to average at 6.8 per cent in FY23, a tad above the RBI's 6.7 per cent estimate, and cool down to 5.3 per cent in FY24. On the fiscal consolidation front, it said expenditure cuts would be necessary to meet the 6.4 per cent fiscal deficit target for FY23 and added that it is "circumspect" about a sub-6 per cent target for FY24.

The brokerage said it expects the current account deficit to widen, with a weaker currency to follow. It said market participants believe there is no "line-in-the-sand" for either forex reserves which stood at over USD 530 billion, or the level of the rupee. https://www.businesstoday.in/latest/economy/story/india-misplaced-about-its-optimism-on-growth-prospects-says-nomura-349374-2022-10-10

12. Accounting for subsidies: Let's build on the 'revdi' debate *(indianexpress.com)* Updated: October 8, 2022

The debate that began with an RBI 2022 report on state finances followed by Prime Minister Narendra Modi's comment on "revdi culture" aka freebies, has garnered substantial attention — so much so that the Supreme Court is hearing on this issue. In a country where millions of people were only a pandemic away from being pushed back into poverty, freebies have now assumed more importance than ever.

Freebies could be defined as non-merit subsidies. Subsidies are money transfers (implicit or explicit) by the government in an attempt to drive prices artificially below market prices. As a National Institute of Public Finance and Policy (NIPFP) study by Sudipto Mundle and Satadru Sirkar puts it, budget subsidies, in particular, are defined as the unrecovered cost of economic and social services. However, all subsidies cannot be easily classified into merit or non-merit.

It could be said that providing freebies empowers the state to, first, deliver welfare as a welfare state should, by providing subsidised merit goods like health and education; second, to help households combat poverty (especially in economically stressed times characterised by fewer job opportunities, lower incomes, high inflation, etc.) by providing subsidised public goods like food, electricity, etc.; and third, to appeal to the electorate (through outright populist spending).

The boundaries between the aforementioned objectives begin to blur when it comes to classifying one form of freebie as a merit or a non-merit subsidy. For example, are corporate tax cuts non-merit subsidies or a measure to boost investment? Is making bus rides free for women in the national capital a non-merit subsidy or a way to boost women's mobility and labour-force participation? In a similar tone, are free laptops to students in Tamil Nadu not a way to bridge the digital divide in education? The existing arguments develop an understanding that freebies cannot be defined in a finite context, and that the definition varies across space and economic conditions.

Regardless of which one gets classified as good or bad, freebies are simply expenditures or foregone revenues. Either way, they lead to an increase in fiscal deficit whose financing could necessitate taking on debt. The targeting of beneficiaries to ease the burden on the exchequer is one way to check these expenditures but lack of data has forced a situation wherein leakages and duplication of beneficiaries is commonplace.

Going ahead, any freebie-induced debt burden could have an adverse effect on the state finances if, one, it hasn't been properly accounted for through transparent budgeting procedures (including off-budget borrowings in debt calculations), and two, it threatens fiscal sustainability, ie, it limits the state's ability to service its debt-related commitments without making an unrealistic fiscal adjustment.

That said, in the absence of adequate avenues of revenue mobilisation, any fiscal adjustment achieved by contracting critical expenditures on the social sector and capital formation further jeopardises long-term growth and development. The emanating risk of fiscal sustainability means a "revdi" today would take a toll on tomorrow's generation.

A solution to this problem lies in setting up an independent fiscal council that has been recommended by the FRBM Review Committee (2017), and recently constituted Finance Commissions too, including the 15th Finance Commission. Incidentally, the FRBM panel and 15th FC were both headed by N K Singh. The FRBM report says, "the council will serve both an ex-ante role — providing independent forecasts on key macro variables like real and nominal GDP growth, tax buoyancy, commodity prices — as well as an ex-post monitoring role, and also serve as the institution to advise on triggering the escape clause and also specify a path of return."

Such a council should work for the union as well as the states. Furthermore, such monitoring of finances and fiscal rules could also help ensure that states comply with a medium-term fiscal policy framework, which has been long argued for by economists. For the above reasons, it is imperative to fill the widely recognised institutional void.

In summary, freebies cannot be defined easily, and constitutionally, any state government should be empowered to spend the way it wants, provided the fiscal policy is sustainable. Such a debate, therefore, warrants undertaking strategic measures via strengthening fiscal guidance through an institution like a fiscal council. That will enable the state to make informed economic decisions whilst attending to key development objectives. https://indianexpress.com/article/opinion/columns/accounting-for-subsidies-lets-build-on-the-revdi-debate-8196507/

13. RBI burns $110 billion to arrest rupee's slump; forex reserves dwindle to over two-year low *(economictimes.indiatimes.com)* October 09, 2022

India's central bank has assured that the country's foreign exchange reserve "umbrella" has been strong, even as it had to burn $110 billion in desperate attempt to arrest rupee's slump to a lifetime low, dragging the forex reserves to the lowest level in over two years.

Foreign exchange reserves of Asia's third-largest economy fell by $4.85 billion to $532.66 billion for the week ending Sep 30, according to data released yesterday by the Reserve Bank of India.

The foreign exchange reserves fell to their lowest level since July 2020 and also marked the ninth consecutive week of fall. The spot forex reserves have fallen from $607 billion in end-March and depleted by $110 billion from $642.453 billion seen on September 3 last year.

This has come at a time when the Indian rupee breached the key 82 per dollar level yesterday, the first such instance. The Indian currency has weakened nearly 10% so far this year, with the central bank defending the rupee via dollar sales that have depleted its forex reserves.

However, what is worrisome is that experts do not see any respite for the local currency.

"The depreciation mode of the rupee will still be intact till the time the Fed keeps on raising interest rates and the dollar index keeps on moving higher and the rest of the world goes into a kind of recession," said Bhaskar Panda, EVP and Head Overseas Treasury, HDFC Bank.

Thus, the central bank is expected to find ways to replenish its foreign exchange reserves such as encouraging non-resident Indians to deposit more funds, in order to stabilise a depreciating rupee, HDFC Bank chief economist Abheek Barua had told Reuters earlier.

Barua said that the central bank may need to think of ways to bulk up its forex reserves, should the pool shrink to near $500 billion in the coming months.

The fall in the foreign exchange reserves can be attributed to a fall in the Foreign Currency Assets (FCA), which is a major component of the overall reserves, according to the Weekly Statistical Supplement released by RBI.

Foreign currency assets dropped $4.41 billion to $472.81 billion for the week ending Sep 30. Gold reserves fell $281 million to $37.61 billion.

Expressed in dollar terms, FCA consists of the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves.

Reserve Bank of India Governor Shaktikanta Das last week said the central bank's forex reserves umbrella has continued to remain strong despite uncertainty in markets. He said the RBI has been intervening in the forex market based on continuous assessment of the prevailing and evolving situations.

Das said about 67 per cent of the decline in reserves during this financial year that started Apr. 1 is due to valuation changes arising from an appreciating US dollar and higher US bond yields. The governor said that there was an accretion of US$ 4.6 billion to the foreign exchange reserves on balance of payments (BOP) basis during Q1:2022-23.

Deutsche Bank recently said that India's overall foreign exchange reserves will deplete further this year due to a ballooning current account deficit and interventions by the central bank to support the rupee, which today tumbled past 81 per dollar to a record low.The currency posted its worst week since April last year, shedding 1.6% with most of the losses in the past two trading sessions.

Foreign exchange reserves could fall to $510 billion even in a worst case scenario if the current account deficit widens to 4 percent during FY'23 estimates IDFC First Bank. Still we would be better off than the Taper Tantrum period of May 2013 when reserves were less than $300 billion. https://economictimes.indiatimes.com/news/economy/indicators/indias-forex-reserves-fall-to-over-two-year-low-of-532-66-billion/articleshow/94709316.cms

14. RBI charts plan for digital rupee pilot *(livemint.com)* October 08, 2022

The Reserve Bank of India on Friday said that it will soon commence pilot launches of a central bank backed digital currency (CBDC) or e-rupee for specific use cases, as it released a concept note on the digital currency.

The central bank said that it has been exploring the pros and cons of introduction of the CBDCs for some time. Finance minister Nirmala Sitharaman in her budget speech in February had indicated that the central bank will launch a digital version of the rupee in the next financial year (FY23).

“CBDC holds a lot of promises by way of ensuring transparency, and low cost of operation among other benefits and the potential to expand the existing payment systems to address the needs of a wider category of users," the central bank said.

The central bank added that given the compelling motivations for introducing CBDCs it is working on a phased implementation strategy, which will involve various stages of pilots.

“RBI is currently engaged in working towards a phased implementation strategy, going step by step through various stages of pilots followed by the final launch, and simultaneously examining use cases that could be implemented with minimal or no disruption," the central bank said.

“As the extent and scope of such pilot launches expand, RBI will continue to communicate about the specific features and benefits of e ₹, from time to time," it said.

Depending on the different use cases, multiple technological options shall be tested and based on the outcomes, the final architecture shall be decided, it added.

RBI is exploring the option of implementation of account-based CBDC in the wholesale segment and token-based CBDC in retail segment via a graded approach.

The central bank said that account based CBDC is like the existing account forms of money shall not be considered to be a new form of money, instead as the digital form of ‘book money’, which are credit balances on accounts. In contrast, token-based CBDCs are a new form of money where the central banks’ liability is incorporated in the token.

RBI’s approach towards the CBDC will see the central bank build a prototype as per the recommendations of the working group set up in 2020, specify technical requirements to technology partners and test the idea in an operationally controlled environment to examine its functionality, including the design, deployment plan and success criteria.

The central bank said that it is deliberating on the various aspects of technological choices available, which includes suitability of Tech Architecture (DLT - distributed ledger technology/ Centralized/ Hybrid; Open Source/Proprietary), security of the Token Creation Process and Central Bank Node, standards and protocols to be followed by each stakeholder, robust preventive counterfeiting tech choices (Robustness of Verifier technology), security considerations; especially in offline transactions and smart contract features and its use cases in CBDC in both wholesale and retail segments.

The central bank added that since CBDC, across the world, is in conceptual, development, or at pilot stages, therefore, in the absence of a precedence, extensive stakeholder consultation along with iterative technology design must take place to develop a solution that meets the requirements.

“While the intent of CBDC and the expected benefits are well understood, it is important to identify innovative methods and compelling use cases that will make CBDC as attractive as cash if not more," the RBI said. https://www.livemint.com/industry/banking/rbi-charts-plan-for-digital-rupee-pilot-11665162207117.html

15. Road transport and highways sector has maximum number of delayed projects at 248: Govt report *(financialexpress.com)* October 09, 2022

The road transport and highways sector has the maximum number of delayed projects at 248, followed by railways at 116 and petroleum sector at 88, showed a government report. In the road transport and highways sector, 248 projects are delayed with respect to their original schedule out of the 831 monitored, as per the latest flash report on infrastructure projects for August 2022.

Similarly in railways, out of 173 monitored projects, 116 are delayed, while for petroleum, 88 out of 139 projects are delayed.

The Infrastructure and Project Monitoring Division (IPMD) is mandated to monitor central sector infrastructure projects costing Rs 150 crore and above, based on the information provided on the Online Computerised Monitoring System (OCMS) by the project implementing agencies. The IPMD comes under the Ministry of Statistics and Programme Implementation.

The report showed that the Muneerabad-Mahaboobnagar rail project is the most delayed project. It is delayed by 276 months. The second most delayed project is the Belapur-Seawood-Urban Electrified Double Line, which is delayed by 228 months. The third most delayed project is the Kotipalli-Narasapur rail project at 216 months.

About the road transport and highways sector, the report stated that the total original cost of implementation of the 831 projects, when sanctioned, was Rs 4,92,741.89 crore but this was subsequently anticipated at Rs 5,40,815.51 crore, implying a cost overrun of 9.8 per cent.

The expenditure incurred on these projects till August 2022 was Rs 3,21,001 crore, or 59.4 per cent of the anticipated cost.

About railways, it said the total original cost of implementation of 173 projects was RDs 3,72,761.45 crore but this was subsequently anticipated at Rs 6,19,569.99 crore, implying a cost overrun of 66.2 per cent.

The expenditure incurred on these projects till August 2022 was Rs 3,43,528.75 crore, or 55.4 per cent of the anticipated cost. In the petroleum sector, the total original cost of implementation of 139 projects was Rs 3,66,013.55 crore but this was subsequently anticipated at Rs 3,86,263.94 crore, showing a cost overrun of 5.5 per cent.

The expenditure incurred on these projects till August 2022 was Rs 1,36,450.2 crore, or 35.3 per cent of the anticipated cost. https://www.financialexpress.com/infrastructure/road-transport-and-highways-sector-has-maximum-number-of-delayed-projects-at-248-govt-reportnbsp/2704828/

16. Indigenisation of 72 Items by Defence Public Sector Undertakings before their original timelines *(livemint.com)* 07 Oct 2022

Putting Atmanirbhar Bharat on fast track, 72 items out of total of 214 items mentioned in 1st and 2nd Positive Indiginisation List (PIL) have been indigenised by Defence Public Sector Undertakings (DPSUs) well before their original indigenisation timelines of December 2023, December 2024 and December 2025, the Ministry of Defence said in a statement.

The remaining 142 items are being indigenised within the timeline of December 2022, it said.

Some of the main Sub-systems/ Line Replacement Units (LRUs) indigenised include Magazine Fire Fighting System for Ships, Steering Gear System and Fin Stabilisers with Control for Frigates, Pressurised containers for Akash Missiles, KOE charge for Konkurs Missiles and Electric Motor, Decontamination set and Prism optical instrument for Battle Tanks, the ministry said.

Beside these items, some critical components include intermediate castings for Helicopter, Polychropene Rubber Band for Submarines and High Pressure Regulating Valves for Ships. Details of all the indigenised items are available on “SRIJAN Portal (srijandefence.gov.in)".

It is notable that in pursuit of self-reliance in defence manufacturing and to minimise imports by DPSUs under ‘Atmanirbhar Bharat Abhiyan’, Department of Defence Production (DDP), Ministry of Defence had notified three Positive lndigenisation Lists of LRUs/ Sub-systems/ Assemblies/ Sub assemblies/ Components in December 2021, March 2022 and August 2022 respectively with an indicative timeline for their indigenisation.

The 1st PIL contains 351 items, 2nd PIL has 107 items and 3rd PIL has 780 items for indigenisation.

Subsequently, DDP has notified the revised timeline of the 72 indigenised items (PIL-1: 67 & PIL-2: 5). Now, these items will be procured only from the Indian Industry thereby giving a boost to the domestic industry including MSMEs and will save foreign exchange, the ministry said.

This also reinforces the growing confidence of the government in the capabilities of domestic industry for supplying items of international standards to meet the demand of the Armed Forces.
https://www.livemint.com/news/india/indigenisation-of-72-items-by-defence-public-sector-undertakings-before-their-original-timelines-11665151333880.html

17. Atmanirbhar Bharat in Defence – The Way Forward *(frontierindia.com)* Lt Col Manoj K Channan | October 07, 2022

The Prime Minister of India has popularised the slogan Atmanirbhar Bharat, which translates to "self-reliant India," to describe the country's economic growth ambitions. The word encompasses the Government's ambitions for India to play a more prominent role in the global economy and to become more competitive, efficient, and resilient.

The country's former Planning Commission, in multiple five-year plans between 1947 and 2014, laid out the framework for development. India has been enacting policies and building institutions that promote self-reliance since its independence.

Private companies were more focused on fast-moving commercial goods. They are self-reliant in beverages, automotive, cooperatives, financial services and banking, pharmaceuticals and biotechnology.

Defence Sector

Until the recent past, India had been importing seventy per cent of its defence equipment, which is a significant burden on India's foreign exchange and continued dependency on foreign Original Equipment Manufacturers (OEMs).

Indian Armed Forces are the 4th most significant armed forces in the world, and the country spends a huge amount on Defence & Aerospace equipment. As a result, it is one of the largest importers of arms, with a share of 9.5% of world imports between 2014-18.

The Union Budget 2020-21 has also allocated around $47.47 Bn (excluding Defence pension) for Defence. One-third of the budget is for capital expenditure.

India is open to FDI entering the Indian Defence market. It provides for more than 50% of Defence equipment procured; it also focuses on developing Indian OEMs by encouraging collaborations like joint ventures, partnerships and offsets.

With the above objective, two Defence Industrial Corridors would have been developed in Uttar Pradesh and Tamil Nadu.

The Defence Procurement Policy and Defence Procurement Manual are revised periodically. However, the more attempts are made to simplify the procedure, the more it remains complex.

What is Atma Nirbharta or Self Reliance in Defence?

Currently, defence manufacturing in India is built to print drawings on the materials specified by the OEMs and the processes and procedures laid down. In some cases, white labelling of components and assemblies is being done to come under the Make in India provisions.

What should be addressed is the design and development capabilities, working on raw materials, and adapting and adopting new technologies to make our platforms lighter, stronger and more durable.

The platforms' manufacturing, welding and finishing need to meet the challenges of the modern-day battlefield.

To entice private sector engagement in the defence industry, the Government has gone out of its way to make the sector appealing. When applicable, the Defence Acquisition Procedure (DAP) 2020 includes Make in India and platform leasing provisions. A snapshot is given below.

A detailed study of the DAP is essential to understand the finer nuances.

The provision of the 'Make' category of capital acquisition in the Defence Procurement Procedure (DPP) is a vital pillar for realizing the vision behind the 'Make in India' initiative of the Government.

By fostering indigenous capabilities through the design & development of required defence equipment/ products/ sub-systems/ systems or upgrades/ components /parts by both public and private sector industries/organizations in a faster time frame.

Make Procedure

Make-I (Government Funded): Projects under the 'Make-I' subcategory are funded by the Government at a rate of 90%, paid in stages depending on the scheme's success and in accordance with MoD and vendor-agreed conditions.

Make-II (Industry Funded): Make-II projects entail prototype development of equipment/ system/ platform or their upgrades or their sub-systems/ sub-assembly/ assemblies/ components, particularly for import substitution/innovative solutions, for which prototype development money will not be available from the Government.

In Feb 2018, Government notified a separate, simplified procedure for the subcategory 'Make-II', which has many industry-friendly provisions.

It is well worth going into the finer points of how to make this a success. In the long run, a few rudimentary issues get glossed over, and the efforts remain a glib talk rather than an action plan.

National Security Strategy in the United States of America

The stated purpose of the Goldwater-Nichols Act is widely acknowledged as legitimate for practical political dialogue on matters impacting national security. As a starting point for future communication, Congress and the Executive need a shared knowledge of the strategic environment and the administration's objectives. However, it is accepted that given the prevailing hostile context, this report can only serve as a starting point for the discourse required to attain a "shared" understanding.

The need to create this report and budget request necessitate an iterative, interagency process that includes high-level discussions that help resolve internal differences in foreign policy goals. However, the study was not intended to be a neutral planning document, as many academics and some military personnel believe. Instead, it was designed to perform five major functions.

-Communicate to Congress the Executive's strategic vision to legitimate its funding demands.

-Communicate the strategic vision of the Executive to international audiences, particularly nations not on the US's summit agenda.

-Communicate with specific home audiences, such as political supporters wanting Presidential acknowledgement of their concerns and people hoping to see a cogent and far-reaching approach they can support.

-Create an executive branch-wide agreement on foreign and Defence policy.

-Contribute to the President's content and communication.

When the new executive team has not developed a national security plan, such as post an election in which Defence and foreign policy were not central campaign concerns, the process of preparing the report might be of critical importance:

Few things teach new political appointees more quickly about their strategic sensibilities or the qualities and competencies of the "permanent" Government they lead within executive bureaucracies than having to commit in writing to the President their plans and how they can be integrated, coordinated, and otherwise shared with other agencies and departments.

The opportunity for a new government to achieve agreement among these different perspectives on direction, objectives, and speed, as well as getting "on board" key individuals three political levels below the President, is invaluable, albeit challenging.

National Security Strategy (NSS) – India

India needs its version of Goldwater Nichols legislation. Is there a political will to pass an act of Parliament to meet our National Security Objectives?

Unlike the US and China, where NSS is a policy document promulgated to develop capability and capacity to meet future threats, in India, the political leadership has taken the path of least resistance and therefore has been relying heavily on diplomatic parleys and negotiations to tackle its belligerent Northern neighbour, China. On the other hand, Pakistan has agreed to a ceasefire across the LoC, yet terror remains an instrument to inflict damage to civilian populations and property. Hence, one of the self-assumed aims of the Indian Defence Services is to make punitive strikes in retaliation to a terror strike like Pulwama.

The Indian Air Force carried out Jabba Top strikes in the early hours of 26 February 2018; in the retaliatory strike by Pakistan Air Force on 27 February on a brigade HQ, there was no riposte by the Indian Defence Forces.

The NSA, in its charter, is to prepare an NSS paper and get it approved by the Government for its implementation. However, NSS is not published; it appears the core competency in military affairs is lacking, and therefore, it is on the back burner.

In the meanwhile, in the absence of an NSS paper, India is preparing for the last war.

Subsequent to the 1971 war, when a tri-service discussion analyzed the war, Gen Sam remarked, “you can win as many battles as you like at sea, or in the air, or even lose them, but eventually it is the Army that will prove to be decisive”.

Great maritime thinkers like Admiral Alfred Thayer Mahan emphasized that any great land victory would never be lasting or decisive unless the sea played a part in the conflict. In this case, victory at sea was an essential precondition.

Without Air Superiority, it will be a disaster for the ground forces.

The lack of the above is visible in the Russian war in Ukraine. There is a lack of cohesion of forces, and the Ukrainian Army has destroyed Russian assets on land, air and sea.

Progressive Steps

In the past several years, the Army HQ set up an Army Design Bureau, which interacted with the academia, industry and industry forums, start-ups and DRDO to find solutions to the problem statements of the Indian Defence Services. This effort “kickstarted” the indigenous technology design and development and, ably supported by the defence services, has now caught momentum.

DRDO reinvented processes and engaged with young technocrats of the IITs, now making a mark in the start-up space.

Taking a cue from the US Army, Secretary of US Army Christine Wormuth speaking at the Maneuver Warfighter Conference at Fort Benning, GA; described a fighting force that must be more lethal, mobile and protected to succeed in a fight against near-peer threats like China or Russia. She focused on the following issues that the US army / any army would have to contemplate to fight and win future battles. The six areas the Army must be prepared for in 2030: –

-The capacity to constantly “see” the battlefield.
-Coordination at more incredible speed.
-Win the fires fight.
-Hiding on the battlefield.
-Talk often and quickly.
-Professionals talk logistics.

Some of the projects that need to be undertaken on PRIORITY are: –

-Simulation systems at the Strategic and Tactical levels.
-Tri-services Cloud.
-Drone systems with a focus on drone-based AWACS for the future.
-Anti-drone systems.
-Cyber security related Make in India projects.
-Unmanned Maritime Vehicles
-Unmanned Land Systems to include tanks, infantry combat vehicles and Artillery (Self Propelled).

While technology is essential to win wars, it should not be forgotten that boots on the ground as cohesive combat groups need to train hard to fight and win future battles.

Galwan happened, and many more Galwan-like situations will occur where brawn and brains need to be well-matched. https://frontierindia.com/atmanirbhar-bharat-in-defence-the-way-forward/

18. Railways key for logistics policy success *(financialexpress.com)* October 08, 2022

Emphasising the imperative of effective implementation of the new logistics policy, PM Narendra Modi said, "When parameters, roadmap and timeline for performance come together, then 'policy plus performance equal to progress' emerges".

The success and real impact of the NLP is predicated on the government effectively developing and coordinating the programmes and plans germane to the policy with the concerned central government departments and agencies coordinating with the states. The states' role is indeed a crucial one. The Logistics Division envisages an independent agency to be tasked with annual performance assessment of states through the Logistics Ease Across Different States index, along with hand-holding of states/UTs in the development of their logistics ecosystems and providing a roadmap for improving logistics efficiency. The division has also proposed a Committee to be set up with representatives from leading research institutions and key line ministries.

The burden of making the policy deliver devolves on multiple stakeholders, particularly the Logistics Division. There should be no oversight overload, no hint at straitjacketing initiatives and schemes of individual departments. Let prudent participants in respective ministries, departments and agencies assume ownership of their sectoral obligations, and animal spirits of industry players flourish to win the game.

Logistics has shifted from being a cost centre to being a centre creating value. The weight of goods to the value of goods changes (i.e., the weight/value ratio tends to drop, away from bulk goods). With the decline in air transport costs, the price of speed has fallen dramatically. Goods with the highest time-sensitivity have seen the fastest increase in trade. Falling communication costs have resulted in greater fragmentation of services into "components," supplied from across the world for assembly and sale to final consumers.

Today, an integrated logistics service involves convergence of traditional transport infrastructure with the world of IT. To achieve an optimal modal mix, it is advocated that share of liquid bulk cargo transported via pipeline be raised from 55% to 80%, the mode-share of coastal shipping and inland waterway transport from 8% to 15%, and, importantly, rail's mode-share of freight transport be increased to 50%.

Carrying more than 95% of country's total freight, railways and roads dominate India's transport landscape. Within these two modes, less than 3% of road length of national highways and expressways carries over 40% of all road traffic; 1/6th of the rail network carries over 2/3rd of all rail traffic. The sub-optimal rail-road mix in freight movement is a major concern. Contrary to the avowed aim of policymakers to substantially enhance the railways' share in nation's transport market, the latter has, instead, steadily been declining. The railways' share (by tonne-km) fell from 86% in 1950-51 to 62% in 1980-81, 39% in 2000-2001, to estimated

25-27% currently. It has had a steeper fall in passenger business, from over 74% (in terms of passenger-km) in 1950-51 to 18% in 2000-2001, which by now is shrunk to less than 10%.

Railways out-prices itself in freight business by cross-subsidising passenger travel, while its antediluvian systems like exchange yards to serve large industrial projects and inflated capital and operational costs for private sidings unduly increase overall costs for rail freight customers. Railways has been losing most of the low-density, high-value cargo. The huge potential for containerisation of domestic cargo offers opportunities for an exponential growth in the sector, simultaneously with a challenge for the railways to put in place the requisite line-haul capacity, terminal facilities, appropriate tariff structure, and facilitating environment for intermodal development.

At the heart of the railways' freight strategy is the creation of high-volume, high-speed freight corridors, calibrating the services to create critical mass of wagons/containers carrying piecemeal general goods in train loads, in partnership with other players. To meet customer expectations, the rail freight service would need to offer short, fast, reliable and flexible trains, working in a hub-and-spoke networks. A standardised pallet, like airline ULDs, will help handle piecemeal general cargo by road or rail.

For an institutional framework to evolve conducive to an optimal growth of transport sector, some of the recommendations made by the National Transport Policy Development Committee are indeed relevant, such as (a) A unitary transport ministry for a coordinated development of rail, road, shipping and aviation sectors; (b) effective regulatory mechanism to safeguard stakeholders' interests—including of investors, operators, and consumers. Road transport, being designated a 'concurrent' subject in the Constitution and there being no provision of 'intermodal/multimodal transport' in the list, appropriate legislation may be necessary to cover all aspect of logistics, as also taxation parity between various modes. https://www.financialexpress.com/opinion/railways-key-for-logistics-policy-success/2703916/

19. India needs early warning system for landslides, but challenges abound *(business-standard.com)* October 10, 2022

On September 24, a major landslide hit a water pump at Chaba in the Shimla district of Himachal Pradesh and reportedly damaged a pipeline worth Rs 5 crore that supplied water to the district. Earlier in June, relentless rains led to deadly landslides in Manipur's Noney district, killing more than 53 people and leading to multiple casualties in the form of damage to property and displacement.

Landslides are an annual occurrence during monsoons, but developmental activities and the climate crisis have been increasing the risk of these disasters. In 2022, 10 states reported 182 landslide-related fatalities across multiple districts in the monsoon, according to data available with the Ministry of Home Affairs' National Emergency Response Centre until September 2022.

"Landslides are very common during heavy rainfall or cloudbursts," said Sridhar Balasubramanian, faculty at the Interdisciplinary Programme on Climate Studies Centre at the Indian Institute of Technology, Bombay. "A robust and reliable early warning system would definitely help in planning, management and saving lives."

While initiatives have been taken to develop landslide susceptibility maps over the last decade, experts note that these maps lack the ability to precisely identify when and where landslides will occur.

Scientists at the Geological Survey of India (GSI), a scientific agency established under the Ministry of Mines to conduct geological surveys and studies of India, in collaboration with the British Geological Survey, have been evaluating a prototype to predict landslides in the Darjeeling district of West Bengal and the Nilgiris in Tamil Nadu. If the model proves successful, it is likely to be deployed in some parts of India as early as 2025.

But even as the work progresses, scientists and experts we spoke to pointed to multiple technical challenges that can get in the way of a reliable prediction of landslides. "Early warning systems for landslides are very different from early warning systems for cyclones or floods," said a senior National Disaster Management Authority official, on the condition of anonymity. "You cannot have an early warning system for landslides without active monitoring. So I am not sure if we can ever develop an early warning system for landslides, the way we can for floods, droughts and cyclones."

Referring to the GSI's prototype project, he said "We cannot attest to the reliability of such a system. There would certainly be differences in predictions."

We reached out to the GSI on August 26, 2022 to learn more about their development of a landslide warning system. The GSI is yet to respond. We will update the story when we receive a response.

The landslide problem

Landslides are among the major hydro-geological hazards that affect large parts of India, particularly in the Himalayas, the Northeastern hill ranges, the Western Ghats, the Nilgiris, the Eastern Ghats and the Vindhyas. About 12.6% of India's total land area, excluding snow-covered areas, is susceptible to landslide hazards, according to GSI.

Between 2015 and 2022, over 3,782 landslides have occured in different states and Union Territories, the Ministry of Earth Sciences reported during the monsoon session of Parliament. The highest number–2,239 landslides–were reported in Kerala, followed by West Bengal with 376 landslides.

Landslides are largely reported to have been triggered by natural causes such as earthquakes or heavy rainfall. But human activity such as construction of roads, buildings and railways, mining and quarrying, and hydropower projects also damage hilly slopes and impact natural drainage by removing soil and vegetation, loosening soil and gravel, and making the hills more susceptible to landslides, IndiaSpend reported in October 2020.

Further, severe, unpredictable weather events such as heavy, intense rainfall due to the climate crisis add another layer of complexity to landslide incidents in the country. The Ministry of Earth Sciences informed Parliament in July 2022 that unprecedented high rainfall is one of the major triggers of landslides in India. Infact, weather-related events were responsible for 95% of all disaster displacement in Asia between 2010-2021, according to a study published on September 19, 2022 by the Internal Displacement Monitoring Centre (IDMC) and the Asian

Development Bank (ADB). The study also revealed that between this period, as many as 152,000 people were displaced by weather-related landslides in South Asia.

Existing landslide maps fall short on accuracy

In 2013, the Himalayan state of Uttarakhand faced one of its "worst disasters", when glacier melting and cloudbursts destabilised land at an elevation of 5,600 metres, inflicting heavy damage and killing nearly three dozen people. While the disaster essentially occured due to natural causes, it was enhanced manifold by anthropogenic activities such as hydropower projects, per a 2013 National Institute of Disaster Management report.

Five years before the Uttarakhand disaster, the NDMA had put together a set of Guidelines on Management of Landslides and Snow Avalanches. These included, among other things, building a database of landslide-prone areas through zonation mapping and geological and geotechnical investigation of vulnerable slopes and existing landslides.

"When infrastructure development takes place on slopes, the area by default becomes more prone to landslides," said a senior NDMA official. "So the authorities responsible for the infrastructure need to conduct their own risk assessment on these slopes and convey it."

"Even though the guidelines were issued in 2009, progress by way of their implementation was limited in landslide-affected states/UTs," the NDMA admitted in its own 2021 report.

After the 2013 disaster, GSI launched the National Landslide Susceptibility Mapping (NLSM) project. Under it, GSI prepared a landslide susceptibility map of 85% of the total target area (363,000 sq km out of 420,000 sq km) in different landslide-prone states and Union Territories. For this, GSI also collected historical data covering 86,459 landslides.

"Earlier we had 1:50,000 resolution maps, now we have susceptibility maps at 1:10,000 scale," said the NDMA official. "But we will have to continue to improve resolution, by say 1:5000 scale, to make it more accurate and granular."

States have also been independently working to develop their own susceptibility maps. For instance, Mizoram's capital city Aizawl has taken a lead over other hill towns and developed a landslide action plan using 1:18,000 scale susceptibility maps, besides enacting regulations to guide construction activities. Kerala has also prepared an action plan giving high priority to landslide hazard zonation maps in hilly areas at the municipality and panchayat levels.

But experts pointed out that the susceptibility maps are based on a probability model, which is a mathematical representation of the probabilities associated with the event happening in an area. "Landslides are very specific to a region," noted Balasubramanian of the Indian Institute of Technology, Bombay. "Our main challenge is forecasting on a local/hyperlocal scale. A district-wide or division forecast is of no use."

Udit Bhatia, an assistant professor of civil engineering at IIT Gandhinagar, who worked on rainfall-induced disruptions along the Periyar river basin, noted, as an example, that the "Periyar river basin is part urban, part of it is covered in forest and part of it is covered in a significant mountain region. So an incident of a landslide is very specific in space and time."

Unreliable monsoon: Major challenge in predicting landslides

Early warning systems have been recognized as an effective tool to reduce vulnerabilities and improve preparedness and response to hazards, according to the United Nations Development Programme. The Sendai Framework for Disaster Risk Reduction (2015–2030), an international document adopted by United Nations (UN) member states in 2015, requires countries to set out an early warning system with a multi-hazard approach by 2030.

"Rainfall has been one of the major trigger events for landslides in India. The early warning system for landslides would only be as good as rainfall forecasting," noted Balsubramanian. Knowing rainfall patterns is critical to understand which areas should be prepared for these (landslides, flooding, etc) kinds of impacts, added Bhatia.

Monsoon in the Indian subcontinent usually starts between late-May and early-June, but in the last couple of years it has become more erratic because of climate change, IndiaSpend reported in October 2022. Over the years, such uncertainties in the monsoon will only increase.

"Forecasting monsoon for the short term and long term is a complex phenomenon and there is no magic wand that will give you a perfect answer, every time," said Bhatia.

Until 2021, the India Meteorological Department (IMD), an agency under the Ministry of Earth Sciences, and responsible for weather forecasting, used a long-range forecast method which predicted the quantum of total rainfall from June to September in two stages–first, in the third week of April, and then in the second week of June. But much of this forecast was based on a statistical model that would rely on historical monsoon data coupled with atmospheric patterns, like El Nino or La Nina. However, an India Today study found that monsoon predictions using this model have gone wrong for many years.

In 2021, IMD updated its model to improve monsoon forecasting based on the Multi-Model Ensemble (MME) forecasting system. Based on sea surface temperature over the Pacific and Indian oceans, the model forecasts for the country as a whole, and for four homogeneous regions.

"Year after year, our understanding of monsoons is improving as we develop more data and more models," said Bhatia. "The model (MME model) developed by the Indian Institute of Tropical Meteorology, Pune and a European University specifically focuses on improving our forecasts for Indian monsoons at different temporal resolutions. So things are improving."

We reached out to the IMD for their response on monsoon forecasting in India on September 20. We will update the story when we receive their response.

Pilot projects, but no scale-up

Independently, different academic institutions have been developing their own pilot models. In 2018, Coimbatore-based Amrita Vishwa Vidyapeetham set up real-time landslide monitoring and early warning systems in Munnar (Kerala) and Sikkim. The multiple sensor-based system analyses rainfall infiltration, pore water pressure (pressure of groundwater held within soil), vibrations, movements, and slope instability.

"Developing a pilot project means we start with some theory which we think would work, and generalise for different regions," said Bhatia. "If they are successful, they give us some confidence to be able to apply it to diverse geographies.

"When we have multiple pilot projects doing that validation, one for the Western

Ghats, one for Himalayas, etc, then we have an envelope of models which we call "mixture of experts". So rather than relying on one single model, we get a mixture of experts that do the job they are best at doing."

In another such project, the Indian Institute of Technology (IIT), Mandi, has also installed surface-level motion-sensor-based early warning systems for landslides at 10 locations in Mandi district of Himachal Pradesh. The device collects weather parameters, soil moisture, soil movement and rainfall intensity. When the device detects a significant displacement of earth which could result in a landslide, it alerts the officials. In 2018, the sensors successfully alerted officials about an impending landslide on the Mandi-Joginder Nagar highway. This helped the police turn away vehicles from the road before it was washed away.

In 2018, the first set of landslide monitoring systems was deployed in the field on a trial basis by the district administration, Mandi, said Varun Dutt and K.V. Uday, associate professors at IIT Mandi, who leads the project. However, due to lack of awareness on the site, the systems installed faced the issues of vandalism and theft. This became a set-back on scaling the systems to higher quantities, which was solved in further years in consultation with relevant departments, and by spreading awareness.

In 2022, IIT Mandi boosted up the system to a few more districts in Himachal Pradesh. "While we are looking forward to installing more systems in the days to come, lack of awareness, funding limitations and the tedious purchase process have been some of the limitations for the scaling up of the technology," noted Dutt.

As seen above, various institutions–both government and private–are working towards developing viable early warning systems to mitigate the devastation caused by annual landslides across the country. Equally, however, it is clear that thus far, such projects are few, far between and not yet up to scale–all of which adds up to the possibility of more destruction from disasters in the immediate future.

IndiaSpend has reached out to all concerned agencies asking about their progress in forecasting landslides and developing early warning systems. We will update the story as and when we receive responses. https://www.business-standard.com/article/economy-policy/india-needs-early-warning-system-for-landslides-but-challenges-abound-122101000215_1.html