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# Natural Infrastructure for Water Security

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Imperial College

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## NATURAL INFRASTRUCTURE INVESTMENT IS ON THE RISE

Water stewards in more than 60 countries around the world have recognized that natural infrastructure **can reduce costs and manage water risks**. This realization has **translated into billions of dollars invested in watershed conservation worldwide**.



Well-designed and managed natural infrastructure projects will **improve water quality**, secure water supply, and manage natural hazards. They also have social and environmental benefits with the potential to support 14 out of 17 of the United Nation's Sustainable Development Goals.

Natural infrastructure activities provide direct benefits (such as more jobs and cleaner water), while others **provide direct benefits to rural, upstream communities (such as the inclusion of women, Indigenous Peoples, and marginalized communities** in water management practices and stakeholder conversations).

In 2017, successive states of emergencies – caused first by **drought and forest fires in Northern Peru, and then by floods and landslides as a result of 'El Niño Costero'** along the Pacific coast – demonstrated the country's vulnerability to natural disasters that threaten water security.

Peruvian leaders have increasingly recognized the critical role that natural infrastructure must play to meet their water challenges. In recent years, **USD 30 million in water tariffs have been allocated to natural infrastructure via funds for payments for ecosystem services**, and an additional USD 86 million tariffs allocated for climate change adaptation and disaster risk management.

#### WELL-MANAGED NATURAL INFRASTRUCTURE PROJECTS ARE SCALABLE, SUSTAINABLE, AND COST-EFFECTIVE

#### PERU IS EXTREMELY VULNERABLE TO WEATHER EVENTS, SUCH AS DROUGHTS, FLOODS, AND LANDSLIDES



### WHAT IS LIMITING THE IMPLEMENTATION OF NATURAL INFRASTRUCTURE IN PERU?

- Lack of a robust project pipeline;
- Lack of capacity and guidance for designing
- sustainable, gender-inclusive projects;
- Lack of coordination across sectors and;
- Insufficient financial resources in some regions.





## HOW WILL THE NATURAL INFRASTRUCTURE FOR WATER SECURITY PROJECT ADDRESS THESE LIMITS?



#### Ensure policy synergy across ministries and regions by building a common vision for natural

infrastructure in Peru and incorporating this into key policies.

Generate hydrological and

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#### **socioeconomic information**, including about the different impacts the project have on men and women and that are require for project decisionmaking and support.



**Develop guidelines and tools** to design plans, projects, and actions guaranteeing water, social, and economic benefits.

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Build capacities for the design, evaluation, monitoring, and management of natural infrastructure projects among watershed councils, regional governments, and local communities.





Build integrated naturalgray project portfolios in priority watersheds to increase natural infrastructure investment and enhance greengray complementarity.

Design, test, and implement new

financial models to mobilize funds.



**Document and disseminate** evidence on the benefits of natural infrastructure. PERU HAS MADE UNPRECEDENTED ADVANCES IN NATURAL INFRASTRUCTURE POLICY AND FINANCE. YET, IMPLEMENTATION AND SCALE REMAIN CHALLENGING.



An acute water crisis is threatening the world today



> We need to rethink our water infrastructure





- Natural infrastructure
  A needs active management
  natural infrastructure
- > Activities that support natural infrastructure include:

Population growth, decade-long droughts, devastating floods and wildfires, and rapidly deteriorating water quality have made access to clean water uncertain and more costly. Supporting natural infrastructure can enhance the performance of gray infrastructure. For instance, conserving wetlands can help to ensure water supplies for diversion channels or tunnels; preventing erosion can extend the life span of a reservoir. Forests and wetlands have helped store and filter water long before dams were constructed and treatment plants were built. That role is now at risk. To effectively address our current water crisis, today's water managers must actively manage natural infrastructure in addition to gray infrastructure.

- Managing forests and wetlands sustainably;
- Fixing and maintaining ancestral water management practices, such as the use of infiltration canals;
- Improving farming practices;
- Protecting riparian areas.



# WORK WITH US

Scaling up natural infrastructure depends on local leaders, watershed councils, government agencies, universities, companies, civil society, and more.

#### We are looking for partners who can:

Contribute data and knowledge on the hydrological, social, and economic impacts of natural infrastructure;

Improve the design, monitoring, and management of natural infrastructure;



**Finance or contribute to** natural infrastructure that mitigates their water risks;

Integrate natural infrastructure into public policies and planning instruments;

Share natural infrastructure benefits with decisionmakers.

### **CONTACT US**

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