Vietnam Greenhouse Gas (GHG) Emissions Reduction Challenge Project: Results and Lessons

Background and Project Goals

In Vietnam, rice is a critical crop for income and food security. However, current production practices can lead to high rates of unwanted greenhouse gases (GHG) that contribute heavily to climate change. To address this issue, AgResults designed and implemented the Vietnam GHG Emissions Reduction Challenge Project (2017-2021), which used a Pay-for-Results (PfR) prize competition to incentivize private sector competitors to drive uptake of improved technology packages and practices among smallholder rice farmers in Thai Binh Province. By using results-based incentives, the project aimed to spark the development, testing, and promotion of innovative solutions that would reduce GHG emissions and increase rice yields—in turn raising incomes and improving smallholder farmers' livelihoods.

Prize Competition Structure

Phase 1: Test (1.5 Years)

Objective: Test low GHG emission products, tools, and agronomic practices for rice farming

Methods: Engage private sector to demonstrate how specific production practices and products can lower GHG emissions and increase yields

Total Prizes Awarded: $175,000

Phase 2: Scale (2.5 Years)

Objective: Drive behavior change among smallholder farmers and scale use of solutions

Methods: Incentivize private sector to drive uptake of agronomic practices and products that reduce GHG emissions and increase yields

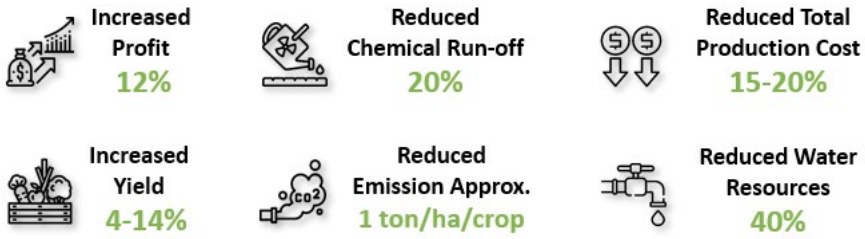
Total Prizes Awarded: $2,850,000

Project Reach and Results

Through repeated interactions across four cropping seasons of Phase 2, **four competitors** worked with **47,762 smallholder farmers (37,596 unique individuals)** in **507 villages**. The table below shows how the number of farmers – unique and repeat – and total area steadily increased across these four crops.

	Crop 1	Crop 2	Crop 3	Crop 4
Total SHF	4,377	7,199	8,245	18,878
Total Repeat SHF	N/A	2,006	4,799	6,529
Total Area	443 ha	869 ha	1,132 ha	2,351 ha

Although the prize competition did not meet its ambitious GHG reduction targets, it showed one way to test and scale technologies to SHF with incentives. The project successfully tested the PfR mechanism and proved that the private sector can overcome market failures with innovation and investment.



Lessons Learned

1. The private sector pull mechanism functioned as planned.
Most stakeholders consistently observed that the private sector Pay-for-Results prize mechanism worked extremely well as a model to incentivize scaling. Competitors viewed the mechanism as a motivating factor to adjust their business models to sell to more smallholder farmers as well as test technologies at scale., Smallholder farmers observed that the pull mechanism enabled them to gain access to new farming techniques and build trust and confidence in the new technology packages.

2. Pay-for-Results programs should carefully set realistic targets.
The Project set ambitious targets during the design phase, and in retrospect should have reviewed those targets given design phase developments that changed operating parameters. Adjustments such as relocating the project from the Mekong Delta to the Red River Delta led to large geographic and agroecological differences between regions that were not included in the original design. A reassessment and adjustment may have helped the project better focus its efforts on variables more likely to see significant results.

3. Verification can be the most significant factor in the complexity of a Pay-for-Results project.
Although PfR prize competitions have the potential to be very cost-effective, the burden is on the program designer to choose a verification scheme that is sufficient to reward progress while mitigating fraud. GHG emissions are difficult to measure, particularly in complex agricultural systems like paddy rice. And as the design evolved, AgResults developed a hybrid system that was effective but ended up being quite costly and complicated. Future projects should design a more cost-efficient verification system, such as an approach that verified outputs at an aggregate level rather than at field level.

For more information, check out the project webpage and the project final report.

About AgResults

AgResults is a $152 million program between the governments of Australia, Canada, the United Kingdom, and the United States, as well as the Bill & Melinda Gates Foundation and World Bank that funds agricultural Pay-for-Results prize competitions. Since 2013, AgResults has designed and implemented competitions to incentivize the private sector to overcome market barriers and solve food security challenges for people living in poverty. AgResults competitions fall into one of two categories: 1) prizes that incentivize the Research and Development (R&D) of a new solution or product to address a market failure; and 2) prizes that encourage the development of innovative delivery models and encourage smallholder farmers to adopt an existing product or service at scale.

AgResults is a partnership between:

Australian Government · Canada · Bill & Melinda Gates Foundation · UKaid · USAID · World Bank Group

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