

# Tomorrow's Cities Engagement Programme for NEW CITIES



March 2023

Tomorrow's Cities (TC) is the UK Research and Innovation (UKRI) Global Challenges Research Fund (GCRF) Urban Disaster Risk Hub - a global interdisciplinary research hub. The hub aims to support the delivery of the United Nation's Sustainable Development Goals and priorities 1 to 3 of the Sendai Framework for Disaster Risk Reduction (DRR) 2015-2030. It is a fully-functioning, fully funded consortium of communities, government organizations, researchers and risk professionals at local, national and global level formed to reinforce disaster risk governance. It undertakes integrated, multi-scale and multi-disciplinary research to better understand natural multi-hazard risks and their drivers.



**“Our mission is to  
reduce disaster risk  
for the poor in  
tomorrow’s cities”**



## Introduction

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UN Habitat estimate that by 2050, 2 billion more people will live in urban centres worldwide, 95% in the global south. This historically unprecedented urban expansion where 70% of the world population will inhabit cities, will produce a similar increase in disaster risk. Almost 1 billion of the world urban population will be exposed to devastating earthquakes and hundreds of millions will see increasing threats from floods, and landslides that are amplified by accelerating climate change. Current urbanisation trend? has the potential to condemn hundreds of millions to a future dominated by repeated disasters. Through inclusive and risk sensitive urban planning, new urban development can move past existing inequalities and disaster risk in the built-environment. Including marginalised groups in planning for equitable access to the basic needs and risk reducing infrastructure can help to break cycles of exclusion, hazard exposure, vulnerability and loss. This makes planning for future urban development more accountable and resilient for all.

***The challenge is enormous, but so is the opportunity.***

With a clear focus on reducing risk in communities that are yet to be built, we can avail of a one-off, time-limited opportunity to optimise yet unbuilt cities for inclusive disaster risk reduction. The next decades provide a unique window for action. By understanding the risk consequences of today's decision on tomorrow's disaster risk before we commit to policy change and construction, we can rethink our decision-making processes leading to, evidence-based, low-risk decisions today that will change the future for millions.

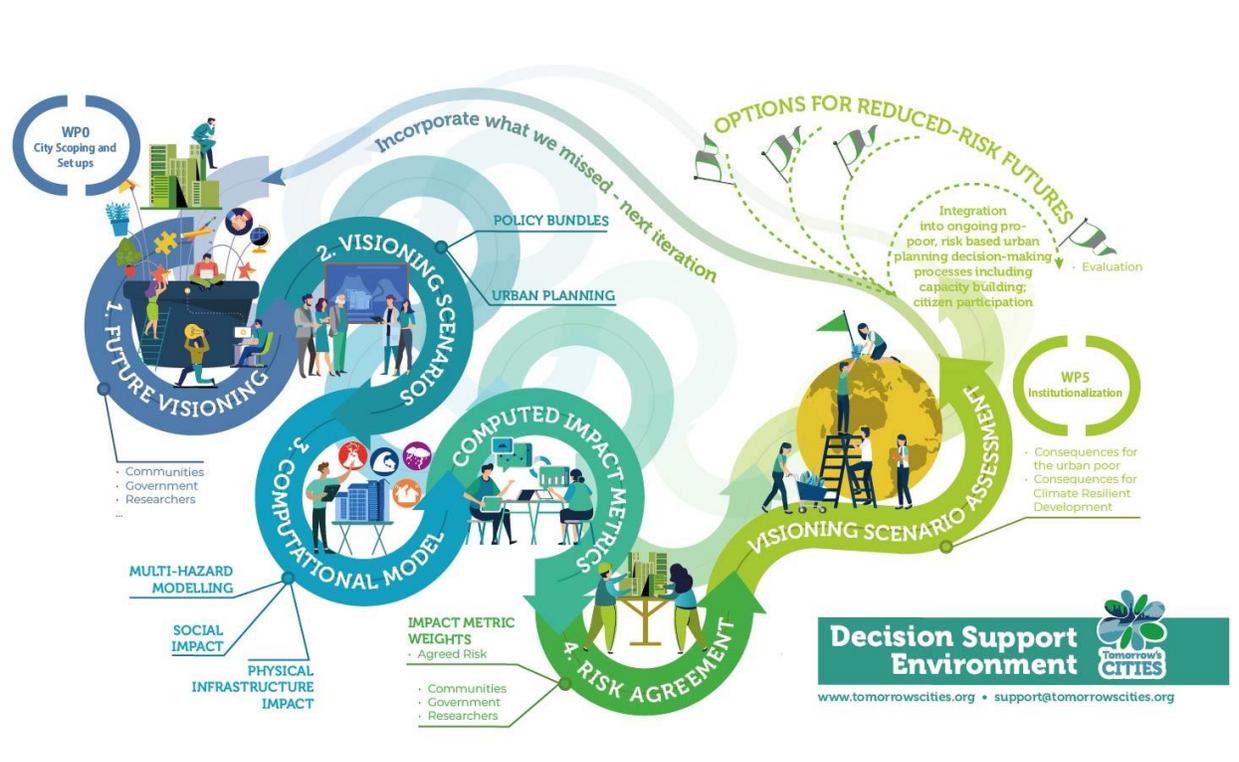
***Flood and earthquakes are results of natural processes,  
disasters are the result of human choices.***

Tomorrow's Cities has worked with local teams in Quito, Istanbul, Kathmandu and Nairobi to develop the Tomorrow's Cities Decision Support Environment (TCDSE): a flexible framework to support inclusive and evidence-based decision making, leading to a low-disaster-risk and more equitable urban development.

TCDSE aims to facilitate multi-sectoral, people centred, evidence based, transparent and accountable decision-making. Acknowledging the systemic nature of the causes of disasters, Tomorrow's Cities advocates for and facilitates inclusive, multi-sectoral engagement of scientists, engineers, politicians, economists, private sector groups and, critically, representatives of the urban citizens who will live in the cities we will help to plan.

Remember, urban development plans made today, will either brighten or blight the lives of citizens for centuries. The main process included in the TCDSE are:





**Tomorrow's Cities Decision Support Environment (TCDSE)**

- **Future Visioning** explores possible urban futures with city stakeholders, incorporating physical environment, demographic projections and economic and policy frameworks constraining future development.
- **Visioning Scenarios**, render these desired futures into detailed virtual representations encapsulating the location and engineering properties of every building, details of every member of the possible population, the age and gender of every person, where they live, where they work, where the children go to school.





- **Risk agreement** enables enhanced equity considerations in decision making. This is approached through two processes. First, is generally defined in terms of asset value, but economic value is only one part of how risk is experienced. Asset value means little to those with no assets. Our understanding of process attempts to **open up definitions of risk** to engage with the lived experience of those at risk providing a more inclusive basis for assessment. Second, it includes consideration of the ways in which action to reduce risk has co-benefits and trade-offs for connected development goals. For example, this can warn of potential for enhanced infrastructure aimed at the urban poor shaping processes of exclusion and generating risk elsewhere. These discussions feedback into WP1.



Risk Agreement for Khokana, Nepal

- The entire process gives communities and decision makers a **transparent understanding of the disaster-risk consequences of their decision-making**. Tools developed in Tomorrow's Cities allow multi-sector teams to examine the origins of the risk in terms of the decision-making process.
- Across this process community and city actors come together to provide insight and expertise and jointly consider the **policy and practical priorities** to transition urban planning and development towards inclusive risk reduction. What changes in spatial planning could reduce the forecast risk? What policy options could support these changes? How appropriate are existing operational groups or policy partnerships to enable these changes? Is this process inclusive of those people most at risk?



## City Selection

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Tomorrow's Cities is now recruiting up to six new cities to experience the TCDSE and to help understand the consequences of current decisions on the futures of your city for hundreds of years.

The TCDSE is not for every city. Tomorrow's Cities lay out here a set of indicators which will help your city decide if this programme is likely to be useful to your context.

Political will to reduce multi-hazard disaster risk requires a clear local threat from a range of hazards, earthquake, floods and/or landslides. Commitment to evidence based, inclusive and people-centred risk reduction as part of urban development is a must. Does your city foreground disaster risk in its thinking about urban development? Does your country and your city prioritise disaster risk reduction in its policy framework?

Tomorrow's Cities' focus is on urban expansion and helping make decisions to reduce risk in as yet **unbuilt places and communities**. We do not address existing disaster risk. Does your city have an ongoing development plan driven by urban expansion? Do your planning authorities struggle with conflicting priorities in addressing issues of disaster risk reduction and urban development?

The ultimate aim of the TCDSE is to help your city kick-start a long-term process leading to evidence-based decision making over the next 30 years. Local technical capacity is critical. Does your city or settlement have access to a local university committed to studying and actively mitigating disaster risk? Does the institution have a cadre of young highly motivated staff who are keen to engage with a wide range of international experts to co-learn ways to plan disaster risk out of development in their communities?

If the answer to these questions is yes, then please read on, Tomorrow's Cities may have a critical opportunity for you.





Khokana, Nepal

## Engagement with Tomorrow's Cities TCDSE will provide:

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1. A tested work programme to facilitate evidence-based decision making for low-risk urban futures.
2. A linked and carefully structured Capacity Strengthening Programme to build understanding and help fill capacity gaps so that ownership of the TCDSE passes to the city teams.
3. A fully funded package including support from our International Team of experts and for city teams, to help guide national, municipal and community actors through the programme, building capacity and commitment in local communities, municipalities and universities.
4. Membership of the growing Tomorrow's Cities Foundation, a global community of practice comprising city governments, community leaders, global agencies and universities, to share lessons and peer support as part of continuous learning on how best to reduce risk in future urban development.



## Phase 1: City Engagement



**City engagement in TCDSE [Khokana, Nepal (Left) and Quito, Ecuador (Right)]**

The Tomorrow's Cities team will support you through the process of considering whether the TCDSE is suitable for your development project and help you gauge the commitment from your institutions and communities to the process. The main steps in the process will be:

1. Initial discussion with Senior Management Team (SMT)
2. Proposal Development and submission to SMT
3. SMT review (and return to propose any clarifications required)
4. SMT recommendations to Hub Executive Committee for final decision
5. Decision communicated to proposer and subsequently across the Hub
6. Team building

### Timetable for Tomorrow's Programme:

	Responsible	Start Date	End Date
<b>Initial Discussions</b>	All		
<b>Proposal Development</b>	City team		
<b>SMT review</b>	SMT		
<b>Decision communicated to City team</b>	SMT		
<b>Team building meeting 1</b>	All		
<b>Team building meeting 2</b>	All		
<b>City Background Checklist Timetable</b>	City team		
<b>M0 and Project Launch</b>	All		



## Local commitment

Following preliminary discussion with some representatives of the city leadership team. Ideally this would include representatives of all the main stakeholder groups, including:

- Members of the local Municipal authority, including among others, decision makers and the urban planning department.
- Representatives of the local community perhaps including women's groups or groups representing the elderly or youth. Organisations of low-income groups are particularly important.
- Leaders of a specific development project who are committed to working with the TCDSE.
- National authorities. Those responsible for disaster reduction policies and those charged with urban planning.
- Strong academic institutions are critical to success. Ideally, the TCDSE process requires experts in hazards science, risk social science and various aspects of engineering.
- Appropriate members of the private sector including utility companies who may be responsible for major infrastructure projects.

Of course, we generally must start from a subset of these groups and then work together to help them recruit representative of the missing organisations. Can the local team expect commitment from representative of these groups? We ask that you provide a list of the leading representatives of these groups. The more of these groups who will be around the table at the TCDSE launch event, the higher the chances of success.

## Hazard context

Municipal and national commitment depends on prioritisation of disaster risk reduction and this in turn requires a clear threat from multiple hazards. It is critical that the local team can describe the multi-hazard environment. We generally require at least two of earthquake, flood and landslide threat. We also consider urban fire risk. We need the local team to outline these hazards in as much detail as they can. Maps and figures will help us understand the context better.

## Disaster risk agenda

How important is disaster risk reduction in the local political agenda? What are the current policies aimed at disaster risk reduction? Are any of these specifically aimed at reducing risk in urban development? Do these policies require local participation? Does the city have, or are you working on a development master plan, urban resilience plan or large scale, project-based development? How else might you evidence local and national commitment to urban disaster risk reduction?

## Previous involvement in disaster risk reduction projects

What research and development projects have focused on disaster risk reduction in the region? What access do your team have to their results? While this is not strictly necessary (we must be inclusive of less researched contexts), it is critical that we do not attempt to reinvent the wheel.

## Development project

Tomorrow's Cities must support a specific development project. Describe an appropriate project in your city. Who are the main stakeholders associated with this project? Are they interested in engaging with the TCDSE?



Tomorrow's Cities will be keen to help you explain the TCDSE and the commitment that will be required from potential stakeholders.

## Local research team

While it is not necessary to have the complete local research team, the more accomplished the local team, the higher the chances of success. Can you demonstrate commitment of local social scientists, physical scientists including hazard modellers and engineers? Precise expertise is not necessary and the Tomorrow's Cities programme includes a detailed capacity-strengthening programme, again, the stronger the local team the better. What experience do you have? Tomorrow's Cities is concerned with the future, so engagement of early career researchers is particularly welcome.

## Local stakeholders

Letters of support from a range of local stakeholders will be particularly important, though we can go ahead while these letters are being sought. Who are the critical stakeholder groups? Can you obtain letters of support that evidence some understanding of the commitment required to proceed with the TCDSE. Include appropriate representatives of the private sector who might be responsible for urban development projects.

## City Readiness

What other evidence can you supply that the city authorities and community groups are likely to be receptive to the TCDSE?

## City proposal form

We attach the initial proforma for this initial assessment of the city is supplied in Appendix 1.

Note that this is not an exam. The tomorrow's cities team will help you develop this assessment and will work with your team to maximise the fit between your city and the TCDSE.



## Phase 2: Pre-engagement research



Pre-engagement research by Project team in Khokana, Nepal

### Senior Management Team visit

After we agree the mutual fit of Tomorrow's Cities processes and the city, the Tomorrow's Cities Senior Management Team will visit the city to meet the various stakeholders. Ideally, the agenda for this visit should include meetings with the local university team, with the local municipality and some interaction with appropriate national government actors. SMT will discuss the TCDSE process and answer any questions. This will be the first opportunity for the city team to start to detail out the city context and begin to co-produce the precise flavour of the TCDSE in the city.

### Critical background information and team building

Following initial selection but prior to the formal launch of the project, the TC and city teams will work together to explore the detail of the process and assess the background information and capacities.

### Team Building

We must identify the details of the local team and the Tomorrow's Cities International team who will support the local team as they begin to understand the TCDSE and build local capacity toward independent delivery of the process after the initial 6 months of intensive work.

A series of short meetings will allow the local leadership team to build the local team and to identify capacity gaps to be filled, in the short term, by the international team, and that ultimately can be built either locally or in collaboration with other cities globally in the Tomorrow's Cities Foundation.

The TCDSE is not a one-size-fits-all process, it must be tailored to the specific context including data availability, local skill sets and political and economic environment.

Firstly, we must build a TCDSE team, comprising local and international experts and stakeholders, ensuring that the entire range of expertise required for the TCDSE is available for the project. Ideally, local scientists, engineers and stakeholders will lead this team, but the Tomorrow's Cities International Team will help build capacity where necessary (see Capacity Strengthening Programme below) and fill any skills gaps.



### Meeting 1:

Between the local leadership team and Tomorrow's Cities SMT and Work Package (WP) leaders will make sure there is a clear understanding of the aims and contribution of the TCDSE and the main skills which will be required.

The local team can then go back to their contributing institutions and identify the local team.

A second meeting will then introduce the local and international team and will require a detailed mapping of the expertise to the necessary tasks.

The process will be built around the tables in Appendix 2. Again, the Tomorrow's Cities team will work with local stakeholders to develop shared understanding of the key skills.

### Background to the city

Having assembled the combined team, we will then develop a data collection plan and supplement where necessary with global data sets, whose resolution is generally enough to make the critical points but will require more local work. A TCDSE database comprising the data necessary to support evidence-based risk-sensitive decision-making will be an important output of our work.

At this stage it is also critical that we understand the local political context, to identify strengths of the local teams and data streams with respect to the TCDSE process and, to identify any gaps and take steps to deal with these.

This process will require a series of carefully planned meetings where the TC and local teams will complete a series of proformas clearly identifying requirements and responsibilities and how the partnership will cover the key aspects of the TCDSE process. This process is still evolving but the meetings might be organised around checklists such as those presented in Appendix 3.

It is likely that the work will require a visit by 1-2 members of the International Team to assist in the scoping and fit of the process to the TCDSE requirements.

The result of these meetings will be a clear understanding of the strengths and weaknesses of the local context with respect to the requirements of the TCDSE process. The teams will then develop a plan to organise the information and data and to fill any gaps that emerge from the process.

### Communications Strategy

Communications is not a possible extra in Tomorrow's Cities but is a critical part of the way to success. We have clear groups of stakeholders who need informed in ways that depend on their level of interest:

- Within the project, we need to be sure that progress is commonly understood in both local and international teams including key stakeholders and that progress against milestones is clearly visible.
- Key external stakeholders, at national level, for example, are aware of the highlights occurring with the city.
- Citizens in the City are aware of and begin to understand the importance of the project.
- Progress must be visible to global agencies with responsibility for disaster reduction and
- Our website provides a clear access to the evidence base of successes for potential donors.



The Communication strategy is still in development. It will involve an overall Tomorrow's Cities communications template, in which communications opportunities are identified and scheduled in advance, but also encourage local teams to engage flexibly with local, national and global media.

The Communications Strategy is still in development but will be a key part of the TCDSE programme.

### **Memorandum of Understanding**

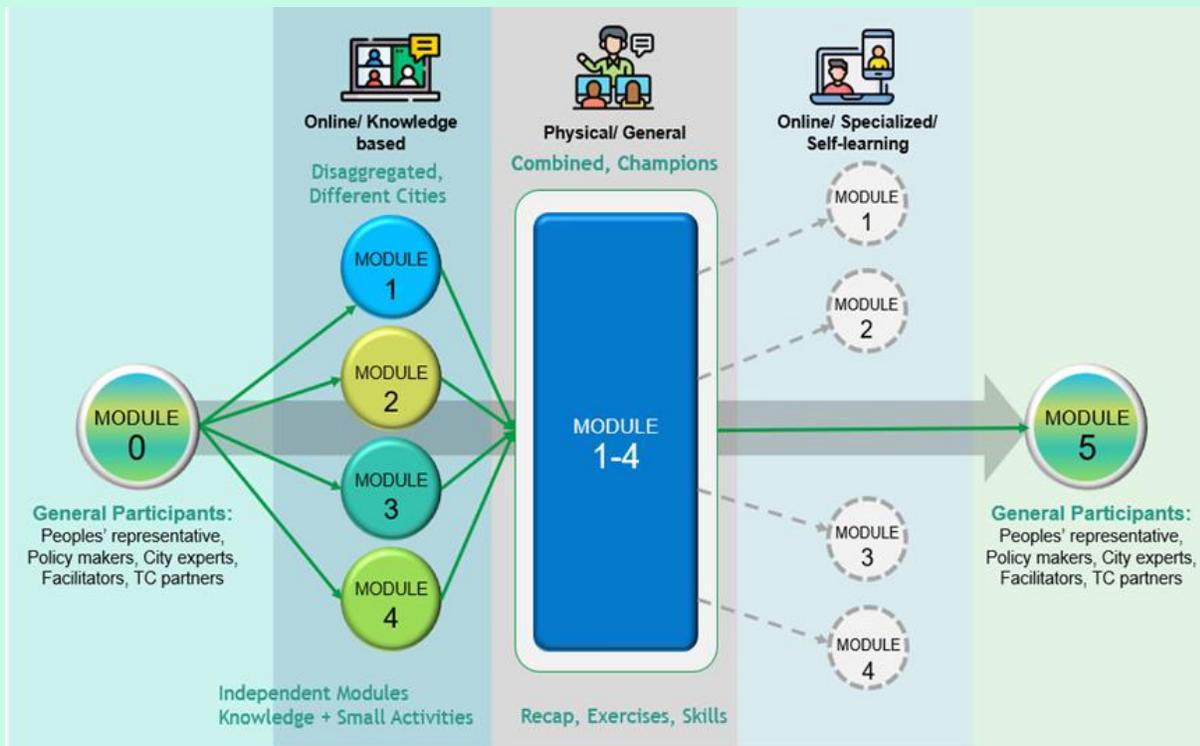
The collaborating institutions will then agree a MoU to bring to the Launch event. This might include:

- agreed roles and responsibilities for work and legacy.
- data sharing provisions.
- engagement of critical stakeholders in the TCDSE process.
- A "Certificate of collaboration" or "Letter of partnership" with the lead community group.

Remember, at this stage, we are now working together to launch the TCDSE process in the city.



## Phase 3: The Tomorrow's Cities Capacity Strengthening Programme



**Modality of TCDSE Capacity Strengthening Course**

The TCDSE is a complex procedure that brings carefully chosen local stakeholder teams through a tested programme leading to a self-driven decision support capability. Tomorrow's Cities recognises that, while many cities already have the capacities required for much of this procedure, we anticipate that many cities may be deficient in one or more necessary skills.

To address this likely scenario as well as to develop a shared understanding of the TCDSE process, we have developed a matched programme which will support the development of the local teams.

The programme is led by the Tomorrow's Cities International team and involves a close cooperative learning environment.

Following the Module 0 (M0) launch event, the programme advances through a series of technical modules which bring the local teams through the TCDSE building understanding and technical skill. These modules are tutor supported online delivery mode.

A series of champions are then identified from the participants between the Tomorrow's Cities team and the local stakeholders. These champions will attend a residential course at some common venue at which they will join with champions from one or more other cities. This residential school will drive deeper learning of the TCDSE methods and techniques but also foster inter-city and international cooperation.





damage experienced in the chosen earthquakes of floods. Earthquake and rainfall are not the causes of disasters – choices in urban planning are.

In WP4, stakeholders meet again to consider and negotiate what disaster risk means for them generating a co-owned understanding of risk that can then be used to tracing back the origins of disaster risk in each of the original visioning scenarios.

Then, the visions are modified and are again subject to the same range of disaster events. Each modification changes risk consequences and allows stakeholders to improve their shared understanding of the drivers of risk, how modifications in urban planning and policy can increase or decrease risk and how appropriate existing organisational arrangements are for achieving this. We capture these reflections in each iteration of the TCDSE (WP5) offering policy makers and local actors opportunities to reflect and help identify next steps to improve inclusive decision-making structures and guidance. Vision, hazard-event, impact, risk assessment, policy consideration, repeat.

Through the repeated participatory, risk-reducing, modifications of future visions the Tomorrow's Cities Decision Support Environment supports participatory, transparent and evidence based decision making, leading to low-risk urban futures.

## Phase 6: The Tomorrow's Cities Foundation

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The Tomorrow's Cities team are considering how we might extend the Tomorrow's Cities network through a global community of practice. Each of the new cities will be involved in the development of this idea and will contribute to the various funding applications required to make this possible.

Further details will be supplied as they become available.



## Appendix 1: Guidance for New City Proposals

SMT have developed a framework for assessing potential cities for TC Hub expansion. All proposals should refer to this framework (which also acts as a useful self-assessment tool in considering new city potential), and within the proposal clearly outline how the city sits within the framework areas:

### Proposal Template

Proposed City	
Proposing institution	
Institutional Lead	
Proposed Start Date	
Local Advisor (if known)	
Local Research Team (organisations and members)	Please indicate the lead members of the local university team. The team should include Physical and social scientists and engineers.
City Stakeholders Involved	Please give the organisations and leads of the key stakeholder groups who have agreed to participate in the project.

Multi-hazard context:	Describe the hazard context. Given the current expertise in Tomorrow's Cities, this should include at least two of earthquakes, floods and gravitational flows. (<300 words + appropriate maps and tables)
Disaster risk agenda	Is the city already actively working to reduce disaster risk – is there an existing policy framework and one or more agency to work with? Please outline (<300 words)



<b>Previous work</b>	What previous work has been done on risk reduction in the city with particular emphasis on risk emerging through urban planning. (<500 words + key maps and figures)
<b>Development</b>	Please describe a suitable specific development project that can be supported by the TCDSE framework. (<300 words + appropriate maps and tables).
<b>Local Research Team</b>	An appropriate multi-disciplinary local research team in place. Give a brief outline of the team and previous experience. (<200 words)
<b>Local stakeholders:</b>	All relevant city level stakeholders are engaged and there is evidence of this (in form of direct partnership in the proposal, letters of support, match-funding etc). It is anticipated that the stakeholder group would involve appropriate local, national authorities, and community groups and might include private sector or civil society organisations. (<300 words)
<b>City readiness</b>	What initiatives are already in place to reduce disaster risk? Can you supply evidence of an environment that might integrate TCDSE into risk-informed urban development and planning processes in the city?



## Appendix 2: Draft team building process:

### Team building Meeting 1.

**Aims:** to build clear understanding of the requirements of the local team in terms of representation of the key stakeholder groups.

#### Attendance

Tomorrow's Cities SMT, WP leaders and CSP representative

Local academic, municipal and community leaders

#### Agenda:

1. Introductions
2. TCDSE overview.
3. Presentations from TCDSE WP leaders
4. Overview of Capacity Strengthening Programme (CSP)
5. Initial attempt to define city leadership team
6. Overview of the City application form.
7. AOB

Local team will then put together the attendees for Team Building Meeting 2. For example, by completing this table:

Representing group	Suggested person(s)	Notes
Municipal		
National		
Community		
Academic social science		
Academic physical science		
Engineering		

**Table for Team building 1**

### Team building Meeting 2:

#### Aims:

1. To match local team members against the detailed task list arising from each of the WP descriptions and ensure commitment to attendance at the CSP.
2. To agree the programme for pre-engagement research process. (see appendix 3)
3. To agree the timing of Module 0 (M0) launch event.



## Attendance

Local leadership team

Tomorrow's Cities WP leaders and representatives of Capacity Strengthening team

## Agenda

1. Work Package (WP) activity matching and completion of Table Team Building 2.
2. Detailing of activities require to complete the pre-engagement research programme.
3. Clarification on constraints on timing of M0



Task	Stakeholder team	Local Team	International Team	Month																							
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP1	1. Contextualized in-depth training and adaptations of FV methodology																										
	2. Organizing stakeholders, facilitators and data for deployment																										
	3. Deployment																										
	4. Rapid assessment for moving into WP2 (particularly policy develop.)																										
	5. In-depth Analysis for scientific purposes (learning from deployment)																										
WP2	1. Processing of data delivered in WPO																										
	2. Preparation of policy development (connected to n. 4 in WP1)																										
	3. Urban Planning-Phase 1 (refinement of land-use & zoning WP1)																										
	4. Urban Planning-Phase 2 (future exposure data generation)																										
	5. Draft Visioning Scenarios for Validation Workshop																										
	7. Validation workshop (deployment)																										
	8. Finalising Visioning Scenarios																										
	9. In-depth Analysis for scientific purposes (learning from deployment)																										
	1. Hazard modelling																										
WP3	Flood Modelling																										
	Landslide Modelling																										
	Seismic modelling																										
	Multi-hazard modelling																										
WP4	2. Physical infrastructure impact modelling																										
	3. Social impact modelling																										
	4. Impact metric characterisation																										
	5. Computational platform running																										
	6. In-depth Analysis for scientific purposes (learning from deployment)																										
	1. Update/Feedback WP1, WP2, WP3																										
WP4	2. CS for local facilitators team																										
	3. Input checking session(s)																										
	4. Contextualisation of methodology																										
	5. Workshops																										
6. In-depth Analysis (learning from deployment) and reporting																											

Table for Team building 2



## Appendix 3: City background Checklist

<b>Institutional Mapping</b> Understanding the legal and policy framework constraining the development process.		
<b>Skill area</b>	<b>Institutions and People</b>	<b>Gaps</b>
Who are the key authorities with responsibility for urban planning? Which of them are (or can be) associated with the project? Which of these can guide the Team through the policy process?		
Which government organisations are responsible for data collection and archiving? Who are the gatekeepers? What is the availability? What is their commitment to the TCDSE process?		
Which community-based organisations have particular interest in urban planning? How can we include representatives of marginal or those particularly at risk?		

<b>Institutional Capacity</b> Does the City have the necessary capacity and capability in the relevant disciplines? (NB the Tomorrow's Cities International Team will work to build capacities where necessary.)		
<b>Skill area</b>	<b>Capacity</b>	<b>Gaps</b>
Can we name the key physical hazard modellers? What is their experience? Do they have operational flood, seismic and landslide models?		
What is their commitment to the project?		
Which government organisations are responsible for data collection and archiving? Who are the gatekeepers? What is the availability? What is their commitment to the TCDSE process?		

<b>Data Availability</b> Does the City have access to the necessary data? Each WP needs to provide a list of necessary data and the teams then agree a series of steps to align requirements.		
<b>Data</b>	<b>Comment</b>	<b>Gaps</b>

<b>Contextual analysis</b> What is the current context of the city of relevance to the TCDSE process?		
<b>Data</b>	<b>Comment</b>	<b>Gaps</b>
Historical disaster events		
Urbanization status and trends including migration and economic trends.		
Status of integration of multi-hazard risk assessment and planning in urban development policy		





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and Innovation



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

"Tomorrow's Cities" is the UKRI GCRF Urban Disaster Risk Hub-one of twelve global interdisciplinary research hubs funded by an UK Research and Innovation Collective Fund Award

[www.tomorrowscities.org](http://www.tomorrowscities.org)

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