



REGIONAL ENVIRONMENTAL CENTER

Environment and Security Initiative (ENVSEC)

**Regional Stakeholder Consultation and Awareness Raising Event
on**

“Climate Change Induced Environmental Security Risks in SEE”

October 18-19, 2011, Sarajevo

**Hotel Hollywood, Dr. Pintola 23
Ilidža, 71000 Sarajevo**

The aim of the consultation event has been to assist governments and communities to identify common solutions and develop joint projects for achieving them, and facilitate dialogue and collaboration among policy makers, environmental experts, and the civil society across the borders, including national experts, ministries and national agencies, as well as NGOs and research institutes.

DAY 1:

The first day started with the welcome speech made by Djordje Vojinovic, Project Manager, REC CO BiH; followed by Zsuzsanna Ivanyi, Senior Expert and Climate Change Topic Area Leader in the REC, who informed the audience on the programme and the ENVSEC Initiative. Later on Gamze Celikyilmaz-Aydemir made a brief speech about the current ENVSEC Project “Adaptation to the Impacts of climate change for Reducing Security Risks in SEE”.

The first speech has been made Mr. Chad Briggs, from Institute for Environmental Security and USAF. Mr. Briggs started his speech with informing the audience regarding what is Environmental Security.

According to Mr. Briggs, Environmental Security can be seen in different dimensions. It is not only conflict creating thing, but it can also be a focal point for existing grievances, a point of cooperation, it can be used as a weapon, it can be a reason for migration and human rights issues. Environmental issues do not cause conflicts alone, but if there is already a conflict, it can multiply it. We are afraid of the security issues, which the environmental issues can bring.

He pointed out the importance of determining what the priorities and vulnerabilities are, in every region; and he pointed out that the environment always comes as the latest in the list. Security is not only left to NATO or armies, but rather to the countries who decide how they take security issues.

Another important point is that we should also ask what is not known yet. The risks that we don't know yet are the ones which will hurt us most. For example, you can not make assessments when there is no data on environmental health etc. The risk is bigger if there is missing information. He argued that Brussels may think that there is no risk in the region, if it is either not known, or known but not communicated to EU. Then the risk is not calculated, and they will be worse than the EU countries.

He underlined that the countries of the SEE Region have post transition vulnerabilities, but it is not possible to treat the SEE accession period countries in the same way as Portugal has been treated.

Another point that he has mentioned has been that the decisions on investments (energy, infrastructure) have long term consequences. Meanwhile the conditions will change, and this will create political risk.

Mr. Briggs has suggested that ENVSEC initiative and NATO can be good for identifying these unforeseen risks in these countries.

Another important issue pointed out was that coordinating responses is one of the biggest political problems.

The importance of Net assessment has been pointed out, including Capabilities assessment, Response assessment, and Vulnerability assessment. The results need to be communicated to policy makers, but not in a very technical way. So there is no need for concrete numbers but the existing and future risks. You have to know what will be the cascading impacts. Not the immediate impacts, but impacts of impacts, which can be bigger than the immediate ones. Finally he mentioned that the impacts of impacts are usually bigger and more damaging than the immediate impacts.

He pointed out especially the importance of having information on:

- Economic futures and demand for natural resources, energy
- Environmental impacts on energy and food production
- Impacts of water (droughts, floods, seasons) resource access and energy.
- Natural disasters: contingency planning and coordination.

The speech has been followed by the presentation that was delivered by **Ms. Jasminka Smailagic** from South East European Virtual Climate Change Center (SEE-VCCC), regarding Regional Climate Change projections in SEE; and SEE-VCCC's activities in the Region

Ms. Smailagic has informed the audience with expected climatic changes in the region. She reported that climate projections for 21st century have significant differences from the previous decades, in terms of temperature, precipitations and extreme events. She argued that in Serbia, an increase in the surface air temperature of about 2°C (A1B scenario) and 4°C (A2 scenario) is expected. And a decrease in seasonal precipitation of about 13 mm (A1B scenario) and 6 mm (A2 scenario) is expected.

- Due to climate change the succession of extremely cold to extremely hot as well as dry and rainy periods (with very intensive precipitation) are observed and expected
- Number of tropical days and tropical nights is increased.

- A number of icy and freezing days is decreased and also days with snow and snow cover as well as snow cover duration

Ms. Smailagic argued that the Center lacks data from the countries of the region, and that often the data is not consistent with each other. She pointed out the importance of having the data in the form that would be useful for VCCC. Otherwise, it takes time to get data in consistency.

Mr. Borislav Jaksic, Senior Advisor from Environment Protection Fund of Republic of Srpska, commented that it is a good political decision. But in reality is not a good one and Serbia has communicational problems with the countries of the region. He gave an example that Bosnia and Herzegovina hasn't got much support from the VCCC, and argued that 2 meetings per year are not enough.

Zsuzsanna Ivanyi has suggested that the experts could force the politicians to make steps, and she argued that the push should come from the country.

Ms. Smailagic responded that the center is relatively new and it will take some time to reach the necessary stakeholders. She added that lacking data is their biggest problem. She informed that so far, the insurance companies apply to the Center to know about the frost projections etc.

Mr. Briggs argued that if one has a very efficient system, then it would have more vulnerability to changing conditions, because everything is set according to those conditions.

Mr. Borislav Jaksic argued that cooperation in the Region is quite difficult in many ways. As an example, he mentioned the fragmented nature of energy systems, pointing out that energy can't be traded easily among even the EU countries.

Following Ms. Smailagic, *Ms. Janja Zlatic-Jugovic* from International Sava River Basin Commission made her presentation regarding the Sava River Pilot Projects for Climate Change Adaptation in Trans-boundary Basins.

Ms. Zlatic-Jugovic highlighted the importance of the Sava River with its high potential for transport, tourism, recreation, as well as its international significance, highlighting its social, socio-economical value.

She mentioned the difficulties which arose when former Yugoslavia fragmented into different countries. Former National River, which was regulated by one authority, became an international river. The priorities and agendas of each country are different, and now it is difficult to come together and make decisions for the same aim.

Nevertheless, Sava River Commission was established in 2001; Framework Agreement on The Sava River Basin (FASRB) has been signed on 2002; and the ISRBC has been established in 2005 with involvement of Croatia, BiH, Serbia and Slovenia. Meeting of Parties is held every two years. 8 representatives come from 4 countries.

During the activities data collection has been among the biggest challenges; and local knowledge and engagement have been very important. Another challenge has been the fact that the countries in focus have different status for EU, so eligibility for funds is different.

Also, Public awareness is always an issue. There is conflict of interest between different users of water. Sometimes the language has been a barrier between participating countries. And she finally highlighted that political commitment in high level is important. Nevertheless Sava Commission is considered to be a good platform.

Later on, Ms. Zlatic-Jugovic gave information regarding the Climate variables such as precipitation, run-off and temperature trends in the Sava River Basin, which indicated the vulnerability to the impacts of CC.

She also informed the audience about the very recent adoption of Strategy on Implementation of the FASRB and Action Plan for the Period 2011-2015. The Action Plan and the Strategy includes pillars such as:

- Integration of water policy (RBM planning) with the climate change issues
- Adaptation of flood management to climate change
- Consideration of further development of economic activities in the basin

In order to reach these aims, several funding resources, such as World Bank and ENVSEC Initiative have been involved in the planned projects. In Sava River basin, a flood risk management project has been implemented in Bosnia-Herzegovina, Croatia, Serbia and Slovenia.

Moreover, projects and activities are also in place for building the link between the flood risk management

planning and climate change assessment in the Sava River Basin. Examples are:

- Preparatory activities for development of the Sava Flood Risk Management Plan
- Compilation of various climate change scenarios for the region, their expected impacts on frequency and magnitude of extreme flood events
- Assessment of the need for additional modelling of climate change impact on flood vulnerability
- Preliminary identification and description of possible adaptation measures
- Selection of a package of the adaptation measures

As a response to a question, Ms. Zlatic-Jugovic stated that the project is mainly concentrated to floods, however they also cooperate with Danube commission.

Ms. Ms. Zlatic-Jugovic also highlighted that Sava River is the sub basin of Danube. %75 of BiH territory contributes to the Sava River Basin. She stated that the hydropower potential is only used 40 %, and argued that it is possible to improve the flood control by using this hydropower potential. She finally suggested that apart from the WB, the adaptation fund should also be utilized.

After the presentation, *Ms. Amina Ovicevic* from UNEP Country Office Bosnia and Herzegovina took the floor to make her speech on “Activities of ENVSEC Initiative in the SEE region”.

Ms. Ovicevic started her speech with informing the audience 4 priorities of ENVSEC, and highlighted that mining pollution is the biggest priority of ENVSEC in SEE Region. She stated that ENVSEC's aim is to mitigate environmental impacts of the abandoned mine sites. And she added that UNEP and UNDP cooperate together trying to merge similar activities in the region.

In her speech, Ms. Ovicevic argued that the transboundary protected areas have been neglected so far. She highlighted their importance arguing that they promote common cultural values, and that they are for the same public group.

After giving the current project “Adaptation to the Impacts of climate change for Reducing Security Risks in SEE” as an example of the current ENVSEC projects in the SEE region, she continued her speech with the activities of UNEP and UNDP in the region.

She informed the audience about the following projects of UNEP and UNDP in the Region:

- Delivering as ONE Albania
- MDGF Bosnia
- MDGF Serbia
- GEF NCSA Bosnia
- (Delivering as ONE Montenegro)

DAY 2

The Second Day started with opening speech from Ms. Zsuzsanna Ivanyi, who summarized the day’s programme. The first 5 presentations have reflected the outcomes of the ENVSEC Project study, which has been done in Albania, Bosnia and Herzegovina, Serbia and Montenegro.

The first presentation has been the outcomes of the study done in Albania, which was made by Rezart Kapedani from REC Country Office Albania.

After giving brief information about Albania and its Climate Change related issues and policies, Mr. Kapedani has informed the audience about the expected impacts of climate Change on Energy, water and agriculture sectors.

He called attention to the fact that 90% of electricity is generated from HPPs, and argued that Climate change will affect especially small HPPs, causing reduction in capacity by nearly 20 %. Considering the expected energy demand in Albania, Mr. Kapedani argued that there will be a need to import electricity in the future.

Regarding water supply, Mr. Kapedani pointed out the main problems as:

- Not all cities have 24 hour supply of drinking water;
- The WFD is not yet fully transposed (law; strategy pending);
- Some rivers are polluted; extraction of gravel from river beds continues;
- Collaboration with neighboring countries are not sufficient.

He added that CC will bring the following negative impacts into the picture:

- Water supply and pumping cost will increase
- Coastal area will be affected the most due to salinity of aquifers (caused by sea level rise), urbanization, industry, tourism and agriculture;
- Erosion and floods

Regarding the agriculture sector, Mr. Kapedani indicated the major problems as land ownership, low level of technology, low level of cooperation, and lack of investments. He argued that several adaptation methods, such as:

- Improvement of the irrigation and drainage systems;
- Investing on flood protection;
- Introduction of different seed varieties;
- Improvement of meteorological stations network;
- Harmonizing water usage with other sectors.

After his presentation, **Prof. Dr. Besnik Baraj**, from Tirana University, and who is Member of Albanian Parliament has took the floor for additional facts from Albania.

Dr. Baraj started his speech with explaining environment and security linkages; and he pointed out that environmental deficiencies can not only contribute to conflict, they can stimulate the growing use of force.

He highlighted the importance of fighting with soil erosion, and gave details about the soil erosion danger in Albania. She reported that, in Albania soil erosion is estimated 20 to 40 tons per hectare and under extreme conditions, soil erosion can represent more than 100 tons/ha/year.

Dr. Baraj also pointed out the issues related to availability and access to clean water. He reported that mean annual discharge of all rivers of Albania is among the highest in Albania. However, only one city has 24 hour access to clean drinking water. He added that after the communist era, very little has been done to improve the water situation.

He argued that corruption has been among the reasons over the years, and added that enthusiasm is useless without law implementation and financial support. He also argued that civil society is too weak in the countries of the region.

He reported that several funding sources have come to Albania, but the efficiency of implementation has so far been low. He also highlighted that International organizations are interested to make feasibility studies, but they don't go further. He pointed out that it is a long process to recover from environmental problems, and added that the government doesn't have money to implement those processes alone.

He emphasized the importance of international cooperation to fight against environmental problems. He highlighted the institutional problems together with environment not being the priority list of governments. He suggested some potential solutions among which decentralizing policy implementation and having active and independent civil society took place. He also emphasized that especially for fighting against climate change, international cooperation is very important since it affects all countries and no country is capable of fighting it alone.

After the Speech of Dr. Baraj, **Mr. Djordje Vojinovic** from REC Country Office Bosnia and Herzegovina has taken the floor for his presentation regarding the ENVSEC study outcomes in BiH. First he introduced the projected changes in climate parameters. Investigations of air temperature for the period 1999-2008 show that the increasing trend is evident in almost the entire territory of Bosnia and Herzegovina. The greatest increases in temperature are in the northwest and northeast, where values are higher and up to 2°C per year. Future precipitation trends show different picture in the eastern and western part of the country. In the eastern part

in the mountainous region increase is expected in the future, however on the lower areas situated in the western part the precipitation will likely be decreasing by less than 10 %.

Agriculture is important for the country and very vulnerable to climate change. About 2.6 million ha is suitable for agriculture, out of which less than 1% is irrigated, consequently shortage of water will result in essential reduction in crop production. Erosion and flooding of farmlands in B&H endanger the harvests and sustainable use of soil.

B&H possesses considerable water resources. Damages caused during the war at water facilities for usage and protection of water, as well as insufficient maintenance, still requires special attention to be paid to these issues by the competent institutions.

Adaptation to climate change would need priority actions in the following areas:

- Inclusion into international process of decrease of GHG emissions and increase of carbon reservoirs, with international incentive to make it economical,
- Application of measures for minimizing risks from climate changes,
- Adaptation of development and the way of life to climate changes, and
- Enduring climate changes (and dealing with consequences).

Problems and limitations were summarized as follows:

- Weak national capacity for comprehensive quantitative and qualitative Vulnerability and Adaptation (V&A) assessment;
- Problem of climate change is not represented adequately in the entity/state strategies of agricultural development, rural development, irrigation projects, energy and water management projects;
- Network of meteorological and agro-meteorological stations is insufficient;
- Poor data on adaptation options and lack of mechanisms for information sharing and management across sectors;
- Limited awareness of stakeholders and population on climate change adaptation;
- Insufficient and limited funding for adaptation study;
- Cooperation among sector authorities is inadequate

Priority measures can be identify as:

- Making a Strategy and action plan for adaptation to climate changes in Bosnia and Herzegovina;
- Improving weather and climate monitoring database;
- Development of scenarios and models of climate change by 2100;
- Making a detailed analysis of institutional, legal, organizational, financial and human resource needs in purpose of developing the capacity of the implementation of the UNFCCC and Kyoto Protocol;
- Collecting information on good practices in countries transition and developed countries of the European Union that have adopted strategy and action plan for implementation of the Framework Convention United Nations Climate Change and the Kyoto Protocol.
- Ensure mechanisms to monitor implementation of INC under UNFCCC;
- Involve local communities in activities of adaptation to climate change because they are primary end-users most of the activities of adaptation;
- Improving early warnings and response systems;

- Improving cooperation among all stakeholders

Following Mr. Vojinovic's speech, **Ms. Bojana Miranovic** from REC Country Office Montenegro has taken the floor with her presentation regarding the ENVSEC Study on Montenegro. She started her speech with giving general information on the REC and Country Office's activities.

Regarding the impacts of CC on Food/energy/water security in Montenegro, she highlighted the following outcomes:

- Reduction of the regime and quantity of precipitations; reduced period of time under snow coverage
- Reduction of water potential for hydrological surface and underground systems;
- Increased evaporation and evapo-transpiration.
- reductions in crop production and related reduced agricultural income;
- extreme weather conditions and related impacts on agricultural production;
- Reduced hydropower generation, increased import dependence and economic losses;

Regarding the hotspots, Ms. Miranovic stated that there are no particular hotspots, however that the coastal regions are the most vulnerable regions and that forests are damaged and improper waste disposal threaten the environment.

She added that there are some ad-hoc projects, but in general there is lack of capacity and technology to fight climate change induced environmental problems.

After the speech, **Ms. Gamze Celikyilmaz-Aydemir** from the REC Climate Change Topic Area took the floor with her presentation regarding the ENVSEC Study on Serbia.

Mrs. Celikyilmaz-Aydemir has started her presentation by informing the audience with the sectors that are in focus of the ENVSEC project, namely food, water and energy; and continued with talking about what are the security risks for those sectors in Serbia. The main risks at each sector could be summarized as:

Water:

- Quantity of water is expected to decrease
- Water quality has been deteriorating
- Extreme events
- Water infrastructure is damaged and not sufficient

Food:

- Agricultural industry will be negatively affected from the changing climate.
- A food shortage is not a concern, but there will be economic loss.
- Plant diseases are expanding due to increased precipitation and humidity at some parts.
- Forestry is the most vulnerable economic sector to CC

Energy:

- Hydropower generation has dropped down and there are fluctuations in river fluxes
- Water is sometimes too low even for cooling systems of the thermal power plants.

Following the introduction of the risks, she followed with giving the framework of existing and planned policies to reduce these risks.

Following that, she informed the audience with the existing types of barriers in those sectors. She has argued that the following have been the types of barriers in Serbia:

- Awareness & perception
- Institutional
- Financial
- Human capacity
- Legislation & policy making
- Other

Finally she has informed the audience about the expert suggestions that she has gathered during the surveys, which have been;

- The Agricultural land ownership structure should be changed and regulated with laws. So investments for water irrigation can be feasible.
- The government can help small farmers as well for low hanging fruits (with little investment), such as planting drought resistant species, etc.
- Strategic approach is needed to discuss issues. The academia + policy makers + climate scientists should discuss together
- Capacity building should be a priority
 - Middle level technical people (maintenance, repair of sewage and water systems)
 - Project management
- Assessment of existing conditions of infrastructure
- International cooperation is needed for best practices, technology transfer, financing, capacity building