



**The Global Environment Facility
The 6th Biennial International Waters Conference
Raising the Bar: 20 Years of GEF Transboundary Water Results**

**A Disappearing River in a Land of Floods and Drought
A Visit to the Trebisnjica River Basin**

Trebinje, Bosnia-Herzegovina, October 2011 – The surface may be rough and craggy. But underground there is a joyfulness that runs with the waters of an unusual aquifer system that extends through eastern Herzegovina.

At least that's the way Dr. Neno Kukuric sees the landscape of his native land near the town of Trebinje in Bosnia-Herzegovina.

The area is well known to hydrogeologists as the Dinaric Karst Aquifer System, one of the largest systems in the world of porous rock formation and below-ground water. It extends from Slovenia to Albania and takes its name from the Dinara Mountain. In Bosnia-Herzegovina it runs through the Trebisnjica River Basin, a land of extremes, where drought regularly alternates with flood and the goals of those charged with managing water is to make sure people have it in the summer and aren't flooded in the winter.

"It's why I became a hydrogeologist," Kukuric said. "It rains here like no where else in Europe and in the summer, it is dry and people don't have water."

Kukuric led an excursion to the region as part of the 6th Biennial International Water's Conference of the Global Environment Facility, an independent financial organization that funds environmental projects around the world.

The four-day water conference began 17 October and is being held in nearby Dubrovnik, Croatia. It brought together about 300 participants from around the world to exchange methods and discuss ideas about the portfolio of projects in GEF's International Waters focal area. GEF and the United Nations Development Programme (UNDP) organized the conference in cooperation with the Croatian government.

Kukuric's trip highlighted an area where GEF is funding *Protection and Sustainable Use of the Dinaric Karst Transboundary Aquifer System*, or DIKTAS for short. The work is being implemented by UNDP.

"The whole idea is to help the four countries that share this aquifer," said Andrew Hudson, UNDP/GEF technical advisor for International Waters.

In the DIKTAS project, managed by Kukuric, Albania, Bosnia and Herzegovina, Croatia and Montenegro are receiving GEF funding as part of the project.

Since the splitting of the former Yugoslavia, the Dinaric Karst region extends across multiple country borders. Yet the actions of the project in Bosnia-Herzegovina will be felt in Croatia and other countries. It also has implication for pollution mitigation, water supply and hydroelectric power generation.

Work on the four-year project started in July 2010. The project aims to foster equitable distribution and sustainable use of water in the Dinaric Karst Aquifer System of the Balkan Peninsula. It also plans to help protect the groundwater-dependent ecosystems in the region.

The trip was one of four excursions to GEF-funded projects underway in the area near the Dubrovnik conference. The others were:

- *Wastewater Treatment and Marine Protected Areas.* This trip visited a future wastewater collection and treatment project on Mljet Island, a national park and a marine protected area off the coast of Croatia. The trip focused on a part of GEF/United Nations Environment Programme's Mediterranean Regional Project.
- *Mariculture and River Deltas: Ston Municipality and the Neretva River Delta.* This tour took participants to see part of the *Neretva and Trebisnjica Management Project*, which provides management tools to protected areas in Croatia and has a pilot scheme to mitigate problems of salt-water intrusion into the area.
- *Lake Basin Integrated Ecosystem Management: The Skadar-Shkodra Lake.* The trip highlighted the Lake Skadar-Shkodra Integrated Ecosystem Management, which aims to help the Albanian and Montenegro governments to achieve more sustainable use of the lake and the surrounding watershed.

The karst aquifer trip centered on The Trebisnjica River Basin near the town of Trebinje. About 45 participants piled into a bus that snaked along narrow highways near the river.

However, sections of the river are not visible since parts flow below ground. Where it is visible, the sides mostly are lined in concrete.

“It's a karstic system, which means more happens underground than on the surface, said Christian Susan of the United Nations Industrial Development Organization, who participated in the trip. “You have water that disappears in huge quantities.”

As Kukuric explained, the countryside is rough and rugged.

Steep stone mountains jut out from narrow valleys and are covered by boulders and tufts of brown shrub and evergreen. Scatterings of stone houses hide in the gray rock, distinguished from the mountainsides only by their red roofs.

Among the stops on the tour was the Vjetrenica Cave, a labyrinth of underground paths that glitters with waterfalls in the winter, but is relatively dry in the summer.

The cave is home to colorful rock formations and endemic creatures such as the “human fish,” a lizard-like amphibian with pinkish or flesh-colored skin.

The tour passed by the Popovo Polje, an open expanse that once flooded with water in the winter and dried into a field in the spring. This time of year, it provided a rare expanse of green in the area.

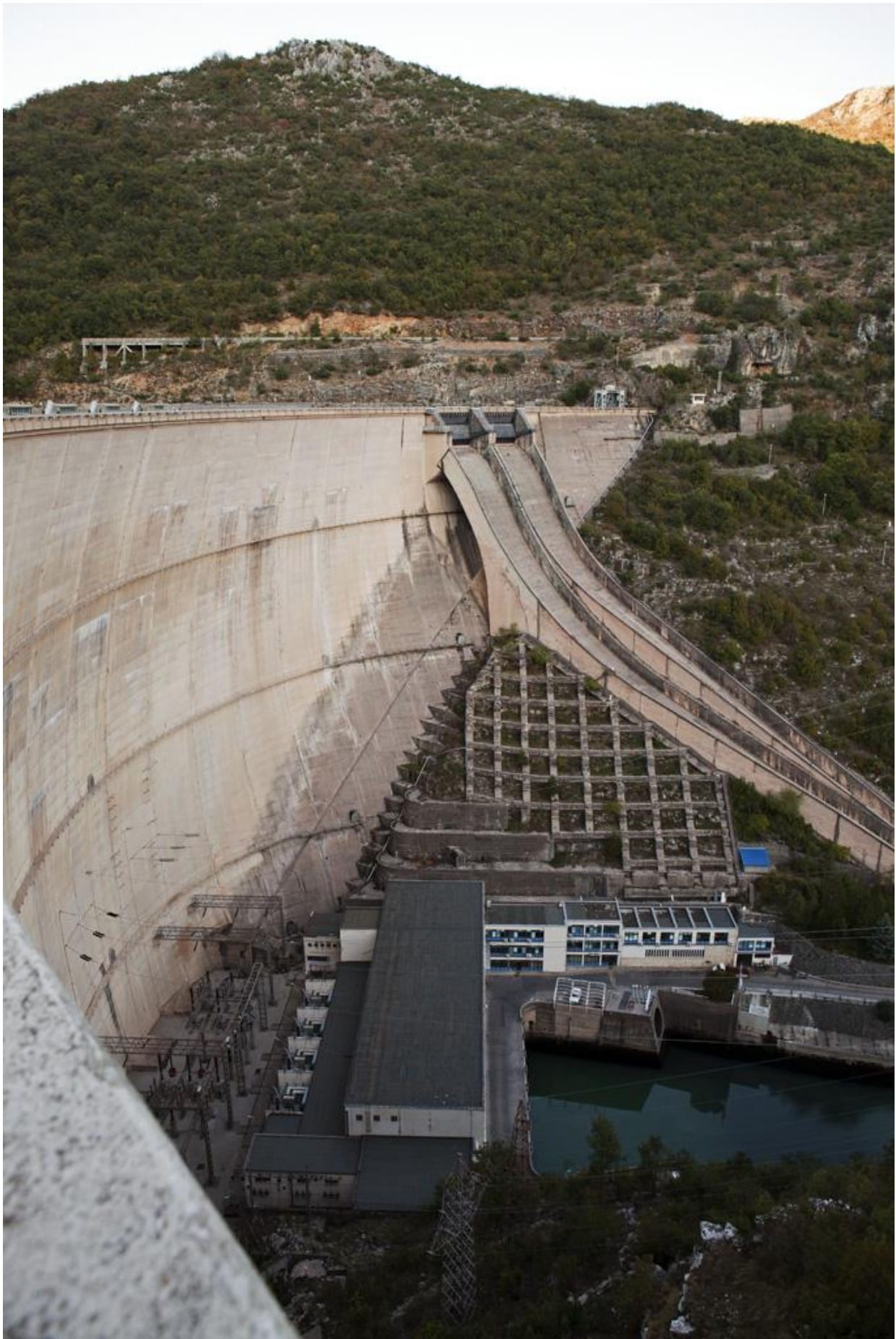
It also took visitors to HET Hydropower Company in Trebinje and the Grancarevo Dam, an ambitious hydropower project from the 1960s that harnessed the underwater power for flood control and energy.

PHOTO CREDITS

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ABOUT GEF

The Global Environment Facility is an independent financial organization that provides grants to developing countries and countries with economies in transition to address global economic problems. It unites 182 member governments that work in partnership with 10 agencies, non-governmental organizations, international institutions and private companies. The partners are the United Nations Development Programme, United Nations Environment Programme, The World Bank, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Food and Agriculture Organization of the United Nations, Inter-American Development Bank, International Fund for Agricultural Development and United Nations Industrial Development Organization. GEF-funded projects target six focal areas: biodiversity, climate change, land degradation, the ozone layer, persistent organic pollutants and international waters. Since it was founded in 1991, GEF has invested \$9.2 billion in grants, leveraged \$40 billion in co-financing. It has supported more than 2,700 projects in 168 countries.

ABOUT THE INTERNATIONAL WATERS FOCAL AREA

The GEF International Waters (IW) focal area targets transboundary water systems including river basins, lakes, groundwater and large marine ecosystems. Since its founding in 1991, the portfolio has comprised about 170 projects in more than 149 countries worldwide. IW grants have amounted to more than \$1.2 billion. The investment has led to \$7 billion in co-financing.

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