

Repensando los vínculos urbano-rurales para las personas y la biodiversidad

Integrated Watershed Management

Cuenca, Ecuador

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Background

Cuenca, city of water crossed by 4 rivers: Tarqui, Tomebamba, Yanuncay and Machángara. It is the third most populated city in the country.

Threats and stressors in watersheds:

- Ganadería junto al río
- Gallinaza y Agroquímicos
- Tala de Bosque Ripario
- Ganadería en PáramoPlantaciones Exoticas
- Piscícolas

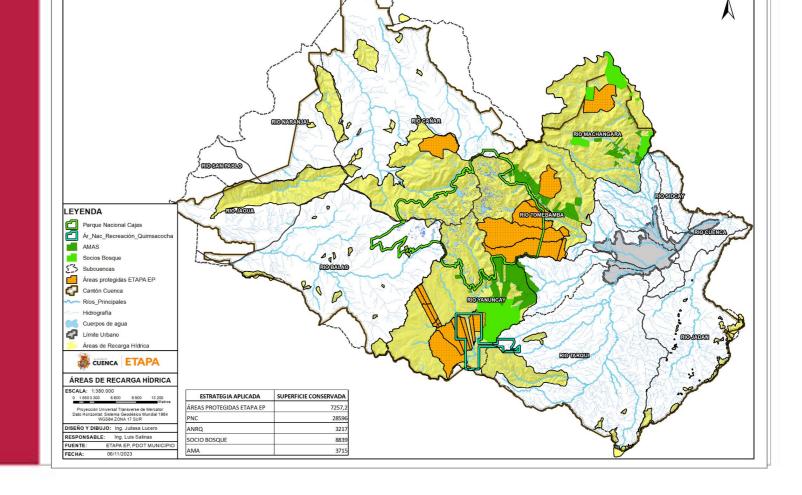
Climate: Cold semi-humid

Altitude: from 2600 to 4600 meters above sea level

Precipitation: 981 mm/year Population: 614,539 inhabitants

Water consumption: 180 liters/inhabitant/day

Economy: Hydroelectric power generation, construction, industries, handicrafts, agro-production.



Approach



CITY CHALLENGES

- Guarantee water for human consumption by 2050.
- Work with a focus on water security through integrated watershed management.
- Maintain a good state of conservation of ecosystems for water regulation.
- Generate an incentive plan that guarantees conservation and production.
- Generate environmental policies to guarantee water protection.
- Empowering local stakeholders in the protection of water sources
- Contribute to a sustainable and biodiverse city, mitigating climate change.

Integrated water management by the municipal company ETAPA EP with an ecosystemic vision.

- 1. SUPPLY: Watershed management
- 2. APPROVEMENT: Drinking water and sewage service
- 3. RETURN: Wastewater treatment



Methodology



- Conservation Committee of the Machangara and Yanuncay Watersheds
- With the participation of: Universities; GAD Provincial; GAD Cantonal; GADs Parroquiales, Ministries of Environment and Agriculture; ETAPA EP; and Hidroelectricas.
- Environmental education both in schools in the urban sector and in water recharge areas in the rural sector.
- "Mutual Agreements for Water" for moorlands, native forests and riparian forests.
- "Socio Bosque Paramos" with an investment of \$128,300 per year through the Ministry of the Environment.
- Acquisition of strategic areas 17,244 ha
- 17,244 ha Protected Areas. Control, protection and monitoring of areas
- Kimsacocha National Recreation Area 3,217 ha Important wetland Source of 3 important rivers for the canton.
- Cajas National Park 28,544 ha 28,544 ha.
- Approx. 700 bodies of water Flora and fauna richness - National and international recognition.



Outcomes



• 48% of water recharge areas under conservation (51624.2 Ha / 107754.73 Ha)

APPLIED STRATEGY	PRESERVED AREA
PRESERVED AREAS EP STAGE	7257,2
PNC	28596
ANRQ	3217
FOREST PARTNER	8839
AMA	3715

- 169,718 plants planted in the 2014 2022 period.
- 60.73 km of riparian forests intervened
- 259.65 ha of riparian forest protected
- Environmental education coverage:98.9% of schools in the urban sector
- 98.5% of schools within water recharge

Lessons learned

CONTEXT AND PEOPLE'S REALITY

areas in the rural sector

 Working under an integrated, participatory and sustainable process has benefited the change in the inhabitants' attitude towards the conservation of water resources.

ADVOCACY AND INTER-INSTITUTIONAL COORDINATION

• Strengthen strategic alliances to promote, disseminate, improve enforcement of regulations and minimize environmental impacts outside the law in water recharge areas.

GENERATION OF INFORMATION FOR DECISION MAKING

 Socioeconomic, environmental, land tenure, and problem information on water recharge areas allows us to determine strategies for conservation, protection, and recovery of ecosystems that help regulate water.









