



Infrastructure Asset
Management
UN

IAM UN INSIGHTS

Boosting Climate-Resilient Infrastructure:
News and expert views on Climate Change
and Life-cycle Asset Management

News and insights on Infrastructure Asset Management (IAM), delivered by the joint IAM initiative of the UN Department of Economic and Social Affairs (UN DESA), UN Capital Development Fund (UNCDF), and the UN Office for Project Services (UNOPS).



Official picture of participating countries at the UN Climate Change Conference COP29 on November 12, 2024, in Baku, Republic of Azerbaijan. (Photo by UNFCCC, COP29)

In this edition of the UN IAM Newsletter, we delve into the essential role of climate resilient infrastructure asset management.

We discuss outcomes of our workshops in The Gambia and Costa Rica aimed at strengthening IAM capacities and policy environments, along with FSDO's keynote at the IAM Conference. We also feature expert interviews with **Dustin Carey** from the Federation of Canadian Municipalities on integrating climate change into IAM to enhance asset's resilience, and **Somesh Sharma**, from Erasmus University Rotterdam, on life-cycle maintenance and innovative financing for sustainable infrastructure and climate resilience.*

**Views expressed in this newsletter do not necessarily reflect those of the UN.*

At COP 29, the Coalition of Disaster Resilient Infrastructure (CDRI) announced new funding for UN DESA to boost the resilience of infrastructure assets and planned large-scale infrastructure investments in 4 Caribbean countries, including Bahamas, Belize, Jamaica, and St. Vincent and the Grenadines.

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HIGHLIGHTS FROM WORKSHOPS AND EVENTS

Adapting to Climate Change: Training Local Authorities in IAM in The Gambia

UN DESA, in collaboration with UNOPS, UNCDF, and the Rural Development Institute of Gambia (RDI), organized a Training of Trainers workshop on IAM in The Gambia from 11-15 November 2024. This workshop aimed to enhance the capacities of RDI instructors and local government beneficiaries in applying the UN IAM Toolkit, with a particular focus on addressing the negative impacts of climate change.

Participants were trained on how to improve their decision-making by integrating data and concrete actions in their local planning, while supporting adaptation and mitigation strategies into their communities. UN DESA will provide continued support to RDI in its effort to launch a nationwide training programme on IAM.



Training of Trainers Workshop in Kanilai, The Gambia

Designing and Sustaining an Enabling Environment for IAM: On-site Workshop in San Jose, Costa Rica

On 6-8 November, FSDO, in collaboration with UNOPS, UNEP, and GIZ, implemented an in-person workshop to support the design of a roadmap to strengthen the enabling environment for effective and coordinated infrastructure asset management in Costa Rica. 50 participants from ministries, agencies, and councils of the national government, as well as from civil society and academia, contributed to prepare a draft roadmap with concrete actions that can be implemented to enhance sustainable and resil-

-ient management of public assets. As a next step in Costa Rica, the UN IAM team is supporting the Ministry of Public Works and Transport (MOPT) to finalize and validate the recommendations identified during the workshop.



Day 1 of the Workshop in Costa Rica

UN DESA Shares Lessons Learned on Climate-Resilient Asset Management in Institute for Asset Management Conference

On 23 October, UN DESA delivered a keynote address at the North-America Conference on Asset Management, convened by the Institute of Asset Management in Denver, Colorado, on 21-24 October. Drawing on lessons from the design and implementation of data-driven, climate-resilient Asset Management Action Plans in over 220 cities worldwide, UN DESA emphasized the importance of integrating climate considerations into IAM practices.

The presentation resonated strongly with the audience of 300 participants, leading to a large number of asset management experts and focal points from diverse organizations, including local governments, utilities, federal agencies, the private sector, and think tanks, offering to volunteer their expertise to DESA's analytical and technical assistance work on IAM. UN DESA also engaged with members of ISO working groups on IAM and the Institute of Asset Management to explore future collaboration focused on enhancing climate resilience through robust infrastructure asset management.

“Understanding how climate impacts evolve over time is crucial for governments to plan effective interventions and ensure continued service delivery.”

Dustin Carey



The UN IAM team interviewed Dustin Carey, Lead of Climate Adaptation at the Federation of Canadian Municipalities.

How are local governments in Canada adapting their IAM policies to better cope with climate change impacts?

Local governments in Canada are adapting infrastructure policies to address climate change impacts. Cities like Montreal are updating road design standards to add tree cover for cooling, while Calgary is modifying pavement compositions to withstand heatwaves. To manage heavier rainfall, Kitchener has upsized pipes and culverts by 20%, Vancouver is expanding green infrastructure, and Vernon is prioritizing key drainage routes.

How do the climate resilience challenges faced by Canadian municipalities relate to those faced by developing countries such as The Gambia and Kenya? What can each learn from the other's IAM strategies?

All local governments share key traits: they own infrastructure, deliver services, face budget constraints, and are impacted by climate change. This common ground fosters opportunities for two-way knowledge sharing. Canadian local governments have aided communities globally with systems like climate risk assessments and asset data management. In return, innovative solutions from developing nations, such as Kenya's strategies for heat events and The Gambia's low-cost stormwater solutions, are also valuable for Canada.

How can international cooperation and knowledge sharing improve the climate resilience of infrastructure globally, especially in vulnerable regions?

International initiatives like the Taskforce for Climate-Related Financial Disclosure have established new standards for physical climate risk disclosure, which private-sector lenders are

Why is climate change a critical consideration in sustainable asset management, and why should both national and local governments prioritize it?

Infrastructure is designed for specific operating conditions, which governments rely on to deliver everyday services. Consider the consequences of a power outage on healthcare, a rail bridge collapse on freight movement, or severe weather damaging government buildings. Climate change is altering these conditions, often increasing the risk of failure without corrective actions. Understanding how climate impacts evolve over time is crucial for governments to plan effective interventions and ensure continued service delivery.

Could you elaborate on the initiatives and projects you are leading in Canada to enhance climate resilience through sustainable asset management?

Canada is warming rapidly, and much of its core public infrastructure was built in the 1950s-1970s, reflecting a very different climate. The Federation of Canadian Municipalities, funded by the Government of Canada, is supporting local governments assess climate change risks and develop responses. By integrating climate risk into municipal asset management plans, local governments can gradually improve their infrastructure while managing budget constraints.

starting to prioritize. By helping infrastructure owners in vulnerable regions understand their climate risks and implement resilience measures, we can demonstrate to lenders that these assets are not unduly risky, making them more attractive for investment.

From your experience, how do you see organizations like the UN supporting local governments worldwide to build more resilient infrastructure in the face of climate change?

Collaboration among UN DESA, UNOPS, and UNCDF provides a strong model for building local capacity and supporting community priorities through long-term partnerships. Engaging local experts and maintaining multiple touchpoints over several years fosters strong relationships and elevates topic importance.

Do you have any data on the potential future savings that resilient IAM can generate?

Investing in climate resilience offers high returns. The Global Commission on Adaptation finds that a 3% increase in upfront costs for resilient infrastructure saves \$4–\$6 in avoided damage per \$1 spent on recovery.

“Life-cycle maintenance is indispensable, especially for climate resilience, ensuring infrastructure provides long-term protection against climate-related risks.”

Somesh Sharma



The UN IAM team interviewed Somesh Sharma, specialist in Environment and Sustainable Development Planning at the Institute for Housing and Urban Development Studies, Erasmus University Rotterdam

Can you tell us about your background and experience in promoting the financial capacity of local governments to manage the infrastructure more sustainably?

Factoring in impacts like business disruptions and health issues further strengthens the case, with both the Canadian Climate Institute and the U.S. Chamber of Commerce estimating \$13 in savings for every \$1 invested.

Based on your experience, what would you recommend for a second edition of the IAM Handbook regarding the chapter on climate change?

Based on user feedback and developments since the IAM Handbook publication, I recommend the following:

- Simplify likelihood scoring in the risk assessment protocol based solely on the change in probability of a climate indicator from historical baselines
- Include more practical intervention examples for various infrastructure types, emphasizing nature-based solutions.
- Clarify the distinction between single-asset and asset portfolio risk assessments.

I have over 20 years of experience in sustainable infrastructure financing for local governments. Currently, I am GIZ's lead technical advisor to Egypt's Urban Development Fund on climate adaptation finance. In the past, I assessed capital market readiness for smart cities in India, integrated ESG principles into Kenya's oil and gas sector for the LSEG, and designed a Coursera MOOC on Financing Infrastructure in African Cities. I also teach local government finance to the students and professional trainees at IHS Erasmus University, and train local and national government officials worldwide. My research explores innovative IAM financing methods, specifically with UNDESA.

Can you explain the concept of "life-cycle maintenance" in infrastructure, and why you believe it is key to achieving long-term sustainability, particularly in the context of climate resilience?

Life-cycle maintenance refers to the ongoing upkeep of infrastructure assets throughout their operational life. Building infrastructure is just the start; without regular maintenance, assets deteriorate, increasing safety risks and financial strain for local governments. Sustainability can only be achieved with a commitment to maintenance. For instance, coastal dykes are critical for climate resilience but require consistent upkeep to protect communities from flooding. Neglecting maintenance can lead to failures and heightened vulnerability. Thus, life-cycle maintenance is essential, especially for climate resilience, ensuring infrastructure provides long-term protection against climate-related risks.

How does IAM for local governments differ from traditional maintenance approaches?

Local government IAM involves systematically overseeing assets like roads and water systems, including budgeting, staff management, securing materials, and regular maintenance to prevent disruptions. Unlike traditional maintenance, which reacts to problems, IAM is comprehensive and data-driven, aiming to prevent failures, as failures can result in significant repair costs and broader social and economic impacts. However, local governments face challenges such as limited tools/technology, inconsistent funding, lack of expertise, and difficulty in prioritizing preventive measures over crisis response, making effective IAM implementation difficult in a crisis-driven environment.

You have worked with your students on funding strategies for Asset Management Action Plans (AMAPs) the UN has designed with local governments worldwide. What are the key insights of your students?

My students have drawn several important insights from their [work](#) on AMAPs. They've learned that good governance extends beyond policy aspirations to include [financial planning](#) for future expenses, such as maintenance costs. They have also recognized that financing asset

management requires an understanding of both the technical and political landscape. Engaging stakeholders and presenting data-backed arguments for life-cycle maintenance is crucial for sustainable infrastructure. Ultimately, my students emphasize that long-term planning and sound financial management are essential for maintaining functional and sustainable assets.



Somesh' students group working in IAM exercise.

You focus on engaging different financial stakeholders to explore financing mechanisms for infrastructure during its life-cycle. What instruments or mechanisms are most promising for financing the operating and maintenance phase?

There is a significant gap in financing instruments for the operating and maintenance phases of infrastructure. Current funding sources like grants, loans, and local taxes often fall short for long-term maintenance. More research is needed to develop innovative financing mechanisms tailored to these needs. Public-private partnerships (PPPs), dedicated maintenance funds, and green bonds could offer promising solutions. Additionally, including maintenance costs in upfront project financing, rather than treating them as an afterthought, would help ensure local governments can sustain infrastructure over time.

Considering your experience designing capacity-building programs, what are the most effective strategies to help local governments raise revenues for IAM? How can these strategies be adapted to different global contexts?

A key strategy is to include life-cycle maintenance costs in the initial project financing, ensuring long-term upkeep. Diversifying revenue

streams—through land-value capture, impact fees, or allocating a portion of property taxes for maintenance—is also effective. These strategies can be adapted globally based on local governance structures, fiscal capacities, and socio-political contexts. In low-income countries, donor funding may be crucial, while developed regions can focus on private sector investment through PPPs.

As the UN works with local governments worldwide, how do you see them playing a role in ensuring sustainable infrastructure?

The UN plays a key role in promoting sustainable infrastructure by fostering global collaboration, sharing best practices, and providing technical and financial support. It helps local governments address technical and financial challenges, ensuring investments are equitable, resilient and aligned with the global sustainability agenda. To improve its impact, the UN should expand activities like training, publications, and its IAM approach to local governments, particularly in countries like India with significant infrastructure challenges.

Looking toward the future, how do you see the balance between building new infrastructure and maintaining existing ones, especially in the context of climate change adaptation, to ensure long-term resilience and sustainability?

In the near future, the focus will likely remain on new infrastructure projects due to their economic and political appeal, but this is unsustainable long-term, especially with climate change. Prioritizing maintenance is key for long-term resilience; without it, infrastructure's capacity for climate resilience diminishes quickly. Governments should incentivize preventive maintenance, with European models providing useful examples. Without proper upkeep, infrastructure will fail soon after construction, undermining its intended resilience. However, shifting toward life-cycle financing will take time, likely 20 years or more. Starting now is essential. Promoting the IAM approach globally, especially in developing countries, is vital through awareness campaigns, training, and engagement.

UPCOMING EVENTS AND INITIATIVES

UN IAM will be supporting the following activities:

- Development Cooperation Forum High-Level meeting, 12-13 March 2025, UN Headquarters, New York (More information [here](#))
- Good Practices and Lessons Learned from the Implementation of AMAPs Workshop with national consultants (Q1 2025)
- Next Session of the Informal UN Reference Group on Infrastructure Asset Management (Q1 2025)
- IAM Sensitization Workshop in Mozambique (Q2 2025)

We Value Your Input on Infrastructure Asset Management!

We invite you to connect with us by [sharing](#) your experiences and insights on IAM and the role of data in IAM. Additionally, we would love to hear any comments or ideas you have for future issues of our roundup.

Thank you for your contribution!