

A Framework for Sustainable Water Management in Arequipa: The Coproduction Process



The Coproduction Process



Katy Mazer, Laura Bowling, Edwin Bocardo, Linda Prokopy, Ruxandra Popovici, Andre Moraes, Fariborz Daneshvar, Keith Cherkauer, and Jane Frankenberger

Producers

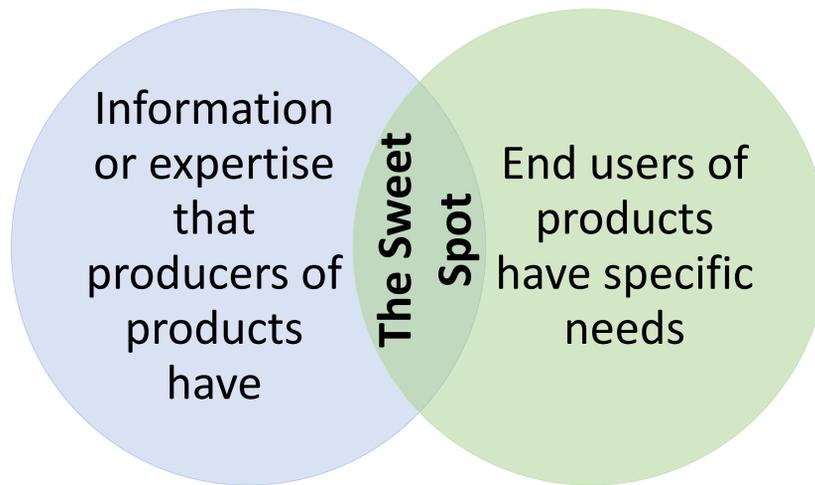
- The Sustainable Watershed Management (SWM) team has expertise in hydrologic modeling, hydroclimatology, biology, agronomy, and social science.
- Team members developed a preliminary understanding of community needs as a starting place for tool development.



The Sustainable Water Management Team

What is Coproduction?

Coproduction is a process that involves **producers** of knowledge engaging with end **users** iteratively throughout the creation of products.



Users

Interviews on how people manage water were conducted in Colca, Majes, and Arequipa. Some trends mentioned by interviewees were:

- Weather patterns appear to be becoming more extreme and the rainy season is changing,
- There is an increased loss in crops and livestock due to water scarcity, water quality, and pests,
- People are becoming more individualistic and are helping each other less.



Locals said gravity-fed irrigation, which is common, "no longer works".

Focus Groups

Based on known needs, a suite of proposed products was presented to agencies and citizens in Arequipa. Participants at the regional, provincial, and local levels had the opportunity to give feedback about what capabilities they wanted products to have and what parameters were useful to them.



Community focus group in Cabanaconde

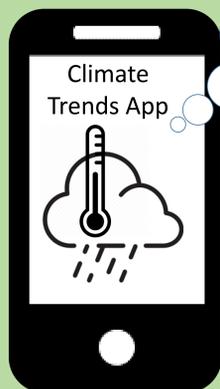
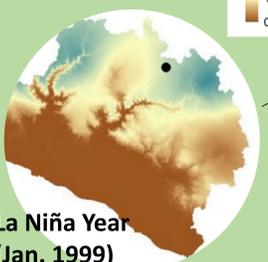
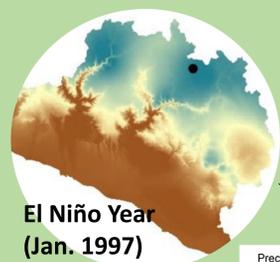


Dry reservoir in Lari; changes in water availability was a topic discussed

The Coproduction Cycle

Product Development

Research outputs are used to create products based on the interest of future users.



What precipitation patterns can I expect in my area in the future?

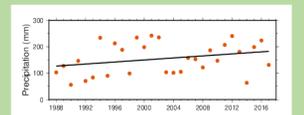
Relevant Research

The SWM team derived research ideas from focus groups.

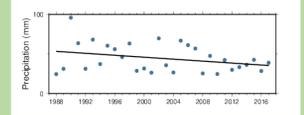
Shifts in Climate in Colca Valley



February precipitation is increasing

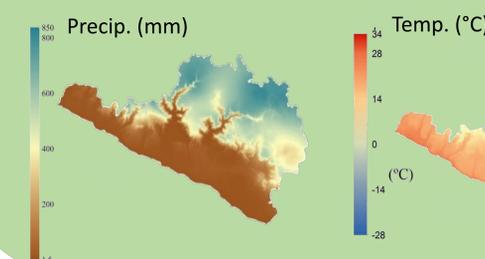


November precipitation is decreasing

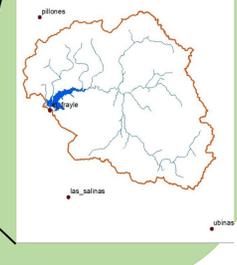


Data-scarce Hydrologic Modeling

Terrain-sensitive climate maps can be used as inputs to hydrologic models where data are scarce.



Very few stations in the watershed



Training on product use

The SWM team will then train stakeholders on products to ensure proper use and utility.

This could be classroom training to properly use an app or a web program.



It could be in the form of field training to teach best practices or appropriate management techniques.

