

## Attaining & sustaining food security through farmer-led research



**Ann Waters-Bayer**  
**PROLINNOVA International Support Team**  
**c/o KIT (Royal Tropical Institute)**  
**Amsterdam, Netherlands**

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## Findings from a study on farmer-led research (FLR) supported by civil society organisations (CSOs)

carried out by

**PROLINNOVA (PROmoting Local INNOVation in ecologically oriented  
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in partnership with the CGIAR Research Programs (CRPs)

**Aquatic Agricultural  
Systems (AAS)**



**Climate Change, Agriculture  
& Food Security (CCAFS)**



## Introduction

- ❑ **Formal agricultural research & development (ARD) institutions seeking ways to make research more relevant for smallholders**
- ❑ **AAS & CCAFS asked PROLINNOVA to explore approaches, outcomes & impacts of “informal” ARD**
- ❑ **Desk study: >100 cases, 11 selected for case studies**
- ❑ **Main criteria for selecting cases:**
  - participatory & led by smallholder farmers (main decision-makers)
  - supported by CSOs
  - availability of some documentation of impact
  - intervention lasted at least 5 years (ended or ongoing)

## The main question in the study:

What were the **impacts** of farmer-led approaches to research & development in agriculture & NRM in terms of:



- **food security?**
- **ecological sustainability?**
- **economic empowerment?**
- **gender relations?**
- **local capacity to innovate?**
- **influence on formal research & development institutions?**

## Case studies selected for analysis

1	<b>Zai</b> in Burkina Faso (informal farmer group)
2	<i>Campesino a Campesino</i> in Central America (farmer organisations)
3	MASIPAG in the Philippines (farmer–scientist partnership)
4	Farmer-experimenters in Honduras (NGO World Neighbors)
5	Farmer participatory research (FPR) in Tanzania (NGO FARM–Africa)
6	Smallholder action research in Burkina Faso (NGO Diobass)
7	Participatory innovation development (PID) in Mali (PROLINNOVA MSP)
8	Local agricultural research committees (CIALs) in Honduras (NGO FIPAH)
9	Participatory extension approach (PEA) in Zimbabwe (NGO ITDG + GTZ)
10	Participatory technology development (PTD) approach in Vietnam (NGO Helvetas + SDC)
11	Institutionalisation of FPR approach in Ethiopia (FARM–Africa)

## Main types of innovation emerging from informal farmer-led research

- Land reclamation or improvement
- Soil and water conservation
- Plant breeding and varietal selection
- Crop husbandry
- Crop and animal protection & healthcare



Ethiopian farmer burning local herbs to cure cough (Photo: Ann Waters-Bayer)

## Dissemination of FLR results and approach

- Mainly informal farmer-to-farmer sharing
- Creating opportunities for this, e.g. innovation fairs
- CSOs guided farmers in keeping records and documented FLR results, shared through workshops, magazines, newsletters & pamphlets
- CSOs seeking to scale up FLR approaches documented & shared process & lessons from approach



Eastern Africa Farmer Innovation Fair  
(Photos: Fabian Odhiambo/KARI)

## Impact on farmers' livelihoods

- Greater food & nutrition security through higher & more dependable yields, better storage & increased crop diversity
- More resilience to environmental risks and to pests & diseases
- Most FLR involved reduced use of chemical inputs
- FLR in ecological farming often led to higher income than conventional farming, allowing savings and investment in assets
- Gender & equity impacts: FLR based on local innovations using local resources more beneficial for poor & women



Ethiopian innovator: cooking pot to make 3 sauces over one fire (Photo: Ann Waters-Bayer)

## Impact on capacity to innovate

- Enhanced individual capacities of both men & women farmers
- Women became more confident & active in innovation & community
- Many farmer-researchers became skilled facilitators & continued to support others
- Stronger local organisational capacities
- Better links to sources of information and innovation partners



PPB workshop for CIAL members in Honduras  
(Photo: Omar Gallardo/FIPAH)

## Case example: Farmer experimenters in Honduras

World Neighbors' approach described in *Two Ears of Corn – a guide to people-centered agricultural improvement*:

- Farmers taught to do simple trials with low-cost techniques
- Initial focus on land/soil improvement
- Spaces created for farmer-to-farmer sharing
- “Farmer promoters” taught other farmers to experiment

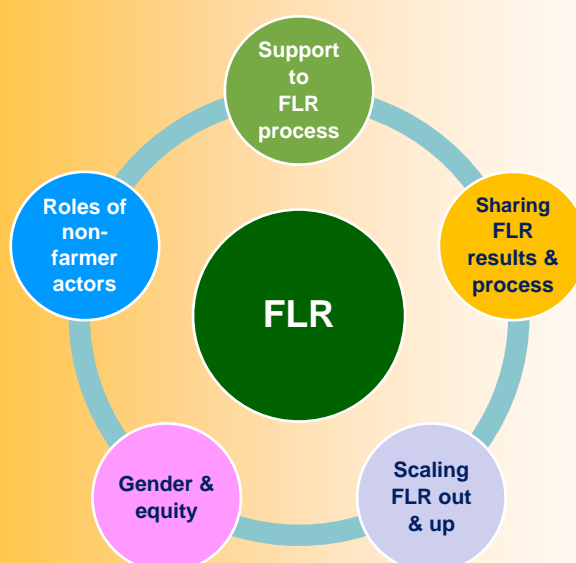
“Theory of change”:

- Farmers who are better able to experiment and share continue the process of agricultural improvement themselves.
- Long-term impact depends on farmers' capacities to continuously adjust their technologies to changing conditions

## Farmer experimenters in Honduras *impacts 15 years later:*

- Yields doubled / trebled due to continuing local experimentation and innovation, not to specific techniques originally suggested
- Number of locally grown crop species 3–4 times higher  
→ improved and more diverse diets
- Lower expenditures & higher household incomes
- Increased investment in education, land improvement & livestock
- Temporary labour outmigration stopped
- Hundreds of farmers continued to experiment and innovate in crop husbandry, post-harvest handling and food preparation

## Lessons learnt from the case studies





## Support to FLR process

- **Start small & focused – early “wins” can stimulate longer-term FLR**
- **Give attention to both technological and socio-institutional innovation**
- **Different farmer research groups can work on diverse topics reflecting community heterogeneity**
- **Work with both endogenous and introduced innovations: endogenous more relevant for poor farmers, introduced go beyond local knowledge**



MASIPAG farmer rice breeder in the Philippines (Photo: Lorenz Bachmann)

## Sharing FLR results



Zai pits - widely relevant - widely spread

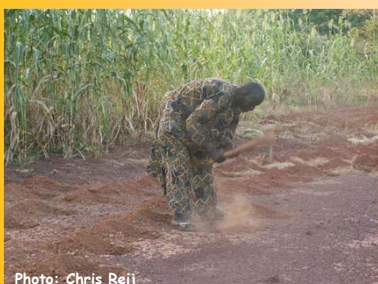


Photo: Chris Reij

- **Innovations often site- and household-specific ...**
- **... but can give ideas to and encourage other farmers**
- **Widely relevant innovations can spread quickly and spontaneously**
- **Monitoring spontaneous spread could reveal dissemination pathways**

## Sharing FLR process



Sharing **both** results & process, e.g. through:

- visits to farmer researchers
- symposia for farmer researchers
- farmer innovation fairs
- farmer magazines
- rural radio
- participatory video



West African  
Farmer Innovation Fair  
(Photos: Assane Ouédraogo)

## Scaling FLR out and up

- Important to scale up **FLR approach** in addition to specific innovations
- Start small, gain experience and expand gradually
- Stimulating farmers' curiosity is more important than perfecting their research capacities
- Scaling up in formal ARD institutions requires broad alliance working with a clear theory of change
- FLR harvests & generates social energy – appears to work better in informal CSO sector (as a movement) than in formal ARD structures



Ethiopian innovator stimulates interest of other farmers and ARD staff (Photo: Tesfahun Fenta)



## Gender and other equity issues

"Participatory"

- "Participatory" label doesn't mean that men and women have equal chance to take part
- **Conscious and consistent efforts needed to deal with gender issues and other inequities within FLR: attention to power issues!**
- **Closely observing and adjusting FLR process can make approach more inclusive & can open up specific spaces for involving women and other marginalised groups**



Photo: Tesfahun Fenta



Photo: A. Waters, Bayer



Photo: L. van Veldhuizen

## Roles of non-farmer ARD actors



Joint analysis by farmers, scientists and forestry students in Vietnam  
(Photo: Helvetas)

- **Researchers share their knowledge & skills, help explain findings, document & share widely, make FLR credible, and systematise results & learning**

- **Extension plays key role in helping to link**
- **Research & extension can provide small decentralised funds to support FLR**
- **Importance of integrating FLR into education and training for continuity**



Extensionist and farmers discussing bio-pesticide plant used in farmers' trials in Mali (Photo: Jean-Marie Diop)

## Roles of CSOs

- Strong role in **capacity strengthening** (technical & socio-organisational)
- NGOs invest in preparing community-based organisations and **paraprofessionals** (“farmer promoters”) to take over their role
- Stimulating **collective action & social capital** (motivation, local leadership, ownership): key to success in CSO sector
- Engaging in **policy advocacy and dialogue** to maintain or expand space for FLR



Malian farmer explaining his egg incubator to NGO staff (Photo: Djibril Diarra)



Ethiopian farmer explaining his agro-forestry innovation to national advisory services (Photo: Ann Waters-Bayer)

## Roles of donors

- Initiate FLR processes & continue supporting longer-term research that brings results only after several years
- Long-term commitment of donors for FLR helped farmers slowly but surely build capacity, networks & coalitions
- External funding oriented to project cycle management / logframe can constrain flexibility and creativity of FLR partners
- Donors wanting to support scaling up of FLR should give more time – not short-term big funds but long-term smaller & consistent funding



## Conclusions

- FLR approaches can have profound, self-reinforcing and long-lasting impacts – especially on **capacity to innovate** – that conventional impact assessment does not pick up



- Need action research in midst of FLR processes to understand how these impacts come about

- Lessons can guide better integration of “formal” and “informal” **research in development (RinD)** in smallholder communities

Learning from farmer innovator in Nepal  
(Photo: Ann Waters-Bayer)

*Thanks to all contributors to  
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### Reference:

Wettasinha C, Waters-Bayer A, van Veldhuizen L, Quiroga G & Swaans K. 2014. **Study on impacts of farmer-led research supported by civil society organizations.** Penang, Malaysia: CGIAR Research Program on Aquatic Agricultural Systems. Working Paper: AAS-2014-40.



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