

Rural development projects in Latin America

Targeting the poor and people vulnerable to climate change

In rural development, it is important to **target the right areas and the neediest communities**. Spatial analysis can be very helpful to do this. The designers of IFAD-funded projects in Argentina, Honduras, Nicaragua and Peru **used simple GIS techniques** to overlay climate risks and impacts onto maps of the project country. This information was used to help decide the location of project activities.

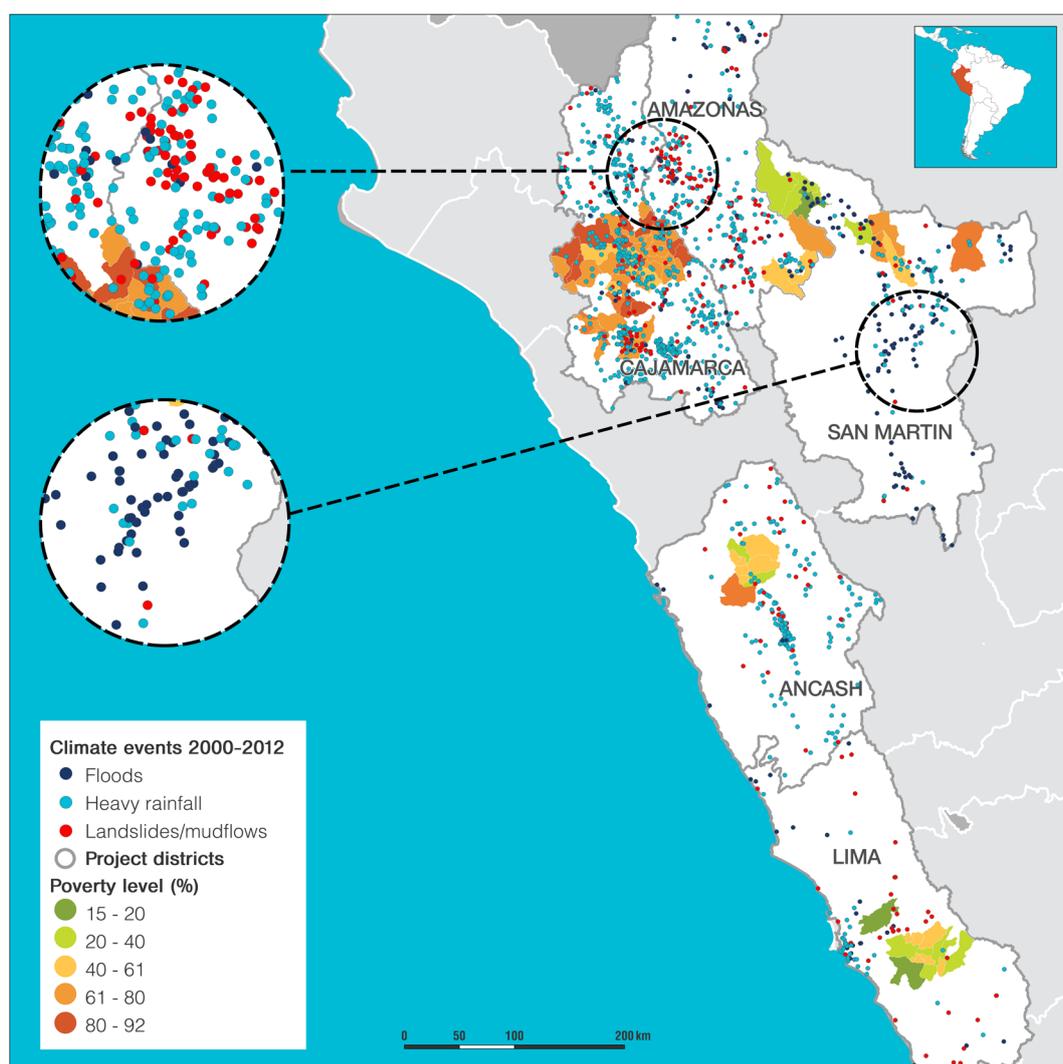


Figure 1: Peru: The map shows poverty in selected districts and extreme climate events (floods, heavy rainfall, landslides/mudflows) from 2000 to 2012 in the project area of Avanzar Rural. The top highlighted area shows an example where landslide protection is needed. The area below shows a location where flood control should be prioritized.

GIS study

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A major challenge in using GIS to target project interventions is getting **reliable, up-to-date data**. Good data often exists but is not publicly available. The project design teams approached various public entities (including at the municipality level) to obtain relevant data that would be acceptable to government decision-makers.

The design teams managed to get hold of data on exposed rural populations, poverty levels, areas of river and flash flooding, areas impacted by hurricanes, drought-prone areas, etc.

The teams used **free, open-source GIS software** to create thematic maps. They weighted and aggregated spatial data to prioritize intervention areas. The selection of vulnerable areas was based on criteria (listed in table 1) from **IFAD's targeting policy and guidelines**, as well as the country's own priorities.

This targeting approach has also been part of IFAD-supported proposals to global climate-related funds such as the Green Climate Fund and the Global Agriculture and Food Security Program.

Table 1. Targeting criteria to select intervention areas

Criteria	Priority
Extent and intensity of poverty	Highest ↑
Nutritional and food insecurity	High ↗
Environmental degradation and climate vulnerability	Medium →
Presence of indigenous peoples, tribal and ethnic minorities	Medium →
Number of young people	Medium →
Presence and number of fragile or marginalised groups	Medium →
Productive and geographical potential	Medium to low ↘

Argentina

In the design phase of past IFAD interventions in Argentina, IFAD teams have faced difficulties in measuring levels of acute poverty and climate vulnerability. As a result, some areas that needed support were omitted from the projects.

However, during the design phase of the recently approved **PROSAF project**, which promotes sustainable family farming, the design team obtained geospatial data on poverty, food security, drought and flood risk, presence of indigenous communities and coverage of internet services at the village level to assess the situation in potential areas. As a result, the **final project area was extended to provinces that had not been deemed eligible in previous projects**.

Peru

The **Avanzar Rural** project supports small-scale farmers and rural enterprises in selected highland and rainforest areas of Peru. The design team used **GIS data on the occurrence of floods, heavy rainfall and landslides/mudflows** (as in figure 1) to decide where the project would intervene, and what activities to undertake to manage disaster risks and help local people adapt to climate change.

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Figure 2. Honduras: Levels of damage in agriculture caused by tropical storm Eta and hurricane Iota in November 2020. Areas shaded orange and red were the areas most badly hit.



Figure 3: Climate hazards in Nicaragua.

Honduras

The INNOVASAN project aims to promote sustainable **food systems**. The government of Honduras and IFAD agreed to intervene in areas that are prone to climate change. They selected the target areas by using data from two recent events – **tropical storm Eta and hurricane Iota** – which caused immense damage in November 2020. The design team produced maps, such as in *figure 2*, showing levels of loss and damage in agriculture, municipalities that were most affected by floods, and areas subject to food insecurity and crisis during the storms' aftermath.

Nicaragua

The **Nicapesc** project aims to support value chains in artisanal fishery and aquaculture on the Caribbean coast of Nicaragua. Initially, the Government of Nicaragua and IFAD expected to focus the project in the northern coastal region; but after GIS data revealed that **both northern and southern areas were equally vulnerable to climate events** (see areas in red on *figure 3*) the project area was enlarged to encompass both areas. The criteria used to select the project areas included fishing communities within 5 kilometres of major inland water bodies that are exposed to floods, municipalities highly exposed to hurricanes, coastal flooding and flash floods, and the presence of vulnerable communities (indigenous people or undernourished populations).