Challenges of Research Extension Systems in Kenya

Festus Muriithi and Kenneth O. Ayuko

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Agriculture Contribution to Kenya’s Development

• Agriculture will remain a key sector in the Kenyan economy and continue to play a pivotal role in the realization of the economic growth and poverty reduction. A major economic pillar for Vision 2030 agenda in the medium term.

• Kenya aims to promote an innovative, commercially-oriented, and modern agricultural sector.
Importance of Agriculture

• Agricultural sector plays a dominant role in the country’s economy.
  – **Over 70%** of the population live in rural areas and derive their livelihood from agriculture.
  – Directly contribution to GDP = **26%**
  – further **27%** through linkages with manufacturing, distribution and service related sectors.
  – Account for 75% of total production and 70% of marketed output
  – Sector also accounts for over **60%** of export earnings, and **45%** of government revenue

• Agricultural production dominated by smallholder farmers >>> Women
Rural Poverty and Hunger concentration >> the medium to high potential parts of the country – absolute numbers
Farming Systems - Where agriculture occurs

- Horticulture
- Floriculture
- Coffee
- Cashew nuts
- Sugarcane
- Barley
- 1. Maize/
- 2. Potatoes
- Wheat
- Mangoes
- Cotton
- Livestock Production

Mt. Kenya

Map showing locations of various farming systems in Kenya.
Challenges to Research for Sustainable Land Management

- Population pressure - 36m and ↑ resulting in a need for high level of self-sustenance in food.
- Weather variability - severity and frequency of erratic weather patterns
- Poverty levels: - Access to production resources
  - >> Land, Credit, Technology >>> cf. women
- Technology development, dissemination and application
  - Weak Research Extension Farmers Links
  - Top down research extension models
Role of Agricultural Research in Agricultural Development

- Productivity impact
- Livelihoods impact
- Environmental impact and sustainability

=> Calls for impact orientation where agriculture R&D contributes to development impact
Impact orientation

• awareness
• availability of: seeds, inputs, markets good roads

outputs

• increased yields
• reduced costs
• improved soil fertility
• new knowledge, skills
• attitudes and values

outcomes

more bread, food

impact

• improved food security
• poverty reduced
• sustainable NRM

actors

• private agents: extension, input dealers, millers,
• public entities: extension, roads, trade, quality control, electricity,

inputs and activities

• HYV seeds
• trade-offs
• policy options
• training sessions
• reports

NARS

technology design & development

• increased yields
• reduced costs
• improved soil fertility
• new knowledge, skills
• attitudes and values
KARI’s Research programmes

• **Food crops** (Cereals, root and tubers, grain legumes, crop health)

• **Horticulture and industrial crops** (vegetables; fruit and nuts; oil and fibre; and flowers, botanicals, medicinal and aromatics)

• **Animal production** (ruminant, non ruminant and emerging livestock improvement)

• **Animal health research** (disease diagnostics, epidemiology and control; vaccines and drugs)

• **Range resource management**

• **Natural Resource Management** (Land use planning, Soil and water management, Integrated soil fertility management, Irrigation and drainage)

• **Biotechnology** (Crop and livestock biotechnology)

• **Genetic resources management** (Genebank)

• **KARI Seed Unit**

• **Socio-economics and Applied Statistics**

• **Adaptive research, outreach and partnerships**
Network of KARI Centres
Extension Challenges

- Inadequate financial support to the extension services
  - Low extension coverage due to inadequate technical staff
- Poor access to affordable credit for farmers especially women
- Inadequate factor and product markets and marketing infrastructure
  - Low returns to farmers
  - Low adoption of recommended technologies due to high cost of farm inputs and high poverty levels
- Risks due erratic weather patterns >> droughts, floods
- Low investment in storage and processing facilities
- Poor physical infrastructure
- Dynamic nature of farmer needs>> requires dynamism in technology development and dissemination methods
Initiatives to strengthen Research Extension Links

- Recognize multiple options for extension service providers. Aims to tap farmer participation and private sector contribution in provision of extension service.

Include:

- Focal Area Development Approach (FAD) and
- Farmers Field Schools (FFS) approach. Experiential research extension model where group of 20-30 farmers meet regularly on a given farm where they go through a learning cycle of the enterprise. FFS approach is quite effective in imparting skills and knowledge to farmers.

- Promotion of pluralistic and demand driven extension service delivery systems.

- Funding modalities including multiplicity of approaches. Self administered grants to farmer groups for technology testing and up-scaling.
Initiatives to strengthen Research Extension Links

- Paradigm shift from top down approach to participatory, inclusive and demand driven extension approaches
- Regulation of extension service providers and quality of extension messages
- Establishment of Stakeholder Fora at Provinces & Districts
- Joint Centre Research Advisory Committee (CRAC) meetings for setting priorities
- Participatory joint On-farm trials and demonstrations
- Joint technology adoption/uptake monitoring & evaluation
Conclusions

- Dynamic nature of research extension client-needs (Diversity in time and space)
  - Dynamism and diversity in approaches to research extension links
- Need for targeted technology development and dissemination models
  - Spatial and temporal specificity
- Challenge - Are resources available to do this?
- Enhanced participatory research agenda setting and dissemination methods
Compelling case for universal action

The Hunger Map

815 million people have insufficient access to food

Hunger around the world
Consequences of unsustainable land management

- Severely eroded soils
- Silted rivers
- Drought
- Severe floods

- Severe erosion of soils
- Silted riverbeds
- Drought conditions
- Severe floods
Consequences of unsustainable land management

Destroyed Livelihoods

Poor crop performance
Thank You