Second Open Tender for Innovations

Case Study #6: Black Sea, Sub-CS: Bulgaria

Supplementary information

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The Case Study "Black Sea"

The Black Sea is a unique ecosystem that may face serious climate problems. The BS Case Study comprises elements from different locations placing them within a virtual watershed with distinct Black Sea characteristics. Following a "from source to sea" approach, ARSINOE proposes three sub-studies: the headwater, the riverine and the coastal ecosystems, providing an integrated approach that connects upstream land use with the coastal ecosystems.

In this sense the Case Study focuses on the connection between upstream land uses and the coastal and marine ecosystems of the Black Sea, including the Danube delta, and connections to the western Black Sea marine basin, under climate change and bring out innovative approaches including NBSs. ARSINOE intends to follow an integrated watershed management approach, from source to open sea, and provide climate-resilient good practices, that will enhance the adaptive capacity of ecosystems and the local communities involved.

The complex Case Study is comprised of 4 locations in 4 different countries: Bulgaria, Greece, Romania and Turkey.

The Bulgarian part focuses on the Ropotamo complex:

- Ropotamo Complex, on the southern Bulgarian Black Sea coast, is comprised of the downstream stretch and estuary of the Ropotamo River, seasonally flooded forests, small freshwater and brackish lagoons, sand dunes, a bay and various inlet.
- Because of its variety of habitats, the wetland is very biodiverse, hosting 60% of Bulgaria's reptile species, 57% of its mammals, 60% of its freshwater fish and 50% of its nesting birds.
- 255 different bird species have been recorded.
- The main human uses are forestry, hunting, and recreational activities, and the wetland is a very popular tourist destination. Main potential threats include urban development affecting the Alepu Marsh, unfavourable management practices, eutrophication, illegal poaching and forest logging.

The Work Group "Ropotamo"

The Bulgarian work group (similar to other LLs in ARSINOE but held at local level before aggregating all results in consequent International LLs) consists mostly of representatives of public authorities, due to the heavy use restriction placed on the protected area. Already all three WGs have been held and by 14.11 all three International LL would also be completed.

The results of the debates in the Work Group inform our understanding of the area and the innovations we seek with this tender for innovations.

In the WG we discussed key challenges arising from climate change and how they are interlinked to develop a joint understanding of current and future challenges in the Ropotamo area. Subsequently we imagined what a climate-resilient future in the region might be like in 2050 and we formulated a vision for the region. In this tender for innovations, we want to

contribute to solving the identified problems and to making the vision a reality. The key challenge describes what we focus on in this first tender for innovations.

Below you can familiarise yourself with the challenges stakeholders identified as well as with their vision of 2050. In the end, we outline the key challenge for this first tender for innovations.

The Problem Statement by Stakeholders

The problem statement is both short and complex, dealing with many factors that would concern the Ropotamo Area:

How do we ensure that we are best positioned to address the challenges posed by climate change impacting Ropotamo Reserve?

The problem statement was complemented by setting the discussion on the relevant SDGs:

Goal 6: T6.3, T6.5, T6.6

Goal 9: T9.1

Goal 13: T13.1, T13.3

Goal 15: T15.1, T15.2, T15.7, T15.8

Climate change poses major challenges in the region and is likely to exacerbate the challenges for protecting the complex ecosystems. The changes pose threats that are not in the realm of just one public authority, but require a great deal of coordination and alignment on strategic level in order to find a way forward.

This meant that the stakeholders needed to adapt the problem statement in for subcategories for ease of planning the strategic vision (listed as principles of the vision):

- Sustainability: sustainable infrastructure, sustainable ecosystems, sustainable balance between humans and the ecosystem
- High awareness: how climate change and environmental factors affect the reserve, up-to-date information is necessary for informed decision-making
- An integrated approach: finding a balance between complex ecosystems, ecosystems and infrastructure, people, as well as balance between the management of the reserve and the other component of the National Ecological Network
- Activated civil society: people know the reserve and its role, preserve it for future generations (no poaching, no pollution, no invasive species) and enjoy intact nature;

The Vision of a climate-resilient Future

In 2050, Ropotamo Reserve will be an example of integrated management that is based on detailed and up-to-date information, ensuring a balance between the needs of the different ecosystems that make it up, as well as between ecosystems, infrastructure and the human factor. At the same time, the necessary information will be collected for the reserve to guarantee its resilience to climate changes and extreme events that are possible within 30 years' time. Protecting the reserve will be a mission not only for the state institutions responsible for it, but for society as well, which will have the knowledge of why it is necessary to protect this precious place, as well as recognizing its important role in this process.

The Ropotamo reserve will not be an isolated element, but part of a whole system built by humans to protect the valuable elements of the world around us - integrated data on the state of the rivers flowing into the Black Sea and data from Black Sea monitoring carried out by all Black Sea countries would be an ideal scenario for a better future.

The Key Challenge for the Second Tender for Innovations

The key challenge for this open tender for innovations is providing protection of the components of the ecosystems, with focus on water quality and quantity, pollution and balance. The stakeholders have agreed on several major categories of innovations which would have the potential to bring real change to the area and support their efforts to protect it: regular water monitoring (quality and pollution); river flooding, including early warning; flood protection; risk management; and solutions for vegetation resilience to climate change and extreme droughts/precipitation.

Additional categories, marked as important, are groundwater mapping, fire warning systems, alert systems for poaching (including social innovation) and illegal logging detection.

We seek technical solutions, including NBS, but also innovations in governance which would support multi-actor approach to complex climate-related challenges. Innovations should result in measurable positive impacts and include a plan for evaluation.