

Project idea for regional project

SAND AND DUST STORMS

Rationale and relevance with national/regional priorities related to environmental protection and NRM:

- Sand and dust storms affect CA: both as a source and destination. Frequency is increasing. Identifying source of sand and dust storms and mitigating them is very important for regional cooperation.
 - Central Asia located in sand storm belt - 2 natural deserts + 1 man-made desert + steppes and semi-steppes which are source of sand and dust storms. Since last year, frequency of sand storms has been increasing, source was Kazakhstan (but also source can be Iran)
- Studies on implications of drought on migratory movements in Uzb and CA countries more generally towards other countries -> important socio-economic implications.
- Implications on livelihoods of people living in transboundary areas like Ferghana Valley
- Implications on food security: e.g. in Uzbekistan, initiative of President for sand stabilisation in Aral Sea, including by establishing a system to support pastures e.g. by drilling water boreholes for animals.
- Also health implications: heavy metals, hydrocarbons and pesticides in the sand can affect human health.

Why is this happening? Causes of increased dust/sand storms:

Sand and dust storms are a natural condition, but increase in their frequency and impact due to impacts of climate change (temp increase and soil evaporation) and economic activity (especially livestock sector, unsustainable agricultural practice, deforestation i.e. illegal cutting of trees -> desertification and land degradation). In particular:

- Deforestation has important role in increasing dust storms
- Livestock sector has negative implications on this, too. Thousands of hundreds land degraded because of overgrazing
- Non-sustainable agricultural practices
- Illegal cutting of trees
- Water and land management: not enough technologies to count how much water farmers use, problems in water infrastructure e.g. leakages (high % of water loss), sediments in water facilities -> problem increases due to population growth
- Construction activities -> source of local dust storms
- Biodiversity loss

What solutions/activities?

- **Enabling environment: National/regional strategies on sand and dust storms**
 - in Uzb already some presidential decree on sand and dust storm mitigation - mentions need to establish green belts (in roadmap)
- **Reforestation and afforestation (building on existing initiatives)**
 - Already several initiatives e.g. 2 m ha of land already planted in Aral Sea region - needs to be expanded (+ sand fixation)
 - Project with AFD, funded by EBRD: selected 8 zones with high wind, 200 ha land where to make green belt zones to prevent wind erosion
- **In agriculture:**
 - Need water saving technologies in agriculture, zero tillage.
 - **Increase planting of tree and crop species that are drought and salinity resilient**
 - Alternative crops that use less water - diversify and move towards cultivation of economically beneficial plants (in addition to cotton) -> change agricultural approach based on changes in climatic conditions (informed by scientific evidence/research)
 - **(Capacity development of local pop + awareness raising:)** To this end, need to empower farmers and raise their awareness to climate change etc. If you provide people with good lands, equipment (for planting and harvesting): capacity-building, extension services supported by financing opportunities (e.g. small loans)
 - Let population work together on their land (at village/ovul level) -> role of the council of the elderly
 - **Centralised system for forage production for livestock, engaging private sector** (normally, animals raised free range especially for sheep, cattle, camels and horses; animals also used in farms)
 - **Revisiting land ownership models** could change mindset of farmers to invest in the land + promote more market-based, liberalised agriculture (but maybe this should be more country-specific) & **water pricing**: e.g. in Uzb, water price is very low, which discourages water saving
- **Appropriate monitoring, forecasting and early warning system for sand storms**
- **Strong collaboration for efficient management (sharing and use) of water resources: agreements between countries**
 - All countries sharing Amu and Syr Darya should have regional agreement for sharing water resources, signed at national level.

What opportunities for transboundary coop?

- Expansion of scientific research on sand and dust storms, e.g. through creation of regional sand and dust storm early warning centre
 - Data and evidence + mapping (-> environmental dashboard) would also create a more attractive environment for investors
- Knowledge hub collecting data, lessons learned, best practices to encourage exchange at regional level: part of environmental data dashboard? (operational focus on results & sustainability)
- Enhance economic cooperation
- Establishment of transboundary protected areas (for biodiversity)
- Regional co-development strategies for mitigating and reverse Aral Sea desiccation: e.g. joint approach to reforestation of at risk areas around Aral Sea + water strategy (starting from IFAS?)

Goal/impact:

- Improve socio-economic conditions: income raising, and better livelihoods
- improved health conditions
- Reduced migration: more stabilised societies
- Sustainable ecosystems
- Decrease frequency of sand storms and their impacts which would contribute to decreasing desertification
- Enhanced regional cooperation