

- **SESSION 3.3**
- **Deep Dive**

Cities and Local Economy

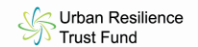
CAIP partners



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2026 Forum partners

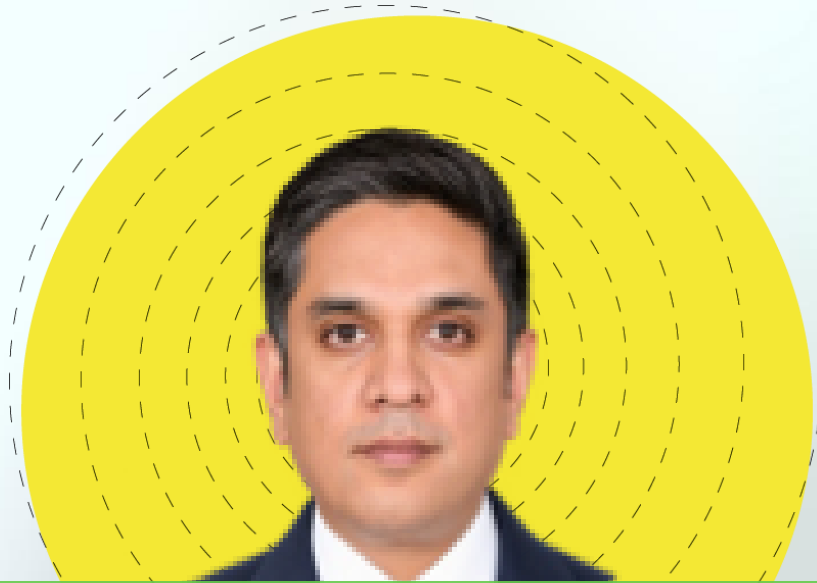


Introduction



Okju Jeong

Senior Adaptation Solutions Specialist ADB
Moderator



Arsalan Islam Shaikh

Mayor

Sukkur City, Pakistan



Zafar Azimov

First Deputy Governor
Jizzakh Province, Uzbekistan



Maricarmen Esquivel Gallegos

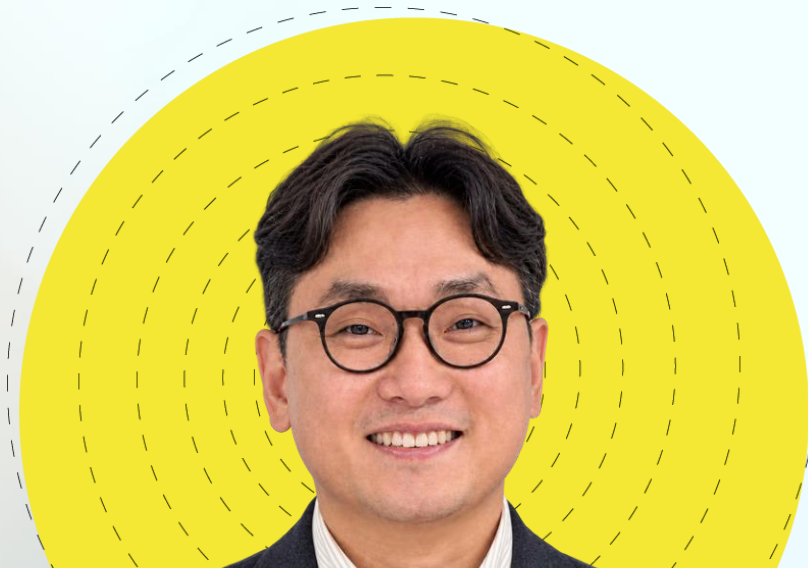
Senior Climate Change Specialist
Inter-American Development Bank

4th Panelists



Inho Choi

Executive Director
Sundosoft



Sujin Son

Director
Sundosoft

Sukkur City, Pakistan

Arsalan Islam Shaikh



SUKKUR

CITY HAVING ANCIENT ROOTS DATING BACK TO
THE INDUS VALLEY CIVILIZATION (AROUND 2500 BCE)
4000-4500 YEARS OF LIVING HISTORY
IN 1862 CONSTITUTED AS A CITY UNDER BRITISH RULE
164 YEARS AGO

LANDSDOWNE BRIDGE
1889

RAILWAY STATION
1891



SUKKUR BARRAGE
1923-1932

BLIND DOLPHINS



URBAN FLOODING 2022



**SUKKUR BARRAGE IRRIGATES THE LARGEST
IRRIGATION SYSTEM ON THE INDUS RIVER.**



Climate Risk Classification

The Climate Risk Score (**CR = H × E × VCI**) represents how severe climate risk is for each system. It combines hazard severity (H), the extent of system exposure (E, baseline), and the system's susceptibility to damage, captured through the Vulnerability-Capacity Index (VCI), a weighted composite of Vulnerability (70%) and Capacity (30%). A higher CR indicates a greater likelihood that the system will experience considerable damage under current conditions.

However, CR reflects **likelihood, not consequences**. The IS Score (IS, scaled 1–3) addresses this gap by describing the consequences of system failure. An IS of 1 indicates impacts contained within the system; IS = 2 reflects cascading effects on other services; and IS = 3 represents failures with life-safety implications and no viable alternatives.

Combined, Risk and Impact produce the CRS. CRS captures today's system criticality and urgency by integrating how severe the hazard already is, how much of the system is exposed, how fragile it is, and how serious the consequences would be if it fails. In practical terms, CRS answers a single question: **Which systems require the most urgent attention under current climate conditions?**

The full risk assessment scoring matrix is shown in **Table 9**.

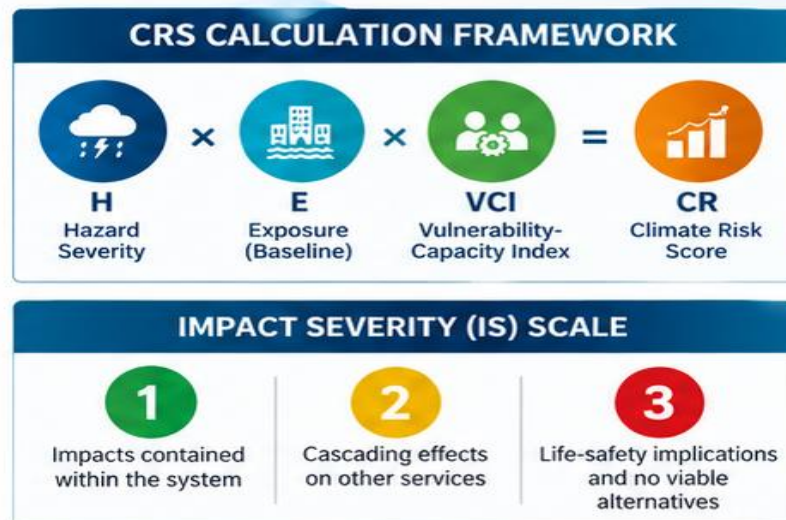


Table 9: CRS Scores

ADB TA-10397 REG | Sukkur Climate Change Risk Assessment

System	Hazard	H	E	V	C	VCI	CR	IS	CRS	Class
Community / Population	Heat (Humidex)	3	3	3.0	2.25	2.78	25.0	3.0	75.1	High
Water Supply	Drought	3	3	3.0	2.25	2.78	25.0	3.0	75.1	High
Water Supply	Urban Flood	3	2	3.0	2.25	2.78	16.7	3.0	50.0	Medium
Wastewater/ Stormwater	Urban Flood	3	2	3.0	2.25	2.78	16.7	3.0	50.0	Medium
Community / Population	Urban Flood	3	2	3.0	2.25	2.78	16.7	3.0	50.0	Medium
Water Supply	Heat (Tmax)	3	2	3.0	2.25	2.78	16.7	3.0	50.0	Medium
Community / Population	Drought	3	2	2.0	2.25	2.08	12.5	2.0	37.4	Medium
Community Assets	Urban Flood	3	2	3.0	2.25	2.78	16.7	2.0	33.4	Medium
Water Supply	Riverine Flood	3	1	3.0	2.25	2.78	8.3	3.0	25.0	Medium
Wastewater/ Stormwater	Riverine Flood	3	1	3.0	2.25	2.78	8.3	3.0	25.0	Medium

System	Hazard	H	E	V	C	VCI	CR	IS	CRS	Class
Community / Population	Riverine Flood	3	1	3.0	2.25	2.78	8.3	3.0	25.0	Medium
Community Assets	Heat (Tmax)	3	1	3.0	2.25	2.78	8.3	2.0	16.7	Low
Transportation	Urban Flood	3	1	3.0	2.00	2.70	8.1	2.0	16.2	Low
Solid Waste	Urban Flood	3	1	3.0	2.00	2.70	8.1	2.0	16.2	Low
Transportation	Heat (Tmax)	3	1	3.0	2.00	2.70	8.1	2.0	16.2	Low
Solid Waste	Heat (Tmax)	3	2	3.0	2.00	2.70	16.2	1.0	16.2	Low
Wastewater/ Stormwater	Heat (Tmax)	3	1	2.0	2.25	2.08	6.2	1.0	6.2	Low

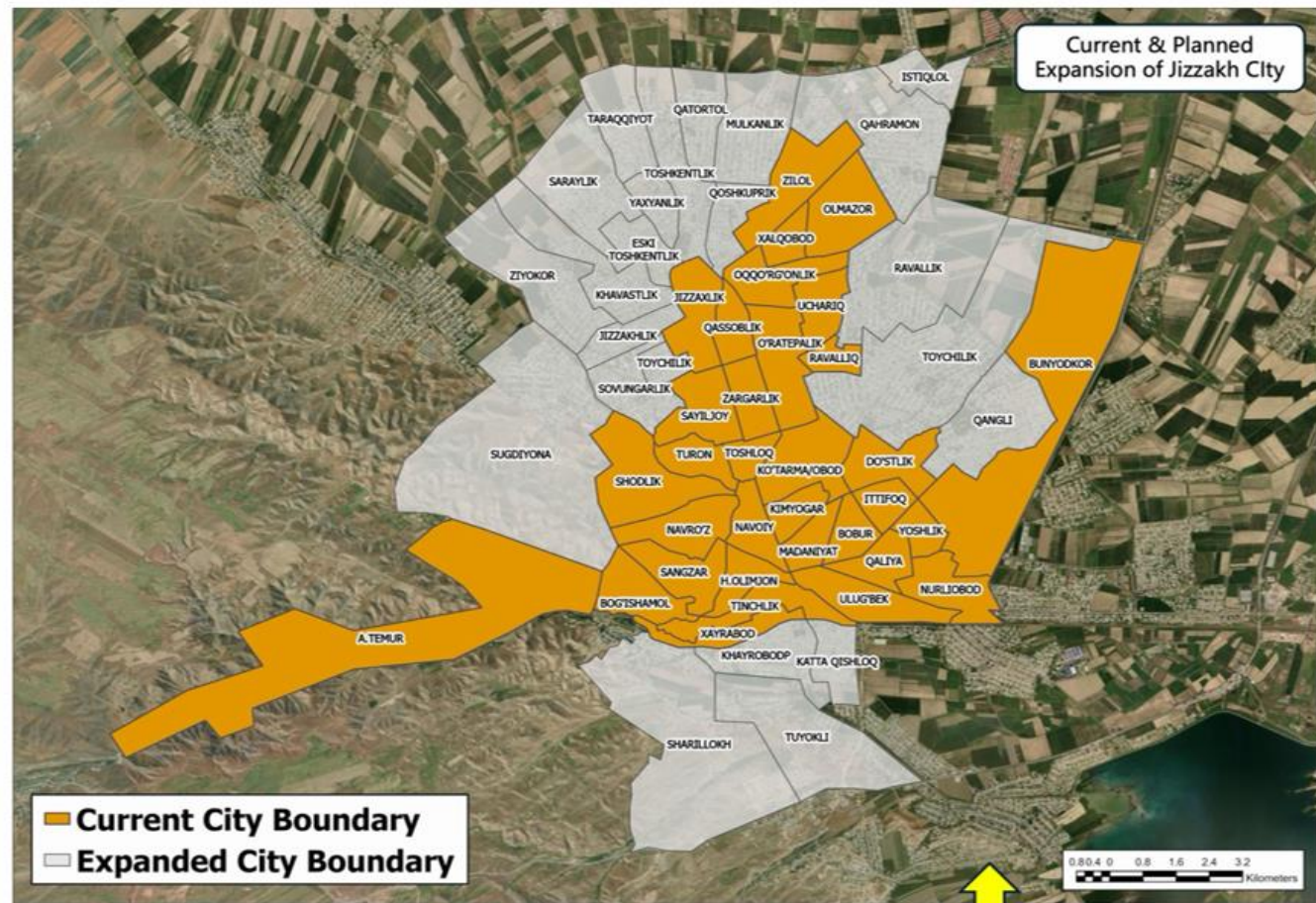
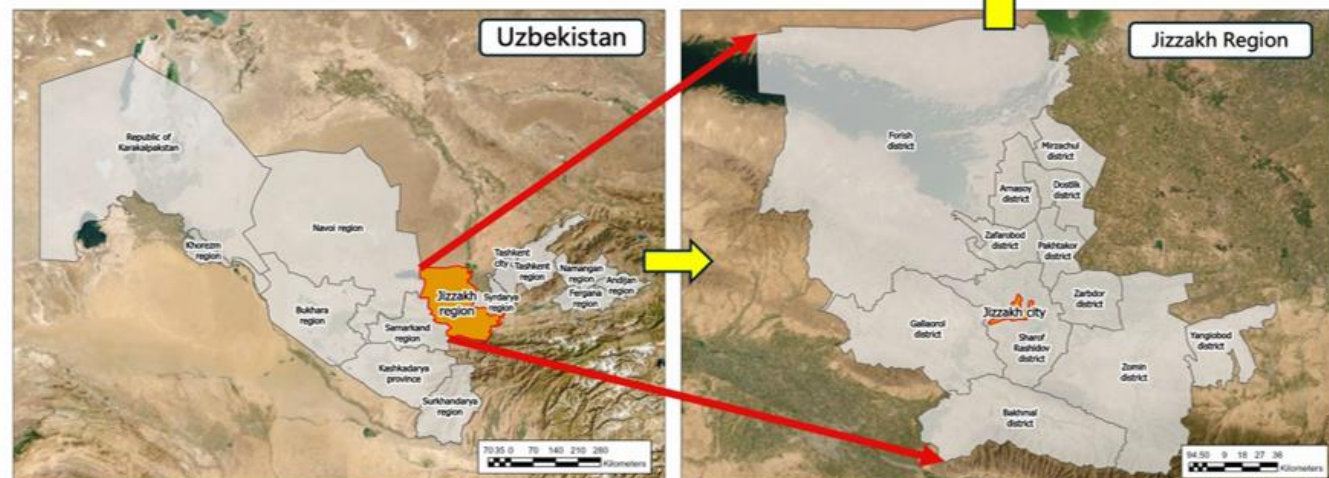


City Risk Profile and
Adaptation Action Planning
SUKKUR

Jizzakh Province, Uzbekistan

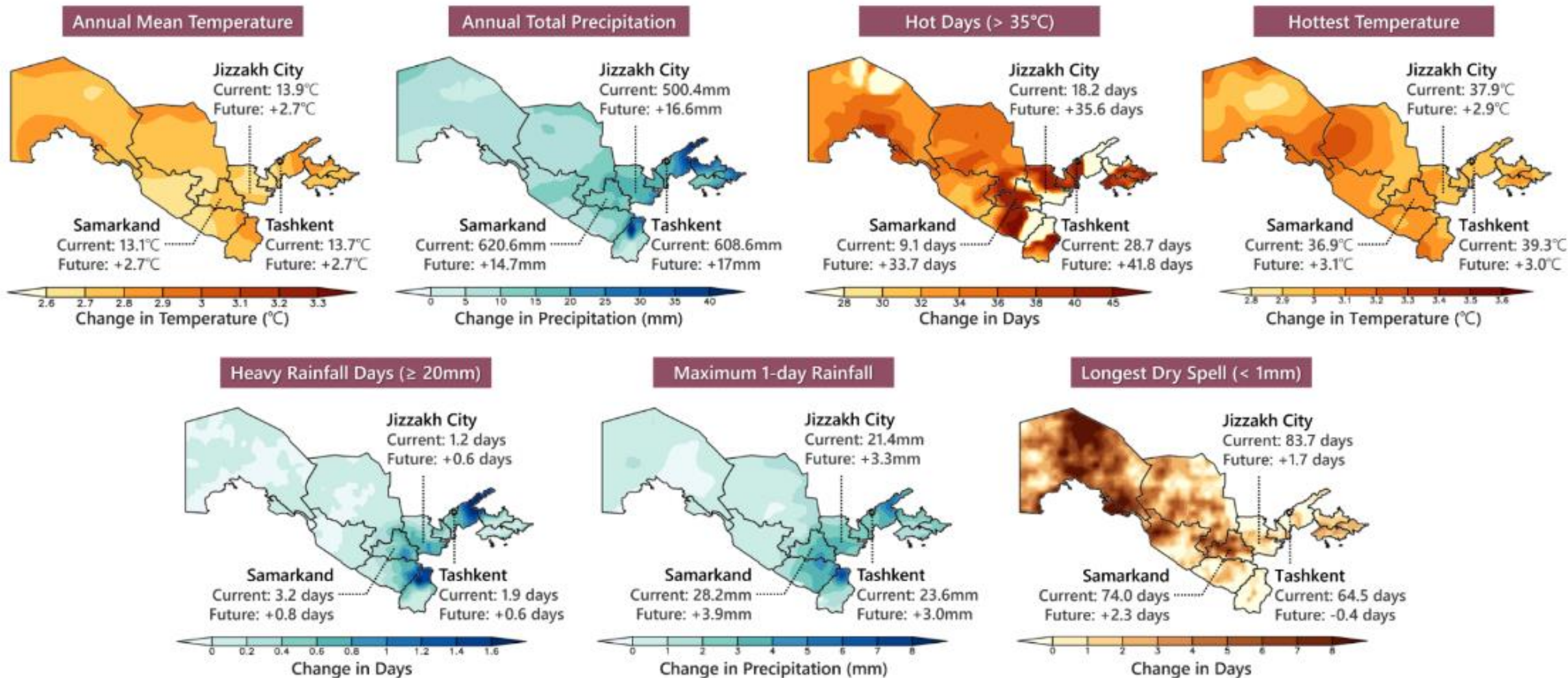
Zafar Azimov

Jizzakh, Uzbekistan



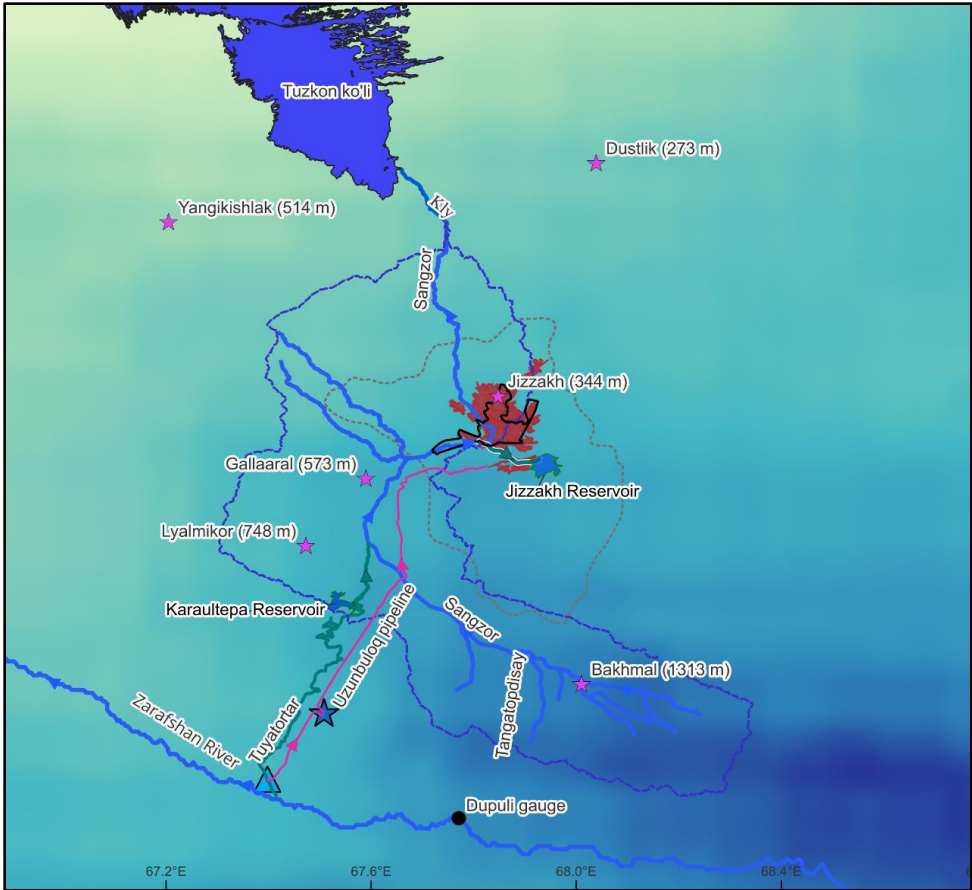
Projected Changes in Key Climate Indicators by the 2050s

SSP5-8.5 2050s



Water in Jizzakh

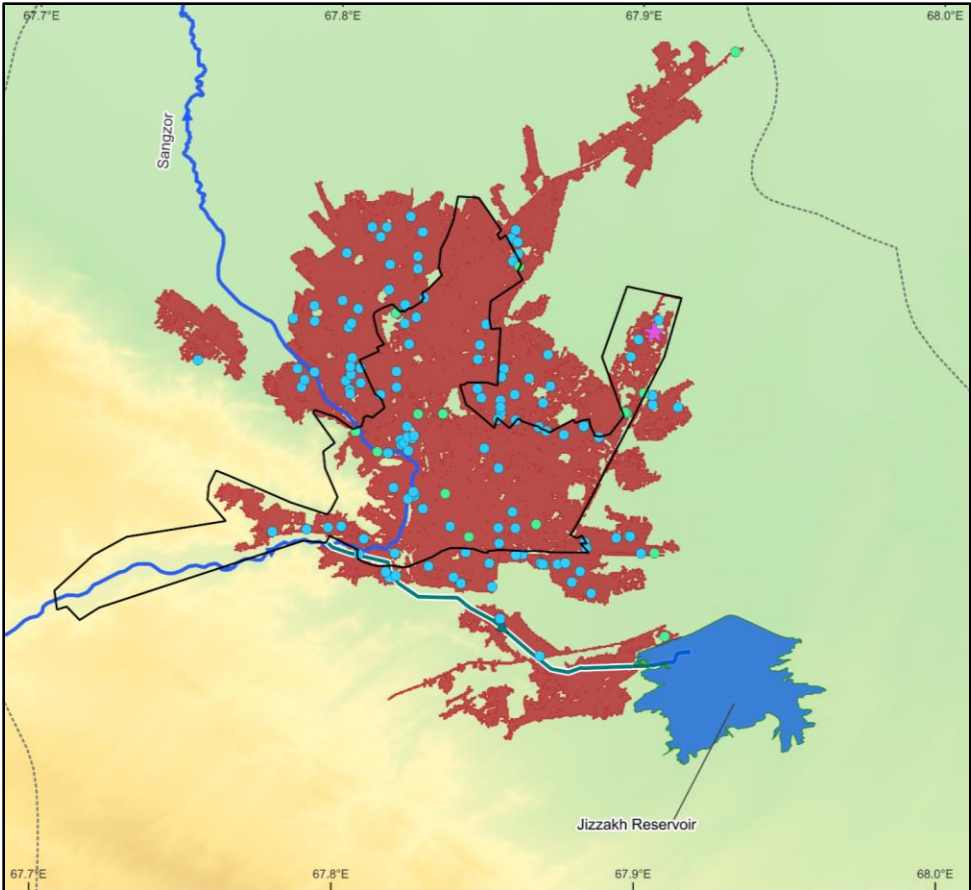
Mean Annual Precipitation (1991-2020)



Relatively low precipitation

Annual precipitation ranges from about 179-619 mm, with higher amounts in the southern mountainous areas

Production Wells within Jizzakh City



Groundwater dependence

Around 90% of Jizzakh City's municipal water supply comes from groundwater, increasing the importance of sustainable resource management

Inter-American Development Bank

Maricarmen Esquivel Gallegos

Climate risk information helps cities navigate difficult decisions

1. **Where** should we invest?



3. What is an **acceptable** level of risk?

2. **How** should risk be managed?



4. How do we avoid creating **future** risk?



Carbon Footprint Analytics Platform for Jizzakh Province

Inho Choi and Sujin Son

GHG emissions in Jizzakh Province by City/District and Sector



Assessing the Climate Benefits of Urban Trees

- Area : 105km²
- Green space covered area : 13km²
- Tree cover : **12.8%** / Preliminary reduction : **3,169 tCO₂e/year** / Per capita : **68.75m²**



- **Urban Heat Adaptation**

Mitigates urban heat and heatwave impacts

- **Carbon Sink**

Absorbs and stores atmospheric carbon

- **Energy Saving**

Helps reduce cooling energy demand

- **Climate Resilience**

Supports climate-resilient urban environments

Q&A

Panel speakers



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Mayor
Sukkur Municipal
Corporation, Pakistan



Zafar Azimov
First Deputy Governor
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