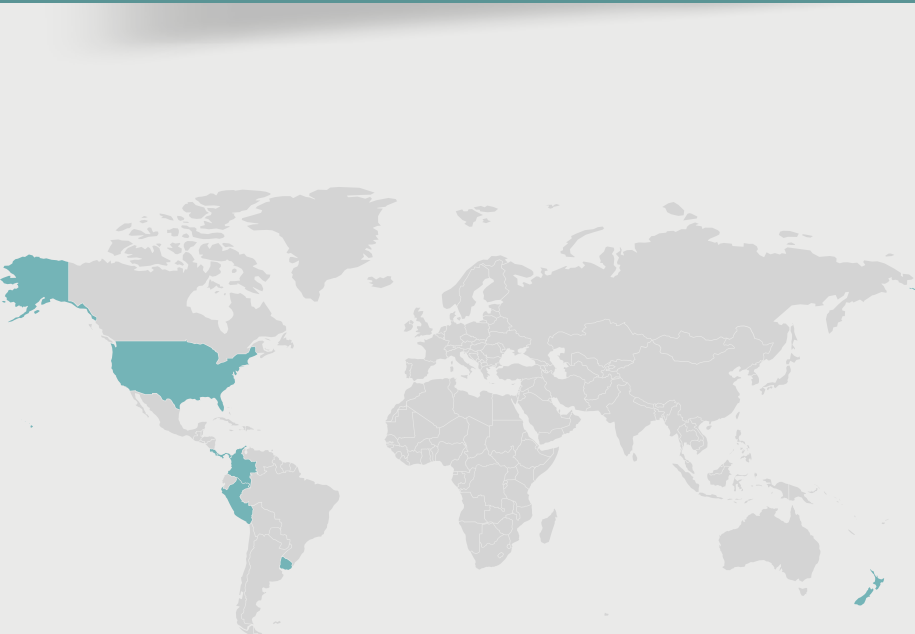


Transforming the Measurement of Greenhouse Gas Emissions in Rice Cultivation

In an innovative development for monitoring greenhouse gases in agriculture, the project is testing two technologies that will transform GHG measurement in rice cultivation.



Uruguay / Panamá / Perú / Colombia / Costa Rica / Estados Unidos / Nueva Zelanda



2 Technological solutions



0.7 Correlation with the traditional method



95 % Time Reduction



1 Protocol



1 AI models



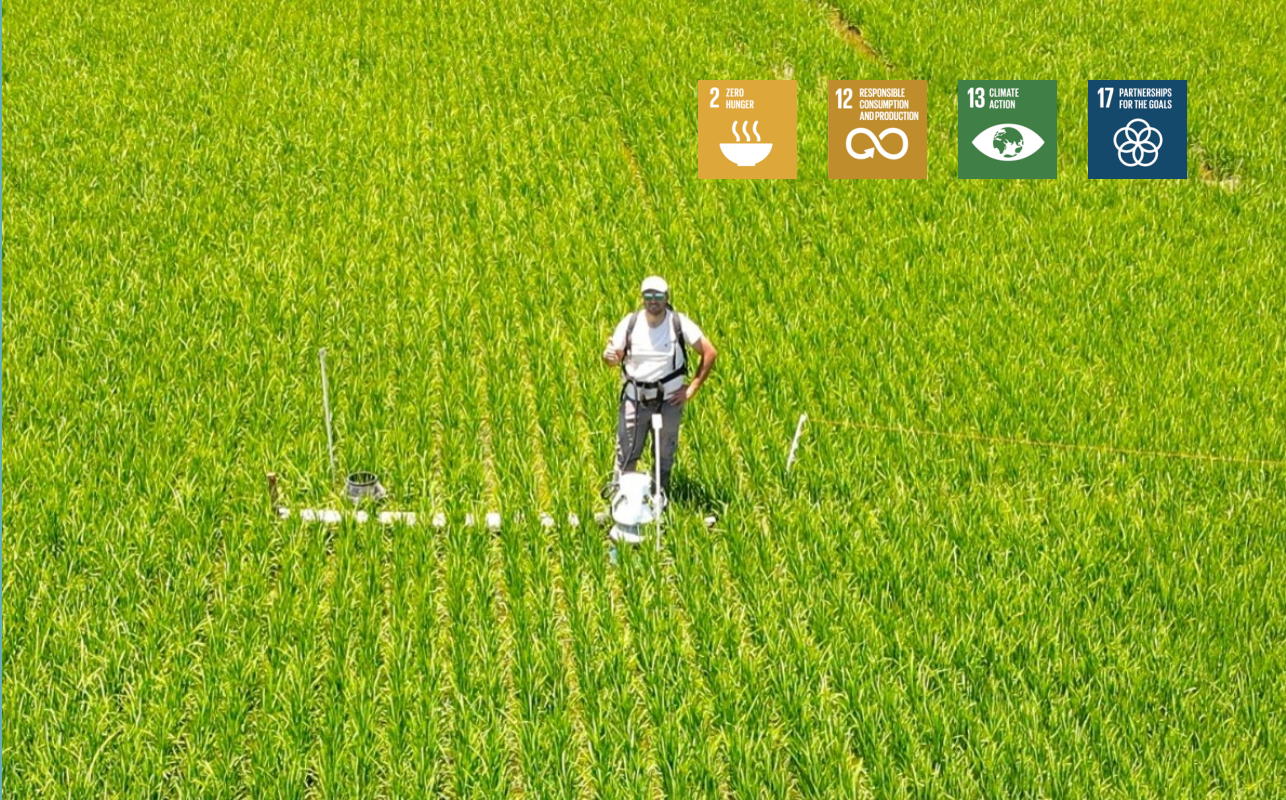
1 Web platform



+6 Workshops



3000 Number of beneficiaries



From a closed chamber in one plot to a satellite watching a whole region

Initiative

The main objective of the project is to strengthen regional capacities for monitoring, reporting, and verification of methane emissions in rice ecosystems through a satellite tool that provides frequent, reliable, and free estimates to the rice community and governments. This project, in turn, has three specific objectives: i) to design AI models based on satellite

information to estimate methane emissions in rice ecosystems, ii) to validate the models using field samples acquired in rice regions with contrasting ecosystems and iii) to develop a web platform with open access to the data and knowledge generated within the framework of this project.

Sentinel-5P satellite data, validated in the field and free to use

Tech solution

The implemented technological solution is based on the use of satellite sensors to monitor methane (CH4) emissions in rice cultivation systems. Satellites have the potential to provide reliable and free data that can be used to analyze spatiotemporal changes at different spatial scales, including regions and countries. The project aims to strengthen regional capabilities for monitoring and verifying these emissions by integrating field data obtained from

novel methane sensors with satellite data. The validation results will be presented on a freely accessible web platform, benefiting rice communities and governments by providing frequent, reliable, and free methane emission estimates. This technological solution will contribute to formulating policies to mitigate greenhouse gas emissions and enhance climate resilience among rice farmers in target countries.

Es posible reducir emisiones de metano en arroz sin afectar la productividad



Proyecto Metano Arroz Fontagro de Alvaro i F MORE INFO



Impacts and Results

Data collection reached 100 % of its target, with more than 6,000 records, and these were used to train an artificial intelligence model that achieved an accuracy of 0.93. Of the 3,000 records committed to the global database, 2,300 have been uploaded, and a further research paper was drafted beyond the one planned. All six scheduled workshops were held, with 80 people trained against an annual

target of 100, and the project now reaches some 2,000 beneficiaries among scientists and producers. Three of the four technical and financial reports committed to the donor were delivered on time. Outstanding for the closing phase are the formal data collection protocol, the final technological solution, and the platform rollout to reach 100 monthly active users.

Main Donors



Organizations

