“Enhancing Climate Risk Readiness in Indian Finance Calls for Improved Data and Governance”

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"Green Finance in India Poised for Growth Through Innovative Partnerships and Infrastructure Investments"

Intro: In a rapidly evolving landscape where climate risks are becoming paramount, **Mahasweta Mitra, Associate Director, Financial Services Risk Consulting at PwC India,** sheds light on the challenges and opportunities facing Indian financial institutions. As regulatory frameworks tighten and global events shift investment priorities, speaking to **Mahima Sharma of Indiastat,** Mahasweta explores the readiness of the sector to meet the Task Force on Climate-related Financial Disclosures (TCFD) guidelines and the innovative strategies that could reshape green financing. With pressing questions about sustainability and economic growth, this interview digs into how India can balance immediate financial pressures with long-term climate objectives. Take a read of the exclusive interview only at **Socio-economic Voices...**

MS: With the increasing pressure for businesses to align with Task Force on Climate-related Financial Disclosures (TCFD) guidelines, do you think Indian financial institutions are prepared to meet these standards? What gaps still need to be addressed?

MM: Indian financial institutions have made strides in aligning with TCFD guidelines, but there remains a gap in readiness. Many institutions are still in the early stages of integrating climate risk into their broader risk management frameworks. **Based on a review of sustainability and climate risk related financial disclosures, only a minority of Indian banks currently disclose all recommended elements of TCFD, particularly in scenario analysis and risk management integration.** However, this is expected to change as India’s financial regulators** have issued guidelines and frameworks to report on sustainability and climate related financial risks, including a very recent announcement of creating a climate risk data repository. **Regulatory push will certainly help in transitioning the mindset of the Indian financial services sector from compliance to proactive risk management.** Additionally, clarity and guidance on implementation will aid the financial system, as banks start disclosing climate related financial risks and performance.

Key gaps include the need for better climate-related data infrastructure, collaboration across departments, skilled personnel to analyze climate risks, and giving due consideration to climate risks within financial institutions’ internal risk management frameworks. Most institutions have yet to develop full-fledged climate risk governance structures that can oversee TCFD-aligned reporting and ensure long-term resilience.

- **RBI issued draft guidelines on Disclosure Framework on Climate-related Financial Risks (released - Feb 2024).
- SEBI mandated sustainability reporting under the Business Responsibility and Sustainability Report (BRSR) Framework for the top 1000 listed companies by market capitalization (released – July 2023).
- RBI recently announced creating a climate risk data repository, namely, the Reserve Bank Climate Risk Information System (RB-CRIS) (announcement – Oct 2024).

MS: The IPCC in its April 2024 report indicated that most financial institutions failed to accurately predict the economic impacts of the climate-induced extreme weather events of 2023 and 2024. With this failure in mind, how can scenario analysis and stress testing be improved to better reflect real-world outcomes, particularly for regions like South Asia?

MM: There is a need for financial institutions to refine their scenario analysis and stress testing capabilities, particularly the reliance on global averages and lack of granularity for local and regional outcomes, which highlights a vulnerability in current climate scenario models. **According to the UNDP RBAP Key risks report 2023, there is a critical need for risk-informed development and to accelerate preparedness for a changing climate, noting that medium- to large-scale disasters will increase by 40% between 2015 and 2030.**

To enhance the predictive capacity of scenario analysis and stress testing, financial institutions should:

- **Develop country and region-specific climate models** by collaborating with local meteorological agencies and climate scientists; factoring in unique weather patterns, geography, and socio-economic dynamics. The use of downscaled climate data and models tailored to India or theSouth Asian region will capture more accurate impacts.
- There is a **need for sector-specific climate stress testing,** particularly for sectors like agriculture and infrastructure, which are heavily impacted by climate risks in India.
- **Institutions should build stronger partnerships with climate scientists, universities and research organisations** to continuously refine models based on emerging climate science. A cross-disciplinary approach will allow financial institutions to reflect real-world climate impacts more effectively.
- **Instead of static, one-off exercises, it should evolve with changing climate data, technological developments, and policy changes.** Leveraging AI and machine learning to predict risk patterns and integrating real-time satellite and sensor data could significantly enhance the accuracy of these forecasts.

MS: In light of the persistent inflation in 2024 and rising interest rates globally, do you foresee a risk in slowing green investments? How can financial institutions mitigate the impact of higher costs on climate-related investments?

MM: Inflationary pressures and rising interest rates undoubtedly pose risks to green investments, particularly for projects with long payback periods, such as renewable energy infrastructure. However, these risks can be mitigated by employing innovative financing structures such as blended finance, where public and private capital is combined to reduce the cost of capital. **India's National Investment and Infrastructure Fund** has been effective in attracting private investment into clean energy projects through this model.

Additionally, financial institutions can work closely with DFIs and multilateral banks to secure concessional financing and guarantees, making green investments more attractive in a high-interest-rate environment.

Finally, policy makers and regulators can incentivise climate related projects through favourable tax structures or subsidies, which would offset some of the financial pressures caused by higher rates.

MS: With inflation rates climbing and interest rates rising globally in 2024, particularly in the aftermath of the ongoing Ukraine conflict and supply chain disruptions, how do you advise businesses to conduct scenario analysis for sustainability projects that now face higher financing costs and longer break-even periods?

MM: Scenario Analysis is an effective tool that can help determine whether a project will be viable at a given financing cost level and break even period. **Businesses should consider adopting multi-layered financial models that incorporate both short-term shocks,** such as inflation, interest rate spikes, and long-term risks, including climate change impacts and regulatory changes.

MS: Given the 2024 energy crisis caused by geopolitical tensions and resulting spikes in fossil fuel reliance, many ESG (Environmental, Social, and Governance) portfolios have underperformed this year. How should portfolio managers recalibrate their strategies to handle such conflicting signals in an environment where immediate energy security is prioritized over long-term sustainability goals?

MM: Portfolio diversification and the ability to adapt to shifting market dynamics gains importance when speaking of underperforming ESG and Sustainable funds. **Portfolio managers need to incorporate greater flexibility and resilience** by creating a balance between short-term needs and long-term goals.

A way to bridge this gap is diversifying investments into technologies such as energy storage and hydrogen, which offer resilience during times of fossil fuel reliance while contributing to long-term decarbonization. **Managers should consider exposure to companies investing in transition technologies,** such as carbon capture, rather than completely divesting from fossil fuels. **Hedging mechanisms** are also a possible option, such as carbon credits or futures, which can help offset the financial impact of short-term fossil fuel price spikes while maintaining an overall ESG focus.

Active stewardship can be key to encourage long-term sustainability planning and can help align immediate security needs with future sustainability goals, rather than divesting from companies facing short-term ESG challenges.

MS: With the rising demand for climate finance, especially in developing economies, how should private credit markets in India and abroad be structured to attract investment into green projects? Can we learn from international models in 2024?

MM: The rising demand for climate finance in emerging economies, such as India, presents both opportunities and challenges for private credit markets. Structuring these markets effectively will require creating a favourable policy environment, enhancing risk-sharing mechanisms, and leveraging international best practices.

Internationally, **the European Investment Bank's (EIB) Green Bond program and the UK's Green Finance Institute have been successful in channeling private capital into green projects,** offering a replicable model for India to attract green investments domestically. Blended finance initiatives can also provide a balanced safety-net for private credit players in India, which pools public and private funds. **India's NIIF could serve as a vehicle to attract more private capital into climate projects.** Additionally, private credit markets can implement more **robust credit enhancement tools such as green credit guarantees or insurance mechanisms** that could de-risk green projects for private lenders and attract more investment.

Countries like Germany offer significant tax breaks and subsidies for green investments. India could expand similar measures, such as tax exemptions on interest from green bonds, to incentivize domestic private credit markets. **Furthermore, partnerships with multilateral development banks (MDBs)** can help de-risk investments in emerging markets by providing guarantees or concessional financing.

MS: Biodiversity loss and economic development often clash. In 2024, we've seen projects like the Great Nicobar Island Development leading to significant environmental concerns. How should such projects be balanced against economic benefits, and what safeguards must be ensured?

MM: The challenge of balancing economic development with biodiversity preservation has never been more pressing. **Projects like the Great Nicobar Island Development highlight the need for a more nuanced approach to sustainable development.** To balance these competing interests, governments and developers must integrate biodiversity considerations into the earliest stages of project planning.

India's Environmental Impact Assessment (EIA) framework needs to be strictly enforced to better address climate-related impacts and biodiversity risks. Developers should also commit to biodiversity offsetting, ensuring that any environmental damage is compensated by conserving or restoring ecosystems elsewhere. **The principle of "no net loss" of biodiversity should guide these projects.**

An example of an international model is Brazil's "compensation for environmental damage" framework, where developers are required to fund biodiversity conservation projects to offset environmental damage. This approach, if applied in India, could help balance economic growth with ecological preservation.

Moreover, there must be **stronger stakeholder and community engagement, particularly with local or indigenous communities** who are often the first to feel the impacts of biodiversity loss. By incorporating their knowledge and ensuring that they benefit economically from these projects, a more balanced and sustainable approach can be achieved.

MS: The National Green Hydrogen Mission is a critical element of India's energy transition, yet recent reports (2024) reveal challenges with technological readiness and infrastructure. With global hydrogen prices falling faster than anticipated, how should India address the lag in domestic production capacities, and are we realistically positioned to compete in this sector?

MM: The expected decline in global hydrogen prices** offers an opportunity to accelerate domestic production, but only if India can quickly build the necessary infrastructure, such as electrolyzers and hydrogen storage facilities. India can position itself as a green hydrogen export hub for the Asia-Pacific region by investing in the necessary port infrastructure and supply chains, tapping into the growing international demand for clean hydrogen.

The current gap can be bridged by prioritizing public-private partnerships that can bring in technological expertise from more advanced hydrogen markets like the EU and Japan. Additionally, piloting projects that can demonstrate the commercial viability of green hydrogen in sectors like transport and industry can be attractive for investors. A regulatory framework can support the hydrogen economy by offering incentives for green hydrogen production and consumption, such as tax breaks and subsidies, whilst setting clear targets for its adoption across multiple sectors.

**Hydrogen Insights 2023 December Update by the Hydrogen Council

MS: Accurate data is crucial for climate risk management, but as of 2024, many companies still struggle to integrate meaningful climate data into their risk models, particularly in sectors like agriculture and logistics. How do you advise clients to overcome these data challenges, and what innovative data sources or technologies are you currently exploring to improve this process?

MM: See, integrating meaningful climate data into risk models is indeed a significant challenge. To address this, clients can adopt a multi-pronged approach that combines traditional data sources with innovative technologies and platforms.

Building partnerships with data providers and scientific institutions allows businesses to access more robust, localized data sets. In the agricultural sector, collaborations with institutions like the Indian Council of Agricultural Research (ICAR) can help improve data reliability. The Indian Meteorological Department (IMD) has begun integrating granular climate risk data, which can be used to improve models for sectors like agriculture, which is highly vulnerable to climate change.

Another key recommendation is to collaborate with data aggregators and climate intelligence platforms, which can provide tailored insights based on localized climate data. AI and machine learning tools are also proving invaluable for analyzing vast datasets and predicting complex climate-related risks. Emerging technologies, such as satellite imagery and remote sensing technologies, for instance, provide real-time data on land use, crop health, and climate impacts, which can be integrated into risk models. Similarly, IoT sensors on farms and in logistics chains can provide granular data on weather conditions and operational disruptions, improving the accuracy of climate risk predictions.

MS: A question for our student readers: With ESG and climate risk becoming critical, how do you ensure that your skill sets are constantly evolving in its understanding of these issues? (Answer this simply by using what strategies do you employ to bridge your own skill gap and that of the team, in emerging areas like climate stress testing?)

MM: Staying ahead in the rapidly evolving field of ESG and climate risk requires a commitment to continuous learning and upskilling. **Personally, I try to engage with the latest research, reports, and case studies** published by leading institutions such as the World Bank, the UN, top consulting firms, research organizations and publications by thought leaders.

Participating in webinars, conferences, and workshops focused on ESG and climate is also crucial, as these platforms offer insights into emerging trends and practices. I would also recommend securing specialized certifications by recognized institutions that offer a sound grounding in areas like climate risk management, stress testing, nature and biodiversity and carbon reporting.

About Mahasweta Mitra

Mahasweta Mitra is an accomplished Risk Management professional with over a decade of experience in Management Consulting and Banking, having worked across diverse markets including the UK, India, Hong Kong, and the Middle East. Her expertise lies in Sustainability, Climate and Credit Risk Management, Stress Testing and Scenario Analysis. Currently she is an ***Associate Director, Financial Services Risk Consulting at PwC India.*** *Having extensive experience in financial services and recognised for her technical acumen, she is highly proficient in the Climate Risk and Credit Risk Management domain. Mahasweta carries a socio-economic, forward-thinking approach to risk management in today's evolving global environment.*

About the Interviewer

Mahima Sharma is an Independent Journalist based in Delhi NCR. She has been in the field of TV, Print & Online Journalism since 2005 and previously an additional three years in allied media. In her span of work she has been associated with CNN-News18, ANI - Asian News International (A collaboration with Reuters), Voice of India, Hindustan Times and various other top media brands of their times. In recent times, she has diversified her work as a Digital Media Marketing Consultant & Content Strategist as well. Starting March 2021, she is also a pan-India Entrepreneurship Education Mentor at Women Will - An Entrepreneurship Program by Google in Collaboration with SHEROES. Mahima can be reached at media@indiastat.com