

## ● POLITY

## ● ECONOMICS

## ● TECHNOLOGY

## ● ECOLOGY

## POLITY AND GOVERNANCE

## BJP SWEEPS HINDI BELT, CONG. BAGS TELANGANA

**CONTEXT:** BJP consolidated its position in the Hindi heartland trouncing the Congress in Madhya Pradesh, Rajasthan, and Chhattisgarh, while the Congress unseated the Bharat Rashtra Samithi (BRS) in Telangana. The BJP finished third in Telangana. With these results, the BJP now has 12 Chief Ministers and the Congress three. BJP had lost all the three northern States in 2018, but toppled the Congress government in Madhya Pradesh, to return to power in 2020.



## GEOGRAPHY

## A.P. BRACES FOR HEAVY RAINFALL AS MICHAUNG INTENSIFIES

**CONTEXT:** Cyclone Michaung has intensified as a severe cyclonic storm, with maximum sustained wind speeds of 90 kmph to 100 kmph, gusting to 110 kmph across the southwest Bay of Bengal and is likely to make landfall on the Andhra Pradesh coast between Nellore and Machilipatnam on Tuesday morning.



Extremely heavy rainfall is also expected in parts of coastal A.P., Yanam, and Rayalaseema, and a storm surge of more than a metre above the tide is likely to inundate the State's southern coastal districts at the time of landfall. A red alert has been issued in parts of Tamil Nadu's Chennai, Tiruvallur, Kancheepuram, and Chengalpattu districts, expected to be lashed by a heavy downpour over the next two days.

### PM takes stock

Prime Minister Narendra Modi spoke to A.P. Chief Minister Jagan Mohan Reddy on Sunday to take stock of rescue and relief preparations, and assured him of the Union government's support. Both affected States have deployed disaster response teams and set up relief camps, evacuating hundreds from low-lying areas. Fishermen have been warned to stay away from the sea, and preparations are being made to protect the paddy harvest. Trains have been cancelled in the region, and schools will be shut on Monday in affected districts. The coastal districts of Nellore, Tirupati, Prakasam, Bapatla, Guntur, Krishna, and West Godavari are likely to face damages due to inundation from an expected storm surge of about one to 1.15 metres above the astronomical tide on Tuesday.

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**Stalin holds review**

T.N. Chief Minister M.K. Stalin visited the Emergency Operations Centre in Chennai on Sunday to review precautionary measures. "A total of 685 individuals have been evacuated to 11 relief camps in Chengalpattu, Chennai, Kancheepuram, and Tiruvallur districts," he said.

Over 500 personnel from the State and National Disaster Response Forces have been rushed to Chengalpattu, Chennai, Cuddalore, Kancheepuram, Mayiladuthurai, Nagapattinam, Tiruvallur, Villupuram districts.

**ECOLOGY AND ENVIRONMENT**

**INDIA WILL NOT BE BOUND BY CURBS ON ENERGY USE, SAYS SENIOR OFFICIAL**

**CONTEXT:** Union Ministry of Environment and Forests Secretary Leena Nandan noted the India will not be bound by "restrictions" on what kind of energy sources it can or cannot use, while being committed to expanding renewable energy.

On Saturday, at COP-28, India was conspicuously absent from a list of 118 countries signed on to a pledge to triple installed renewable energy capacity by 2030. India has also not signed on "Declaration on Climate and Health", another major pledge signed by 123 countries on Sunday. The declaration encourages governments to protect communities and prepare healthcare systems to cope with climate-related health impacts such as extreme heat, air pollution and infectious diseases. Both of these texts, though still drafts and far from having legal sanctity, link climate and health goals to restricting fossil fuel emissions. The elision was odd as India was a proponent of tripling energy capacity, beginning with a mention in the G-20 declaration text this September.

**No major pledge**

The draft of the Global Renewables and Energy Efficiency Pledge as of today, says: "...renewables deployment must be accompanied in this decade by a rapid increase of energy efficiency improvements and the phase down of unabated coal power, in particular ending the continued investment in unabated new coal-fired power plants - coal plants without technology that stores and captures carbon."

**Negligible contribution**

The call for shutting down coal power run contrary to India's long-standing position that it needs to rely on its largest source of energy, coal power, to rapidly improve living standards for the mass of its population. India has also reiterated its right to use coal on the grounds that its historical contribution to the carbon crisis has been negligible, as below-global-average per-capita emissions of 4 %.

Though it is still early days in COP-28 negotiations, which is expected to last at least until December 12 this year, India would be "constructive" but not at the cost of denying energy access to those at the margins of development.

According to India's latest communications to the United Nations, its greenhouse gas emissions increased 4 % from 2016-2019 to 2.6 billion tonnes of CO2. The energy sector contributed the most to the overall anthropogenic emissions (75.81 %), followed by the agriculture sector (13.44 %), Industrial Process and Product Use (IPPU) sector (8.41 %), and Waste (2.34 %).

**INTERNATIONAL RELATIONS**

**'135 CHINESE BOATS SPOTTED NEAR REEF OFF PHILIPPINES'**

**CONTEXT:** The Philippines said on Sunday more than 135 Chinese vessels were "swarming" a reef off its coast, describing the boats' growing presence as "alarming".

**Disputed claims in the South China Sea**

**Claims**  
 China  
 Philippines  
 Malaysia  
 Brunei  
 Vietnam

**Area:** South China Sea covers more than 3 million sq km

**Trade:** Over \$5 trillion in ship-borne trade passes through the sea annually

**Oil and gas:** Major unexploited oil and gas deposits are believed to lie under the seabed



The Chinese boats were "dispersed and scattered" within the boomerang-shaped Whitsun Reef, which the Philippines calls Julian Felipe Reef, around 320 km west of Palawan Island. Whitsun Reef is more than 1,000 km from the nearest major Chinese landmass of Hainan island.

Beijing claims most of the South China Sea, including waters and islands close to the shores of its neighbours, and has ignored an international tribunal decision that its assertion has no legal basis.

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## INTERNATIONAL RELATIONS

## INDIA AGREED TO WITHDRAW TROOPS FROM MALE, SAYS MUIZZU AFTER MEETING MODI

**CONTEXT:** India has agreed to the request by the new Maldives government to withdraw about 75 Indian military personnel stationed on the islands to work on humanitarian operations, Maldives President Mohammad Muizzu claimed on Sunday. The statement comes two days after he met Prime Minister Narendra Modi on the side-lines of the COP-28 Climate Summit in Dubai.

The Maldives is a small island nation located in the Indian Ocean, south of India. It is an archipelago of 1,192 islands, of which 200 are inhabited. The Maldives is strategically located in the Indian Ocean, near major shipping lanes and close to India and Sri Lanka. This has made it an important location for trade and commerce for centuries. The Maldives was also a key stop on the ancient Silk Road, a network of trade routes that connected Asia with Europe.

Mr. Muizzu led an "India Out" election campaign for the post of Presidency of Maldives. The Indian personnel issue has been a contentious one since Mr. Muizzu won presidential elections in October, ousting former President Ibu Solih who was seen as more India-Friendly.

## SCIENCE AND TECHNOLOGY

## THE TRANSFORMATIVE BENEFITS OF POPULATION-LEVEL GENOME SEQUENCING

**CONTEXT:** In the last decade, genomics has undergone a revolutionary shift with the advent of technologies that have significantly improved throughput and reduced the cost of whole-genome sequencing, giving rise to population-scale genome-sequencing programmes – where scientists decipher the complete genetic makeup of large populations. UK announced the completion of half a million whole-genome sequences, almost 0.7 % of its population.



### The deCODE initiative

Iceland initiated deCODE genomics in 1996 as an early effort to use large-scale population genetic studies. Most of the Icelandic population enrolling for genetic studies in around a decade's time. The deCODE initiative, along with the democratisation of sequencing technologies, provided the initial impetus for programmes that wished to use population-scale genomic data for precision medicine and public health.

#### deCODE effort

1. Considerably improved our understanding of the genetics of diseases and the utility of such data in risk assessment.
2. Contributed significantly to the methods, infrastructure, and standards with which researchers handle large-scale genomic data and set up discussions on their bioethics.
3. Laid the groundwork to integrate medical records and people's genealogies, resulting in new drugs and therapeutics.

deCODE's success plus the wider availability of sequencing technologies gave rise to a number of population-scale genome initiatives around the world, including many pilot programmes initiated in the last decade. At first, several projects worked with hundreds to thousands of genomes, but in the last half a decade, such endeavours have leapfrogged to lakhs of genomes.

#### Merit of population-scale efforts

The UK's '100K Genome' project, the first of such kind aimed to bring genomics into routine healthcare. At present, more than a dozen countries today have genome programmes of a lakh genomes or more. A recent initiative by the pharmaceutical companies Regeneron Genetics Center, AstraZeneca, Novo Nordisk, and Roche, along with the Meharry Medical College, Tennessee, has even planned to sequence more than five lakh individuals of African ancestry through the Diversity Human Genome Initiative.

Many large-scale genome programs are currently underway, including the All of US programme in the U.S., which will collect genetic information of a million people with funding from the National Institutes of Health. The European Union recently launched the '1+ Million Genomes' initiative. A 'Three Million African Genomes' is also currently in the works, as is the Emirati genome programme's scheme to sequence more than a million samples (more than 400,000 have already been completed).

Population-scale genome efforts have significantly diverse objectives. Genome sequencing of a unique population composition help understand disease prevalence and biomarkers for diseases, and use that to inform the discovery of novel therapeutic targets. Genomic data is used in decision-making and medical care to build scalable public-health initiatives. For example, 18.5 % of the UK's 100K initiative was actionable, translating to direct healthcare benefits to participants.

## Genomes from India

The GenomeAsia project, led by multiple partners across the continent, plans to sequence a lakh whole genome from diverse populations. An initial pilot data set with whole genomes of 1,739 individuals belonging to 219 population groups in 64 countries was published in Nature in 2019.

A pilot programme for population genomes in India named IndiGen provided an early view of more than a thousand genomes of individuals from cosmopolitan areas in India. It also yielded some clues to the landscape of many treatable genetic diseases and variants of clinical significance, including the efficacy and toxicity of drugs and the prevalence of rare disorders. A larger programme to sequence 10,000 whole genomes from diverse population groups is in the works under the GenomeIndia initiative.

## SOCIAL JUSTICE

# INDIA, DISABILITY INCLUSION AND THE POWER OF 'BY'

**CONTEXT:** Globally, 1.3 billion people, which is equivalent to nearly the entire population of India live with some form of disability. Of them, 80 % live in developing countries; further, 70 % of them live in rural areas.



Current systems are designed for persons without disabilities and end up being exclusionary to people with disabilities, resulting in them experiencing higher instances of poverty, lack of access to education and opportunities, informality and other forms of social and economic discrimination.

### A case for inclusion

A study by the International Labour Organization (ILO) "The price of exclusion: The economic consequences of excluding people with disabilities from the world of work" noted that the inclusion of persons with disabilities into the economy can help boost global GDP between 3 % to 7 %.

The current employment scenario is limited, providing fewer jobs for persons with disabilities and perpetuating

stereotypes that create further barriers for people with disabilities to access the labour market. It is also in direct contravention of the United Nations Convention on the Rights of Persons with Disabilities, which advocates changing attitudes and perceptions towards persons with disabilities and viewing inclusion from a social development dimension. Disability inclusion is rooted in assuring the rights of persons with disabilities and recognising the economic benefits of inclusion.

### Greater challenges in rural areas

In India, the Central and State governments have various schemes for persons with disabilities and a Unique ID for Persons With Disabilities (UDID) card, established as part of the Rights of Persons with Disabilities Act (2016). Persons with disabilities (PwDs) in rural areas face a multitude of challenges that hinder their full participation in society and limit their access to basic resources and opportunities. These challenges stem from a combination of factors, including physical, social, economic, and attitudinal barriers.

The first step is awareness to ensure Last-Mile Connectivity of the benefits enumerated for people with disabilities by the government, which begins with the capacity-building of community leaders who can advocate for this at the grass-roots level.

### PHYSICAL ACCESSIBILITY:

- Limited or no access to transportation: Public transportation in rural areas is often scarce or inaccessible to PwDs, making it difficult for them to travel to essential services, such as healthcare, education, and employment.
- Inaccessible infrastructure: Rural roads, buildings, and public spaces are often not designed with accessibility in mind, creating physical barriers to movement and participation.

### SOCIAL INCLUSION AND STIGMA:

- Negative attitudes and discrimination: PwDs in rural areas often face stigma, prejudice, and discrimination, which can lead to social isolation, exclusion from community activities, and limited opportunities for personal and professional advancement.
- Lack of awareness and understanding: Misconceptions and a lack of understanding about disability can perpetuate negative attitudes and hinder efforts to include PwDs in community life.

### ECONOMIC OPPORTUNITIES AND LIVELIHOOD:

- Limited employment opportunities: Rural areas often have fewer job options, making it challenging for PwDs to find suitable employment. They may also face discrimination in the workplace.
- Barriers to education and training: Access to quality education and vocational training is often limited in rural areas, restricting PwDs' ability to acquire skills and knowledge that could enhance their employment prospects.

### ACCESS TO ESSENTIAL SERVICES:

- Healthcare: Healthcare services, particularly specialized care for specific disabilities, are often scarce or

inaccessible in rural areas, posing significant challenges to PWDs in managing their health and well-being.

- Education: Rural schools may lack the resources and facilities to accommodate PWDs, limiting their access to education and hindering their progress.
- Assistive technology: Assistive technology, such as wheelchairs, prosthetics, and communication devices, is often difficult to obtain or maintain in rural areas due to limited availability and affordability.

Addressing these challenges requires a comprehensive approach that involves policy changes, infrastructure improvements, community awareness campaigns, and targeted interventions to empower PWDs and promote their inclusion in rural society.

The private sector holds a key in promoting the employment of persons with disabilities. In addition to a robust legal framework, experience shows the importance of engaging the private sector and building the confidence of companies to hire and retain workers with disabilities. Additionally, engagement of employers' federations, including those representing small and medium-sized enterprises, as

well as with trade unions, has shown to have great potential to promote the employment of persons with disabilities.

### The SPARK project

The ILO and the International Fund for Agricultural Development (IFAD), in collaboration with the Women's Development Corporation in Maharashtra, are implementing the Sparking Disability Inclusive Rural Transformation (SPARK) project. Through this project, persons with disabilities were put in the lead, being identified from the villages, and trained as Disability Inclusion Facilitators (DIFs). The DIFs engage with the community, persons with disabilities, caregivers of persons with disabilities, women from self-help groups and other stakeholders to raise awareness about disability inclusion and barriers to inclusion. The DIFs identify women with disabilities and mainstream them in existing self-help groups for social and economic development, where these women have been able to access funds to start an enterprise. The SPARK project has been able to bring an attitudinal shift towards persons with disabilities, right from the societal to administrative levels.

## POLITY AND GOVERNANCE

# ON RE-CRIMINALISING ADULTERY

A five-judge Constitution Bench of the Supreme Court unanimously decriminalised adultery in 2018 on several grounds including discrimination. The Parliamentary Standing Committee on Home Affairs recommended the criminalisation of adultery on gender-neutral lines to safeguard the sanctity of the institution of marriage. Congress MP and former Home Minister P. Chidambaram emphasised that interference by the State in the private lives of consenting adults must be avoided.

### What is its legislative history?

Lord Macaulay, instrumental in the early drafting process of the IPC, was inclined towards pecuniary compensation. The Court Commissioners made adultery an offence while reviewing the Penal Code. The proposed section rendered only the male offender liable, keeping in mind "the condition of the women in this country" and the law's duty to protect it.

In 1971, the Law Commission of India in its 42nd Report deliberated on the benefits of criminalising adulterous conduct. The Commission did, however, recommend an important amendment — removal of the exemption from liability for women. The Law Commission of India reiterated the demand in its 156th Report. In 2003, the Committee on Reforms of the Criminal Justice System, known as the Malimath Committee, proposed in its report that adultery be retained an offence but on gender-neutral terms observing it as a means to preserve the sanctity of marriage.

### Why was the earlier law repealed?

A five-judge Constitution Bench of the Supreme Court in *Joseph Shine versus Union of India* (2018), held that adultery is not a crime and struck it off the IPC. It, however, clarified that

adultery would continue to remain a civil wrong and a valid ground for divorce. Section 198(2) of the CrPC empowered only the husband (of the adulterous wife) to file a complaint for the offence of adultery. In July 2018, the Centre filed an affidavit in the case arguing that diluting adultery in any form would weaken the institution of marriage and that the 'stability of a marriage is not an ideal to be scorned'.

### Can such a ruling be overturned?

The Parliament of India is well within its scope to overrule judicial rulings, but such legislative action will be considered valid only if the legal basis of the judgment is altered. The Supreme Court in *Madras Bar Association versus Union of India* (2021) held that "the test for determining the validity of validating legislation is that the judgment pointing out the defect would have been cured such that the basis of the judgment pointing out the defect is removed.

In September, 2023, a division bench of the Supreme Court in *NHPC Ltd. versus State of Himachal Pradesh* Secretary reiterated that the legislature is permitted to remove a defect in an earlier legislation, as pointed out by a constitutional court, and that laws to this effect can be passed both prospectively and retrospectively.

*Joseph Shine versus Union of India* (2018): Joseph Shine, a non-resident Indian, hailing from Kerala, filed a Public Interest Litigation (PIL) under Article 32 of the Constitution, challenging the constitutional validity of the offence of adultery under Section 497 of the IPC read with Section 198(2) of the CrPC. The offence-imposed culpability on a man who engaged in sexual intercourse with another man's wife and was punishable with a maximum imprisonment of five years. The wife who had consented to sexual intercourse with a man, who was not her husband, was exempted from prosecution. The provision was also not applicable to a married man if he engaged in sexual intercourse with an unmarried woman or a widow.



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