PROGRAMME NATIONAL AGROECOLOGIE
PRONAE
PCADR
PASS
AFD
AGENCE FRANÇAISE DE DÉVELOPPEMENT

A farmer-group based approach linking research and development for the promotion of Conservation Agriculture in the Lao PDR



Context

➢ Organisations engaged in CA:

- **Since 2003, Lao National Agro-ecology Programme (PRONAE), research program,**
- **Since 2006, Point d'application du Sud de Sayaboury (PASS-PCADR), integrated development project,**
- **Since 2007, Sector based Programme on Agroecology (PROSA).**

➢ Intervention area:

- **Southern districts of Sayaboury Province (4 districts),**
- **Xieng Khouang (3 districts).**

Accounting for the Natural Capital **is a key priority when attempting to protect watersheds and improve livelihoods.**

Therefore, the main objectives are to develop technical alternatives that enable the preservation of natural resources such as soil and water (renewable but not inexhaustible), and to promote sustainable agriculture, that is socially acceptable, economically profitable and environmentally sound.

GENERAL OBJECTIVE

Soil management is the principal integrating topic for all development activities linked to agriculture, livestock, forestry, preservation of infrastructure, water quality and the quality of life.

TWO BASIC PRINCIPLES

Iterative approach

- ✓ The technological offer, the methodology and the organization are constantly adapted to the evolution of the bio-physical, socio-economic and political context …. and to the demand of the various stakeholders involved.

- ✓ Constant evaluation at each stage allows real time adjustment of activities and reorientation of programmes, in turn, it allows optimising the use of all resources.

Basic Principles

Integrated approach

- ✓ Research
- ✓ Training and Communication
- ✓ Extension
- ✓ Financial and political decision process

- Integrate the various rural development actors all along the process : Farmers, Extension service, researcher, private sector, decision-maker,…

- All these actors are involved in each component of the program

Iterative and integrated process

A Assessment Monitoring/Evaluation

C Creating and adapting Innovative systems

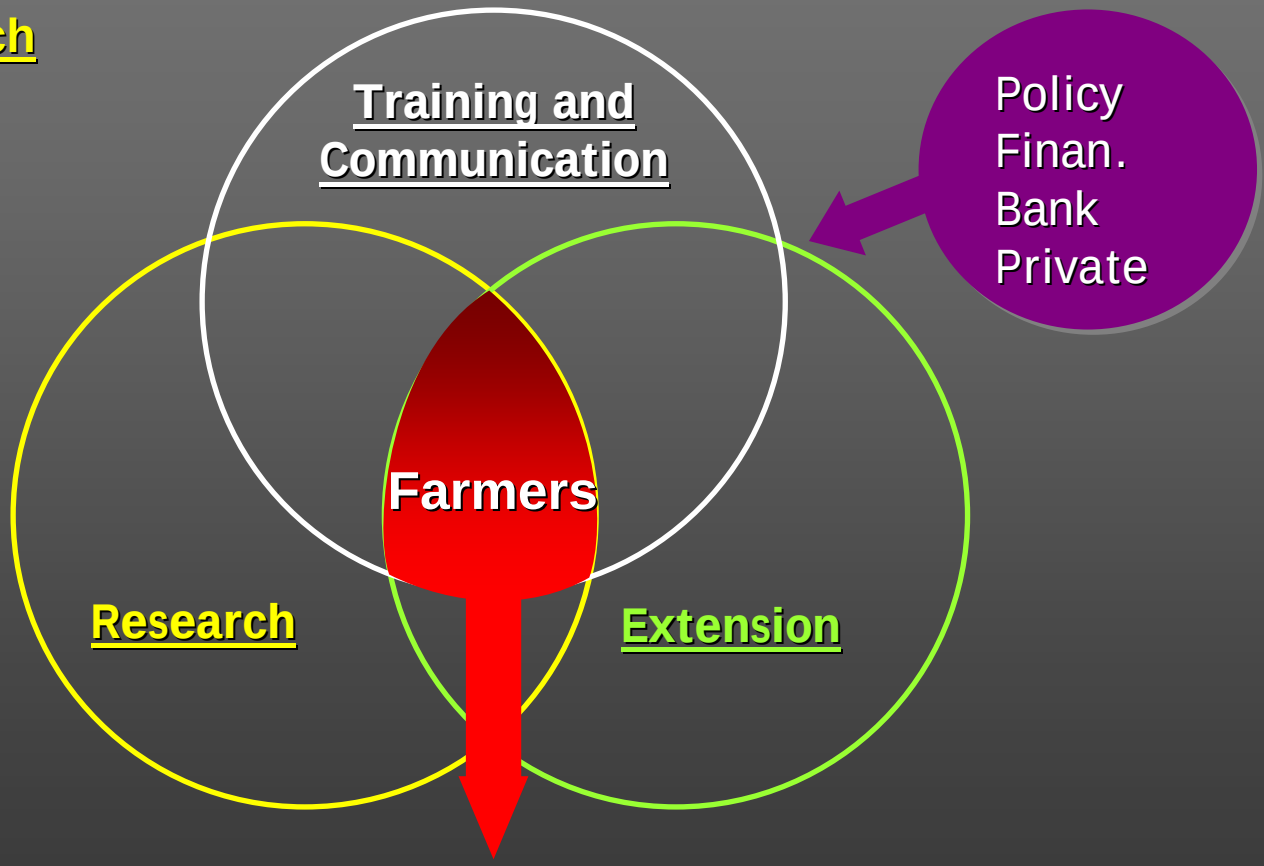
T Training and Communication

E Creating an enabling Environment

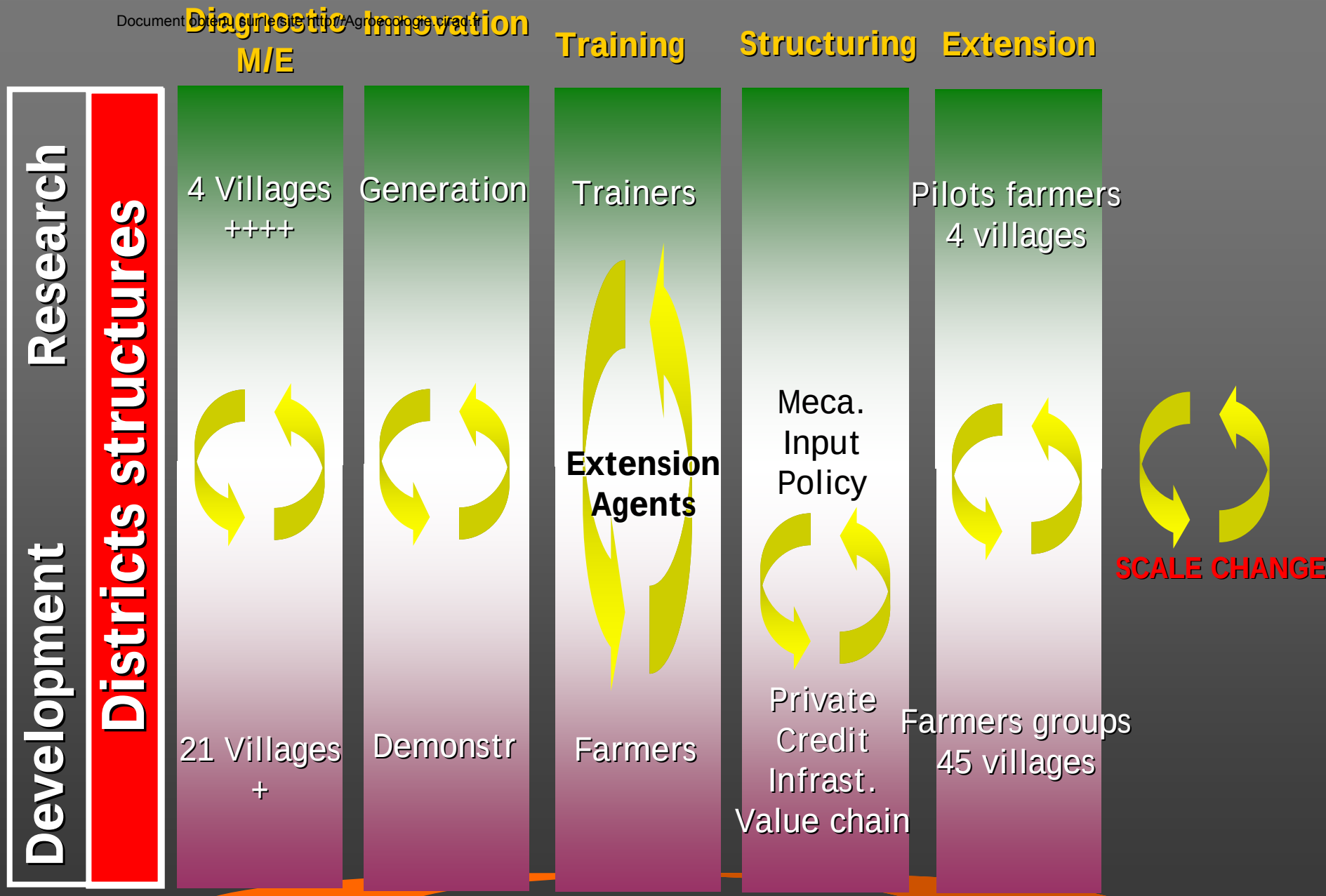
S Scaling-up and Extension

Basic Principles

Systemic approach



Emerging Systemic properties



Application in south Sayaboury and Xieng Khouang:

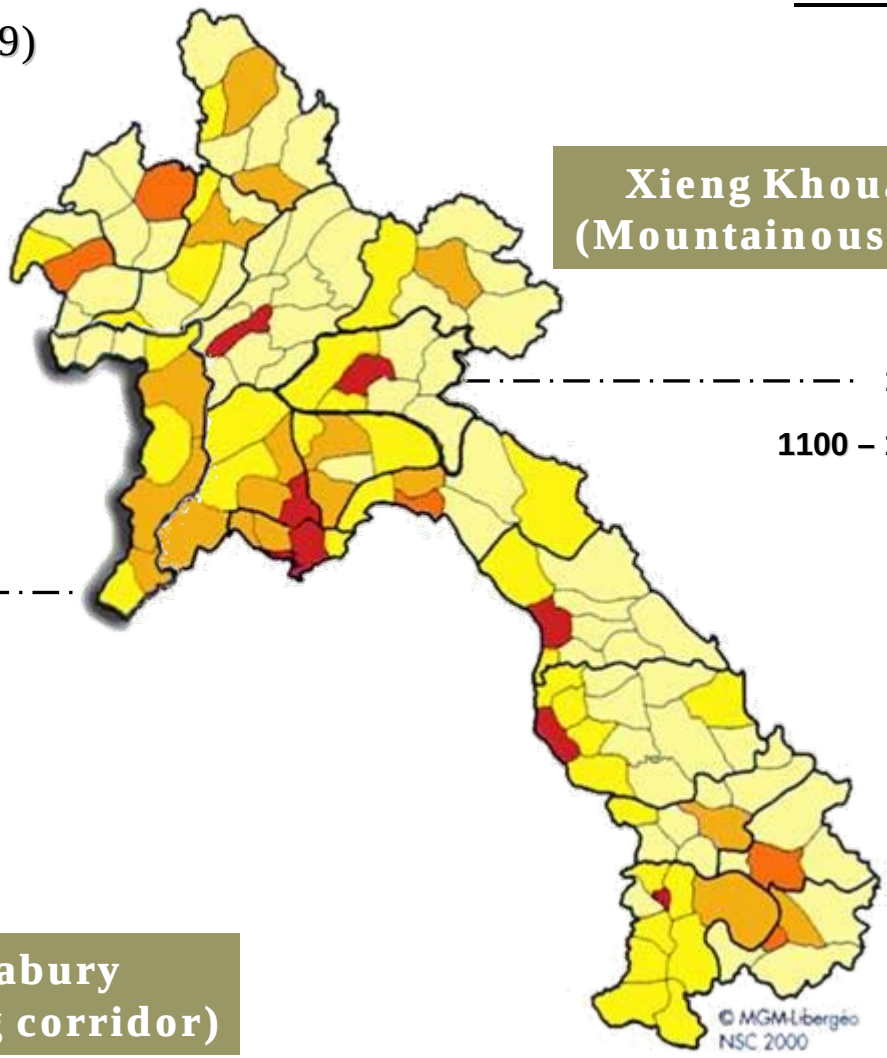
1. Generation and demonstration sites
2. Pilots farmers groups
3. Farmers group / Scaling up

CURRENT DIMENSIONNING

Historical provinces

- 7 districts (13.000 km²)
- PRONAE (2003 - 2009)
- PASS (2005 - 2009)

PRONAE – PASS/PCADR, PROSA



Xieng Khouang (Mountainous area)

19°25'N

1100 – 1600 mm

3 Districts:

- **Pek**
- **Kham**
- **Nonghet**

17°42'N

1100 – 1300 mm

4 Districts:

- **Paklay**
- **Kenthao**
- **Botène**
- **Thongmixay**

Xayabury (Mekong corridor)

1- Creation, characterization and technologies

- Generation and agro-economic evaluation of a **large range of direct seeding mulch-based cropping systems** (DMC) and technologies (65 ha),
- Characterization of **biological and physicochemical processes**,
- **Training** site: field practices intended for farmers, extension officers, agronomists & field days intended for local and national stakeholders

Rice direct seeded on mulch of *E. coracana* + *C. cajan* – Plain of Jars

EXPERIENCES AND KNOWLEDGES

1- Creation, characterization and technologies

- Innovative and alternatives systems:

  ✓ For Mekong corridor

Maize on residues

Association Maize – *Vigna umbellata*

Maize on *Vigna umbellata* residues

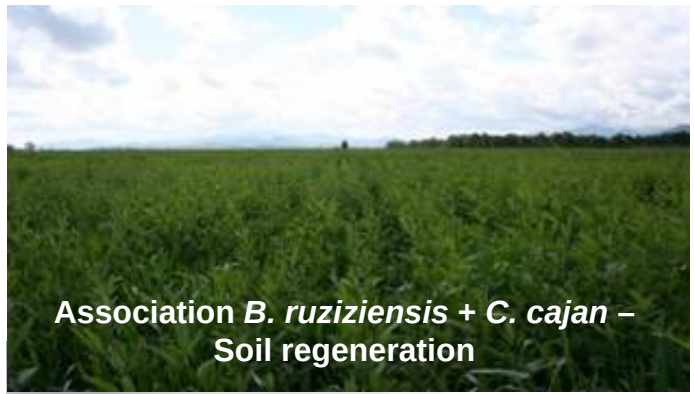
Maize + *C. cajan*

EXPERIENCES AND KNOWLEDGES

1- Creation, characterization and technologies

- Innovative and alternatives systems:
  - ✓ For altitude Plains


Rice direct seeded on mulch of *B. ruziziensis*


Association *B. ruziziensis* + *C. cajan* – Soil regeneration


Rice direct seeded on mulch of *C. cajan* and *E. coracana*


Cattle fattening on improved pastureland

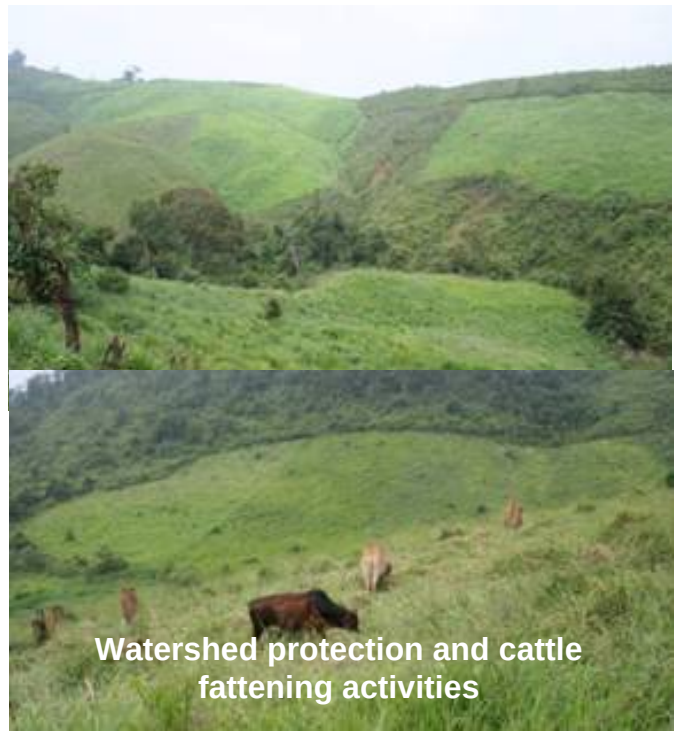
EXPERIENCES AND KNOWLEDGES

1- Creation, characterization and technologies

- Innovative and alternatives systems:
  - ✓ For mountainous area (upland rice, livestock and diversification)


Cassava + *S. guianensis*


Maize + *B. ruziziensis*


Watershed protection and cattle fattening activities

EXPERIENCES AND KNOWLEDGES

1- Creation, characterization and technologies

- Technologies

Polyaptitudes rice (Sebota), adapted to contrasted ecologies (climate, water access, altitude 0 – 1200 m, rainfed as irrigated conditions)

ENHANCING BIODIVERSITY

Staple and cash crops

Around 40 cultivars of aerobic rice

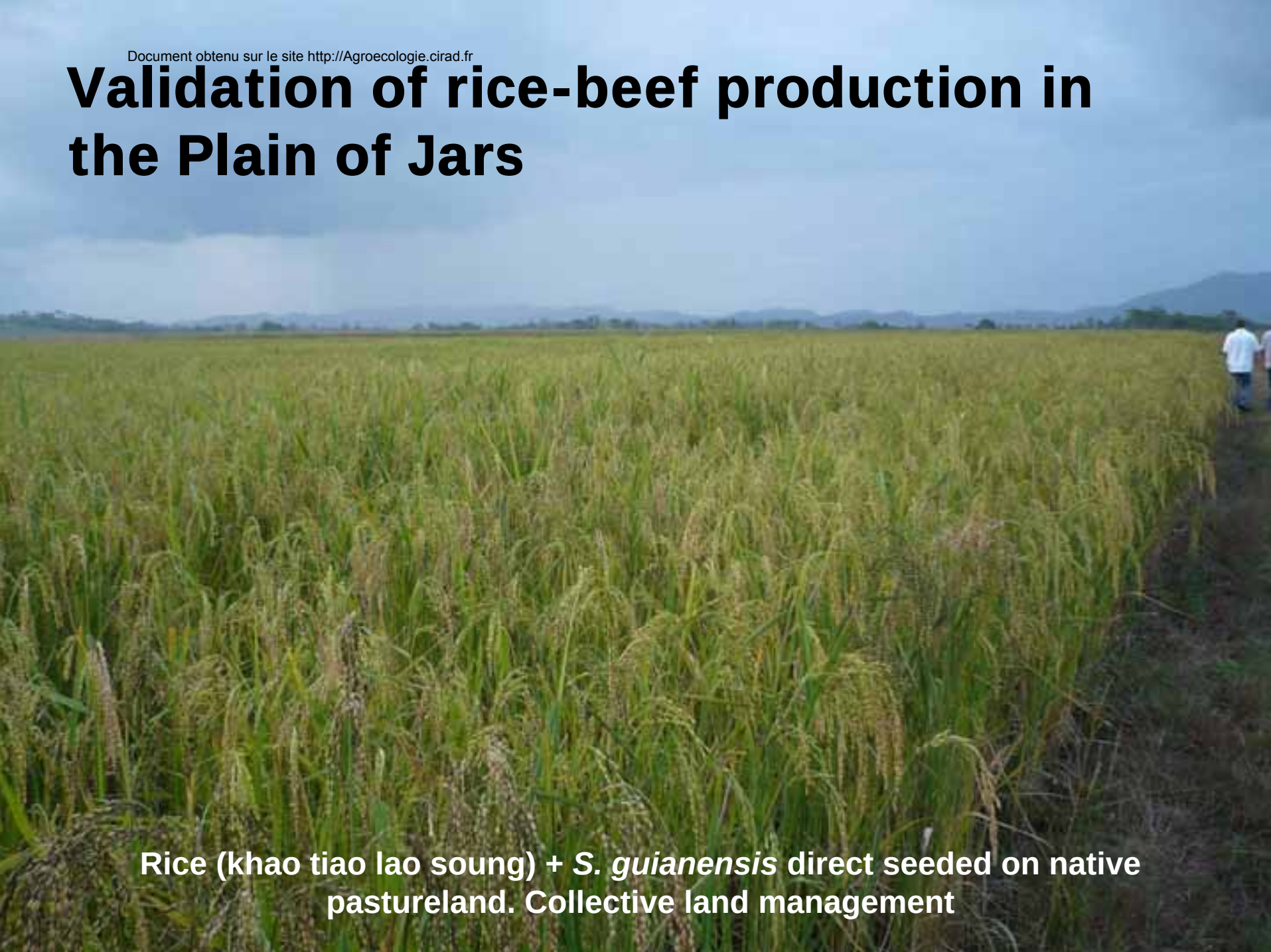
ENHANCING BIODIVERSITY

Multipurpose species (cover crops and fodder ressources)

2. Adaptation and Validation with farmer groups

- Organization of farmers groups,
- Training and implementation of DMC systems with smallholders (411 households, 277 ha),
- Adaptation and Validation with farmer groups,
- Analysis of adoption processes,
- Proposing a methodology for scaling up & extension at village unit level.

Validation of rice-beef production in the Plain of Jars



Rice (khao tiao lao soung) + *S. guianensis* direct seeded on native pastureland. Collective land management

Validation of rice-beef production in the Plain of Jars

Improved pastureland – Plain of Jars, Xieng Khouang

EXPERIENCES AND KNOWLEDGES

2. Adaptation and Validation with farmer groups



3. Dissemination of No-Till



METHODOLOGY

- **Organization of farmers groups**
  - **To allow training, demonstration and technical monitoring;**
  - **To structure access to agricultural inputs with traders;**
  - **To have a common use of specific equipment;**
  - **To stimulate exchange between farmers;**

METHODOLOGY





- Based on Validation Groups results

- Challenge: overcome the main constraints identified by smallholders for the adoption of NT systems with residues management:

  - Drudgery of labour
  - Agricultural input supply

Key issues to promote the adoption and dissemination of DMC systems with residues management

Hand jab seeder
(6 j/ha)

Adequate equipments for DMC systems adapted at various scales in order to decrease drudgery of labour

Key issues to promote the adoption and dissemination of NT systems with residues management

Economic incentives such as provision of inputs promoted by local traders

METHODOLOGY

- DAFO technicians are responsible of one geographic area (generalist approach);
- Each one supervise 2 or 3 groups (50 to 120 families);
- The extension of new technology need permanent support from the technicians to the farmers especially the first 2 years;
- Roles of the extension worker are: planning, coordinating and training;

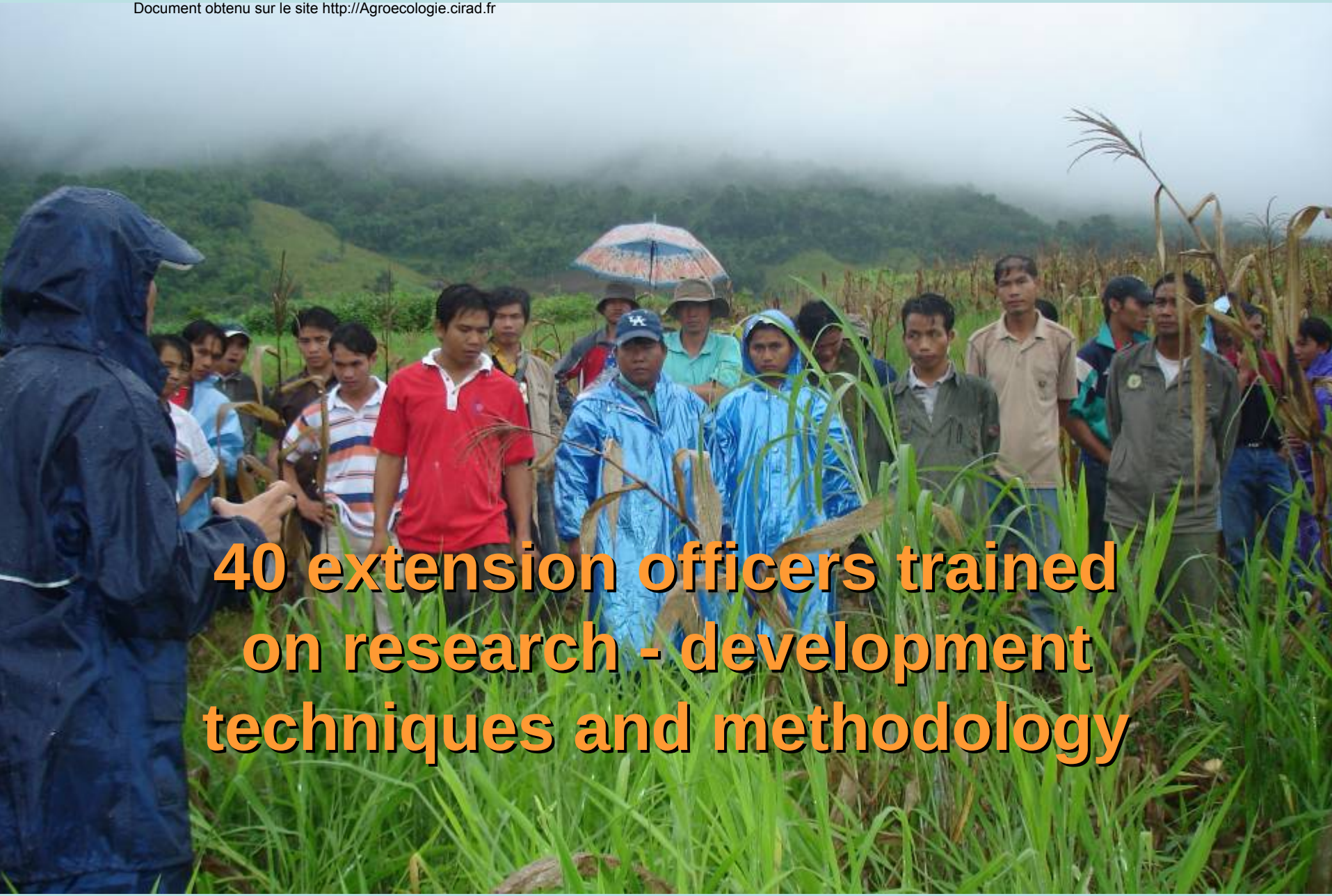
METHODOLOGY

Extension of no – tillage is not only technical message but it should go with the creation of an enabling environment: Equipment, input access, market,..

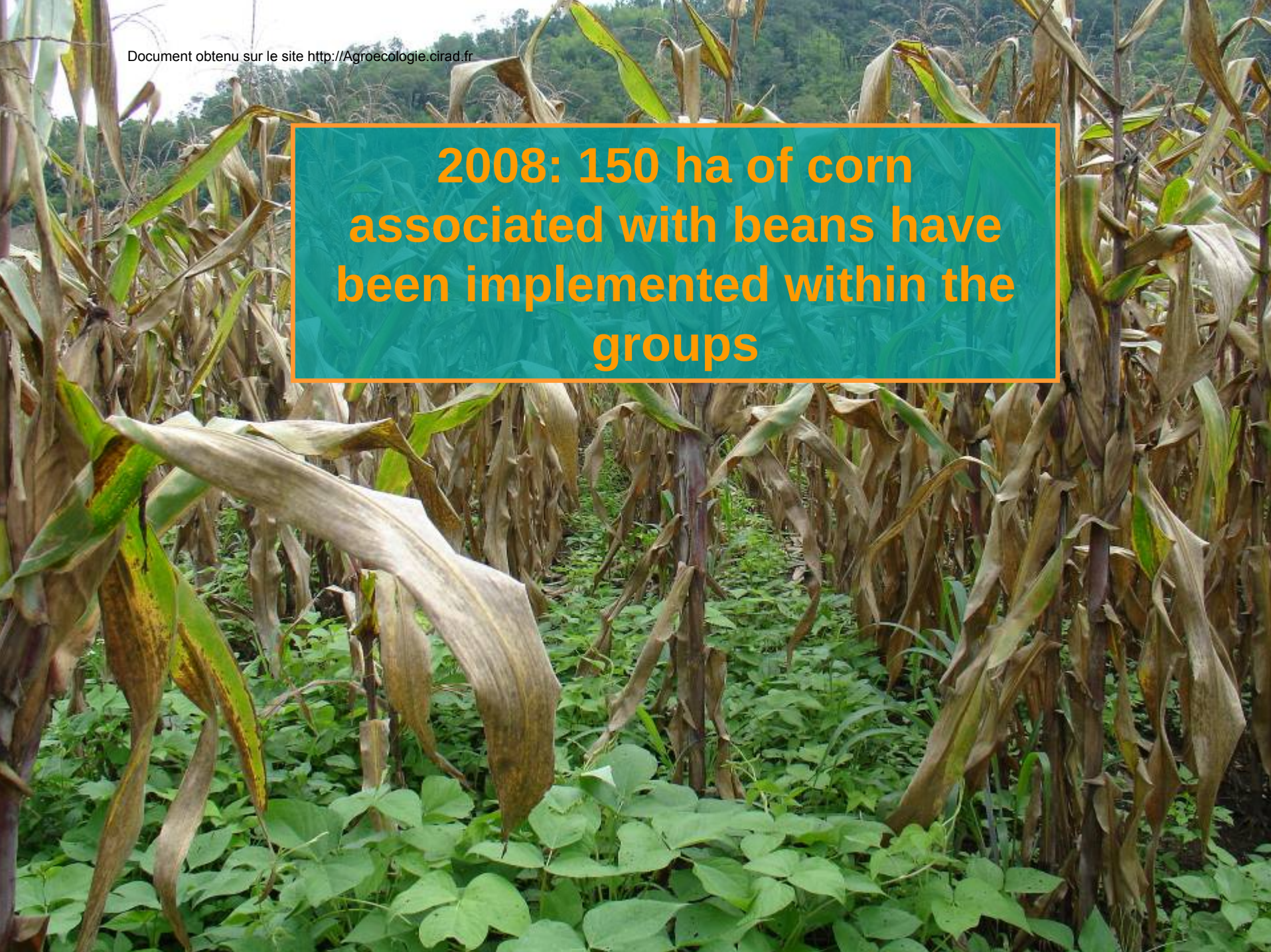
METHODOLOGY

Training for extension agents	Training sessions intended for DAFO agents (Crops & Animals Dpt.) concerning Agroecology concepts & techniques (Agreement PASS-PRONAE)
Farmer groups organization	Elaboration of tools communication (posters, technical sheets) in collaboration with PRONAE. Consciousness-raising campaign in the 21 villages
Credit system Setting up	Credit system setting up with traders (agreement between farmer groups & traders). Project support concerning the inputs choice
Farmers' training & demonstration	Training sessions related to (i) direct seeding techniques & (ii) inputs use (herbicides). On-farm demonstrations with all the farmer groups
Permanent monitoring	Permanent technical supports provided by agents during the campaign. Presentation & discussion of the agro and economical results obtained with farmer groups

SOME RESULTS



2008: Around 2000 ha cultivated under no tillage for a total of 18000 ha within the 45 villages of intervention



2008: 150 ha of corn associated with beans have been implemented within the groups

THANK YOU