Urban flooding is a serious and growing development challenge, particularly for the residents of the rapidly expanding towns and cities in developing countries. Against the backdrop of demographic growth, urbanization trends and climate changes, the causes of floods are shifting and their impacts are accelerating.

The occurrence of floods is the most frequent among all natural disasters globally. In 2010 alone, 178 million people were affected by floods. The total losses in exceptional years such as 1998 and 2010 exceeded $40 billion.

Urban areas at risk from flooding have been hit particularly hard by increases in flooding impact. Direct impacts from major events represent the biggest risk to life and property. Indirect and often long-term effects, such as disease, reduced nutrition and loss of livelihoods, also erode community resilience and development goals, as does the need to constantly cope with regular, more minor, flooding. The poor and disadvantaged often suffer the most from flood impacts.

Urbanization is implicated in and compounds flood risk. Urban flooding is becoming more dangerous and costly to manage because of the sheer size of the population exposed within urban settlements. Poorly planned and managed urban development also contributes to the growing flood hazard.

Climate change is the other large-scale global trend perceived to have a significant impact on flood risk. The alterations in meteorological patterns which are associated with a warmer climate are potentially drivers of increased flooding.

Flood events, 1970-2011
This large and evolving challenge of urban flooding means that far more needs to be done by policy makers to better understand and manage existing and future risks. The current and projected levels of flood impacts make it urgent to prioritize flood risk management in urban settlements on political and policy agendas. Understanding the causes and effects of flood impacts and designing, investing in and implementing measures which minimize them must become part of mainstream development thinking and be embedded into wider development goals.

Policy makers require a clear vision of the alternatives and the methods and tools to assist them in making the right choices. Cities and Flooding: A Guide to Integrated Urban Flood Risk Management for the 21st Century gives practical technical guidance to key policy and decision-makers and technical specialists in cities in developing countries.

The Guide provides forward-looking operational guidance on how to manage the risk of floods in a quickly transforming urban environment and changeable climate. It takes a strategic approach to managing flood risk, in which appropriate measures are assessed, selected and integrated in a process that both informs and involves the full range of stakeholders. Illustrated with over fifty case studies, a series of “how-to” sections and a set of guiding policy principles, the Guide embodies the state-of-the-art on integrated urban flood risk management. Comprehensive and user-friendly, the Guide serves as a primer for decision and policy makers, technical specialists, central, regional and local government officials, and concerned stakeholders in the community sector, civil society and non-governmental organizations, and the private sector.

### Guiding Principles for an Integrated Urban Risk Management

1. Every flood risk scenario is different: there is no flood management blueprint.
2. Designs for flood management must be able to cope with a changing and uncertain future.
3. Rapid urbanization requires the integration of flood risk management into regular urban planning and governance.
4. An integrated strategy requires the use of both structural and non-structural measures and good metrics for "getting the balance right".
5. Heavily engineered structural measures can transfer risk upstream and downstream.
6. It is impossible to entirely eliminate the risk from flooding.
7. Many flood management measures have multiple co-benefits over and above their flood management role.
8. It is important to consider the wider social and ecological consequences of flood management spending.
9. Clarity of responsibility for constructing and running flood risk programs is critical.
10. Implementing flood risk management measures requires multi-stakeholder cooperation.
11. Continuous communication to raise awareness and reinforce preparedness is necessary.
12. Plan to recover quickly after flooding and use the recovery to build capacity.

Integrated urban flood risk management is a multi-disciplinary and multi-sectoral approach that falls under the responsibility of diverse government and non-government bodies. Flood risk management measures need to be comprehensive, locally specific, integrated, and balanced across all involved sectors. Repeating past mistakes can have disastrous consequences for the present and the future. A concerted effort needs to be made today to promote integrated urban flood risk management. Robust solutions can contribute to flood risk reduction, while at the same time create opportunities to promote better and more sustainable urban development.