Exploring the Use of Hybrid Wind-Solar Water Desalination in the Aral Sea Basin

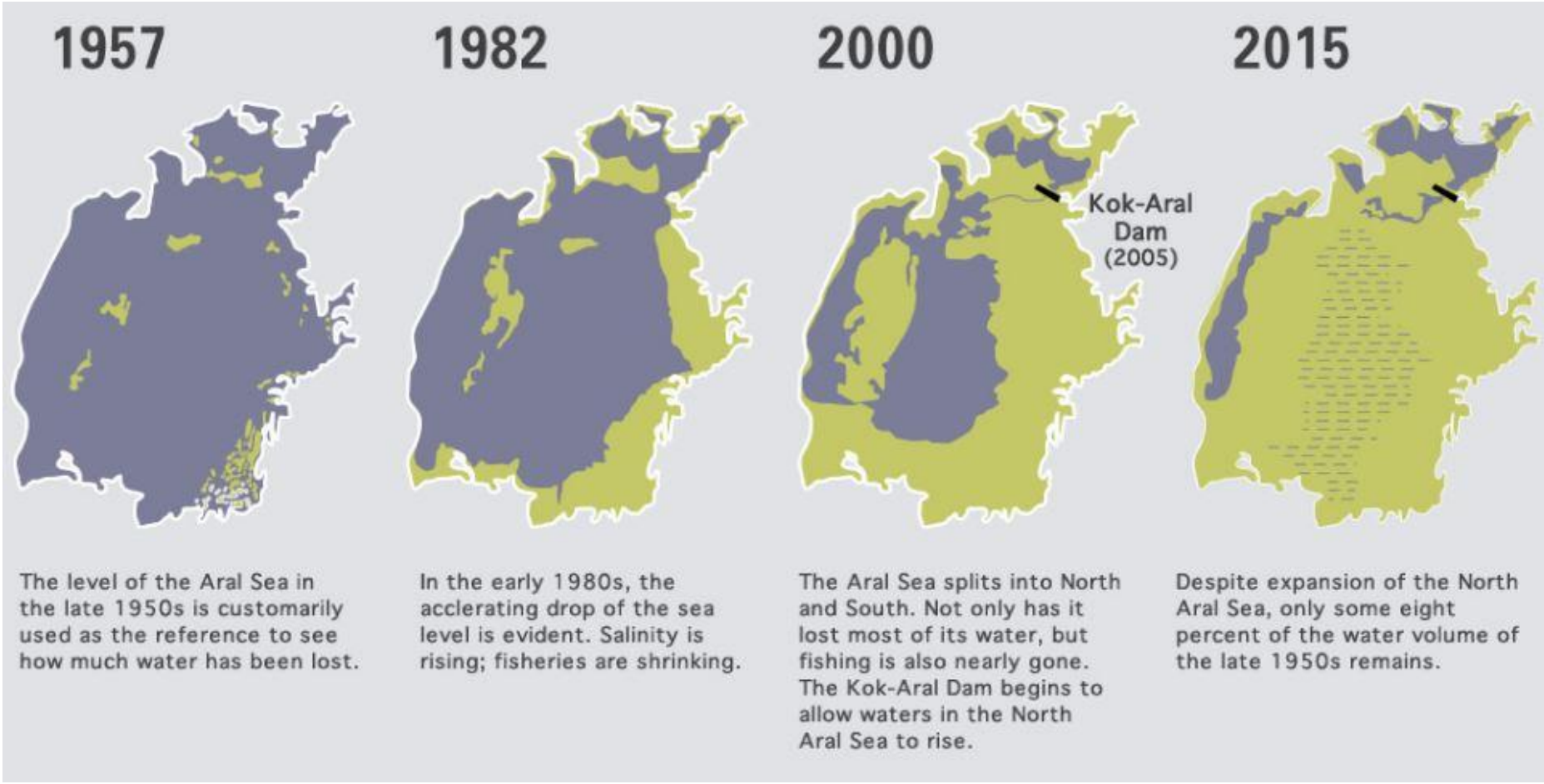
Luiza C. Campos (UCL)
Olimjon Saidmamatov (Urgench State University)
Aiduan Borrion (UCL)
Bahtiyor Eshchanov (Westminster International University in Tashkent)

Water SDGs and Future Water Management Symposium
8-9 Nov, 2016

The Problem in the Aral Sea Basin

- Area diminished by 74%
- Volume by 90%
- Water salinity 10-fold increase (from 10 to >100 g)
- Shoreline has receded 100 km - Creation of Aralkum desert
- Extinction of native fish species

Desiccation of Aral Sea



Source: Luxner & Drake 2015, Reviving the North Aral Sea, In aramcoworld.com

Research problem	Potential opportunities
High level of water salinity in Aral Sea basin	320 sunny days in Aral Sea basin to apply solar/wind energy for water desalination
Cooperation in the Aral sea basin to mitigate consequences of the environmental catastrophe	Conducting interdisciplinary research on water-energy – food nexus
Access to fresh water for local communities	Application of affordable hybrid-solar water desalination technology to all communities