

# Lessons learned from Climate-Smart Villages in Laos: Pivotal Role of Rice Seed Systems

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## Introduction

This poster is an offspring of a previously published paper (see citation below).

And if you were a rice farmer in southern Laos you would face an increased risk of crop failure from drought and flooding due to climate change. Planting stress tolerant rice varieties could reduce this risk.

Under the climate-smart village (CSV) approach, one seed systems case study (L3) is representative for rainfed rice cultivation in Laos.



Figure 1. Map of CSV case studies in Southeast Asia implemented by projects under the CCAFS and IIRR project portfolios.

Table 1. CSV case studies (see Figure 2) and focus of CSV interventions established under the umbrella of CCAFS, IIRR, or as their collaborative projects

Acronym	Location	Targeted Land Use System and Intervention	Successful Measure
Lao PDR			
L1 (IIRR)	Phongsaly Province	School and community gardens supporting schools' meal programs, fruit tree-based agroforestry in rotational agricultural landscapes	Integration of climate change adaptation into humanitarian work of WFP
L2 (CCAFS)	Ekxang, Vientiane Province	Irrigation for vegetables	Improved access to local wells
L3 (CCAFS)	Phaiom, Savannakhet Province	Improvement of rainfed rice, water harvesting, vegetable gardens, direct market linkages	Establishment and operation of community-based seed systems

## Objectives

- What is the role of seed systems in the context of the climate-smart village approach?
- What are the supporting interventions to increase the impact of a seed system in Laos?
- Can community-based seed systems benefit from direct marketing?

Wassmann, Reiner, Julian Gonsalves, Peter Sprang, et al. 2022. "Climate-Smart Villages in Southeast Asia: The Pivotal Role of Seed Systems in Rice-Based Landscapes." Asian Journal of Agriculture and Development 19(1): 1–24.

The figure below illustrates the objective of examining the role of seed systems. The success and scaling potential of community based seed banks depends on related seed system activities at higher levels (district, province and country).

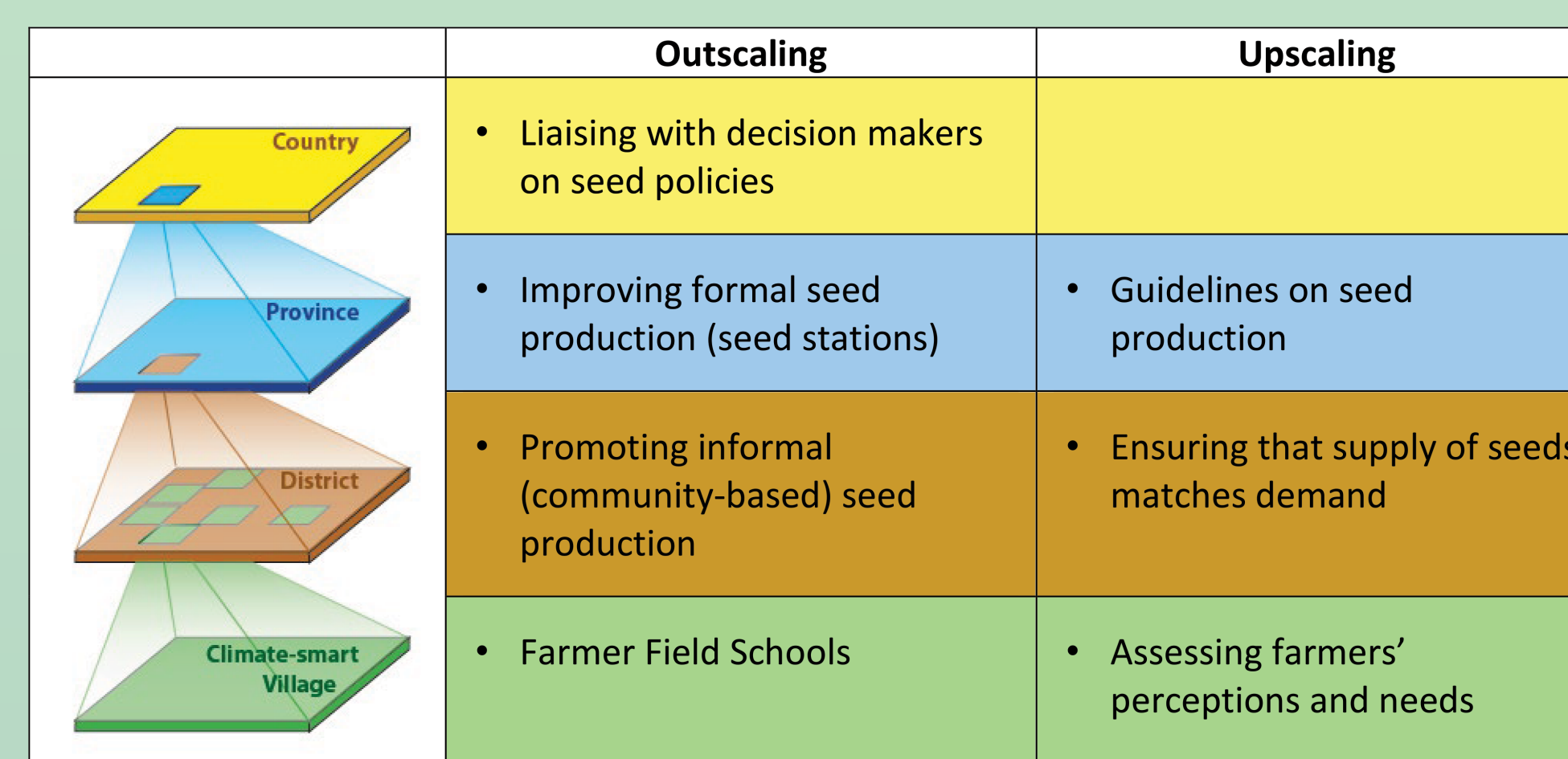


Figure 2. Schematic presentation of scale-dependent activities for scaling of improved seed systems in the context of Laos.

## Results

Under the climate-smart village (CSV) approach, community-based seed systems work well in Laos with these supporting interventions:

(1) training in improved crop and pest management through farmers' field schools,



Figure 3. Climate-Smart Village Roving Workshop, Laos, September 2018.

(2) awareness raising through photo exhibits (Photovoice method) and seed fairs,

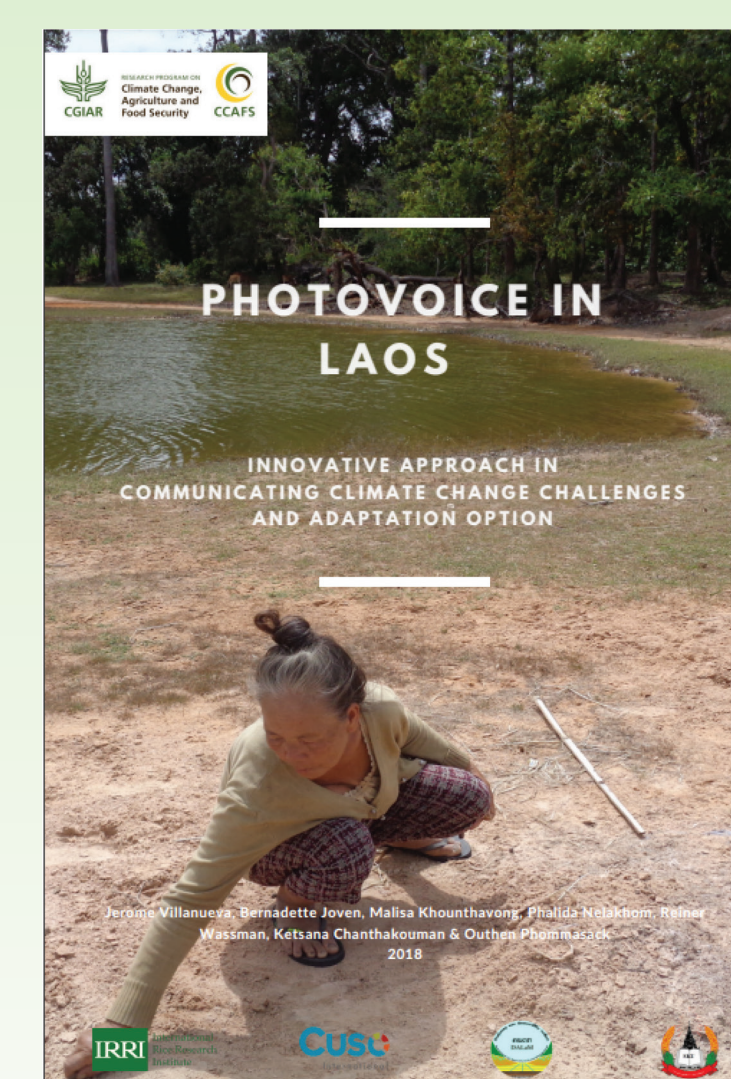


Figure 4. Cover of the Photovoice project brief, Laos, 2018.



(3) participatory variety selection, and

(4) climate risk mapping for targeted distribution of improved rice varieties.

Figure 5. Rice farmer participating in farmer field school. (Source: Photovoices)

## Conclusions

- Smallholder rice farmers can improve their resilience to climate variability / extremes.



Figure 6. Improved seedbank constructed during the CCAFS-CSV project in Kadane, Laos

- Specific challenges can be addressed through the climate-smart village approach.
- Improved rice seed systems are the core of introducing climate-smart agriculture.
- Supporting interventions (see Laos results) enhanced the efficiency of seed systems.
- Direct market linkages incentivise drought and flood tolerant rice varieties cultivation.

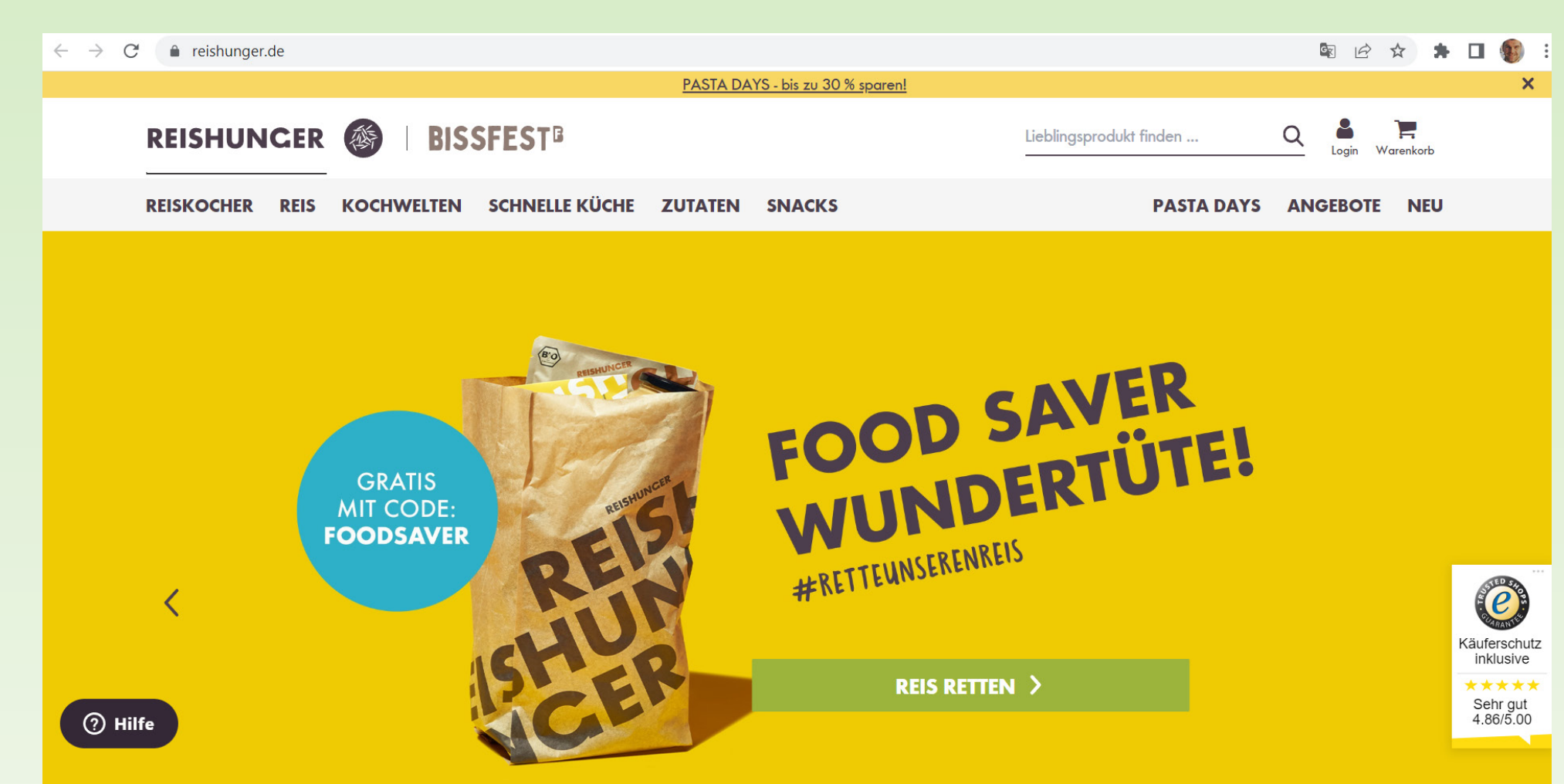


Figure 7. Online retailer "Reishunger" creates demand for climate change resilient rice.