



Presentation from  
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# Piloting of Landscape Restoration and Watershed Payments in Albania

Drita Dade

Senior Natural Resource Management Specialist

The World Bank

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# Albania's Natural Resources

Albania has a total surface area of 2.9 million ha:

- ❑ Forest 52 % (1.5 million ha) only 30 % high forests
- ❑ Pastures 17 % (0.48 million ha)
- ❑ Cropland 3 % (87,000 ha)

Albania has abundant water resources:

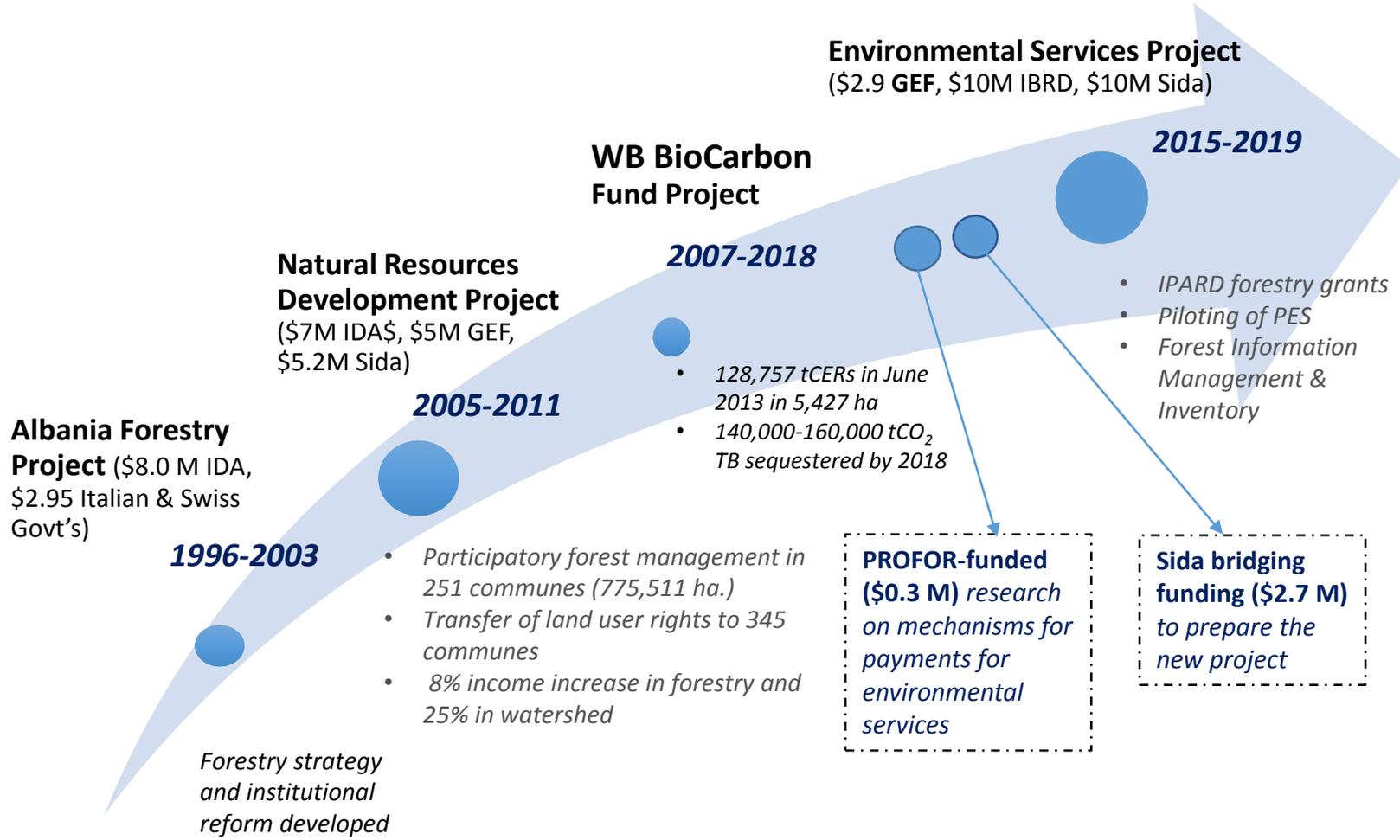
- ✓ 8 major rivers
- ✓ 3 transboundary lakes
- ✓ 4 Ramsar sites – wetlands
- ✓ 12.8 billion m<sup>3</sup>/year groundwater flow
- ✓ 95 % hydro energy
- ✓ 476 km coastal line



# Overuse and Degradation of Resources

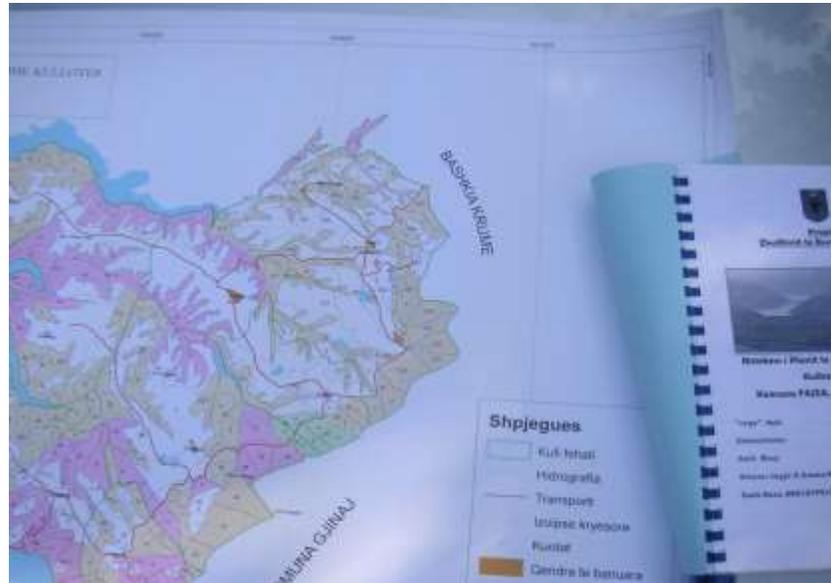


# Support to Albania Landscape Restoration



- Accession Agenda:**
- Readiness for EU agri-environment measures
  - NATURA 2000
  - LEADER approach

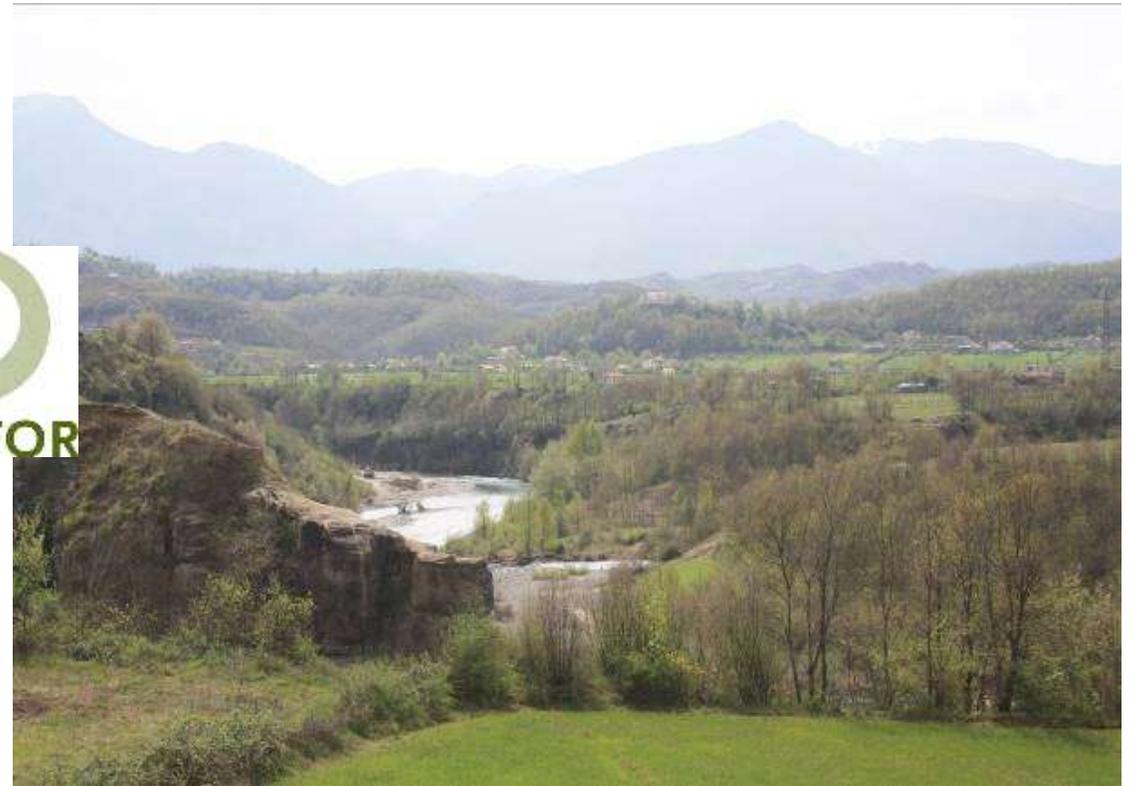
# Integrated Landscape Management and Planning



# Study of Innovative Financing in Ulza Watershed

**Features:** located in Mati river basin; 122,435 ha; HPP built in 1958 and privatized in 2013; capacity 25.2 MW; variations in water flow; reduced seasonal flows; and increased sedimentation

**Objectives:** define a scientifically sound erosion monitoring methodology; establish key baseline data; provide quantitative estimates of environmental services values

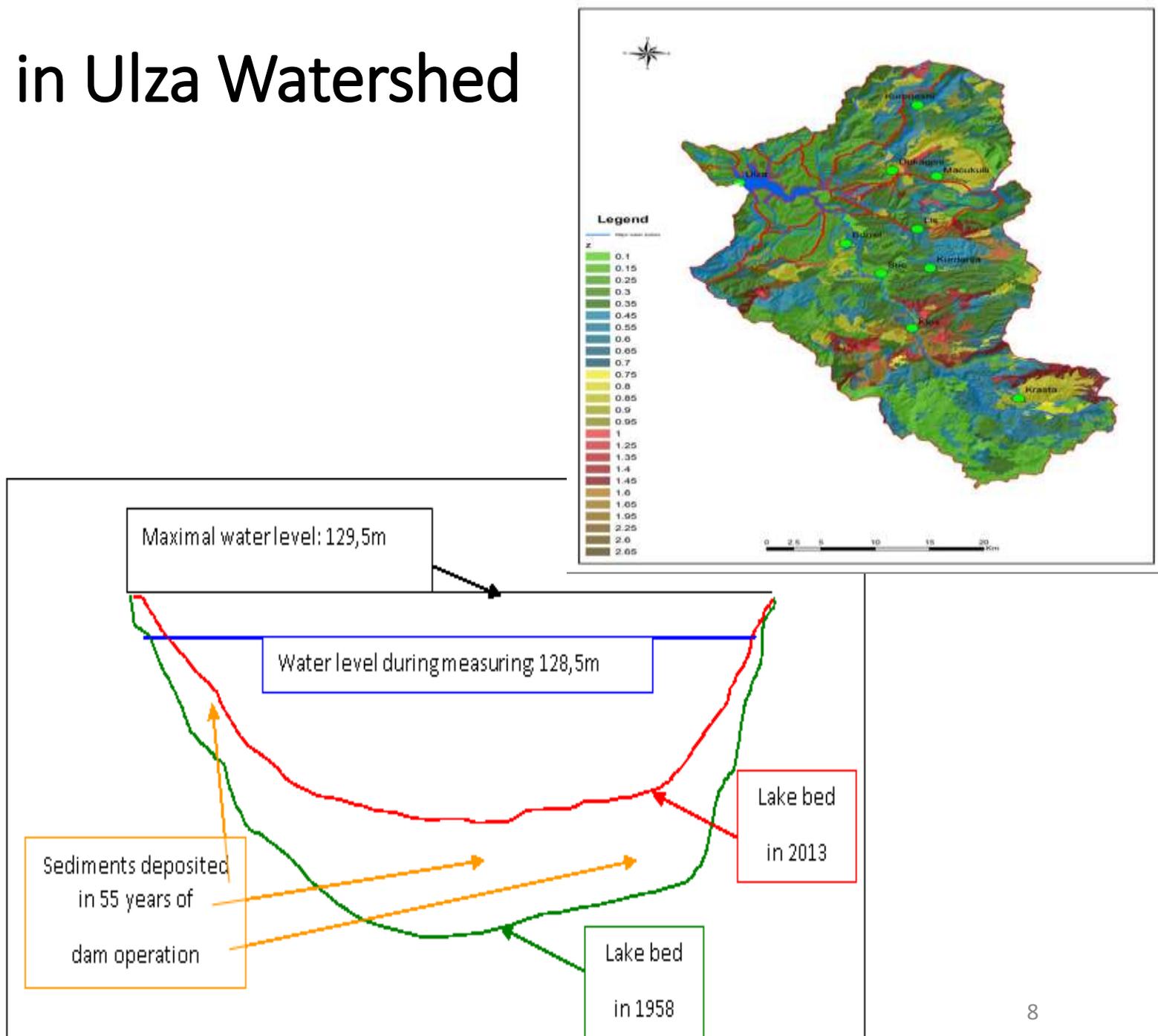


# Study Results in Ulza Watershed

## KEY RESULTS:

3 yrs of erosion monitoring, 2 bathymetric measurements and 2 willingness to pay surveys in Ulza

1. Monitoring and modelling of erosion and runoff methodology established
2. At least 31.5% of the Ulza reservoir storage is filled with sediment and dam lifespan reduced by 50 years
3. Erosion and sediment are correlated to land uses in a measurable way, with forested areas producing the lowest sediment load
4. The erosion levels in the watershed are very high, the erosion mapping indicates a more than 3 times level of sediment compared to similar situations in the region.
5. 98% believe PES is the appropriate scheme but only 12% of stakeholders are willing to pay for ES such as reduced erosion and reduced sedimentation



# Designing PES activities in Albania

## Albania Experience

- Assisted Natural Regeneration of Degraded Lands Project (WB BiocarbonFund)
- Natural Resources Development Program (supported by WB, Sida and GEF)
- Results in Ulza watershed (PROFOR grant)

## Global Experience

- PES projects in Costa Rica, Mexico and Brazil: water, carbon and biodiversity
- PES schemes application in EU member states: agri- forest payments, forest – groundwater (Water Framework Directive)

## Albania Environmental Services Project (2015-2019)

- Establish PES to reduce land degradation and support farmers' livelihoods thru provision of and compensation for ES
- Develop a PES model linking land use practices with generation of ES (sediment retention, water purification)
- Start small 😊 - two pilot watersheds of **Bovilla** and **Ulza** (erosion monitoring, hydrological models and provision of payments)
- Pilot first IPARD-like forestry grants in the country



# Second Pilot Watershed - BOVILLA

## Key features:

- Bovilla watershed is 11,789 ha
- Bovilla reservoir capacity is 106 m<sup>3</sup> built in 1998
- Annual flow of main tributary is 105,106 m<sup>3</sup>
- Bovilla supplies 80 percent of drinking water to Tirana
- Bovilla Water Treatment Plant (WTP): water deposit of 30,000 m<sup>3</sup>; water is treated, filtrated and distributed thru 2 pipelines

## Key threats:

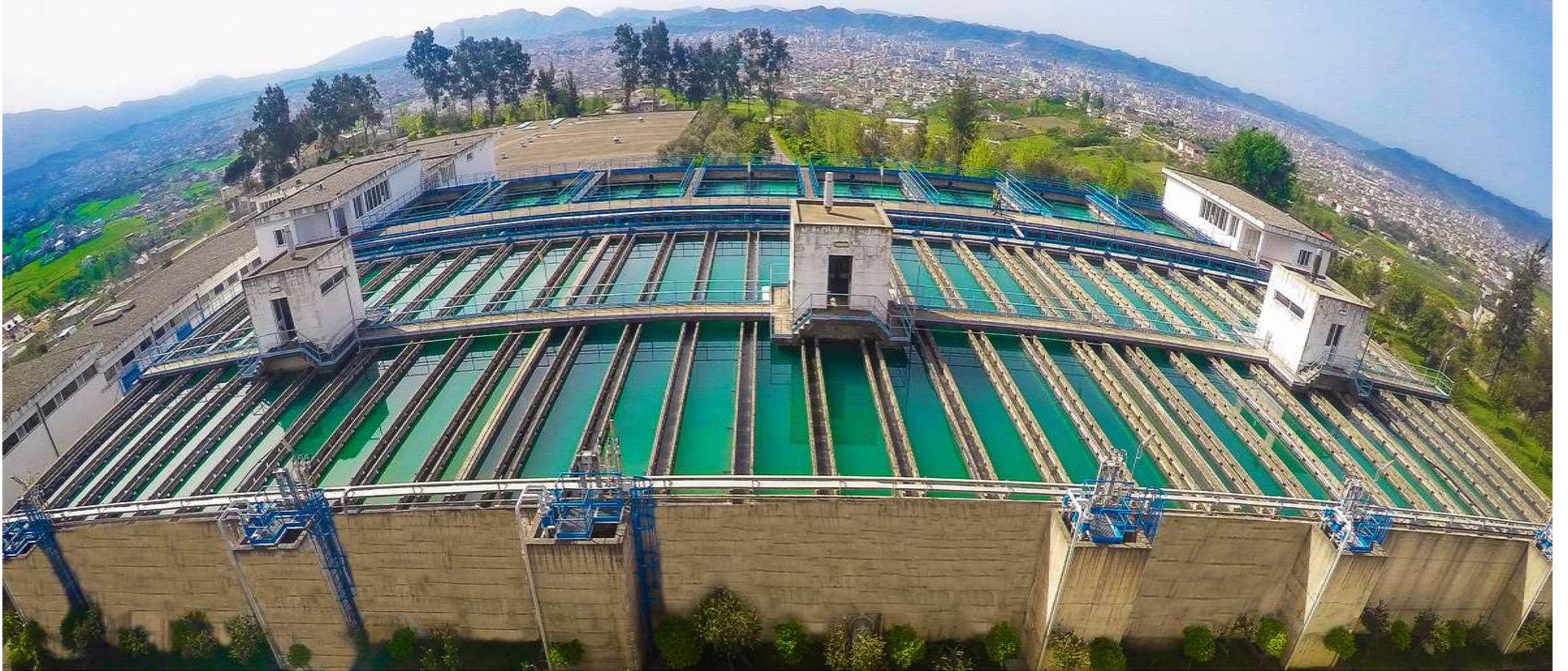
- Sedimentation is filling the reservoir – 148.103 tons/year
- Feb 2016 floods: WTP shut down 24 h
- Water quality deteriorates during intensive rains or floods
  - Unpleasant odor in Autumn caused by decomposition of vegetation

## Tirana, capital city of Albania:

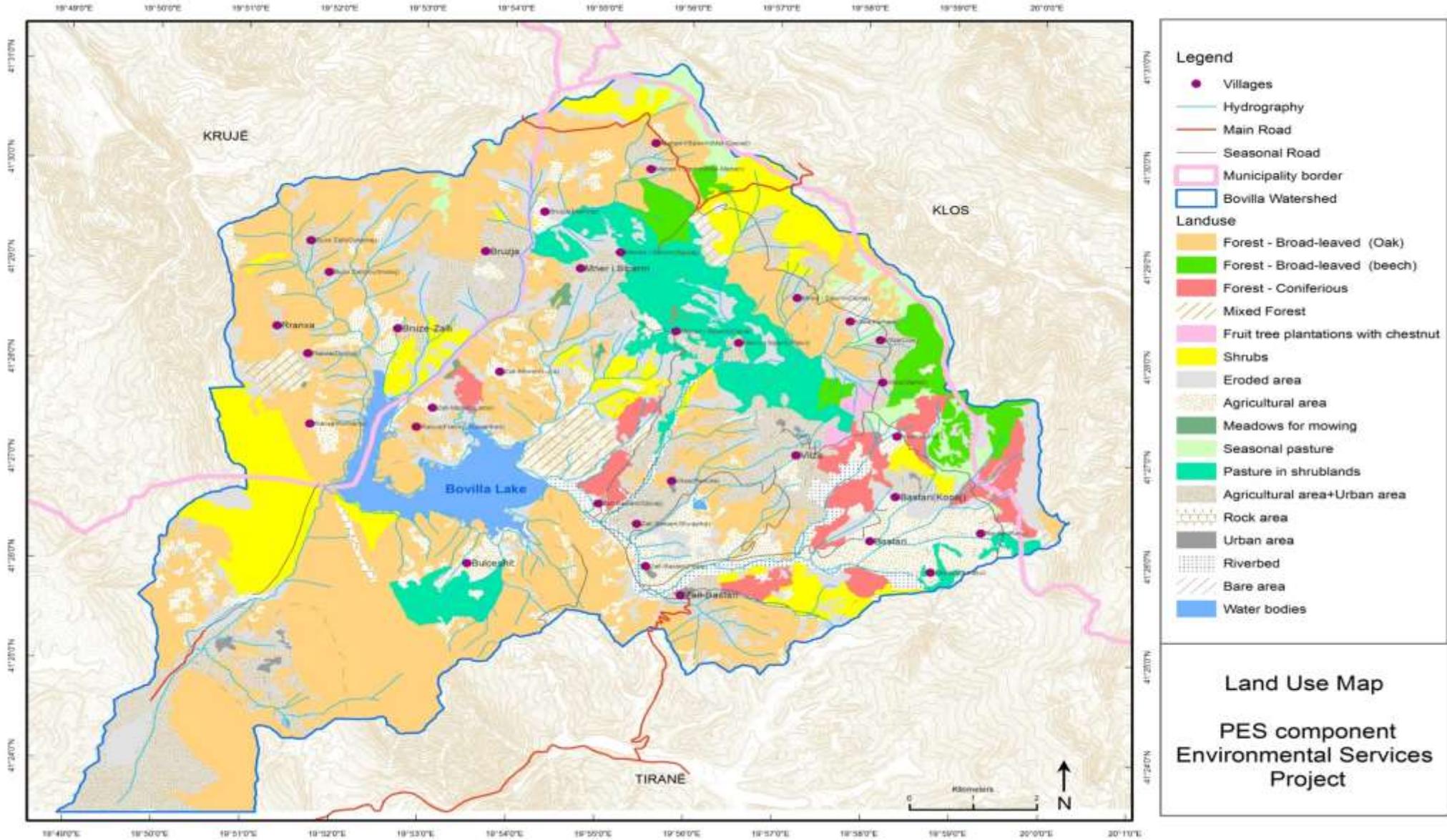
main city quarters *749,365 inhabitants*  
*plus the suburbs about 1.0 million*  
population of Albania 2.829 million  
(2011 census)



# Bovilla Water Treatment Plant



# Bovilla Land Use Map



# Piloting PES for Water Services

- Understanding the problems (nature of service users, nature of infrastructure, nature of threats)
- Getting the **science** right (land use mapping, hydrogeological model, bathymetric measurements, upstream erosion monitoring)
- Justifying the program (Is it an environmental program or rural development program??)
- Target and differentiate payments (based on identified hotspots build different scenarios)
- Getting the **institutions** right (identifying the relevant actors; putting in place arrangements to contract service providers, monitor implementation, and make payments)

***A program to reduce costs of water supply***



# Prove the effect of watershed degradation on water treatment costs

- **Establish the erosion monitoring scheme** to improve understanding of erosion rates under different land uses and different conditions ✓
- **Conduct a hydrogeological model** to assess the effects of watershed degradation on water flows and sediment transport; identify critical areas for conservation; estimate the likely effects of different conservation actions . ■ ■ ■
- **Analyze the costs of turbidity** to understand the consequences of reservoir degradation and determine whether the proposed conservation actions would be cost-effective. ■ ■ ■

# PES Institutional and Legal Frame

- Provisions on PES included in the new draft forestry law
- Activities for 2017:
  - i. Define responsibilities for the design and management of a PES scheme (PES transactions - buyers, sellers or intermediaries)
  - ii. Define types of contracts, types of payments
  - iii. Define rules of operation of the PES scheme, monitoring and reporting



*Who is our champion?*

It takes time and dedicated people to succeed....

