



REGIONAL ENVIRONMENTAL CENTER

Environment and Security Initiative (ENVSEC)

“Adaptation to the Impacts of climate change for Reducing Security Risks in SEE”

Impacts of climate change have already been widely observed in the SEE Region. Resulting from the negative impacts of climate change, the major vulnerabilities might include drinking water shortage, reduced agricultural productivity, increased health concerns, and decreased capacity of renewable energy generation. This project focuses on identifying the main (water, food and energy security related) challenges exacerbated by climate change.

Current projections indicate rising future demands for water, energy and food, and predict subsequent strains on the natural systems. These trends send a clear message to decision-makers in governments, business and civil society: the way in which countries deal with water, energy and food security will heavily influence economic growth, human well-being and the environment we live in and rely on.

Water Security is the capacity of a population to ensure that they continue to have access to water for welfare of populations, such as for drinking, sanitation, agricultural production, hydropower generation, industrial purposes, etc. Climate change deteriorates water availability and quality in many regions due to the decreased amount of precipitation or its unequal distribution. Currently, 1.1 billion people are without access to safe drinking water, and 2.5 billion people don't have access to sanitation in the World.

According to IPCC AR4 the climate scenarios for the SEE region it is assessed that precipitation will be decreasing in most of the countries; and at the same time most intensive rainfalls and increased frequency of droughts can be expected.

Water resources are being challenged by droughts, while the demand constantly increases due to agricultural production and energy generation.

Food Security is defined as “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life”. Commonly, the concept of food security is defined as including both physical and economic access to food that meets people's dietary needs as well as their food preferences. Droughts and floods, which have been occurring with increased frequency, are considered to be among the major causes for global food price increase.

International Energy Agency identifies ***Energy Security*** as “uninterrupted physical availability of energy at a price which is affordable, while respecting environment concerns”.

Energy Security has many aspects: long-term energy security is mainly linked to timely investments to supply energy in line with economic developments and environmental needs. On the other hand, short-term energy security is the ability of the energy system to react promptly to sudden changes in supply and demand. Although, the energy supply is mainly provided from fossil fuels in the SEE, hydropower generation has also a substantial share in the TPES. And Hydropower generation systems are competing with agricultural sector for water more than ever before.

Sometimes, countries have sub-regions where water/food/energy security issues are a relevantly a bigger concern than they are for the whole country. Such a region could face severe deficiency in satisfying the water, food and energy demand for the local population, while such deficiencies are not a national concern. Within the framework of the ENVSEC Project, such sub-regions are considered as “*hotspots*”.

The negative impacts of climate change on the natural ecosystems create several challenges for the SEE countries as well as the other parts of the world. Although there are studies which involve the impacts of climate change on various natural ecosystem services in SEE, the inter-linkages between climate change impacts and water, food and energy security have not been well examined.

In South Eastern Europe, the ENVSEC Initiative presently focuses on following main environment security aspects:

- improving regional cooperation for risk management from pollution hotspots
- management of shared natural resources extending across borders
- adaptation to the impacts of climate change for reducing risks in SEE:

followed by number of cross cutting activities, like: implementation and enforcement of environmental legislation, awareness, information, education, etc. Within the framework of ENVSEC Initiative, the REC co-operates with several partners such as UNECE, UNEP, and UNDP.

Environmental security is only recently becoming an important focus of international environmental policy. Environmental Security has many dimensions such as natural resources availability, human rights, armed conflict, national security, and etc. However, within this particular ENVSEC Project, environmental security topic has been mainly framed with water, food and energy security aspects, among which natural resources are being competed. The Project considers climate change as one of the major challenges to reach environmental security, and aims to reduce these risks exacerbated by climate change.

The Project aims to reach these goals through enhanced knowledge base of climate change impacts and their interrelation with environmental security, and regionally consolidated approach for adaptation in the region.

Within this framework, the project involves the following steps of implementation:

- 1) Environmental security risks (food security, water security, energy security) related to (or intensified by) CC in SEE will be identified through desk researches and a survey, carried out by personal interviews. The interviews will be in the form of individual meetings and submission of questionnaires through e mail. The interviews will last no longer than 1 hour. (Foreseen number of interviews: 10 and questionnaires 10). The key interviewees will be representing energy agencies, water authorities, agriculture organizations, farming associations, local governments and academies.
- 2) Consultation event on CC and environmental security in SEE (Albania, BiH, Serbia, Montenegro). During the event, the outcomes of the survey will be discussed; further results will be developed; exchange of information and awareness raising will be possible among different stakeholders. The stakeholder groups will be local/regional/national government representatives, researchers, experts, practitioners.

Questions:

- 1) Are there concerns for satisfying energy/water/food demand in the country (or your local area of concern), at present and in the near future? (please explain with examples) in the field of:
 - Energy (e.g. loss of hydropower generation capacity, decreased supply of water for the fossil power plants' cooling)
 - Water (e.g. shortage of drinking water, shortage of water for recreational areas and ecosystems, problems due to the changing regime of rivers' run-off)
 - Food (e.g. insufficient water supply for agriculture and animal husbandry)
- 2) Are there any hotspots (regions) that would be prioritized?
- 3) Are there any **existing** activities to cope with those security challenges at national and/or regional level? What are the main barriers (institutional, human capacity, financial, other)?
- 4) Are there any **upcoming** plans/strategies/projects in progress at national and/or regional level?
- 5) For which areas/issues might be important to have cross-boundary cooperation?
- 6) Your personal suggestions/comments for the overall energy/water/food security issue.