Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

Climandes
Servicios Climáticos para el Desarrollo

Senamhi
SERVICIO NACIONAL DE METEOROLOGÍA E HIDROLOGÍA DEL PERÚ

MeteoSwiss

Developing user-centric climate services for more resilient agricultural communities in Peru

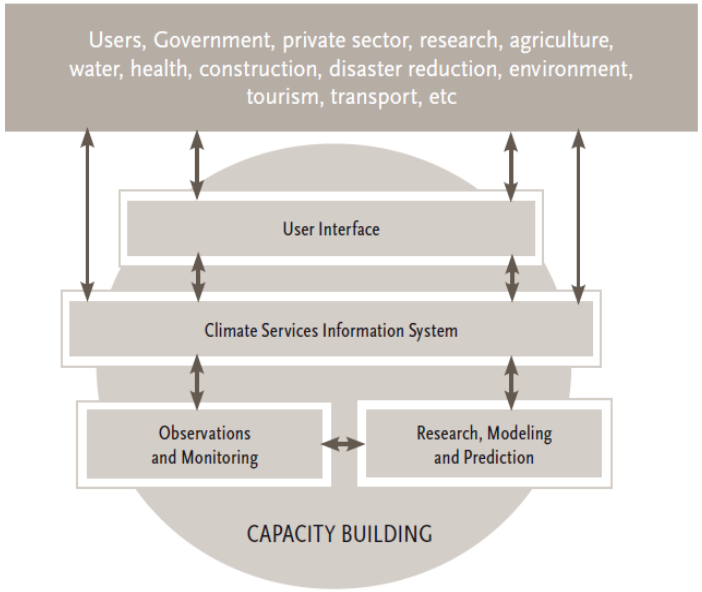
M. Flubacher[1], F. Lechthaler[2,3], N. Imfeld[1], M. Rohrer[4], L. Cristobal[5], H. Ramos[5], A. Rossa[1]

[1]Federal Office of Meteorology and Climatology MeteoSwiss, Zürich, Switzerland
[2]Swiss Tropical and Public Health Institute, Basel, Switzerland
[3]Swiss Federal Institute of Technology, Zürich, Switzerland
[4]Meteodat GmbH, Zürich, Switzerland
[5]Servicio Nacional de Meteorología e Hidrología del Perú, SENAMHI, Lima, Peru

Project context

Global Framework for Climate Services (GFCS)

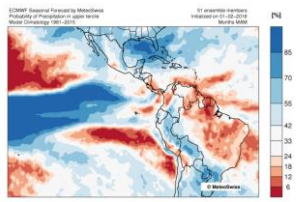
GFCS



Climandes

- Building an **interface** between users and providers & evaluating socio-economic **benefits**

- Producing user-tailored **climate information** for the **agricultural sector** in the Andean region

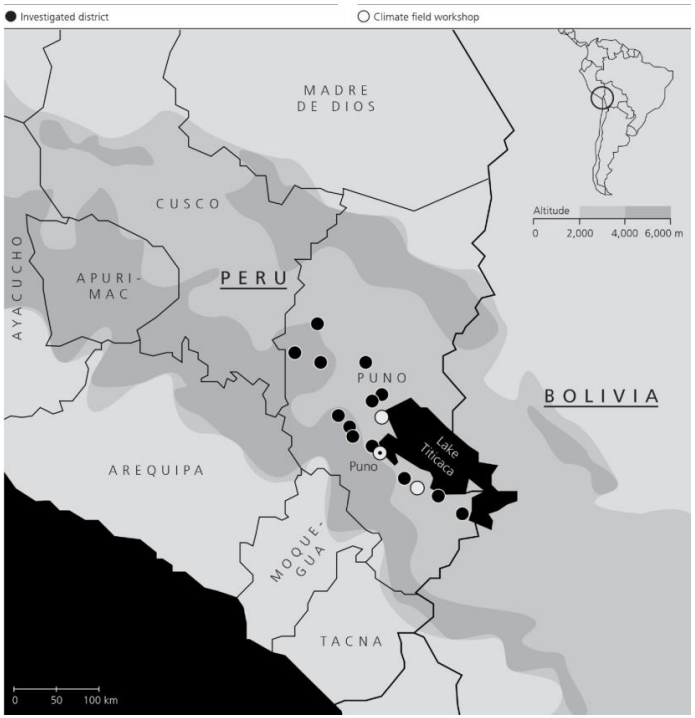


- Strengthening **training** in meteorology and climatology in Peru & the Andean region

Source:
http://www.wmo.int/gfcs

Climandes
Servicios Climáticos para el Desarrollo

Background



Pilot region Puno

- 350’000 small-scale farms in pilot regions
- Most important income and job source
- Mean altitude of 3’800 m.a.sl.
- Harsh climate conditions

…often information on an upcoming event is available, but not known, accessed or understood by marginalized population groups [Frey et al. 2017]

A two stage approach for the implementation of climate services

STAGE 1: «EVIDENCE FOR ACTION»

- Stakeholder Mapping
- Socio-economic vulnerability assessment
- Evaluation of distribution channels
- Estimation of socio-economic benefits of CS

Twinning: joint field study

STAGE 2: «TRANSLATING EVIDENCE INTO PRACTICE»

- Climate field workshops
- Opening new distribution channels
- Policy dialogue based on SEB results

Twinning success: ownership at SENAMHI

Climandes
Servicios Climáticos para el Desarrollo

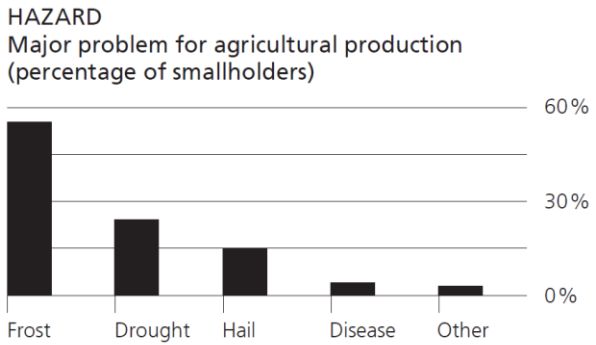
Stage 1

Socio-econonomic vulnerability assessment

- Most damaging events are frost, drought and hail
- High adaptive capacity
- Low coping capacity

Socio-economic benefit

- Frost warning would increase actual harvest by ~10%



Identified constraints limit the use of weather and climate information:

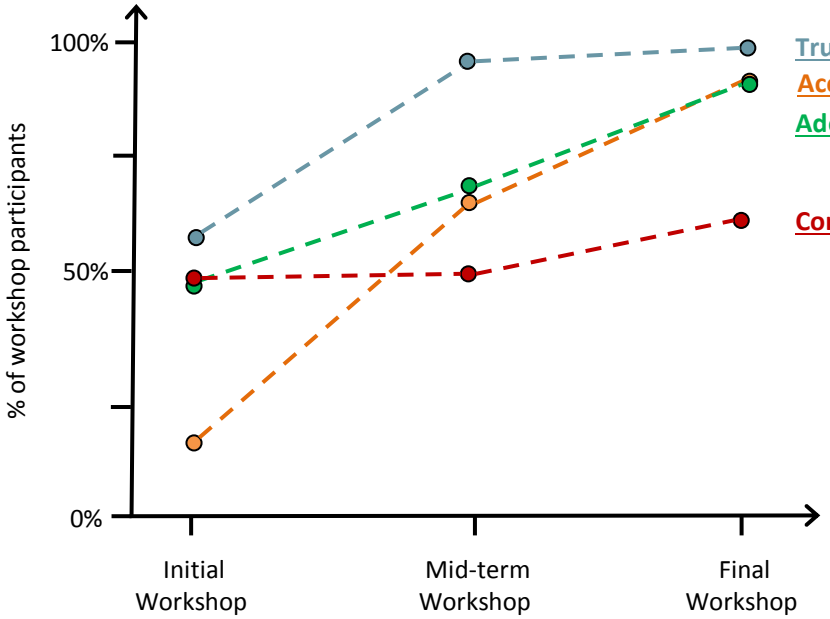
- Lack of access
- Lack of acceptance
- Lack of comprehension
- Lack of accuracy

Stage 2

Identified key constraint in stage 1	Inferred activity in stage 2
 LACK OF ACCESS	IMPROVE THE DISTRIBUTION CHANNELS
 LACK OF ACCEPTANCE	COMBINE INFORMATION WITH TRADITIONAL KNOWLEDGE
 LACK OF COMPREHENSION	DISCUSSING LOCAL IMPLICATIONS OF INFORMATION
 LACK OF ACCURACY	DISCUSSING LOCAL IMPLICATIONS OF INFORMATION

Climandes
Servicios Climáticos para el Desarrollo

Monitoring of workshops



Trust: «I have a moderate or high confidence in Senamhi»

Accuracy: «Forecasts coincide with reality»

Adoption: «I take decisions based on forecasts»

Comprehension: «Forecast are easy to understand»

! Subjective perception of participants

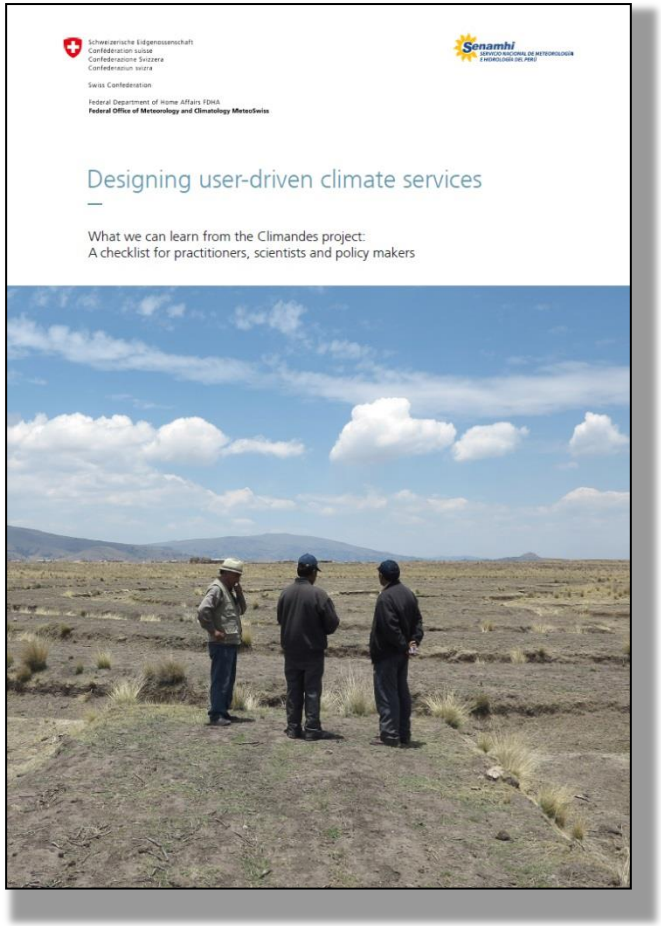
Challenges

- Purveyors of climate information are not included in project set up, e.g. extension workers
- Guidelines for UIP implementation are missing
- Farmers have little confidence in the national weather service
  - ➢ high expectations vs. accuracy of forecast
  - ➢ low confidence in governmental institutions

Lessons learnt

- CS for smallholder farmers have a socio-economic benefit:
  - Early involvement of relevant stakeholders
  - Policy dialogue of benefit is needed to anchor CS at the weather service
- Access / comprehension / acceptance / accuracy of CS has to be ensured
- Regional centers are important for UIP implementation, but they need sufficient resources
- Twinning approach enables SENMAHI to take ownership in implementation of CS

Climandes
Servicios Climáticos para el Desarrollo



Online-publication “Designing user-driven climate services” A checklist for practioneers, scientists and policy makers

- Project’s approach, key findings and lessons learnt
- Guidance and example for similar initiatives

Climandes
Servicios Climáticos para el Desarrollo

Climandes

Servicios Climáticos para el Desarrollo

Gracias

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Confederación Suiza

Agencia Suiza para el Desarrollo y la Cooperación COSUDE

World Meteorological Organization

GFCS GLOBAL FRAMEWORK FOR CLIMATE SERVICES

Senamhi SERVICIO NACIONAL DE METEOROLOGÍA E HIDROLOGÍA DEL PERÚ

PERÚ Ministerio del Ambiente

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss