Smarter agriculture: new approaches for smallholders and extension providers

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CABI
Be Smart

- farmers
  effective use of resources, manage change, reduce risk
- extension workers
  advise, instruct, inform, listen, respond
- researchers
  develop solutions, new technologies
Focus on extension services
smart responses, regular contact
Extension: can do better

- widen access, be more responsive
  reach <10% of target
- use evidence-based approaches
  *ad hoc methods, weak choice, uncertain value*
- become a profession
  *career structure, training, performance-based*
Improving extension is difficult

- Opaque concepts
  *innovation systems, farmer empowerment*

- Limited research
  *what works best, where and how*

- Complex structures
  *public, private + third sectors*

- Tainted history
  *train and visit, privatization failures*

- Low, unreliable funding
  *over-reliance on projects, weak government support*
They all do extension (of a kind)

NATIONAL crop protection

REGIONAL depts. agriculture

SECTOR NGOs + livelihood projects

TOPIC project-based
Simple approaches, basic tools

- **Plant clinics**
  any extension provider, regular operations, public places

- **Training**
  broad-based, diagnosis, advice

- **Clinic registers**
  regular data capture, validation
PLANT CLINICS: any crop, any problem, anywhere
Trial, adapt, adjust operations
The art of advice: selecting good options

- where did you learn about it
- how do you know it works
- where can you get materials
- who uses it
- who doesn’t use it and why

**INTERVIEW TECHNIQUE**

**FIELD DIAGNOSIS**

**TRAINING**: basic techniques
Practical, pragmatic

**FACT SHEETS**

**ART OF ADVICE**
Plant clinic data

- Surveillance – new and emerging diseases
- Monitor farmer demands
- Review recommendations, standardize advice
- Identify training needs
- Measure benefits – impact assessment
Which problem is most important?

Mite damage
Fungal leaf curl
PHYTOPLASMA YELLOWS
Plant clinics are only one approach

- Combine extension methods *clinics and FFS;*
- Mass extension *plant health rallies*
- Work with input dealers *trusted relationships*
- Cross-sector *in step, not in-parallel*
Not just pests and diseases
Going Public: plant health rally
Adapting to climate change

Many studies to develop:
  ● Models
  ● Impact assessments
  ● Risk maps
  ● Vulnerability assessments
  ● Pilot implementation projects

Farmers, extension providers, coops lack:
  ● guidance on how to develop a practical, logical approach for adaptation to meet short, medium and long-term goals
Practical tools for adaptation

A risk based framework to identify and mitigate main risks
Adaptation is a continuous process

- The framework recognizes inherent difficulties of adaptation
- Has flexibility to include qualitative and semi-quantitative (‘quick and dirty’) methods to get going
- The process is cyclical; practitioners continuously evaluate and improve knowledge
Brazilian coffee farmers adapt: principal threats identified

Climate change

Temperature
- Min. Temps
  - Frost ↓
  - Planting down-slope
  - Production ↑
  - Risk ↑
  - Disease ↑
  - Pest ↑
  - Quality ↓
- Max. Temps
  - Min ↑
  - Sun scorch
  - Yield ↓
  - Yield ↓
  - Quality ↓

Water
- Precipitation
  - Reliability ↓
  - Flowerings ↑
  - Aborted ↑
  - broca ↑
  - Yield, quality ↓
  - Yield ↓
- Flooding ↑
- Flooding ↑
- Flooding ↑
- Flooding ↑
- Flooding ↑

Humidity
- Low
- Yield ↓
- Hail ↑
- Hail ↑
- Hail ↑
- Hail ↑
- Hail ↑
- High
- Disease ↑
- Pest ↑

Drought ↑

Erosion ↑

Yield ↓

Yield ↓

Yield ↓

Yield ↓

Yield ↓
Adapt extension tools and approaches

MOBILE PHONES and ICTs

VALIDATED FACT SHEETS
Extension

Effective delivery of the right tools and efficient organisation of services is critical to adaptation.
The End

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