

Urban Mission: Thriving in places while stewarding the natural environment

The scale and speed of current urbanization are unprecedented in human history. More than half of the world population lives in urban areas. Seventy percent of the world population will live in urban areas in 2050. Most of the yet-to-be built urban areas will be in low- and low-to-middle-income countries, mainly in Asia and Africa and to some extent in Latin America (TW2050, 2018). Urbanization in many of these countries is characterized by informality. While megacities receive significant attention, they only concentrate approximately 13% of the world's urban population. More than half of the urban population is concentrated in cities with fewer than one million inhabitants (UN, 2019). Small- and middle-sized urban areas have significantly less resources to manage urban growth than megacities. Urban areas are responsible for a large proportion of direct and indirect carbon emissions and the construction of new urban infrastructure will result in significant increases in greenhouse gas emissions. The growth of urban areas will necessitate the construction of buildings and roads, water and sanitation facilities, transport and energy systems that will be energy and emission intensive in their construction and operation. Current urban growth paths will lock in patterns of energy consumption and behaviour, aggravating inequalities and path dependencies that are difficult and costly to change once in place. Current urbanization patterns will also lock in patterns of vulnerability to climate change. Transformative changes to create positive lock-in and avoid path dependence in fossil fuels to create just, liveable, resilient, sustainable and low-carbon cities are essential in light of the rapid pace of urbanization, particularly in the case of small- and middle-sized cities and urban areas yet to be built.

Critical areas for scientific inquiry:

- Building an improved understanding of cities as a complex of socio-technical and socio-ecological systems;
- Improving systems understanding of urban-rural interactions;
- Identifying ways of empowering urban social innovation;
- Developing diverse urban growth pathways in better harmony with nature, particularly through the use of nature-based solutions in different social, economic, geographical and cultural contexts;
- Assessing the costs of inaction at the national, regional and global level, as well as the economic, social and environmental benefits of transformational changes in current and future cities now and in coming decades;
- Assessing and minimizing social urban vulnerability to climate change and cascading impacts of climate change;
- Identifying ways of building multiscale climate response capabilities of cities;
- Assessing and identifying ways of reducing the global footprint of cities, including through circular and distributive urban economies, sustainable urban design, services and lifestyles;
- Developing new urban theories and analytical approaches in the Global South;
- Building an improved understanding of urban informality and identifying ways of upgrading informal settlements;
- Identifying inclusive, participatory mechanisms of urban governance and institutions; and
- Identifying novel financing mechanisms in cities, particularly in low- and middle-income countries, from funding options for informal neighbourhoods to investing in nature-based urban infrastructure.