

Transformation of livestock manure into biologicals through controlled anaerobic digestion to nourish crops.

ARGENTINA, BOLIVIA, COLOMBIA, PERU



Webstory



Technological solution

Organic quinoa in the Altiplano carries two problems that are usually handled separately. Soils lose organic matter and erode, which drives yields down. Livestock in the same area emits methane and wastes its manure. Treating that manure addresses both at once, without compromising the organic certification that opens market access. The condition is that the biological be characterized and standardized rather than improvised, and that the emissions reduction be measured with a protocol of its own rather than assumed.



Technological description

Manure from Altiplano herds enters the process as waste. Controlled treatment turns it into characterized, standardized solid and liquid biologicals, applied to the soil and through foliar spraying. The soil responds with more organic matter and greater microbial diversity, verified by metagenomics, and the crop responds with higher yield. Every link is measured: the baseline emissions of the quinoa-livestock system, the greenhouse gas quantification protocol, the agronomic, physicochemical and microbiological analyses, and the final effect on productivity.



Impacts and results

The committed targets are an increase of up to 30% in organic quinoa yield and a reduction of up to 10% in the system's greenhouse gas emissions. To support them, the project will leave behind a regional emissions baseline and a quantification protocol that can be replicated in Bolivia and Peru. Adoption rests on 2,100 trained producers, a regional multi-stakeholder digital platform, and one hundred participants in online seminars.



~ 30 %

Expected yield increase



+ 2100

Farmers trained



2

Farmers organizations



- 10 %

Maximum expected reduction in GHG



1

Regional emissions baseline for the quinoa-livestock system



1

Regional protocol for quantifying emissions in quinoa cultivation

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