



## Confronting the Silent Crisis: Addressing Land Subsidence through Regional Cooperation and City Action

*Side event at the 13th Asia-Pacific Forum on Sustainable Development (APFSD-13)*

**24 Feb 2026, 13:00-14:00 (UTC+7), Venue: MRH (Meeting Room H)**

United Nations Conference Center (UNCC), Bangkok, Thailand

Event Form: Hybrid ([Teams Link](#))

### Organizer(s)

**Lead Organizer: Asia-Pacific Center for the Development of Disaster Management Information (APDIM)**

**Co-organizers:** Islamic Republic of Iran, Permanent Mission of the People's Republic of China to ESCAP, ESCAP, & UN-Habitat

### Background

Land subsidence (LS) has emerged as a major and yet largely hidden sustainability challenge across the Asia-Pacific region, undermining progress on climate resilience, sustainable urban development, and disaster risk reduction. Often referred to as a “silent crisis,” LS is a slow-onset hazard that results from both natural processes and human activities, particularly excessive groundwater extraction, rapid and unplanned urbanization, and weak land and water management practices. Its impacts are often irreversible and interlinked, leading to structural damage, flooding, infrastructure failure, and the degradation of ecosystems and livelihoods.

Recent findings, including the IPCC Sixth Assessment Report (AR6), identify land subsidence as a major driver of coastal hazards worldwide. In Asia, land subsidence affects 63 major coastal cities and accounts for more than half of the world's 50 fastest-sinking cities.<sup>1</sup> This challenge is driven primarily by intensive groundwater extraction for industrial and agricultural purposes. Cities such as Jakarta, Bangkok, Dhaka, Shanghai, and Manila already experience annual ground sinking rates of up to several centimeters, resulting in substantial economic losses and escalating infrastructure damage each year.

Addressing land subsidence demands early intervention, comprehensive assessment, and integrated, cross-sectoral planning, supported by robust monitoring systems and shared data

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<sup>1</sup> **United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).** (2025). *Technical Paper on Sinking Cities in Asia and the Pacific*. Bangkok: United Nations ESCAP.

Available at:

[https://www.unescap.org/sites/default/d8files/documents/Technical%20Paper%20on%20Sinking%20Cities%20in%20Asia-Pacific\\_updated\\_3.20.25\\_1.pdf](https://www.unescap.org/sites/default/d8files/documents/Technical%20Paper%20on%20Sinking%20Cities%20in%20Asia-Pacific_updated_3.20.25_1.pdf)

frameworks. Key approaches include integrated groundwater management, sustainable land-use planning, and the scaling of prevention, mitigation, adaptation, and nature-based solutions. Successful experiences across the region highlight the importance of strong partnerships between national and local governments, effective inter-agency coordination across sectors, and community engagement in both policy and practice.

Challenges persist in limited data availability, weak urban planning frameworks, high mitigation costs, and insufficient regional coordination. However, growing recognition of land subsidence as a regional priority has created an opportunity for collaboration and collective action. Cities facing similar risks can work together to establish standardized methodologies, share lessons learned, and jointly develop coordinated and cost-effective mitigation strategies. This side event will bring together policymakers, technical experts, and development partners to discuss strategic solutions, strengthen regional cooperation, and enhance collective capacity to manage land subsidence as part of the broader climate resilience and sustainable development agenda.

Against this backdrop, ESCAP, APDIM, and UN-Habitat, with the support of the Government of China, have launched the Sinking Cities Community of Practice (CoP) under the project *Confronting the Silent Crisis of Asia-Pacific's Sinking Cities*. The CoP provides a regional platform for peer learning, data and methodology sharing, and coordinated policy dialogue. This APFSD side event will convene the CoP and provide an opportunity for wider participation, bringing city-level experiences into direct conversation with regional policy processes, and strengthening momentum for collective action.

### Objectives

This side event aims to:

- Present and analyze case studies from champion and peer cities (e.g. Bangkok, Shanghai, Jakarta, and Cox Bazar) to identify practical, scalable solutions and emerging innovations.
- Explore technical, social, and institutional measures that have reduced subsidence risks and improved urban resilience.
- Identify key enablers of success, including political commitment, community participation, and effective regulatory and governance reforms.
- Compare challenges faced by diverse urban contexts and governance systems to identify transferable lessons and good practices for other cities in the region.

### Thematic Focus Areas

For 2026, the APFSD will be held under the theme: **“Transformative, equitable, innovative and coordinated actions for the 2030 Agenda and its SDGs for a sustainable future for all.”**

This session aligns with the APFSD 2026 SDGs under review and examines land subsidence through the following focus areas:

APFSD SDG Focus Area	Relevance to the Side Event
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<b>SDG 6 – Clean Water and Sanitation</b>	Strengthening sustainable groundwater governance by promoting responsible extraction, aquifer recharge, and water-use efficiency within urban development.
<b>SDG 9 – Industry, Innovation and Infrastructure</b>	Leveraging digital technologies, geospatial monitoring, and innovative infrastructure design etc. to detect, prevent, and manage land deformation and subsidence.
<b>SDG 11 – Sustainable Cities and Communities</b>	Embedding land subsidence management within urban planning, climate adaptation, and resilient housing strategies to protect communities and assets.
<b>SDG 17 – Partnerships for the Goals</b>	Advancing city-to-city and regional peer learning to foster coordinated, cross-sectoral action on land subsidence management and urban resilience.

**Draft Program (60 min), ‘Sinking Cities CoP Session 2: City Experiences – Managing Land Subsidence in Practice’**

MC: Sanjeevani Singh, ESCAP

<b>Time</b>	<b>Description</b>
<b>Opening &amp; Framing</b> (10 min)	<p><b>Opening and Welcome remarks:</b> Opening remarks highlighting the regional significance of land subsidence and alignment with APFSD 2026 theme and the role of the Sinking Cities Community of Practice as a platform for regional peer learning and collective action.</p> <ul style="list-style-type: none"> <li>• <b>Letizia Rossana, Director, Asia and Pacific Centre for the Development of Disaster Information Management (APDIM) (TBC)</b></li> <li>• <b>Permanent Representative of China to ESCAP (TBC)</b></li> <li>• <b>Mr. Emad Oboudiyat, Representative from the Embassy of the Islamic Republic of Iran</b></li> </ul>
<b>Setting the Scene: Regional Overview</b> (10 min)	<p><b>From City Evidence to Scalable Practice:</b> Lessons from China’s Sponge City Approach to Managing Land Subsidence. This segment will use China’s Sponge City experience, led by the Ministry of Housing and Urban-Rural Development (MOHURD), as a practice-based entry point to explore how cities can translate data and policy into action to manage land subsidence.</p> <ul style="list-style-type: none"> <li>• <b>Mr. Ma Haoran, Chief Engineer of Landscape Architecture and Landscape Research Institute of the</b></li> </ul>

	<p align="center"><b>China Academy of Urban Planning and Design, Ministry of Housing and Urban-Rural Development (MOHURD)</b></p>
<p><b>City Case Presentations:</b> Local Innovations and Lessons Learned (20 min)</p>	<p>Four short, focused case presentations (5 minutes each) illustrating how national systems, metropolitan governance, applied research institutions, and emerging-risk cities are addressing land subsidence in practice. Sequenced to move from system-level prevention to city-level implementation, science-policy integration, and early-stage risk management, the cases collectively emphasize prevention, early intervention, and the conditions required to avoid long-term lock-in of risk.</p> <p><b>Indicative cases and speakers:</b></p> <p><i>National systems and prevention</i></p> <p><b>Debolina Kundu</b>, Director, National Institute of Urban Affairs (NIUA), India (TBC)</p> <ul style="list-style-type: none"> <li>• Embedding land subsidence risk into national urban policy frameworks, planning instruments, and city data platforms</li> <li>• Preventing long-term lock-in through early diagnostics, city typologies, and coordinated groundwater-land-infrastructure governance</li> </ul> <p><i>Champion city – Bangkok (national groundwater governance in practice)</i></p> <ul style="list-style-type: none"> <li>• <b>Department of Groundwater Resources (DGR) Ministry of Natural Resources and Environment, Thailand</b> (Designated senior official, TBC)</li> <li>• Bangkok as a case demonstrating how national groundwater policy and regulation, implemented through local permitting, monitoring, and enforcement mechanisms, successfully stabilized land subsidence</li> <li>• Lessons on multi-level governance, including the alignment of national policy frameworks with metropolitan implementation, regulatory authority, and inter-agency coordination</li> </ul>

- The role of long-term monitoring systems, data-driven decision-making, and institutional continuity in sustaining outcomes over time
- Insights on how national groundwater governance frameworks can be adapted and operationalized at the local level to support large metropolitan areas and other cities in the region

***Technical and research perspective – Enabling science–policy integration***

**Stockholm Environment Institute (SEI), Mr. Thanapon Piman,**  
Senior Research Fellow (TBC)

- The role of long-term data, monitoring systems, and applied research in informing groundwater regulation and urban decision-making
- Translating scientific evidence into enforceable policy and planning instruments
- Lessons from regional experience on how research institutions can support governments at different stages of subsidence risk, with a focus on prevention and early intervention

***Emerging-risk city – Bangladesh (Cox’s Bazar)***

**Cox’s Bazar Development Authority / Ministry of Housing and Public Works,** Government of the People’s Republic of Bangladesh (Speaker TBC)

- Early-stage subsidence risk in a rapidly urbanizing and climate-exposed context
- Emphasis on prevention-first planning, institutional coordination, and opportunities to avoid long-term lock-in of risk
- Identifying capacity and data needs where early action can still alter long-term outcomes

The session prioritizes prevention, early intervention, and enabling systems, in line with the Community of Practice’s focus on avoiding irreversible impacts and informing future action. Lessons from high-risk contexts will be captured through the

	<p>interactive floor discussion and subsequent CoP knowledge products.</p>
<p><b>Discussion &amp; Interventions from the Floor</b> <b>(15 min)</b></p>	<p>A facilitated, solution-oriented dialogue engaging city representatives, national policymakers, research institutions, and development partners, with active participation from the floor to reinforce peer learning and connect case experiences to broader regional practice.</p> <p><b>Guiding questions:</b></p> <ul style="list-style-type: none"> <li>• What intervention has been most effective in managing or preventing land subsidence in your context, and why?</li> <li>• How were technical measures adapted to local institutional, regulatory, or social conditions?</li> <li>• What role did governance, regulatory enforcement, and coordination play in enabling action?</li> <li>• Which elements are transferable to other cities, and which depend on local context?</li> <li>• What capacity, financing, or data gaps continue to limit effective action?</li> </ul> <p><b>Interventions from the floor:</b></p> <p>Participants will be invited to share brief reflections or questions (up to one minute), including:</p> <ul style="list-style-type: none"> <li>• Short examples of city- or national-level practices relevant to subsidence prevention or management</li> <li>• Key challenges in applying, enforcing, or scaling solutions</li> <li>• Areas where cities seek technical support, data, or peer exchange through the Community of Practice</li> </ul> <p><b>Moderator:</b> Mr. Curt Garrigan, Chief, Sustainable Urban Development Section, ESCAP</p> <p><b>Expected contribution:</b> Key messages from the discussion will be synthesized to inform the CoP compendium, strengthen regional peer learning, and guide follow-up engagement and knowledge products.</p>
<p><b>Closing Remarks</b></p>	

(5 min)	<b>Ms. Kazuko Ishigaki, Regional Representative, Regional Office for Asia and the Pacific, UN-Habitat</b>
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### **Expected Outcomes**

The side event is expected to generate actionable insights, practice-orientated insights and shared commitments to advance coordinated responses to land subsidence and strengthen urban and climate resilience in the Asia-Pacific region. It will provide a platform for dialogue among national and local governments, scientific institutions, and development partners to identify effective locally adapted approaches, financing mechanisms, and partnerships for LS prevention, mitigation, and adaptation.

The discussion outcomes will inform regional dialogues leading to the ESCAP Commission Session (April 2026) and the World Urban Forum 13 (May 2026), contributing to the broader policy discourse on sustainable cities, water management, and resilient infrastructure. Key messages and lessons will be synthesized into a summary brief and a compendium of good practices, to be disseminated through the Sinking Cities Community of Practice and related regional platforms, supporting continued collaboration, knowledge exchange, and coordinated action on land subsidence and its impacts on sustainable development.

### **Contact Information**

For information related to APFSD-13, please check <https://www.unescap.org/events/apfsd13>

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