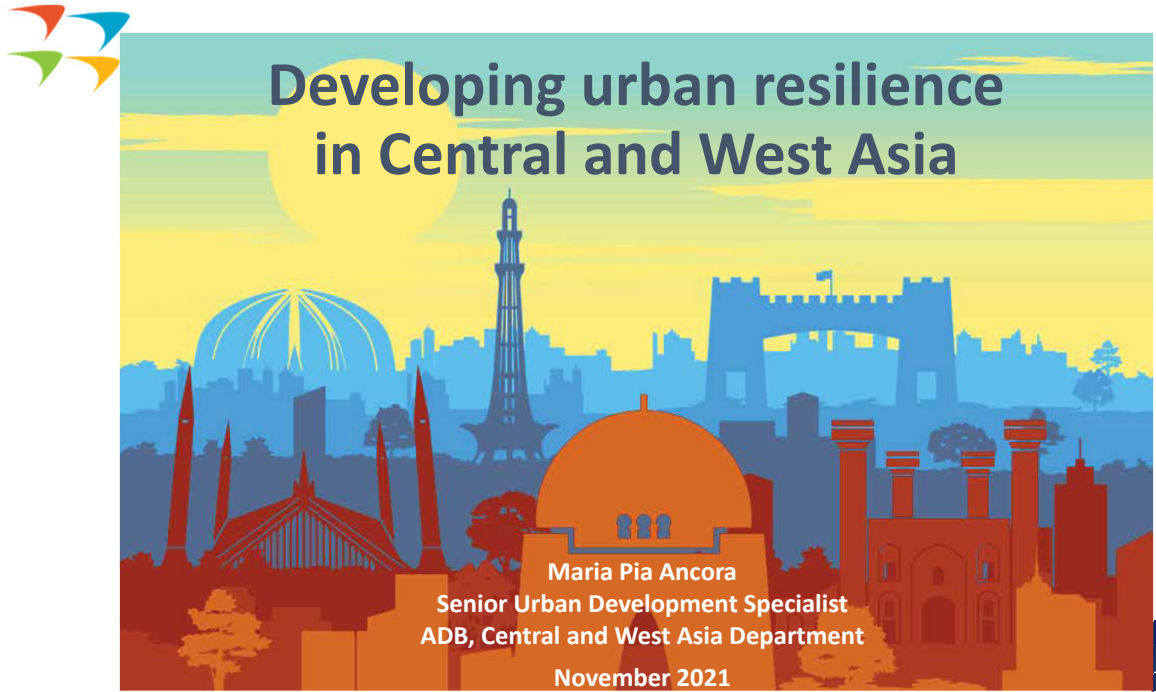


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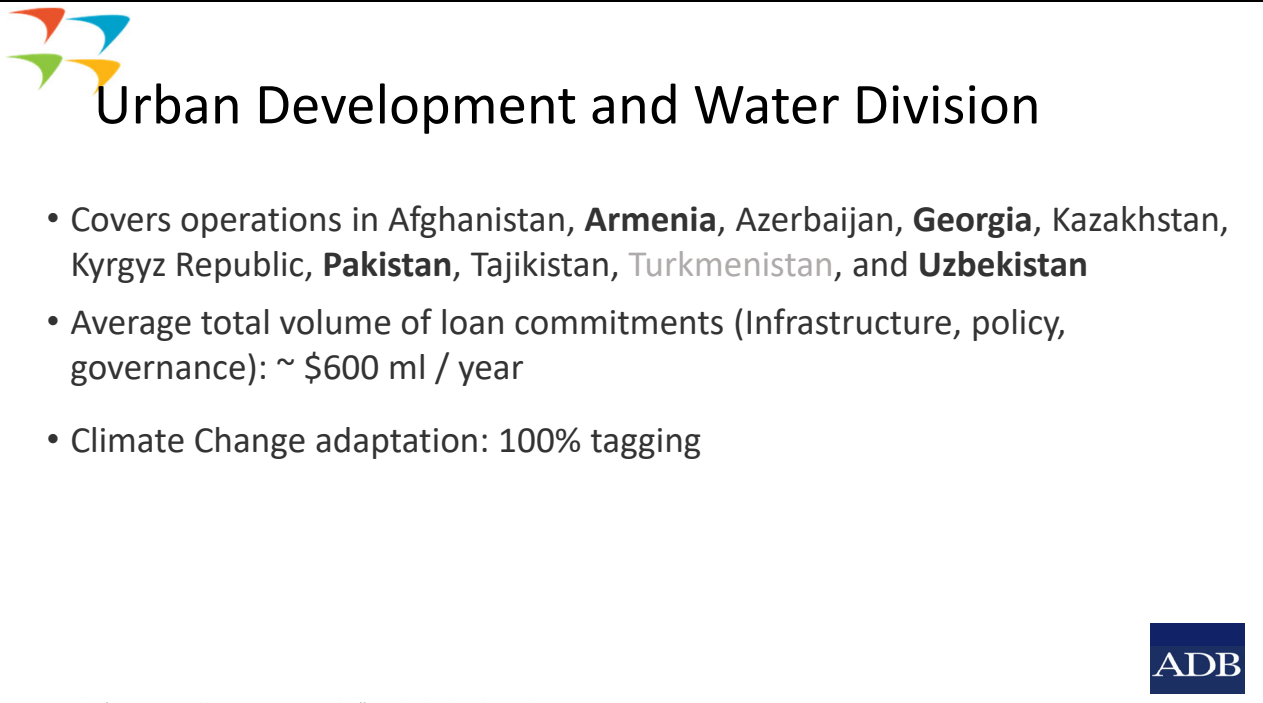
Developing urban resilience in Central and West Asia

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Urban Development and Water Division

- Covers operations in Afghanistan, **Armenia**, Azerbaijan, **Georgia**, Kazakhstan, Kyrgyz Republic, **Pakistan**, Tajikistan, Turkmenistan, and **Uzbekistan**
- Average total volume of loan commitments (Infrastructure, policy, governance): ~ \$600 ml / year
- Climate Change adaptation: 100% tagging

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Climate change and urban CW Asia

- Population: over 300 ml
- Urbanization rates: 25% - 60%
- Climate risk index: PAK and AFG in top rankings
- Economic losses, last 2 decades: \$billions from urban floods only



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Resources for climate resilience in urban development projects

- ✓ Regional Technical Assistance (TA) for **upstream capacity building** (Armenia)
 - TA 6629 - Improved Decision-Making for Climate Resilient Development (Ministry of Finance)
 - TA 9716/1 NDC Advance, Economic Advisory Program
- ✓ Regional Technical Assistance (TA) for **strategic and programmatic dialogue** in urban sector
 - National Urban Assessments (completed: GEO, AZE, ARM, PAK, UZB; upcoming: TAJ)
- ✓ TA for **project preparation** -> "Climate Risk Assessment" (mandatory for M/H risk projects)
 - Climate Investment Fund, Asian Development Fund, UCCRTF
- ✓ Regional TA for **project design**
 - TA 9716/1 NDC Advance for Climate risks profiles and urban climate investments (Armenia, Georgia, and Uzbekistan)



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Country Risk Profiles: Armenia, Georgia, Uzbekistan

+ City level climate projections
+ Urban design considerations
+ Urban Climate Investment Plans

1. CLIMATE TRENDS PROFILE: UZBEKISTAN

Projected Climate Change	Relevance to Area (Low/Medium/High)	Potential impacts on infrastructure and possible planning responses
Transport infrastructure		
Small to moderate increases in precipitation intensity, maximum 1-day precipitation events	Medium	<ul style="list-style-type: none"> Increased precipitation potentially leading to increased damage to roads and transport infrastructure due to floods, mudslides, landslides and avalanches. Decision-making regarding the siting of the road and related transport infrastructure (such as rails) to take flooding risks into account. Use of blue spaces and green spaces to cope with excess water. Reduce the need to travel, e.g., by creating local clusters of economic activity that require less mobility, by working online, and by developing multimodal logistics chains to cut unnecessary trips.
Moderate increase in maximum temperatures and frequency of heatwaves	High	<ul style="list-style-type: none"> Intense heatwaves and increased temperatures potentially affecting transport infrastructure and requiring more frequent repairs, as well as affecting users. Use nature-based solutions to reduce the urban heat island effect.
Moderate increase in minimum yearly temperatures, large decrease in frost days	Medium	<ul style="list-style-type: none"> Increases in minimum temperatures potentially leading to a decrease in frost and ice related damage to infrastructure. No adaptation needed to address climate change risks, possibly a gain from climate change to be realized. The first NDC mentions an interest in "introduction of adaptation criteria into governmental investment projects for construction, modernization, O&M of infrastructure in various sectors of economy."
Buildings		
Small to moderate increases in precipitation intensity	Medium	<ul style="list-style-type: none"> Increased precipitation potentially leading to increased damage to buildings due to floods, mudslides, landslides and avalanches. Siting of buildings. Provide enhanced drainage. Nature-based solutions.

1. CLIMATE TRENDS PROFILE: ARMENIA

Category	Summary (2050)
Averages	<ul style="list-style-type: none"> Increase in average yearly temperature predicted by all climate models. Slight downward trend visible in projections of precipitation.
Extremes	<ul style="list-style-type: none"> Increase in maximum yearly temperature and number of hot waves. Increasing frequency, intensity of heatwaves. Increase in maximum 1-day precipitation events may lead to increased flood risk.
Seasonality	<ul style="list-style-type: none"> Increase in average temperatures for all months. Shift predicted in seasonality of precipitation, with months of June - September becoming drier.
Spatial Distribution	<ul style="list-style-type: none"> South Western provinces most exposed to temperature increases and extreme heat events. Western provinces likely to experience increases in precipitation and extreme events.

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Project Case study #1 Georgia Livable Cities Investment Project for Balanced Development

DESIGN REVIEW

DESIGN SUGGESTIONS

- Set levee inland, especially when approaching bridge
- existing disturbed area can be used as path or platform
- protect existing vegetation
- add coir fabric or wood filled rip rap and riparian vegetation to stabilize bank

- Climate Change Risk Profile and Climate Risk and Vulnerability Assessment (CRVA)
- Mitigation: Est. \$8.7 million for insulation, double glazing and LED lights in building construction
- Adaptation: Est. \$12.0 million for incremental costs of riverbank stabilization, Parks (green and blue spaces), green roofs, soft measures.
- Embedding climate resilience in urban planning and development
- Review of detailed engineering designs of all sub-projects
- Nature based solutions – river rehabilitation, parks, public spaces, storm water drainage

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Project Case study #2
Georgia Water Supply and Sanitation Sector Development Project

4 out of 20 policy actions:

- law on water resources management
- sector vision and policy
- sector development framework
- water safety plans




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Project Case study #3:
PAK: KP Cities Improvement Project

The project: Climate Financing of \$112 m (c. adaptation \$25 m, c. mitigation \$86 m)

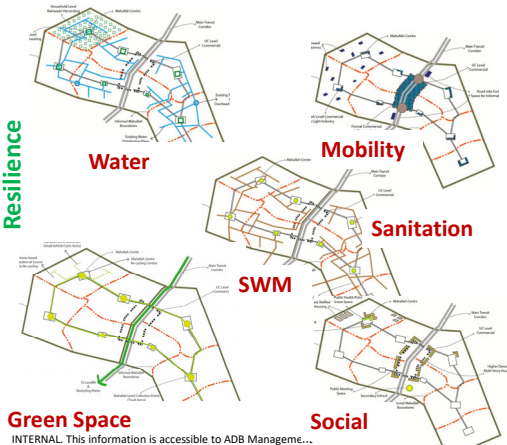

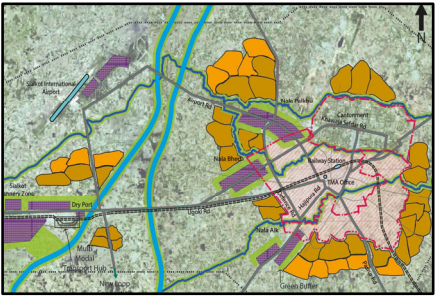
CRVA + IRDS + PRF → KPCIP

CRVA: Climate Risk and Vulnerability Assessment (UCCRTF)
IRDS: Integrated Regional Development Strategy (CDIA)
PRF: Project Readiness Financing – for engineering design
KPCIP: \$650 million Investment Project (KPCIP)

Resilience

Water **Mobility** **Sanitation** **SWM** **Green Space** **Social**

Many Stakeholder Consultations

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Lessons learnt, experience in the urban sector

- Early engagement
- Need for capacity building for meaningful dialogue and acceptance
- Programmatic approach and national assessments
- Evidence-based approach to prioritize climate adaptation
- Coordination of expertise at critical design stage
- MDB guidelines on climate finance accounting



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Thank you!

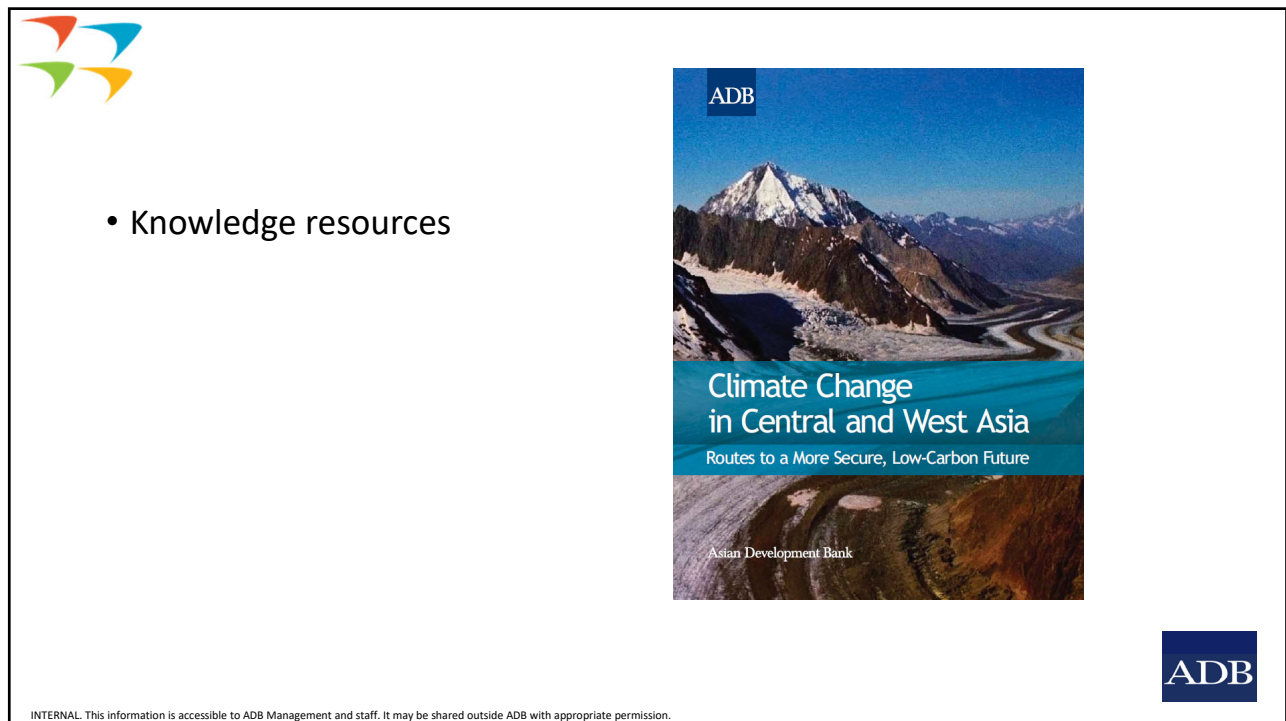


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CWRD Climate Finance eOps Classification Guide

Mitigation Finance	Adaptation Finance (Type 1)	Adaptation Finance (Type 2)
Full cost of project sub-components that reduce greenhouse gas emissions (e.g. carbon dioxide and methane).	Incremental additional costs required to adapt to climate risks (i.e. beyond cost of “no climate” project design). Should be evaluated in project preparation and adequately justified and described in RRP .	Up to 100% of cost of sub-components that were predicated on climate change. To claim this finance, the associated RRP narrative is important: context of vulnerability, statement of intent, and justification of activities. Consider climate-related DMF indicators.

Additional guidance documents on CWRD PSG / Climate Change [folder](#)



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