Climate change impact scenarios in the Aral Sea

Sub-regional pathways for adaptation and resilience

Presenters:
Sanjay Srivastava, Chief of Section
Soomi Hong, Associate Economic Affairs Officer
Links to related reports

< Working paper 1 >

< Working paper 2 >

< Summary of key results >
“The sea is gone, people are not” (UN Multi-Partner Human Security Trust Fund For the Aral Sea Region in UZ)
Current risk and climate projections

- Intersection of high land degradation, high population and low Human Development Index
- Socio-economic pathways (SSP): link between policy action & climate change

FIGURE 2-25 Hotspots of low HDI and land degradation in Central Asia

Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
Climate projection - Drought

- 4 climate indicators
  - Temperature rise (0.85 - 5.42 °C)
  - Increase in number of dry days
  - Decrease in precipitation during dry months
  - Increase in precipitation during wet months

- 4 climate scenarios:
  - SSP2 near-term
  - SSP2 long-term
  - SSP3 near-term
  - SSP3 long-term
Risk hotspots (rainfed & irrigated agriculture)

- **Rainfed agriculture** 82% of total in CA
- 37% and 52% of rainfed cropland exposed to drought under SSP2 near-term and SSP3 long-term (KZ)
- **Irrigated agriculture** 18%
- 18% and 22% of irrigated cropland exposed to drought under SSP2 near-term and SSP3 long-term (UZ)
Policy and dialogue – History and timeline

5th session of NCA SDG Forum
- Oct 2021
  - Recommended: Subregional cooperation mechanism for addressing transboundary challenges
  - Output for next meeting: ESCAP analytical research on regional mechanisms to study, mitigate, minimize disasters in the Aral Sea

ESCAP regional meeting experts on the Aral Sea
- Mar 2022
  - Recommended: Organize a side dialogue on managing the risk of in-land water disasters in the Aral Sea on the side lines of the sixth NCA SDG Forum
  - Output for next meeting: Aral Sea storyboard

6th session of NCA SDG Forum
- Oct 2022
  - Objective: Policy dialogue to build a subregional cooperation framework with a suggested action plan
  - Target output for next meeting: Framework to help factor transboundary risks of the Aral Sea in NAP, DRR strategies, VNR

ESCAP 76 Commission Session
- 2023
  - Input: Feasibility study and expert recommendations serve as important scientific input
Policy and dialogue - Recommendations

(i) Developing new mechanisms and instruments for cooperation in transboundary river basins, based primarily on deep **economic integration** of countries

(ii) Accelerating gradual and a holistic reconstruction of **water management infrastructure** with a widespread transition to water-saving technologies and reduction of wastewater

(iii) Promoting cultivation of **drought-resistant crop** varieties

(iv) Introducing green and low-water usage **technologies**, water recycling systems, and developing new wastewater treatment technologies

(v) Improving the **accuracy and efficiency of regional hydrometeorological services** for climate change adaptation and disaster risk management in Central Asian countries

(vi) Creating **sub-regional mechanisms** for adaptation to climate change, risk assessment, early warning and prevention systems for transboundary hazards in the Aral Sea basin

(vii) **Organizing a network** on the ESCAP platform inclusive of the existing networks of experts on water resources, ecology, climate, disaster resilience and socio-economic sector in the region with the aim of strengthening regional cooperation and attracting investment for implementation of projects concerning the Aral Sea and related ecosystem

(viii) Involving **educational** institutions and students on issues like water resources management and environment protection in order to ensure participation of youth in solving present day challenges and threats.
Demand for action

United Nations

General Assembly

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Seventy-fifth session
Agenda item 19
Sustainable development

Resolution adopted by the General Assembly on 18 May 2021

6. **Emphasizes** the importance of strengthening **regional cooperation** in the implementation of joint actions to overcome the consequences of the Aral Sea crisis and stabilize the ecological situation in the Aral Sea region, prevent further desertification and mitigate the negative environmental and socioeconomic consequences by stabilizing the methods of forest amelioration of sand formations on the drained bottom of the Aral Sea, which is subject to ash, salt and dust transfer, and promoting socioeconomic development and adaptation to climate change, the development of ecotourism and the implementation of other measures;

7. **Declares** the Aral Sea region a **zone of ecological innovations and technologies**, and in this context calls upon Member States, the funds, programmes and agencies of the United Nations system, international financial institutions and other relevant stakeholders to develop and implement in the Aral Sea region environmentally sound technologies, sustained, inclusive and sustainable economic growth, and energy- and water-saving technologies, in line with goal 17.7 of the 2030 Agenda for Sustainable Development.²

Promote the development of consolidated and integrated policy on sustainable development in the Aral Sea region;

Assist in the development of strategies and practical measures to attract and develop environmental innovations and technologies; and

Support activities to attract and develop environmental innovations and technologies and capacity building efforts in this field.

< 3rd meeting of the Advisory Committee on sustainable development of the Aral Sea region in Uzbekistan, July 2021 >
To promote discussions on the implementation of the disaster risk reduction and resilience related Sustainable Development Goals (1, 2, 6, 9, 11, 13) and the Sendai Framework for Disaster Risk Reduction and other relevant regional and subregional frameworks and initiatives including the UN Multi-partner Human Security Trust Fund for the Aral Sea, we propose to introduce a dedicated policy dialogue session on ‘transboundary co-operation for managing in-land water disasters’ as a part of the regular NCA Multi-stakeholder forum.
Next step: ESCAP NCA subregional cooperation framework

1. **Analytical work**
   - APDR Sub-regional report: North and Central Asia Report 2022
   - Aral Sea: Managing in-land water disasters 2022

2. **Capacity development**
   - Risk and Resilience Portal for NCA country specific DSS
   - Adaptation cost, risk informed policy/investment responses
   - Support to VNR, NDC, NAP, DRR Strategies

3. **Regional cooperation**
   - NCA Multi-stakeholders Forum for 2030 Agenda
   - Dedicated session on transboundary challenges related to in-land water disasters including the Aral Sea

ESCAP Committee on Disaster Risk Reduction (2021)

A scale-up of regional and subregional cooperation strategies to complement national efforts to implement the 2030 Agenda
Thank you!