Enhancing smallholder farmers' decision making in pest management on cotton in Kenya

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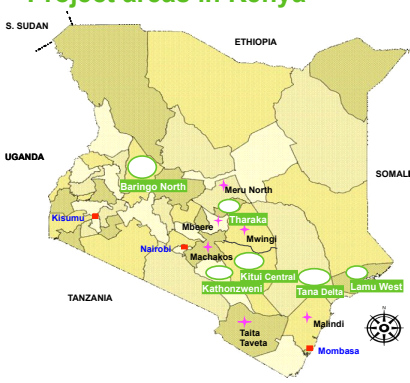
Background

- 80% of the land mass in Kenya is dry land, hence only 20% (arable land) used to feed a population projected to increase to approx. 60 million by 2030
- Cotton thrives well in the dry land (ASAL)
- Pest control account for 20-30% of total production cost for cotton in Kenya
- Analytical framework for decision-making is crucial to develop an Integrated Crop Management (ICM) strategy that is appropriate to the needs and circumstances of the target farmers

Project areas in Kenya



Production characteristics (2009/10)

Characteristic	
Land owned (ha)	4.25
Area under cotton (ha)	0.77
Yield of seed cotton (Kg/ha)	920.6
Intercropping	51.4%
Harvesting	Hand picking

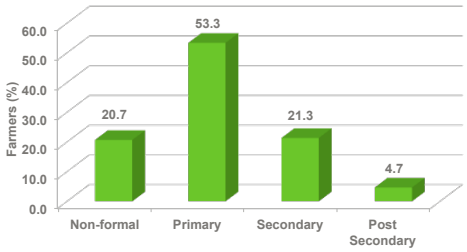
Production characteristics (2009/10)

Constraints	N	%
Low price	137	46%
Insufficient capital	16	5%
Pests	55	18%
High cost of pesticides	17	6%
Lack equipment/implements	15	5%
Poor market/exploitation by brokers	28	9%
Poor quality seed/pesticides	9	3%
Climatic factors	11	4%

Why ICM?

- **Develop more crop production management systems (Optimal production packages)?**
- **Technical options, organisation issues, to address problems and opportunities?**

Education level of cotton growers



Type of intervention

- **Message based**
  - focus on farmers' pest management actions through simple, applicable messages with visible benefits
  - specific to a given situation
  - not relevant in changing circumstances e.g. development of resistance to a pesticide

Type of intervention

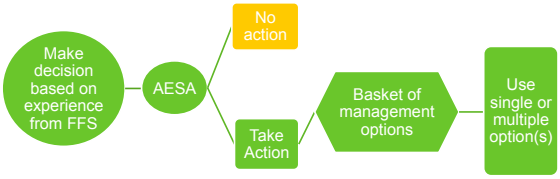
Learning centred

- farmers learn through agro-ecosystem analysis (AESA); make own decisions
- use and evaluate instead of persuading farmers to adopt given technology
- more knowledge intensive
- initial costs are high
- more sustainable – allow farmers to adapt to changing circumstances

Why FFS?

- **Sustains acquisition of knowledge and permit interactive learning**
- **Experimentation done with farmers to improve their practices and to gather evidence and information to feed into higher-level platform**

Decision making by FFS farmers



Key elements in decision making

- **Complexity of cropping system; require more than one option**
- **Sources of information and advise; credibility of source**
- **Perceived benefit; yield, environment protection**

Example from Tana Delta

	Yield	Extra benefit
Farmer practice (no scouting)	488 Kg/ha	
ICM (with scouting)	1,154 Kg/ha	US$ 541

Lessons Learnt

- Farmers should be part of the solution, not perceive recipient of knowledge developed elsewhere
- Diversity in training participants enriches the process
- FFSs groups must be farmer driven
- Address suspicion and build trust
- Use of appropriate language and communication skills
- Identify innovative farmers as resources persons
- Continuous update to inject new knowledge
- Consider gender role and culture etiquette
- Integrate researchers from various disciplines
- Participants to be enthusiastic, committed and not only motivated by immediate financial returns

Ahsante Sana!

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