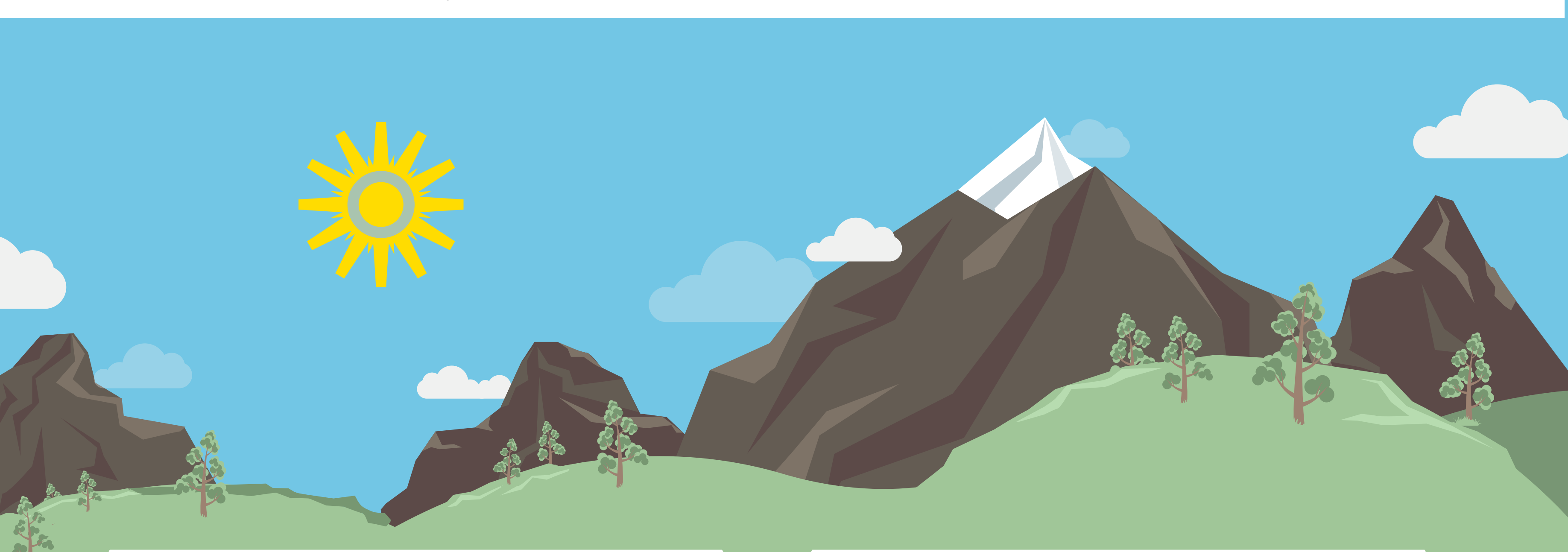
PACCPERÚ Programa de Adaptación al Cambio Climático

CLIMATE CHANGE ADAPTATION PROGRAM 2013-2017
STRENGTHENING ACTIONS, SCALING UP RESPONSES

External Review Findings

The Adaptation to Climate Change Program - PACC PERU is a Peruvian-Swiss bilateral cooperation initiative of the Peruvian Ministry of Environment (MINAM) and the Swiss Agency for Development and Cooperation (SDC) in partnership with the Ministry of Development and Social Inclusion (MIDIS) FONCODES - Haku Wiñay Program, the Ministry of Agriculture and Irrigation (MINAGRI) and the Ministry of Economy and Finance (MEF). The Regional Governments of Apurimac and Cusco lead its implementation which is facilitated by the Consortium Helvetas Swiss Intercooperation, Libelula and Center for Studies and Prevention of Disasters (PREDES).



RELEVANCE

- ☑ PACC II **contributed to showing the world Peru's progress in adaptation to climate change** during the COP 20 held in Lima in December 2014 and following the signing of the Paris Agreement a year later.
- ☑ **Strengthened rural development policies** by including adaptation to climate change in their implementation.
- ☑ **Contributed to the quality of public investment** by improving the design of ecosystem services projects.

SUSTAINABILITY

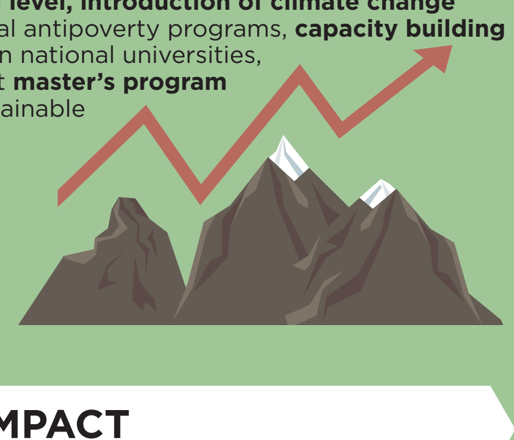
- ☑ Regional governments and their partners are expected to continue implementing and reporting on their **climate change strategies.**
- ☑ Families and local governments are working together to **use low-cost adaptive technologies.**
- ☑ **Local universities are continuing research** into climate change.

REPLICABILITY

- ☑ Other countries can profit from the **successful and effective models of PACC II** to scale up local experiences to the national level.
- ☑ The experience with sowing and harvesting water could be **replicated in high mountain communities** in other countries.
- ☑ **Cost-benefit.** The public and private institutions involved in PACC II have **produced a Net Present Value of US$29.7 million**, with an estimated Internal Rate of Return (IRR) of 29% over 10 years.

EFFECTIVENESS

- ☑ PACC II attained a level of success of **93%** in all stated objectives.
- ☑ Highly successful PACC models were: **strengthening of institutional mechanisms at the regional level, introduction of climate change adaptation** into national rural antipoverty programs, **capacity building** in climate change research in national universities, and creation of a permanent **master's program in Climate Change** and Sustainable Development in Cusco.



PENDING CHALLENGES

- ☑ Raising interest in the business sector to **invest in local adaptation to climate change** through private and public-private partnerships.
- ☑ Improving **Monitoring, Reporting and Verification (MRV) systems** related to the Nationally Determined Contributions (NDCs).
- ☑ **Leveraging international climate funds** for climate change adaptation.

IMPACT

PACC II and its partners organized within CORREC (*) and CAR (**) have achieved:

- ☑ **An Increase of 164% in the number of small producer associations** with new technologies and diversified economic activities.
- ☑ **An Increase of 42% in the number of projects** related to the recovery of ecosystems.
- ☑ **Women** implementing the technologies have **improved their productive capacities** in adaptation.

CORECC (*): Climate Change Council of the Cusco Region
CAR (**): Apurimac Regional Environmental Commission

PACC's result statistics

1 **a US$56 million** national program in water sowing and harvesting is projected to be implemented between 2018 and 2023.

6 urban-rural municipalities have **incorporated climate change** in their local development plans.

48 public and private organizations are fully engaged in the **promotion, implementation and monitoring of climate change strategies.**

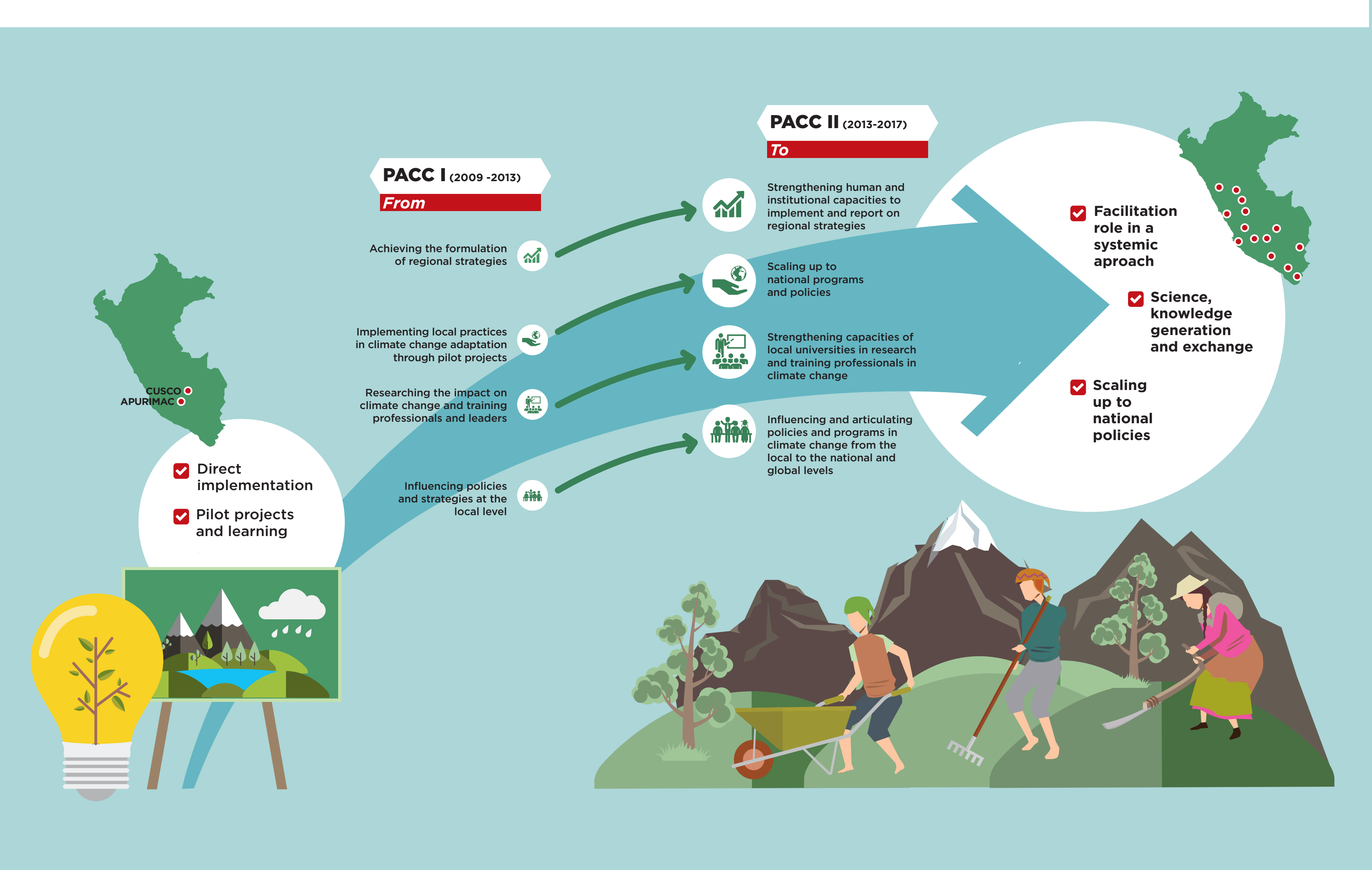
54 "yachachiq" (rural promoters) [41 men and 13 women] have been **trained to transfer adaptive technologies** to families.

532 **families participated** in water sowing and harvesting projects.

1,294 families have benefited from **productive technologies enhanced** by PACC II through the antipoverty program Haku Wiñay of the Ministry of the Development and Social Inclusion.

2,880 professionals and technicians of local, regional and national institutions, as well as community leaders **strengthened knowledge, methods, and use of tools for the management** of adaptation to climate change.

PACC Peru-Evolution



PACC I (2009 -2013)
From

- ☑ Direct implementation
- ☑ Pilot projects and learning

- Achieving the formulation of regional strategies
- Implementing local practices in climate change adaptation through pilot projects
- Researching the impact on climate change and training professionals and leaders
- Influencing policies and strategies at the local level

PACC II (2013-2017)
To

- Strengthening human and institutional capacities to implement and report on regional strategies
- Scaling up to national programs and policies
- Strengthening capacities of local universities in research and training professionals in climate change
- Influencing and articulating policies and programs in climate change from the local to the national and global levels

- ☑ Facilitation role in a systemic aproach
- ☑ Science, knowledge generation and exchange
- ☑ Scaling up to national policies

10 effective low-cost solutions for adapting to climate change
in which the private and public sectors might invest

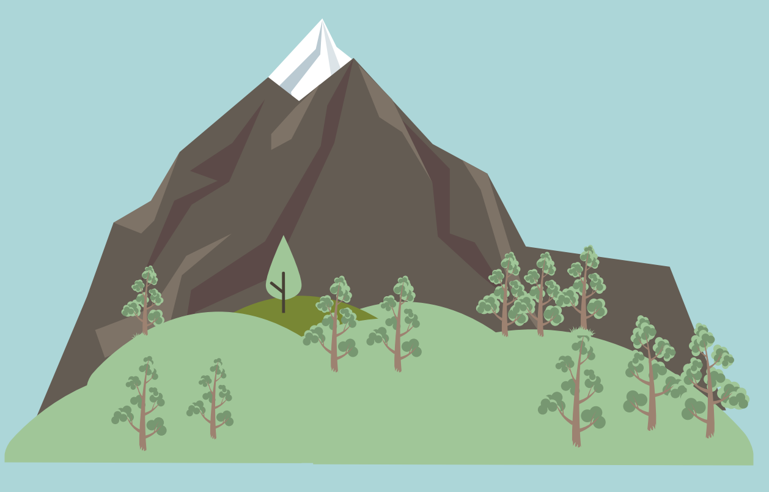
What is it ?　Climate risks ⚠　Benefits ☑　Costs ●

Sowing and Harvesting Water

- ? This is an ancient technology that makes use of **natural depressions of the landscape** to refill local aquifers.
- ⚠ Water sources are **disappearing in the Andes** during the dry season which reduces water availability for agricultural and human consumption.
- ☑ **Water flow reappears or increases downhill** providing pastures, the microclimate is moderated and biodiversity and the landscape are conserved.
- ● **US$74** to build a 80 m^3 dam. (*)

Pasture Rotation and Temporary Closure of Grazing Areas

- ? This is a technique that involves moving cattle from one **pasture unit** to another according to a set schedule.
- ⚠ **It solves problems** of overgrazing and degradation of vegetation cover, water and wind erosion and loss of biodiversity.
- ☑ **It improves the capacity of rainwater to infiltrate the soil and be** stored in the subsoil, improving pastures and the feeding of cattle.
- ● **US$1,577**/ha.: **US$989** in materials and **US$588** in labor.

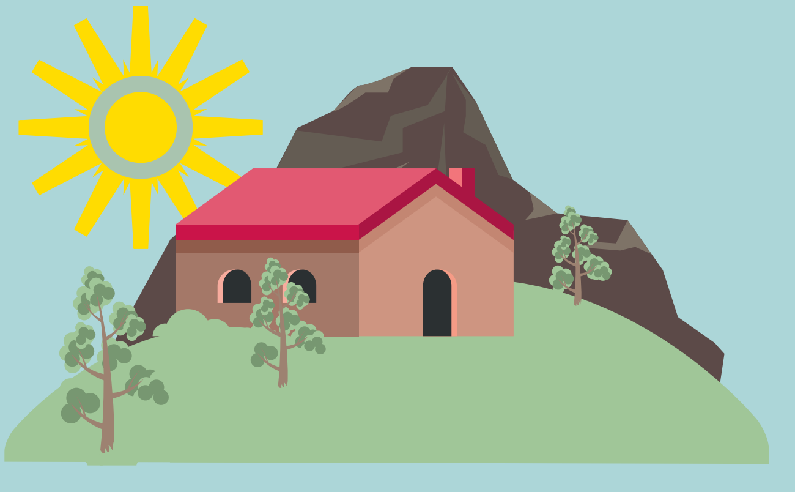


Agroforestry

- ? This is the **deliberate association of trees or shrubs** in the agricultural system by means of living fences.
- ⚠ **Sudden climatic variations are eroding the soil**, decreasing food production and thus food security in the high Andean areas.
- ☑ **It protects crop areas** from cattle intrusion, strong winds and temperature changes. It creates new microclimates, improving soil fertility and moisture retention.
- ● **US$0.36** per seedling.

Organic Fertilizers

- ? **This is fertilizer** made from animal feces, vegetable remains, food waste, crops, edible fungi or other organic and natural source.
- ⚠ **Soil fertility has declined** due to inadequate crop rotation and fertilizer use, combined with lack of knowledge of new fertilizer techniques with local inputs.
- ☑ It helps **reduce reliance** on artificial chemicals and lowers production costs. **It increases soil organic matter,** fertility and yields.
- ● From **US$29** (biol), **US$33** (compost) to **US$107** (Andean practices associated with livestock management).



Healthy Housing

- ? Thanks to improved house design, it is possible to **prevent diseases and improve the health of the family,** thus increasing the physical and emotional security of its inhabitants.
- ⚠ The houses in high Andean areas are usually **poorly located and can collapse when it rains.** Inhabitants often cook with wood inside, resulting in respiratory and visual problems.
- ☑ **It improves the health conditions of families**, making them proud, and improves their social relationships. It encourages work organization and collaboration among community members.
- ● **US$1,351**: **US$393** in labor and **US$958** in materials.

Local Climate Monitoring

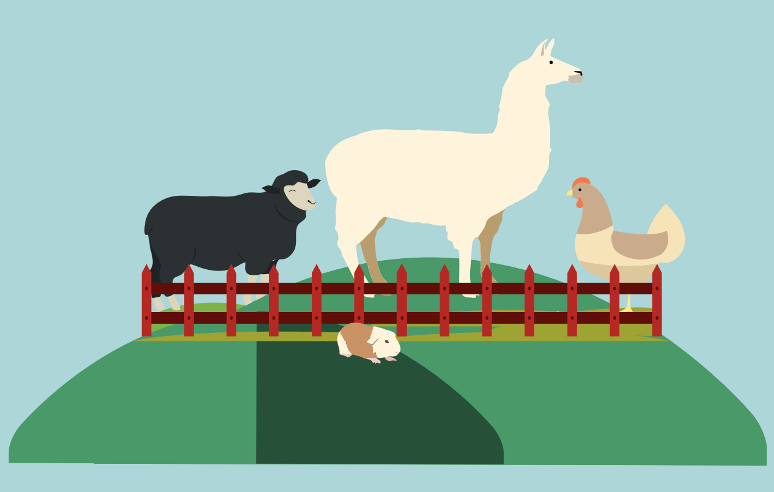
- ? This is the reading, recording, compilation and systematic analysis of the **values of meteorological variables** from a station.
- ⚠ **Lack of climate information** at the local level, especially for high Andean zones.
- ☑ It provides families and municipalities with **information for decision making.**
- ● **US$6,690** (manual weather station): **US$2,304** in materials, **US$3,374** in equipment, **US$951** in labor for installation and **US$61** per month for 3 readings.

Promoting Early Childhood Development

- ? This is a practice employed with children from 0 to 5 years, which integrates a set of **interventions in education, nutrition and emotional and social stimulation.**
- ⚠ Children in high Andean areas are **prone to chronic malnutrition,** resulting in delays in psychomotor development, language and social skills.
- ☑ It improves the nutrition of children, which **strengthens their immune system**, while developing their intelligence and improving school performance.
- ● **US$1,794** in setting up an early stimulation center; **US$767** for breastfeeding promotion; and **US$13,804** in annual professional counseling per district.

Vegetable Production in Greenhouses

- ? This consists of **producing vegetables and fruit in greenhouses** covered with plastic or polycarbonate sheets.
- ⚠ **Andean areas hinders** vegetable production, leading to a poorly balanced family diet.
- ☑ **It ensures family food security,** improving nutrition and health. It generates additional income through the sale of surplus production.
- ● **US$216** for the installation of an open-air greenhouse; **US$382** for a greenhouse made of plastic; **US$620** for a greenhouse made of polycarbonate.



Animal Husbandry

- ? This practice promotes **family raising of guinea pigs,** whose meat is high in protein.
- ⚠ **Protein deficiency, chronic malnutrition and anemia** make families more vulnerable to climate change.
- ☑ **It diversifies the family diet.** The sale of surplus production allows the family to increasingly obtain extra income.
- ● **US$123** for a reproductive unit: one male and ten females. (**)

Community Leadership Training Program

- ? The program involves **training lead rural promoters and extensionists** and agricultural producers.
- ⚠ **Lack of technical assistance and social support** of families increases their vulnerability to the risks of climate change.
- ☑ **Agricultural practices improve** because of promoter's proximity to rural families.
- ● **US$307**/month. (***)

(*) According to the experience of PACC II.
(**) Market data.
(***) Ministry of Agriculture and Irrigation of Peru.
Exchange rate: US$1 = S/.3,26
Source: Yachaykusun, Andean Teachings on Climate Change, MINAM, 2014.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Embassy of Switzerland in Peru

Swiss Agency for Development and Cooperation SDC

PERÚ Ministerio del Ambiente

PACCPERÚ Programa de Adaptación al Cambio Climático

PACC partners:
Gobierno Regional CUSCO Caminemos juntos
Gobierno Regional de Apurímac
Universidad Nacional de San Antonio Abad del Cusco
Universidad Nacional Micaela Bastidas de Apurímac
FONCODES Fondo de Cooperación para el Desarrollo Social
MIDIS Ministerio de Desarrollo e Inclusión Social

PACC Peru Facilitator Consortium:
HELVETAS Swiss Intercooperation PERU
libélula
predes Centro de Estudios y Prevención de Desastres

Scientific Consortium led by:
University of Zurich UZH