

NL-CGIAR: Seed Systems Development

Integrated vegetable seed systems development in ethnic minority communities in Northern Vietnam for enhanced nutrition and income security (Vietnam)

Project description

Vegetables are a main source of income and nutrition for ethnic minority farmers in Vietnam's Northern highlands (Fig. 1 and 2). While value chains for fresh retail produce and seed markets offer huge opportunities for development, current smallholder seed systems suffer from multiple problems. These are due to inadequate access to quality seed, health, and physiological properties, and desirable traits such as disease resistance, micronutrient density, and consumer characters. Insufficient quality guarantees, poor storage, lack of access to appropriate information resources, and limited smallholder participation in seed value chains - combined with the effects of biotic and abiotic shocks affecting seed security - aggravate the situation. Furthermore, endogenous vegetables and farmer seed systems have only received limited attention.



Figure 1: Diversity of Vietnamese vegetables (Photos: Laxmi Lama)



Figure 2: Ethnic diversity in Northern Vietnam (Photos: Stef de Haan)

Our project will address these issues by elucidating how, and under what conditions, increased access and use of quality seed translates into enhanced smallholder incomes and nutrition security.

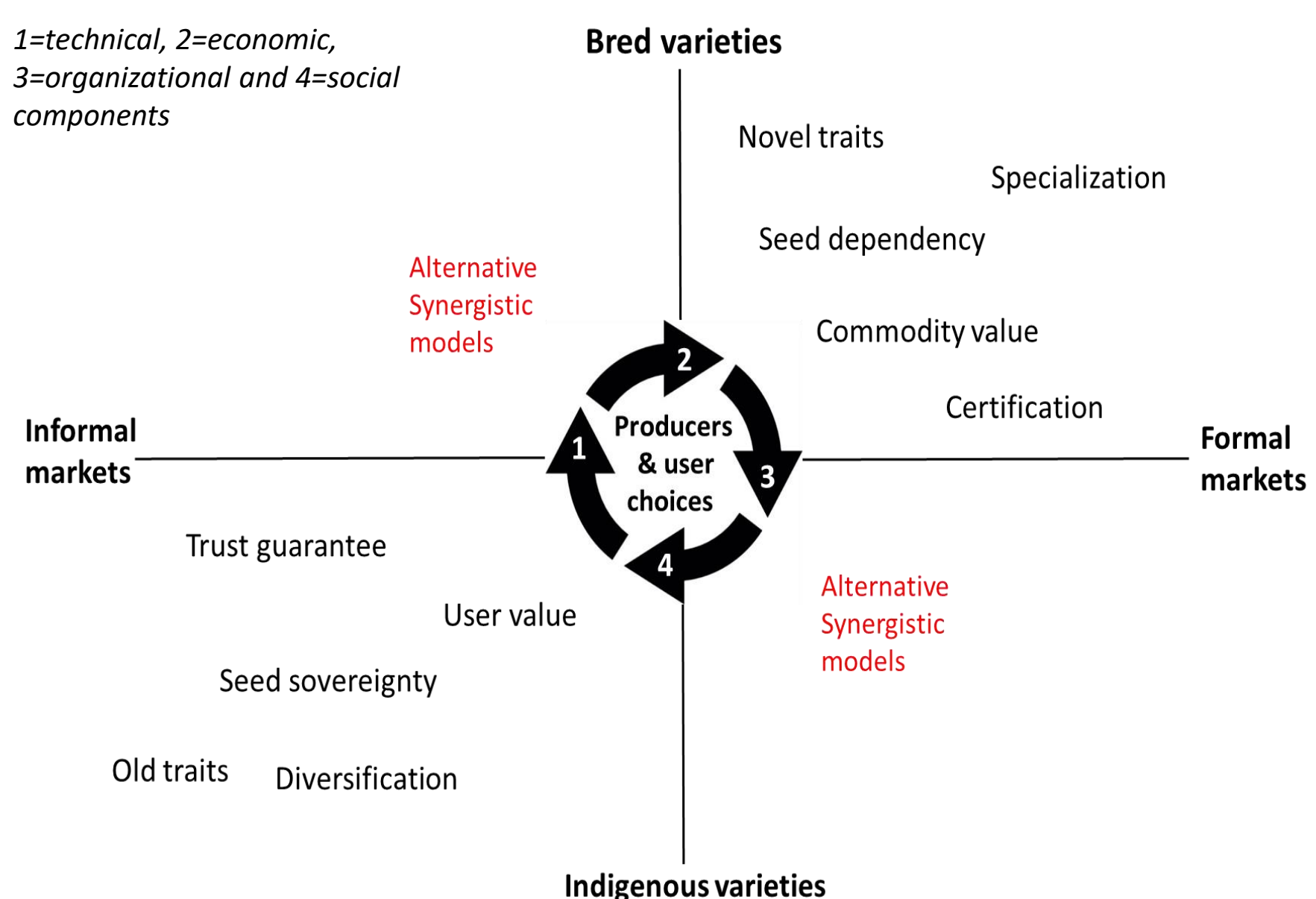


Figure 3: Simplified 'black and white' trade-off reality for seed producers and users

Two dimensions of seed systems include type of markets (formal, informal) and types of varieties (bred, indigenous). The figure shows assumed dicotomies. Our research seeks to identify synergistic models to fill the relative voids in the indicated quadrants.

We will particularly address the knowledge gap of trade-offs to simultaneously optimize technical, organizational, economic, and social components of seed systems (Fig. 3). Increasing clarity about these trade-offs is essential to designs highly adapted innovations and to inform the policy and seed governance. We adopt an integrated approach organized around three major work packages:

Work package 1 'Seed system characterization. WP1 will take a broad approach and pursue 'taking the pulse of seed system' for contrasting situations based on crop reproductive biology, producer ethnicities, and market systems.

Work Package 2 'Enhanced seed access through upgraded production and value chains' will focus in-depth on 4 to 6 case studies to research how select demand-driven and business-led improvements in seed production, marketing and business can enhance 'smallholder seed access'.

Work package 3 'Seed access for nutrition security' will provide fast-track insight into 'evidence-based causal pathways' (Fig. 4), and interactions between seed access vs. nutrition security and seed security vs. food security.

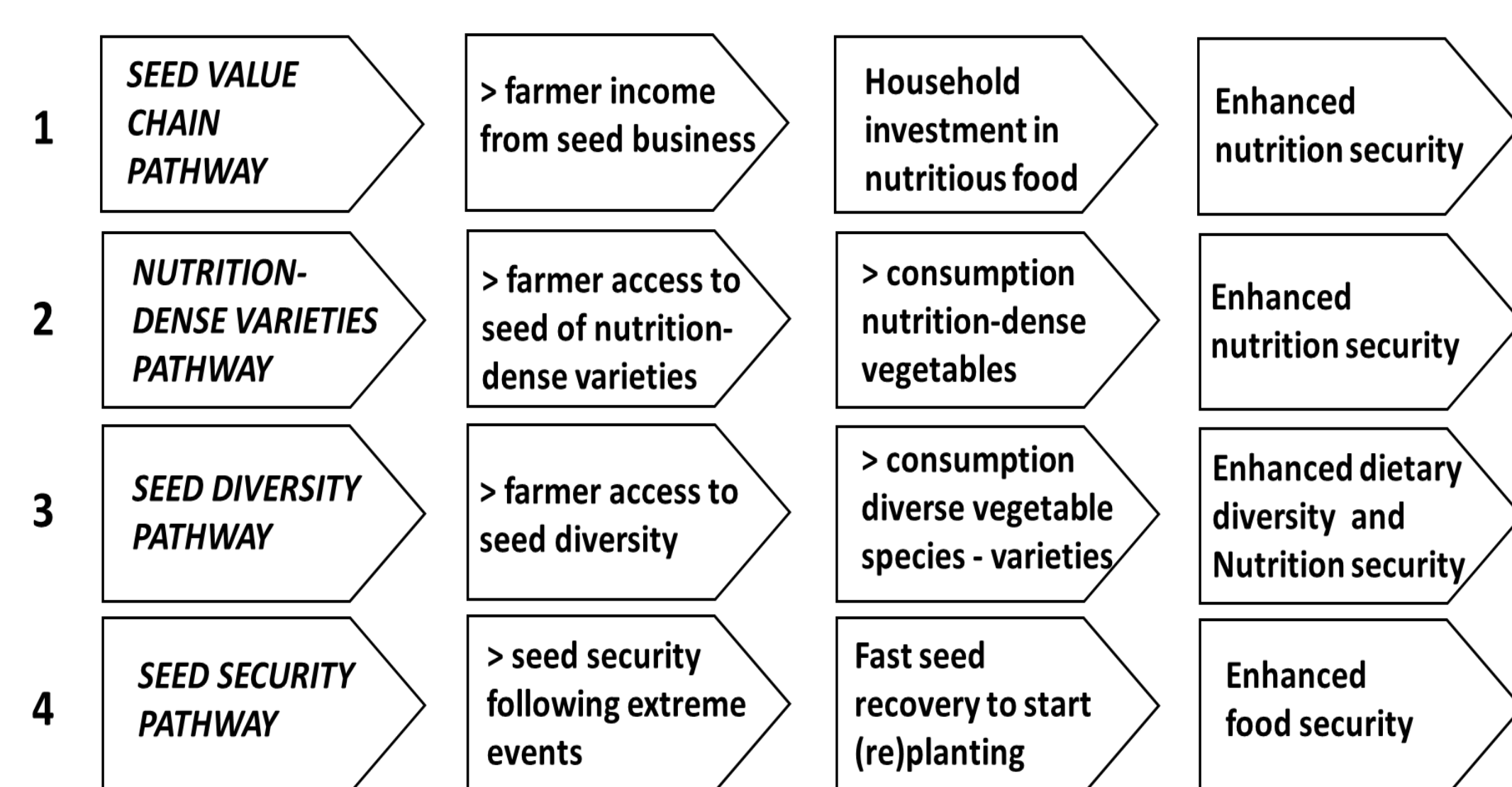


Figure 4: Simplified causal pathways - seed to food & nutrition security

Consortium Members

- **International Center for Tropical Agriculture (CIAT)**, Stef de Haan (Agrobiodiversity & Food Systems Researcher)
- **Wageningen University and Research (WUR)**, Tjeerd Jan Stomph (Associate Professor)
- **Bioversity International (BI)**, Jessica Raneri (Nutritionist)
- **Fruits and Vegetables Research Institute (FAVRI)**, Ngo Thi Hanh (Seed Specialist)
- **Vietnam Farmers Union (VFU)**, Van Khoi Le (Director of Agricultural Science and Technology Center)
- **Tan Loc Phat - seed company (TLP)**, Le Van Thuan (Vice-Director)
- **Vinaseed (VS)**, Nguyen Dinh Trung (Manager Research & Development)

Synergies with other initiatives

The project will build on diverse linkages with vegetable, seed sector and nutrition projects, network and platforms. These range from innovation platforms linked to existing initiatives - including seed value chains and development projects - to diverse (inter)national programs; likely including

- CGIAR Research Program on Agriculture for Nutrition and Health (**CRP-A4NH**), FP 1 on 'Food Systems for Healthier Diets'
- CGIAR Research Program on Roots, Tubers and Bananas (**CRP-RTB**), particularly its community of practice around seed systems of vegetative propagated crops
- **Vietnam's National Zero Hunger Initiative** running till 2025, seeking to link agriculture and nutritional sensitive food systems
- A large variety of development projects in the northern mountainous region of Vietnam with a horticultural component through innovation platforms, including **Gender Responsive Equitable Agriculture and Tourism (GREAT)**, **Wise Use of Water and Agriculture project** (LuxDev VIE036) or **Sowing Diversity = Harvesting Security** (Oxfam)
- Vietnam's **National Nutrition Working Group**, led by the National Institute of Nutrition consisting of 30 members including CIAT and CRP-A4NH

Impact activities

We postulate that linkages between access to seed and nutrition security are frequently assumed rather than rigorously analysed for causal effects. Causal pathways expected to lead to impact will be critically researched in work package 3 (Fig. 4). Other activities foreseen for anchoring and scaling within the project include:

- Demand-based innovation platforms and action research centred around seed management and value chains
- Regular meetings to share progress and integrate stakeholder feedback into the planning cycle
- Communication, capacity building and targeting extension to ethnic minority communities, women and youth through the Vietnam Farmer's Union and its extensive network in the northern highlands
- Master class in vegetable seed systems during the 2nd year of the project for change agents working with ethnic minorities
- Video documentary in Vietnamese and ethnic minority languages using footage taken throughout the project (linked to M&E and participatory videography)
- Webinars aimed at value chain stakeholders and young entrepreneurs
- Policy briefs to inform decisions makers within the vegetable and seed sectors