

Tomorrow's Cities Newsletter



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SMT Message



Dear Hub members,

As we enter the final year of our project, it brings us great joy to share the latest developments and milestones achieved by the Tomorrow's Cities Hub. Our journey has been one of growth, learning, and impact, and we are thrilled to witness the positive transformations taking place in cities worldwide.

The Tomorrow's Cities Decision Support Environment has been at the heart of our efforts, and, as you know we now at full-speed deploying it in two new cities - Rapti in Nepal and Nablus in Palestine. These deployments are the culmination of three years of rigorous testing and refining the framework in Istanbul, Quito, Nairobi, and Kathmandu. The invaluable insights gathered from these cities have

played a pivotal role in shaping a robust and adaptable platform that can now empower urban planners and decision-makers in Rapti and Nablus to create sustainable and resilient cities.

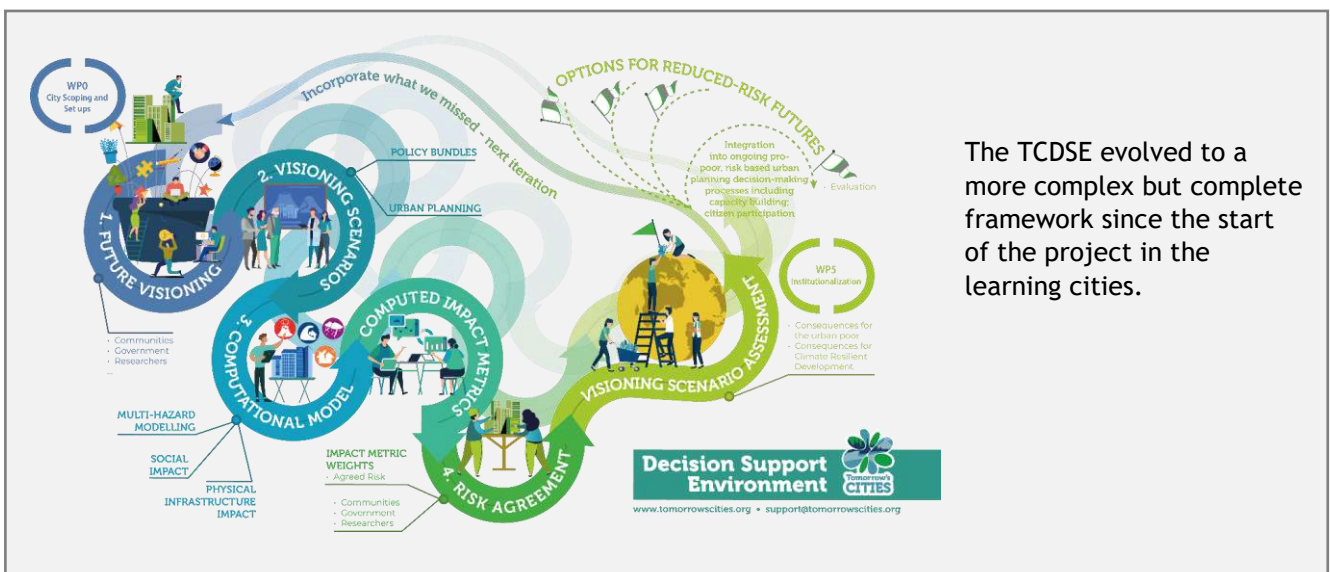
Beyond Rapti and Nablus, we are excited to welcome four other cities, including Cox's Bazar and Chattogram in Bangladesh, to join the Tomorrow's Cities Hub. This expansion signifies the growing recognition of the impact and potential of our innovative approach to urban development and disaster resilience.

None of these accomplishments would have been possible without the dedication and impressive efforts of our community. Your unwavering support has been a driving force behind the success of Tomorrow's Cities Hub. Together, we are certain that our collective work is making a tangible difference in the cities we serve.

As we move forward into this pivotal year, we remain committed to fostering sustainable urban development, enhancing disaster preparedness, and creating cities that are resilient and thriving for generations to come.

Thank you for being an integral part of this journey with us.

The Senior Management Team.



The TCDSE evolved to a more complex but complete framework since the start of the project in the learning cities.



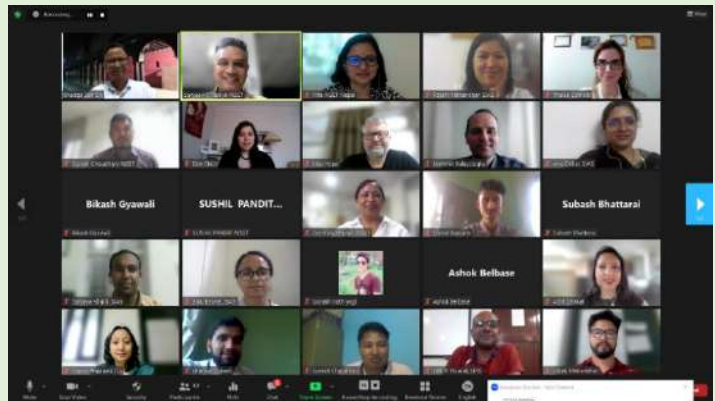


WP1 Future Visioning Training Activities

The first two sessions of Module 1 (Future Visioning) of the Capacity Strengthening course have been successfully conducted in both Rapti and Nablus. This online course attracted a diverse audience, including municipality representatives, local researchers, and other social and urban practitioners interested in learning about the fundamental components and methodologies of Tomorrow's Cities' approach to [Future Visioning](#). Both sessions had a substantial turnout, with approximately 30 attendees in each city, and active participation was observed.

Complementary to the Capacity Strengthening course and recognizing the need for a more contextualized and comprehensive understanding of Tomorrow's Cities' Future Visioning methodology, the international team has conducted in-depth training sessions in both Rapti and Nablus. These sessions aimed to provide participants with a hands-on and immersive experience, following the principle of 'learning by doing.'

Learn more about the Capacity Strengthening activities [in Rapti](#) and Nablus.



In-depth Training in Rapti





TCDSE Deployment

Nablus

The Urban Planning and Disaster Risk Reduction Center of Nablus, An-Najah National University, Palestine, has successfully completed the Future Visioning stage of the Tomorrow's Cities Decision Support Environment. The activities were conducted in collaboration with an international team from Tomorrow's Cities, alongside the participation of the Palestinian team and a diverse group of representatives from the local community.

[Read the full story.](#)



FUTURE VISIONING NABLUS, PALESTINE

“ *Nablus 2050, is a city that embodies resilience, sustainability, and a vibrant cultural identity that embraces digitization and urban development!* ”

Visit our website for more

<https://tomorrowscities.org/tomorrows-nablus>



Rapti

The Southasia Institute of Advanced Studies (SIAS), in collaboration with local partners from the Institute of Engineering (IoE), the National Society for Earthquake Technology (NSET), the Nepal Development Research Institute (NDRI), and Practical Action Nepal, organized a two-day workshop on June 14-15, 2023, as part of the Future Visioning activities. The workshop took place at the meeting hall of Rapti Rural Municipality (RRM) in Deukhuri (Rapti) Valley, Dang. It involved a total of 75 participants, including facilitators, note-takers, and technical staff.

[Read the full story.](#)





FUTURE VISIONING IN RAPTI, NEPAL

“Our wish is a prosperous Rapti valley with adequate and accessible services, a discrimination and disaster-free society, secure employment, safe, clean, organized environment and good governance.

Visit our website for more
<https://tomorrowscities.org/tomorrows-rapti>

Istanbul



In Istanbul the Future Visioning Workshop brought together various community groups, providing an inspiring platform to envision a brighter tomorrow. During the workshop, seven distinct stakeholder groups participated, each contributing a unique perspective and vision for the future. One particular group that stood out was the youth group, whose passion and innovative ideas served as a driving force throughout the event. Their unwavering determination to create positive change and pave a path towards progress left a lasting impression on all attendees.

[Read more.](#)



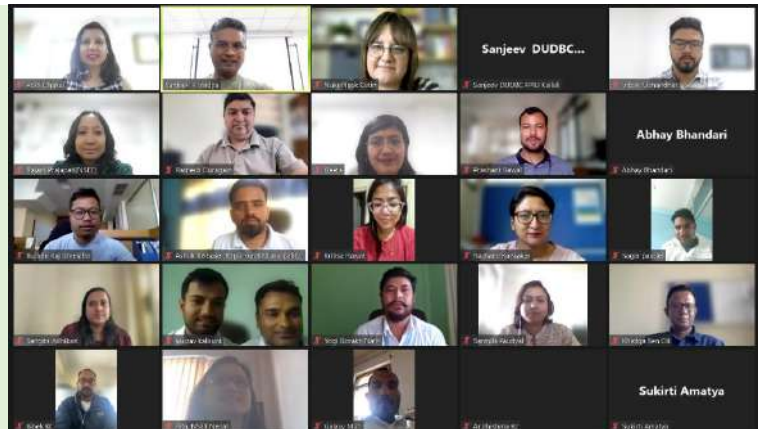


WP2 Visioning Scenario Development

Training Activities

The Capacity Strengthening Module 2 (Visioning Scenario Development) has successfully conducted its initial two sessions in both Rapti and Nablus. This online course attracted a diverse audience, including municipality representatives, local researchers, and various social and urban practitioners interested in understanding the fundamental components and procedures of Tomorrow's Cities' approach to Visioning Scenario Development. The courses garnered significant attendance, with approximately 30 participants in each city, and witnessed active participation throughout.

In Nepal, the training sessions were conducted in both Nepali and English languages, and real-time interpretation services were provided by professional interpreters. This service effectively eliminated the language barrier during both theoretical lectures and exercise sessions.





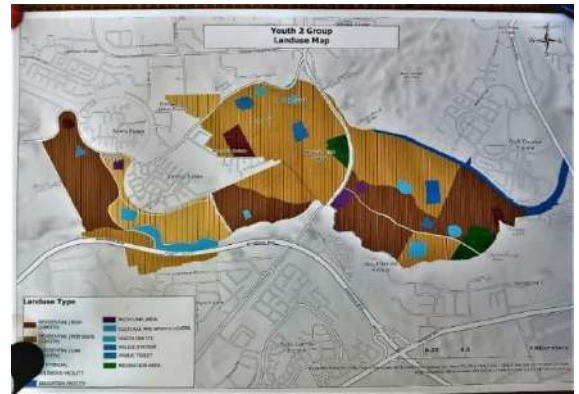
TCDSE Deployment

Validation workshop in Nairobi

As part of the Visioning Scenario Development activities, the Policy Validation Workshop took place on March 14th and 15th, 2023, in Nairobi. It served as a follow-up to the participatory Future Visioning exercise conducted in Kibera on December 13th and 14th, 2022 and aimed at assessing the

correlation between community aspirations and the spatialized visions depicted on the 2D and 3D maps generated by our researchers.

[Read the Full Story](#)

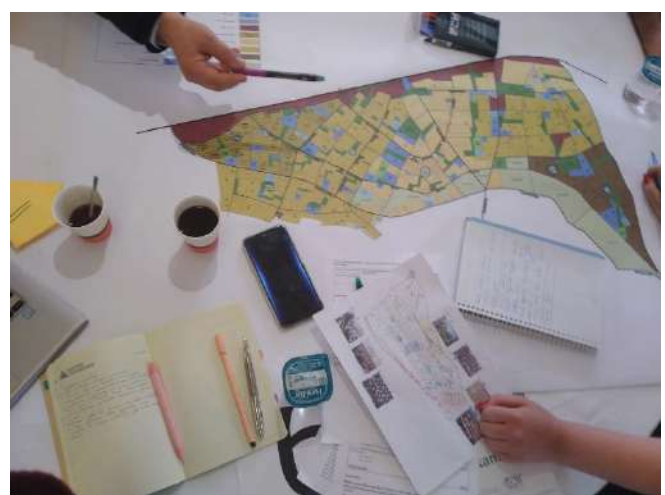


Validation workshop in Istanbul

In a significant step towards inclusive urban planning, Istanbul hosted a validation workshop on March 22nd. The one-day event aimed to validate community-based land use plans, bringing together diverse stakeholder groups including youth, the elderly, the urban poor, the Roma community, people with disabilities, and women. The workshop saw participation from over 30 individuals

representing these groups, while 10 representatives from public institutions formed the "policy makers" group. This collaborative effort marks a pivotal moment in fostering community engagement and ensuring a holistic approach to urban development.

[Read the full story](#)





WP3 Computational Model

TCDSE Deployment

For the social impact modelling component of the Computational Model, the team led by Alejandro Barcena collected Social Vulnerability and Impact data from three municipalities in the Lumbini Province Capital City, namely Rapti, Ghadawa and Shitganga. The NSET team collaborated with local researchers in Rapti to obtain relevant documents related to social vulnerability.

On July 22, a survey was conducted aimed at identifying the Disaster Impact Metrics (DIMs) that are significant to different stakeholder groups in the cities. The survey was disaggregated, and Tomorrow's Cities International team at NSET translated them into Nepali. The workshop invited 32 participants from diverse professional backgrounds, located in different parts of Kathmandu. The participants represented varying age groups, genders, and income groups.





WP4 Risk Agreement

Training Activities

The online training sessions are being developed for WP4. The course will be delivered in Rapti and Nablus soon. The anticipated target audience of the course will include local government representatives, local researchers and practitioners who are interested in understanding how to communicate and reduce risk in an equitable manner.



TCDSE Deployment

Khokana workshop

The initial version of WP4 methodology was piloted in Khokana in February 2022. A workshop format was used to test the methodology. The workshop was attended by Khokana community members and representatives from the local municipality.

New cities

The new version of WP4 methodology will be deployed in Rapti and Nablus between October and November 2023. The workshops will have a mixed audience comprising of community members, urban planners and local government representatives.





News from Tomorrow's Cities Istanbul

Tomorrow's Earthquake-Resilient Cities

The highly anticipated "Tomorrow's Earthquake-Resilient Cities" exhibition is in display in Istanbul until the end of August. [Read the full story.](#)

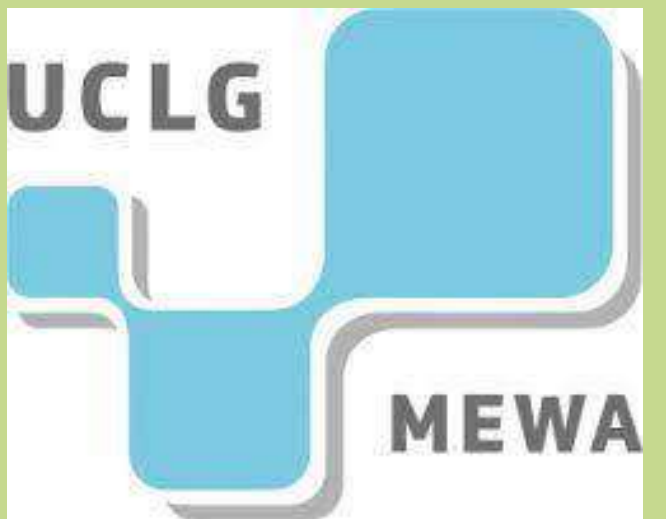


Unveiling the Aspirations and Vision of Community Groups

Istanbul's Future Visioning Workshop was a resounding success. Through collaborative efforts and productive discussions, the team effectively translated the diverse perspectives of stakeholders into tangible representations of the future. [Learn more](#)

UCLG-MEWA Academy Webinar

During the second meeting with [UCLG-MEWA](#), Istanbul HUB City Leads presented the findings of the TCDSE Future Visioning and Visioning Scenario Development activities. The final conference declaration addressed commitments such as investing in solid infrastructure, promoting energy efficiency, supporting education and awareness campaigns, and implementing policy-making mechanisms and local government-based initiatives to enhance resilience and disaster preparedness efforts.





Kathmandu

Once a medieval town, Khokana, on the southern limits of Kathmandu and home of the indigenous Newar (Jyapu) community, is changing the face of

urban development in Nepal with the help of Tomorrow's Cities. [Learn more.](#)

Rapti

Lumbini Provincial Capital City (LPCC), Rapti, is exposed to various geophysical and hydro-meteorological extreme events, as well as climatic and non-climatic hazards which have the potential to escalate into disasters. To change

that, [Rapti joined Tomorrow's Cities Hub](#) and immediately started [Capacity Strengthening activities](#). Currently the city is at full-speed deploying the TCDSE.



We have an opportunity to develop our city for future generations. It is our responsibility to lay a strong foundation for tomorrow's Rapti and this collaboration with Tomorrow's Cities will help us doing that.

Indrajit Tharu

Rapti Constituency Representative and former Minister for Physical Infrastructure Development.





Nablus

Nablus is the second largest city in Palestine in terms of population and land area.

Despite the significant unrest, economic challenges, and geopolitical constraints, the city has witnessed an 80% increase in the number of buildings between 1997 and 2017. This unprecedented growth is threatened by the potential devastating consequences multiple natural hazards, including earthquakes, landslides and flash floods.

With that in mind, [Nablus joined Tomorrow's Cities](#) earlier this year and has already completed the [Future Visioning activities](#).



"We fully support Tomorrow's Cities Hub, and we recognize its importance in achieving sustainable development and mitigating future risks. "

Eng. Majdi Al-Saleh
Minister of Local Government





Other news



Study that Accurately Forecast Last February's Turkey-Syria Earthquake Featured in Nature Magazine.

[Read the full story](#)



Tomorrow's Cities Partners Meet in Scotland to Discuss the Future of the Hub.

[Learn more](#)



Rapti in Nepal Joins Tomorrow's Cities Hub.

[Read the full story](#)



Nablus City, Palestine, Joins Tomorrow's Cities.

[Learn more](#)



Watch our interview series on YouTube.





Academic Publications



Normative future visioning for city resilience and development

Tomorrow's Cities researchers just published a paper in the Climate and Development Journal that delves into the process of Normative Future Visioning, arguing that it holds the ability to evaluate vulnerabilities and prioritize approaches to manage or minimize the impacts of climate change within an urban area. The paper reflects on early works carried by Tomorrow's Cities in the four learning cities about the connections between resilience and urban development. Such reflections were the building blocks for the elaboration of Tomorrow's Cities current approach to Future Visioning. [Read more](#) about this research.

Authors: Mark Pelling, Thaisa Comelli, Marco Cordova, Sibel Kalaycioğlu, Jonathan Menoscal, Rachana Upadhyaya, Matthias Garschagen.



Envisioning Normative Future Visioning for Transformative Adaptation

An abstract has just been accepted to feature in a special issue of the journal 'Building & Cities'. The issue - 'Urban Adaptation: Disrupting Imaginaries and Practices' - is led by Guest Editors Vanesa Castán Broto (University of Sheffield), Marta Olazabal (Basque Centre for Climate Change), Gina Ziervogel (University of Cape Town). Publication is scheduled for May 2024.



Future exposure modelling for risk-informed decision making in urban planning

Published in the International Journal of Disaster Risk Reduction, the paper brings attention to three key highlights. Firstly, it emphasizes the importance of utilizing land-use plans as a fundamental framework for understanding and assessing future exposure to hazards. Secondly, it introduces a novel data structure and proposes potential approaches for modelling future exposure to hazards. Lastly, presents a pilot case study called Tomorrowville, which serves as a practical example of implementing the proposed data structure and methodologies within the context of the Global South.

Authors: Emin Yahya Menteşe, Gemma Cremen, Roberto Gentile, Carmine Galasso, Maria Evangelina Filippi, John McCloskey



Creating a Decision Support Environment for Risk-Sensitive, Pro-Poor Urban Planning and Development of Tomorrow's Cities

A special issue entirely dedicated to the Tomorrow's Cities Decision Support Environment (TCSE), was just published by the International Journal of Disaster Risk Reduction.

Edited by Tomorrow's Cities researchers Gemma Cremen, Maria Evangelina Filippi, Suresh Chaudhary, Emin Yahya Menteşe and John McCloskey from University College London, University of Bristol, National Society for Earthquake Technology-Nepal, the Boğaziçi University - Türkiye and the University of Edinburgh respectively, the special issue, which is not yet complete, currently features five articles authored by several of the Hub's researchers and provides an overview of the creation process, objectives and technical capabilities of the TCDSE. [Read more](#).





Physics based simulations of multiple natural hazards for risk sensitive planning and decision making in expanding urban regions.

[Published in the International Journal of Disaster Risk Reduction](#), the paper present sresults of physics-based simulations of flood, earthquake, and debris flow scenarios in a virtual urban testbed. The effect of climate change, in terms of increasing rainfall intensity, is also incorporated into some of the considered hazard scenarios. Authors show that simulations of multiple, independent hazards can assist with the identification of developing urban regions that are vulnerable to potential multi-hazard events. This information can direct further modelling to provide decision-makers with insights into potential multi-hazard events. Finally, we reflect on how information derived from physics-based hazard models can be effectively used in risk-sensitive planning and decision-making.

Authors: Luke T. Jenkins, Maggie J. Creed, Karim Tarbali, Manoranjan Muthusamy, Robert Šakić Trogrlić, Jeremy C. Phillips, C. Scott Watson, Hugh D. Sinclair, Carmine Galasso, John McCloskey



Design and assessment of pro-poor financial soft policies for expanding cities.

[Read the full article](#)

Recent major earthquake disasters have highlighted the effectiveness of financial soft policies (e.g., earthquake insurance) in transferring seismic risk away from those directly impacted and complementing ‘hard’ disaster risk mitigation measures (e.g., structural retrofit). However, the benefits of existing financial soft policies are often not guaranteed. The paper contributes towards addressing these shortcomings by proposing a flexible framework for designing and assessing bespoke, people-centred, household-level, compulsory financial soft policies (including conventional earthquake insurance, disaster relief fund schemes, income-based tax relief schemes, or a combination of these) across cities under rapid urban expansion.

Authors: Chenbo Wang, Gemma Cremen, Roberto Gentile, Carmine Galasso





The Role of Forensic Investigation in Systemic Risk Enquiry: Reflections from Case Studies of Disasters in Istanbul, Kathmandu, Nairobi, and Quito

<https://tomorrowscities.org/role-forensic-investigation-systemic-risk-enquiry-reflections-case-studies-disasters-istanbul>

The potential of forensic investigations of disasters that typically deploy in-depth case studies to overcome these obstacles is evaluated on the basis of causal mapping with experts from a range of disciplinary backgrounds in Istanbul, Kathmandu, Nairobi and Quito. It is found that such investigations can serve to interrogate the fundamental value of any given system and its spatial and temporal bounds, generate collective mental models of the system from which risk emerges, and drive reflection on its root causes. However, it is critical that forensic investigation approaches carefully consider participant selection and facilitation in order to effectively operationalise the systemic risk concept in complementarity with other approaches.



Modelling the Effect of Hydraulic Conductivity Variability on Slope Stability Calculations for a Site in South-East Quito, Ecuador.

<https://tomorrowscities.org/modelling-effect-hydraulic-conductivity-variability-slope-stability-calculations-site-south-east>

This paper presents a recent citizen-science case study in Quito, Ecuador, in which saturated hydraulic conductivity measurements were taken in the field on a fine-grained volcanic sediment, often referred to as cangahua, were obtained as part of the Tomorrow's Cities project on urban multi-hazards and disaster risk management. These data are then used along with a recent soil database of Quito soils (Quito/GEO-299) and other locally obtained soil data and the Combined Hydrology and Stability Model (CHASM) to assess the stability of slopes in a hillside community in South Quito. The paper focuses on the variability of key slope stability parameters, including saturated hydraulic conductivity to assess the plausible ranges of behaviour for slopes in this area.



Developing a Geotechnical Database to Improve Slope Stability Assessments in Quito, Ecuador

<https://tomorrowscities.org/developing-geotechnical-database-improve-slope-stability-assessments-quito-ecuador>

This paper presents the preliminary results of data analyses undertaken on a new geotechnical database for Quito, compiled from a variety of sources. It is envisaged that this database will be utilised primarily for improving our understanding of landslide hazard drivers in communities in and around the city.



Evaluating Night-time Light Sources and Correlation with Socio-economic Development Using High-resolution Multi-spectral Jilin-1 Satellite Imagery of Quito, Ecuador

<https://tomorrowscities.org/evaluating-night-time-light-sources-and-correlation-socio-economic-development-using-high-resolution>

In this study, authors used a multi-spectral 1.5 m resolution night-time acquisition from a Jilin-1 satellite over the city of Quito, Ecuador, to evaluate spatial lighting patterns in an expanding and topography complex built environment.





Internal Publications



Based on the deployments of Future Visioning in the first learning cities, the team has now developed a [Logistics Checklist](#) for Future Visioning Workshops and a [Standard Script](#) (with key discussion priorities and concerns) that is adapted according to the in-depth trainings and requirements of each city.



A [Visioning Scenario Development Guidelines](#) has also been developed.



“[Impact Priority and Visioning scenario Ranking](#)”: this report captures the impact priority exercise to achieve risk agreement. This exercise was piloted in Khokana in February 2023.



“[Co-benefits and Trade-offs of Disaster Risk Reduction measures](#)”: this report captures the co-benefits and trade-offs exercise to surface the unintended consequences of disaster risk reduction.



The policy brief titled ‘[Towards building long term urban resilience: learnings from Nepal](#)’ provides an overview of the governance challenges and mechanisms to support future risk resilient urban planning in Nepal.



[WP4 key terms document](#).





Conferences

International Symposium on Life-Cycle Engineering in Milan, Italy, July 2-6, 2023	<p>Markovian modelling framework for life-cycle consequences of infrastructure systems in a multi-hazard environment.</p> <p>Authors: Otarola K., Iannacone L., Gentile R., Galasso C., A</p>
International Conference on Application of Statistics and Probability in Civil Engineering	<p>Tomorrow's Cities has sent a significant delegation to the ICASP14 conference in Dublin, Ireland, presenting several research papers.</p> <ol style="list-style-type: none">1. Facilitating optimal people-centered risk-informed infrastructure design in growing cities, through a holistic lens Authors: Nocera, F., Gamal, Y., & Cremen, G.,2. Simulation-based flood fragility and vulnerability analysis for expanding cities Authors: Iannacone L., Manandhar V., Gyawali J., Malla P., Gentile R., Creed M., Guragain R., Galasso C.,3. Assessing Environmental Impacts of Earthquake-Induced-Damage for an Italian Case-study Building Authors: Aljawhari K., Gentile R., Galasso C.,4. Leveraging Data-driven Approaches to Explore the Effect of Various Disaster Policies on Post-earthquake Household Relocation Decision-making Authors: Wang C., Cremen G., Galasso C.,5. Development and Assessment of Pro-poor Financial Soft Policies for Earthquake-prone Urban Communities Authors: Wang C., Cremen G., Gentile R., Galasso C.,6. Simulating interacting multiple natural-hazard events for lifecycle consequence analysis. Authors: Iannacone L., Gentile R., Galasso C.7. A Markovian framework for multi-hazard life-cycle consequence analysis of deteriorating structural systems. Authors: Otarola K., Iannacone L., Gentile R., Galasso C., s8. Seismic fragility analysis of deteriorating reinforced concrete buildings from a life-cycle perspective. Authors: Otarola K., Iannacone L., Gentile R., Galasso C.,
Danube-European Conference on Geotechnical Engineering	<p>Modelling the effect of hydraulic conductivity variability on slope stability calculations for a site in South-East Quito, Ecuador</p> <p>Authors: Zapata, C. Holcombe, E.A., Vardanega, P.J. & Jimenez, E. (2023).</p>





Upcoming Conferences

<p>Adaptation Futures Conference</p>  <p>adaptation futures 2023</p> <p>OCTOBER 2 TO 6, 2023</p> <p>Welcome to Adaptation Futures 2023</p> <p>MONTREAL, CANADA HYBRID FORMAT</p> <p>Canada Québec WABP IDRC-CRDI DURANDS</p>	<p>Tomorrow's Cities will be hosting a panel titled 'Normative Future Visioning' at the forthcoming Adaptation Futures Conference, scheduled to be held in Montreal, Canada, in October 2023.</p>
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<p>Needs Conference 2023 - Twente</p>	<p>Thaisa Comelli and other researchers have submitted an abstract on "Co-designing risk-oriented policies for future urban areas: Tomorrow's Cities bottom-up approach to policy development" to the Needs Conference.</p>
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For more information,



UK Research and Innovation



Tomorrow's Cities is the UKRI GCRF Urban Disaster Risk Hub

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