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Development in brief

Urban climate change adaptation – five hypotheses for effective action

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The latest progress report published by the Intergovernmental Panel on Climate Change (IPCC) clearly indicates that the effects of climate change will be stronger than previously forecast. The need for consistent climate change adaptation is increasingly becoming a reality, especially in the cities of the Global South, which have already been affected by significant damage (e.g. to buildings and infrastructure) and losses in human lives due to climate change. This is sufficient reason to take a forward-looking view towards climate change adaptation projects in an urban context, as expressed in five hypotheses for effective action.

1. Identifying local climate risks: The systematic implementation of climate risk analyses in the project preparation phase is a prerequisite for being able to derive effective, tailored measures. Considering project concepts in terms of climate risks is not only necessary for climate change adaptation projects – it is fundamentally necessary for all infrastructure financing. This is the only way to ensure sufficiently robust and resilient design and operation in an era of climate change and to ensure long-term, low-risk use of infrastructure for the population.

2. Promoting transformative change: Climate change is the primary cause of significant climate risks. Greenhouse gases therefore need to be reduced rapidly to limit future risks. However, dominant urban development dynamics, including the way cities grow and how they are managed and planned, also contribute to shape climate risks. These causal factors must be systematically identified and addressed. In other words, transformational change is necessary to ensure urban development can be consistently conceived and made a reality in a manner that adapts for climate change. In addition to proven best-practice approaches, this requires new, cutting-edge solutions (e.g. "sponge city concept") and a systematic departure from "business as usual", where current dynamics of urban development tend to reinforce climate risks.

3. Call for a future-forward approach and flexibility: Long-term climate adaptation solutions that address future or increasingly acute climate risks cannot be traded against immediate climate risk mitigation solely because, for example, their impact becomes apparent during a current political term of office. Like land developments, infrastructure projects have a long useful life. At the same time, the future impact of climate change in a city can only be roughly predicted, based on climate scenarios. In today's infrastructure and land use planning, it is therefore necessary to factor in their subsequent structural adjustment to new climate requirements. At the same time, the legal/administrative foundations on which the necessary adjustments of tomorrow (e.g. resettlement from high-risk areas) are based need to be considered and prepared now.

4. Taking a holistic perspective: Sector-based solutions can deliver key adaptation outcomes, but they do not adequately address the complexity of the causes of climate risks. As a result, their effectiveness is limited. The added value of holistic project solutions comes from being able to jointly address interacting causes of risk and so reduce climate risks more effectively. Examples of these include the combination of stormwater channels *(grey infrastructure)* with natural green areas for rainwater infiltration *(green infrastructure*) in order to reduce flood risks in cities. Green infrastructure also comes with valuable co-benefits: It combines flood and heat protection and increases the urban quality of life. Acting holistically also means consistently bringing together climate change adaptation and disaster risk management. Infrastructure financing, for example, should also consider early warning measures relating to extreme weather events.

5. Leveraging local knowledge: Much urban growth in the Global South takes place informally, i.e. "in the shadow of urban planning" or on the basis of rudimentary urban planning, and results in a high proportion of the population living in slums. These are often located in high-risk areas (e.g. unstable slopes, etc.). The dynamics of informal growth are difficult for planners to grasp and interpret, but are of great importance when it comes to identifying starting points for suitable climate adaptation solutions and their long-term functionality. It is necessary to have participatory, gender-sensitive planning processes where affected communities can become actively involved in the design and, where appropriate, the implementation and management/operation of infrastructure solutions.

Conclusion

Urban climate adaptation is a complex issue. Financing cross-sectoral, transformative projects is essential to ensure the wide-reaching effectiveness of development cooperation and prepare urban areas for the future.■

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