



Location

San Pedro de Casta,
Lima Province, Perú

Implementation period
2021-2022

Contribution to SDGs
2·5·6·7

Revitalising rural Peru: The WEF Nexus approach brings sustainable water and food security to the San Pedro de Casta community in Peru

The Nexus project enhances productivity and promotes water and food security through the rehabilitation of an ancestral reservoir, a bio-orchard and the breeding of guinea pigs.

LOCAL CONTEXT

San Pedro de Casta is a rural community in Peru that relies primarily on subsistence agriculture. Community inhabitants are affected by the lack of access to adequate water supply (in quality and quantity), in part due to climate change, which in turn affects income security and nutrition. In addition, poor access to energy affects the productive activities and livelihoods. Simultaneously targeting water, energy, and food security was considered the best strategy for ensuring sustainable development within the wider landscape and community. The WEF Nexus interventions have contributed not only to water and food supply security and increased income, but also enhanced entrepreneurial skills and strengthened value chains.

OBJECTIVE

The overall objective of the San Pedro de Casta Water-Energy-Food (WEF) Nexus project is to “[...] contribute to water, food and energy security by strengthening community capacities in applying technologies and methodologies for agricultural production in the peasant community of San Pedro de Casta” (Aquafondo, 2021).

BENEFICIARIES:

- Direct Beneficiaries: Enhanced water, energy, and food security will improve the well-being of the **237** registered heads of households in the community (“comuneros”) for whom agriculture is the primary source of livelihood and income.
- Total Beneficiaries: The families of the registered “comuneros” will also benefit, leading to the total of **928** people that live in the community which will benefit from reliable water supply and increased sources of income. Other nearby villages will also benefit from the rehabilitated lagoon feeding an increased groundwater supply.

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KEY ACTIVITIES

Project implementation interventions:

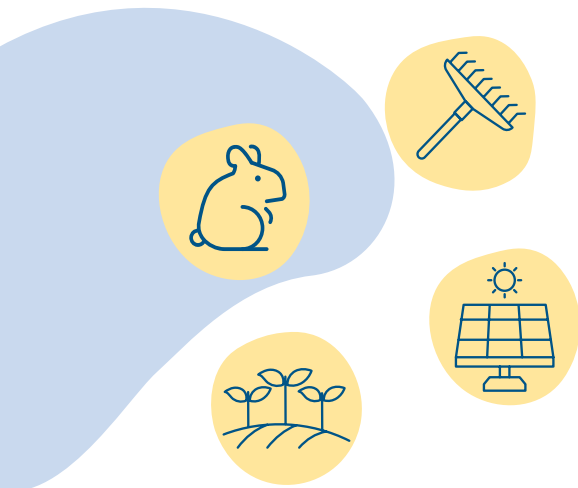
Installation of facilities:

- Bio-orchard: a communal bio-garden for growing organic and fresh vegetables to be sold to the community at low cost.
- 100 m² guinea pig breeding centre (corral) for consumption and sale.
- Pilot compost plant including greenhouse and corresponding crop plantation, using gardening waste and manure as organic fertiliser.
- Energy from solar panels for the guinea pig corral.

Rehabilitation of the ancestral lagoon, Qocha Marcahuasi, for improved water management for the community as well as providing an ecosystem service for downstream villages.

Community capacity building: Introductory workshop; leadership workshop for women on strengthening food security from a gender equality perspective; school nutrition workshop including development of a nutrition manual and a recipe book.

Development a business plan, implementing capacity building activities, and creation of a management committee. Improving the Gender Equality and Social Inclusion (GESI) and women empowerment ensuring their active participation in the project.



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LONG TERM IMPACT AND RESULTS

Outcomes of this project include improved household income and economic independence, improved water, food, and energy security, and overall enhancement of well-being for the community. Income for project beneficiaries are increasing from the improved vegetable and crop production as well as the guinea pig breeding corral. Additionally, the restoration of the ancestral lagoon provides water security and an ecosystem service, which benefits enhanced groundwater infiltration, soil fertility and thereby resilience to climatic disaster risks for the community as well as downstream villages. Specifically:

- Construction of a 2,000 m² vegetable orchard, complete with greenhouses for herb cultivation and outdoor areas for crops like alfalfa and corn. This has improved livestock management and increased the production of crops (intermediate outcomes).
- The benefit to cost ratio of the project was estimated at 2.53, while the increased net present value was estimated at over EUR 122,000 for the life of the project. The project is expected to increase average annual household incomes by approximately 13%.
- The composting plant will allow the conversion of waste and manure into up to 200 kg/month of humus, which can be used as organic fertiliser to improve soil and crop quality.
- The Qocha Marcahuasi water reservoir rehabilitation can store up to 40,000 m³ of water, which will be vital during dry periods, and will benefit downstream population in the Lima province through groundwater infiltration.
- A total of 81 inhabitants of the community received training on food preparation, nutritional counselling, and leadership, with a 38% female participation. Training on business plans was received by 46 residents, 78% women, and seven business plans were developed in areas such as crop production, textiles, tourism, dairy products, guinea pig breeding and medicinal herbs.
- Twenty-two children were sensitized on healthy eating and nutrition.
- Eight community leaders were trained to form the management committee and serve as entrepreneurial leaders.
- A healthy eating guideline/manual was developed outlining 20 nutritious dishes using vegetables available from the bio-orchard.



Implemented by



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