

Case Study // Round Table SDG 11: Promoting resilient and sustainable cities and human settlements: intersectoral cooperation and evidence-based policies

Resilient cities

The Kyrgyz Republic

Levels: subnational and local

Summary

In 2015, the city recorded three major emergencies associated with natural hazards: in the winter due to severe frosts ice congestion occurred on the river Ala-Archa, with the threat of flooding large areas; in spring the city was partly flooded due to heavy rainfall and mudflow in Manka-Jar valley; and in summer the city has lived through the destructively strong wind (27 m/s).

The consequences of these emergencies were different in nature: measures taken to remove ice jams helped avoid flooding. However, heavy rainfall in spring resulted in flooding of buildings in residential area Archa-Beshik. The strong winds in summer damaged 54 houses, as well as substantial destruction of power supply systems. The advanced alert by the Ministry of Emergency Situations and Hydromet were helpful for preparing for these emergencies.

Thus, the objective of the case study is to investigate the disaster preparedness system in Bishkek city, reveal challenges in providing appropriate disaster prevention measures and steps, develop practical recommendations to improve the disaster preparedness system in Bishkek city.

Situation

Bishkek is the capital and largest city of the Kyrgyz Republic; it was founded in 1825 on the orders of the governor of Kokand - Madali Khan. The population is 901,700 people; the city is divided into four administrative districts. The town is located in the north of the republic, in the central part of the Chu valley, at the foothills of Kyrgyz ridge. This area is characterized by high seismic activity, and a variety of geological conditions: tectonic faults are in the close vicinity of the city, which increases the scale of effect of earthquakes on the surface, in the territory of the city. The fault zone is as a rule represented by fragmented produce of tectogenesis with unfavorable seismic characteristics; in strong earthquakes residual seismic deformation is common in such zones, resulting in amplified seismic effect on the surface. These conditions are important factors in the development of the Bishkek urban area taking into account important technical parameters of the soils to mitigate possible natural and man-made hazards.

The city is located in a high seismic risk zone in the immediate vicinity or is its placement/position of the city, there are tectonic faults, with strong potential of earthquakes in the city.

In addition, due to the nature of the geological structure and geographical location, there is a danger of floods, rise of groundwater table, risk of landslides, strong winds, as well as the risk of various man-made accidents at industrial sites of the city.

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Strategy

The LGSAT based assessment was undertaken in order to reveal shortages and gaps, affecting preparedness to disasters and resilience in Bishkek and develop the action plan for resilience.

Results and impact

The LGSAT assessment provided the basis for a plan of actions for resilience that was developed by the team headed by vice-mayor of the city:

- The staff of all departments of local government should regularly receive training in DRR basics; a responsible person should be assigned for the task
- A Council for disaster risk reduction should be established at the office of Mayor; members of the Council should receive comprehensive training in DRR. The Council should include representatives of community groups, business sector, vulnerable groups
- The city budget should include a special item for DRR; the resources for this budget item should be allocated; extra-budgetary sources of funding for DRR should be sought and studied
- Local authorities should cooperate with local trade and industry associations, for developing mechanisms for ensuring uninterrupted functioning of members of associations during and after disasters
- Systems of periodic assessment of risk should be established specifically for vulnerable sectors of development; all development decisions should be based on risk information
- The practice of informing the population on developing threats and risk tendencies should be continued and expanded, including the systems of early warning
- Risk maps for Bishkek should be prepared and periodically updated; the risk information should be taken into account in construction of housing and infrastructure
- Modern technologies and technical means should be used, for protection of key infrastructure and public facilities; the required financial resources should be secured

Challenges and lessons learned

The LGSAT based assessment revealed shortages and gaps, affecting preparedness to disasters and resilience in Bishkek. The assessment indicated the following:

- The process of planning of city development does not involve the social sector
- The city budget does not foresee resources for DRR; funding is provided only for post – disaster early recovery works
- City population does not practice insurance for disasters
- The existing and forecasted hazards and risk are taken into account only in the construction of apartment blocks by the government? By the government and by private developers . Individual (private) construction often violate construction norms and standards. Disaster risk is not taken into account in communications and transport sectors.
- There are no unified standards and methods for regular risk assessment
- Regular training for actions in emergencies are organized but are of desktop character. Community leaders and the business sector managers are not involved in the training

- Development and construction planning pay attention to environment protection; however, the intensive construction has led to destruction of the city irrigation network
- The main issues in reducing the risk of disasters in the city are identified as the lack of technical equipment of the specialized services of the city and the lack of funding for disaster preparedness, according to the risk assessment conducted in summer 2015.

Potential for replication

Bishkek city's experience of developing the city resilience may be replicable within steps and measures in infrastructural spheres of the city, e.g. transport, communication, construction, activity of social entities, security, water supply, environment protection, etc.

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