DAILY CURRENT AFFAIRS

29th AUGUST, 2024

TATHASTUICS

S.NO.	TOPIC
1.	INDIA IS GETTING COMPLACENT IN ITS FIGHT AGAINST POLIO: DATA (GS-III MAINS)
2.	AI WILL REVOLUTIONISE FINANCIAL SERVICES (GS III + ESSAY) EXAMPLE
3.	CHINESE STEEL STILL DOMINATES INDIAN MARKET (GS III MAINS)
4.	INDIA SIGNS REPEAT ORDER FOR 73,000 SIG 716 RIFLES; DELIVERIES BY 2025 END (GS III)
5.	FURTHER TRANSMISSION OF CHANDIPURA VIRUS POSSIBLE IN COMING WEEKS, WARNS WHO (GS III PRELIMS)
6.	WANTED: A STRATEGY TO TURN CLIMATE RESEARCH INTO DISASTER MANAGEMENT (GS III)

INDIA IS GETTING COMPLACENT IN ITS FIGHT AGAINST POLIO: DATA

Complacent: very pleased with themselves or feels that they do not need to do anything

NFHS ← conducted by Ministry of Health and Family welfare with International Institute for Population Sciences. (Mumbai)

NEWS

India is getting complacent in its fight against polio: data

Coverage levels are poorest in the north-east, where the latest case of vaccine-derived polio was detected

DATA POINT

Vignesh Radhakrishnan
R. Ananda Mirlata Fernandez

Data from the National Family Health Surveys show that the pace of administration of the polio vaccine has slowed down in India. Coverage of the last dose remains relatively poor. Coverage levels are poorest in the north-east, where the latest case of vaccine-derived polio was detected in a two-year-old child in Thirfulla village in the West Garo Hills of Meghalaya. Notably, coverage was lowest among the poorest households where the education levels of the female head of the household were not advanced.

While the last case of wild polio virus in India was recorded in 2011, rare cases of vaccine derived polioviruses continue to be reported. Though the government has claimed that the latest case is vaccine derived, it is unclear whether it is a case of VDPV (immunodeficiency related vaccine-derived poliovirus), affecting just that one child, or circulating vaccine-derived poliovirus (cVDPV), which can impact the entire community.

The World Health Organisation has said, "The problem is not with the vaccine itself, but with low vaccination coverage. If a population is fully immunised, they will be protected against both vaccine-derived and wild polioviruses. Oral polio vaccine (OPV) is given in routine immunisation and supplementary immunisation activities are jointly conducted.

Chart 1 shows the share of children (12-23 months) who received various doses of specific vaccines by the appropriate age in 2019-21. Coverage of the last dose of the polio vaccine was lowest among the four select vaccine types — polio, DPT (Diphtheria-Tetanus-Pertussis), Hepatitis B, and Pentavalent (protects against five diseases) — administered in India. A fair coverage of the first three doses of the polio vaccine was comparable to others, coverage of the last dose lagged behind the rest.

The last two doses here the case. Coverage of the last dose of the polio vaccine was much higher than coverage of the last dose of the DPT vaccine in DLHS, 1998-99, and 2005-06, and higher than that of the Hepatitis B vaccine in 2019-21. However, in 2019-21, coverage of the last doses of the DPT and Hepatitis B vaccines surpassed that of the polio vaccine. This hints at the possibility that India has become complacent in its fight against polio, possibly after it was declared polio-free (in 2014).

Chart 2 shows the share of India's children (12-23 months) who received the last dose of specific vaccines by the appropriate age across years.

Table 3 shows the share of children (12-23 months) who received the last dose of the polio vaccine in 2019-21. Across select background characteristics. Chart 3 in its notable variation in coverage based on gender, residence, and caste. However, the education level of the mother of a child (age 12-23 months) appears to have a significant impact on the vaccination coverage. The wealth of a household also appears to have a significant impact on the vaccination coverage. There was no difference in coverage between the first and last quintile. Wealth is measured by the household's ownership of assets.

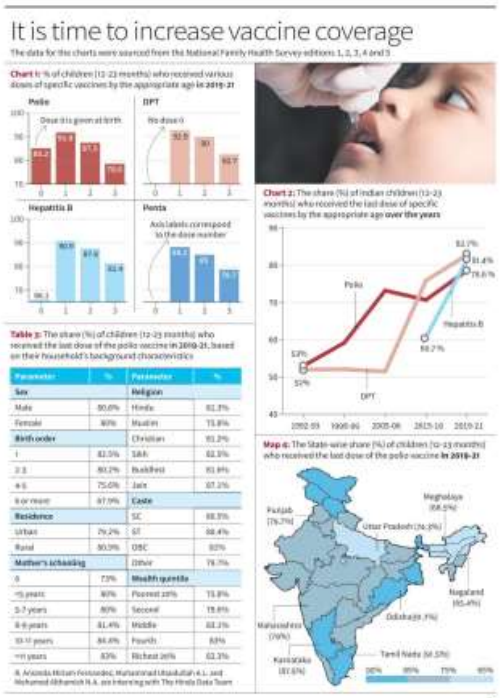
Map 4 shows the state-wise share of children (12-23 months) who received the last dose of the polio vaccine in 2019-21. Coverage lagged behind in the north-eastern states and in Uttar Pradesh. Odisha, Tamil Nadu, West Bengal and Himachal Pradesh recorded over 80% of coverage for the last dose, while Nagaland, Meghalaya, Arunachal Pradesh, Assam, Tripura and Uttar Pradesh recorded less than 70% coverage.

(Apart from Mohammad Chandshah S.K., Mohamad Ahmadi P.A.)

- **Context**: India was declared polio-free in 2014. However, recent data indicates that the country is becoming complacent in maintaining high vaccination coverage, especially in administering the last dose of the polio vaccine.
- **Key Issue**: Coverage levels are alarmingly low in certain regions, particularly in the North-East, where a case of vaccine-derived polio was recently detected.

Pentavalent
↓
① Diphtheria
② Tetanus
③ Pertussis
Whooping cough
④ Hepatitis B
⑤ Haemophilus influenzae type B (Hib)

vaccine derived [iVDPV] → immuno compromised
[cVDPV] → circulating



DATA OVERVIEW

- **National Family Health Surveys (NFHS)** Data from various editions of NFHS highlight a concerning trend in the decline of polio vaccine administration rates, particularly for the last dose.
- **Geographical Disparities**: The North-Eastern states, along with Uttar Pradesh, show the poorest vaccination coverage.
- **Socio-Economic Disparities**: Coverage is lowest among the poorest households, particularly where the female head of the family has low education levels.

IPV → killed poliovirus
OPV → weakened live poliovirus

{ no same level of intestinal immunity }

OPV [Oral Polio Vaccine] → contains a weakened form of the poliovirus, which stimulates an immune response.

WILD POLIOVIRUS STRAINS → WPV1, WPV2, WPV3 } symptoms same, genetic + virological differences

TRANSMISSION → primarily spreads through fecal-oral route
multiply in intestine
Predominantly affects children under 5

OPV → ① birth dose
then 3 primary doses [6, 10, 14 weeks]
IPV → additional (third) DPT

TATHASTUICS

TREND IN POLIO VACCINE COVERAGE

- **Historical Performance:** In previous years (1992-93, 1998-99, 2005-06), the coverage for the last dose of the polio vaccine was higher compared to other vaccines like DPT and Hepatitis B.
- **Current Scenario (2019-21):** The trend has reversed, with coverage of the last dose of the DPT and Hepatitis B vaccines surpassing that of the polio vaccine. This suggests a possible complacency in polio vaccination efforts after India was declared polio-free in 2014.

COVERAGE BY HOUSEHOLDS

- **Gender:** No significant difference in coverage between male and female children.
- **Residence:** Coverage is consistent across urban and rural areas, though specific states lag significantly.
- **Caste and Religion:** No notable variation in coverage based on caste. However, Muslim households have lower coverage compared to other religious groups.
- **Mother's Education:** A clear positive correlation exists between the mother's education level and the child's vaccination coverage. Higher education levels correspond to higher vaccination rates.
- **Wealth Quintile:** The poorest households have significantly lower coverage rates. The gap between the poorest and the wealthier households is concerning, as it indicates an unequal distribution of healthcare services.

REGIONAL DISPARITIES

- **High Coverage States:** Odisha, Tamil Nadu, West Bengal, and Himachal Pradesh have over 90% coverage for the last dose of the polio vaccine.
- **Low Coverage States:** Nagaland, Meghalaya, Arunachal Pradesh, Assam, Tripura, and Uttar Pradesh show coverage rates of less than 75%, highlighting a severe lag in these regions.

RISK OF VACCINE DERIVES POLIO VIRUS

- **Vaccine-Derived Poliovirus (VDPV):** Although India has not reported a wild poliovirus case since 2011, cases of VDPV continue to surface, particularly in areas with low vaccination coverage.
- **World Health Organization's Stance:** The WHO emphasizes that the problem lies not with the vaccine itself but with low immunization coverage. If a population is fully immunized, they are protected against both wild and vaccinederived polioviruses.

RECOMMENDATIONS

- **Addressing Complacency**:
  - **Reignite Vaccination Efforts:** The data suggests that complacency may have set in post-2014 when India was declared polio-free. There is a need to renew focus on ensuring complete polio vaccination, particularly the final dose.
- **Targeted Interventions**:
  - **Focus on Low-Coverage Regions:** Special attention must be given to the North-Eastern states and Uttar Pradesh, where coverage is critically low.
  - **Socio-Economic Focus:** Programs should be tailored to address the gaps in vaccination among the poorest households, emphasizing the role of maternal education in improving health outcomes.

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RECOMMENDATIONS

- **Community Engagement:**
  - **Raise Awareness:** Initiatives to educate communities, particularly in underprivileged areas, about the importance of completing the polio vaccination schedule.
  - **Involve Local Leaders:** Engaging local leaders and influencers in regions with low coverage can help increase trust and uptake of vaccines.
- **Strengthen Health Infrastructure:**
  - **Enhance Accessibility:** Ensure that vaccines are easily accessible in remote and underserved regions.
  - **Monitor and Evaluate:** Continuous monitoring and evaluation of vaccination programs to identify gaps and areas needing improvement.
- **Global and National Coordination:**
  - **Sustain International Support:** Maintain global partnerships and WHO guidelines to keep polio eradication on track.
  - **Policy Reinforcement:** Revisit and reinforce national policies on immunization to prevent any resurgence of polio.

TATHASTU ICS

AI WILL REVOLUTIONISE FINANCIAL SERVICES

challenges: (1) Data Privacy and Security
(2) Ethical considerations to avoid biases {in Credit scoring}
(3) Regulatory oversight

NEWS

'AI will revolutionise financial services'

The Hindu Bureau
MUMBAI

Shaktikanta Das

Artificial Intelligence and Machine Learning (AI/ML) "is poised to revolutionise financial services in unprecedented ways," Reserve Bank of India (RBI) governor Shaktikanta Das said on Wednesday addressing the Global FinTech Fest, a three-day event in the city.

"AI algorithms are already being deployed for fraud detection. ML models are being employed in credit scoring, leveraging predictive analytics to assess creditworthiness," Mr. Das said, adding AI-driven virtual assistants were enhancing customer experiences by providing bespoke recommendations and resolving queries.

He said, as AI/ML capabilities evolve, their application in regulatory compliance, could redefine the financial landscape.

AI and ML are set to revolutionize financial services, particularly in areas like fraud detection (AI), credit scoring (ML), customer experience (AI) and regulatory compliance (AI/ML) reducing burden on FI

AI-driven virtual assistants 24x7 available

analyze transactional history, spending behaviours etc.

ML is a subset of AI
↳ uses mathematical models to learn

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CHINESE STEEL STILL DOMINATES INDIAN MARKET

finished steel products → Plate, wire, strip, tube, Rod

NEWS

Chinese steel still dominates Indian market

Dragon dominates: Steel trade deficit for April to July widened to ₹11,592 crore, or 30% higher, for FY24. REUTERS

One out of every three steel products imported into India is from China, indicating continued pressure on the domestic market and exports. The steel trade deficit for the April-July period widened to ₹11,592 crore, 30% higher than the ₹9,036 crore reported for FY24, a Steel Ministry report accessed by *businessline* showed. India was a net importer of steel.

Finished steel imports stood at ₹24,941 crore for the first four months, and 2.7 million tonne (mt) in volume terms - up 32% y-o-y. On the other hand, export of the metal stood at ₹13,349 crore, or 1.6 mt, down 41% y-o-y.

As per the report, global steel prices continued declining in July, with "prices coming down in major steel markets" due to local and global issues. "Barring few aberrations, prices of most of the finished steel products saw month-on-month and year-on-year decline in India, China, the U.S. and the European Union," the Ministry said.

Chinese shipments

Shipments of the metal coming in from China stood at nearly 0.8 mt, up almost 42% y-o-y. Imports last year - for April-July period - were 0.57 mt. "China was the largest import market for India (30% share)," as per the report. Stainless and alloy steel imports from China accounted for 47% of the shipments in value terms or ₹3,921 crore (0.31 mt), and the balance 53% or ₹4,263 crore (0.5 mt) was from non-alloyed imports.

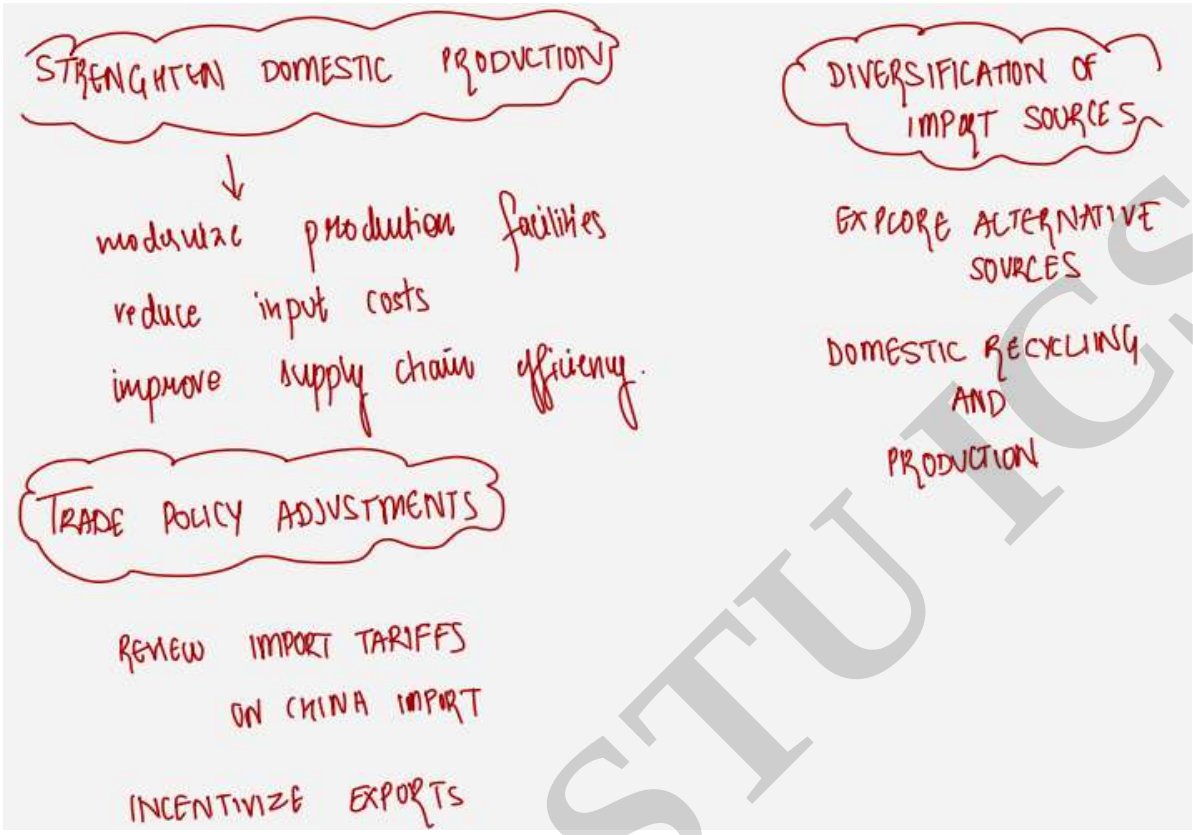
(The writer is with The Hindu businessline)

Chinese steel products constitute a substantial portion of India's imports, contributing to widening trade deficit and impacting domestic steel production and exports.

① Increasing dependence on Chinese steel
- ↳ Market share 30% of total imports
- ↳ particularly in the import of stainless and alloy steel
  - around 47% of the value and (₹3921 crore)
  - and 53% of the non-alloyed steel imports (₹ 4263 crore)

② Impact on Domestic Market
- ↳ Pressure on Domestic Producers → undermines their competitiveness
  - ↓ ↑ in imports + declining global prices
- ↳ Export decline → 41% y-o-y

TATHASTUICS



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INDIA SIGNS REPEAT ORDER FOR 73,000 SIG 716 RIFLES; DELIVERIES BY 2025 END

India signs repeat order for 73,000 SIG 716 rifles; deliveries by 2025-end

Dinakar Peri
NEW DELHI

The Ministry of Defence has signed a repeat order for 73,000 SIG 716 rifles from Sig Sauer of the U.S. and deliveries are expected to completed by end-2025.

"The contract was signed in June 2024 and delivery is within 18 months of contract," a defence official said. The Army has earlier procured and inducted 72,400 SIG 716 rifles through fast-track procurement under a ₹700-crore contract signed in February 2019.

"We are proud to be a partner in the modernisation effort of the Indian Army, and prouder still that the SIG 716 rifle achieves the Ministry of Defence's modernisation goals with the second largest Army in the world," Ron Cohen, president and CEO, Sig Sauer, said in a statement issued on August 26. "Since the initial fielding of the SIG 716, we have received phenomenal end-user feedback on the performance and reliability of the platform."

The successful fielding and overwhelming soldier acceptance led to this follow-on award for an additional 73,000 rifles, the company added.

The Army has inducted 66,400 of the 72,400 SIG 716 assault rifles procured under a ₹700-crore deal in February 2019. FILE PHOTO

The Army has for long been looking to replace the indigenous INSAS (Indian National Small Arms System) rifles in use with a modern rifle.

The Army has inducted 66,400 of the 72,400 SIG 716 assault rifles procured under the deal in February 2019 and these have been provided to frontline troops involved in counter-insurgency operations.

The SIG 716, weighing 3.82 kg, has an effective range of 600 m and is more capable and reliable than the INSAS in use.

Significance

1. Strategic Importance
   - enhances combat effectiveness for particularly those in challenging operational environment
2. military Modernization
   - reflects India's commitment to upgrade military equipment to meet modern standards

(1) CHINA → LARGEST ARMY
(2) INDIA (3) US (4) NORTH KOREA (5) RUSSIA

TATHASTUICS

FURTHER TRANSMISSION OF CHANDIPURA VIRUS POSSIBLE IN COMING WEEKS, WARNS WHO

TRANSMISSION
↳ by sandflies that breed in small, dark crevices and cracks of houses.

This family also includes other members: lyssavirus that causes rabies.

NEWS

group of virus transmitted by arthropods (mosquitos, ticks)

CHANDIPURA VIRUS → arbovirus
↳ belongs to the Vesiculovirus genus in the Rhabdoviridae family.

Transmitted by: sandflies such as Phlebotomine sandflies, Phlebotomus papataci
: mosquitoes ↳ Aedes aegypti (vector for dengue)

Further transmission of Chandipura virus possible in coming weeks, warns WHO

Bindu Shajan Perappadan
NEW DELHI

The current outbreak of the Chandipura virus (CHPV) infection in India is considered the largest in the past 20 years, says the World Health Organization (WHO).

While the authorities are making efforts to control the transmission of CHPV, further transmission is possible in the coming weeks, considering the favourable conditions for vector populations during the monsoon season in affected areas, warned the WHO.

The WHO has not recommended any general travel or trade restrictions based on the available information. However, it maintained that surveillance efforts should be enhanced in high-risk areas, focusing on people at risk, such as children younger than 15 years presenting with acute onset of fever and central nervous system symptoms.

A worker fumigates a slum area in Ahmedabad to prevent the spread of CHPV, on July 31.

Between early June and August 15, the Health Ministry reported 245 cases of acute encephalitis syndrome (AES), including 82 deaths (case fatality rate 33%). Of these, 64 are confirmed cases of Chandipura virus infection.

CHPV is transmitted by vectors such as sandflies, mosquitoes, and ticks.

According to the note released by the WHO, survival can be increased with early access to care and intensive supportive care of patients.

Of the 64 confirmed cases, 61 cases have been reported from Gujarat and three from Rajasthan, the note said.

FATALITY 58% rate

* primarily affects children under 15 years old.

virus resides in the salivary gland of these insects.
↓
transmitted to humans or other vertebrates like domestic animals through bites.

infection caused → can reach the central nervous system which can lead to encephalitis – inflammation of the active tissues of the brain.

DISEASE PROGRESSION → as rapid as high fever in the morning and kidneys / liver affected by evening.

SYMPTOMS → flu-like symptoms { acute onset of fever, bodyache and headache }

TATHASTUICS

→ Progress to altered sensorium or seizures and encephalitis

→ Respiratory distress, bleeding tendencies or anaemia

→ progresses rapidly after encephalitis → lead to mortality within 24-48 hours of hospitalization.

TREATMENT: No specific antiretroviral therapy or vaccine available.

→ only be symptomatically managed.

CHPV

→ first isolated in 1965 while investigating a dengue/chikungunya outbreak in Maharashtra

→ outbreak in 2003-04 → Maharashtra, Northern Gujarat, Andhra Pradesh

→ largely remained endemic to the central part of India → sandflies + mosquitoes population is high.

→ especially in rural and tribal areas

→ outbreak more frequent during monsoon due to ↑ breeding of sandflies.

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WANTED: A STRATEGY TO TURN CLIMATE RESEARCH INTO DISASTER MANAGEMENT

Hypothecal → information oriented around a well-defined community with its primary focus directed toward the concerns of the population in that community

Wanted: a strategy to turn climate research into disaster management

NEWS

- There is a critical need to transition climate research from academic pursuits to practical applications in disaster management.
- With India's growing vulnerability to climate-induced natural disasters, there is an urgent need for strategies that translate scientific research into actionable disaster management plans.

a strange or unusual habit

IMD → 1875

BACKGROUND

- Increasing Natural Hazards: India faces various natural hazards, including heatwaves, wildfires, heavy rains, landslides, droughts, and cyclones.
- Climate Change Impact: Climate change has exacerbated these hazards, leading to more frequent and intense weather events. Socio-Economic Dynamics: Factors such as population growth, urbanization, and economic activities in vulnerable areas contribute to the increased risk.
- Role of NDMA: The National Disaster Management Authority (NDMA) has made progress in disaster response but faces challenges in integrating climate research into its operations.

NDMA → statutory body → constituted on 27th Sep 2006 in accordance with DMA, 2005 with PM → chairperson, 9 other members (incl. 1 vice-chairperson)
→ High Powered committee in Aug. 1999 + National committee after Gujarat Earthquake 2001,
10th FYP → also had first time detailed chapter on DM, 12th → financial for DM

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KEY ISSUES

- Gap Between Research and Application: The article discusses the significant gap between climate research and its practical application in disaster management.
- Investment in Climate Research: India invests heavily in climate research and services, yet the practical application of this research in disaster management is lacking.
- Inadequate Translation: Climate services often fail to meet the location-specific and sector-specific needs of disaster management agencies.

CAUSES

- **Siloed (Isolated from other) Research:**
  - Climate research is primarily confined to academic and research institutions.
  - The focus is on publishing papers rather than addressing real-world disaster management needs.
- **Inadequate Translation of Research:**
  - Research often produces relevant data, but it is not effectively scaled down to the local level.
  - The data is not tailored to specific sectors, reducing its usefulness for disaster management
- **Lack of Sector-Specific Extension Agents:**
  - There is a shortage of trained professionals who can bridge the gap between research and practical disaster management.
  - The absence of these agents limits the translation of scientific data into actionable disaster management plans.
- **Insufficient Funding:**
  - The systems required to connect research with operations are underfunded.
  - This limits the development and implementation of effective disaster management strategies.

IMPACT

- **Increased Vulnerability:**
  - Without accurate, location-specific information, communities remain vulnerable to climate-related disasters.
  - This leads to higher mortality and damage during disasters.
- **Ineffective Disaster Response:**
  - Disaster management agencies struggle to plan and execute effective responses due to the lack of actionable climate data.
- **Economic Losses:**
  - Poor disaster management results in greater economic losses, including the destruction of infrastructure, homes, and livelihoods.
- **Missed Opportunities for Mitigation:**
  - The failure to integrate research with operations means that potential mitigation strategies are not fully utilized.

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PERSPECTIVES

- Researchers: Focus on advancing scientific knowledge and improving predictive models but may lack incentives to apply this knowledge to disaster management.
- Disaster Management Agencies: Require actionable, real-time data to plan and execute responses but often find the available research too general or not timely.
- Local Governments and Communities: Need specific, localized information to prepare for and respond to disasters but may lack the resources or expertise to access and use this data.

COMPARISON

- **Irrigation Advisories:**
  - A decision-support tool developed for grape farmers in Nashik demonstrated significant water savings without crop yield loss.
  - Scaling this tool requires extensive engagement with farmers, local governments, NGOs, and the development of a user-friendly app.
- **Urban Flood Predictions:**
  - Current efforts to predict urban floods are limited by a lack of localized data and the inability to translate forecasts into actionable plans.
  - Ideal flood management involves evaluating forecasts, planning drainage operations, and managing traffic and public services based on downscaled predictions.

CONCLUSION

- **Develop Sector-Specific Extension Agents:**
  - Train professionals who can effectively bridge the gap between climate research and disaster management.
  - Ensure these agents can translate scientific data into actionable disaster management plans.
- **Sustain Financing:**
  - Secure funding to support the development of research-to-operations systems.
  - Ensure sustained financing for localized, sector-specific disaster management strategies.
- **Capacity Building:**
  - Focus on training local communities and disaster management agencies to understand and use climate data effectively.
- **Policy Integration:**
  - Integrate climate research with national and local disaster management policies to ensure that scientific knowledge informs decision-making.
- **Public-Private Partnerships:**
  - Leverage partnerships between government, private sector, and NGOs to develop and implement innovative solutions for disaster risk reduction

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