Food Security – What role for Extension?

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Global food security

- ✓ **Hunger and Undernourishment:**
  - Steep decline in number of undernourished people from 1990 to 2007-08 (19 to 13 %), since then slowdown. (FAO 2013)
  - Peak has been reached in 2008 with more than 1 billion suffering from hunger and poverty
  - From 2010-12 almost 870 million people have been chronically undernourished (FAO 2013)
  - Halving the prevalence of hunger by 2015 – unlikely to be reached before 2020-2030 (FAO 2007)
- ✓ Obesity is increasing, linked to urbanization

Global food security - Outlook

- ✓ Increase in world demand for food
  - Increase in world population from 7.0 billion (2011) to 9.3 billion (2050) (UN 2012)
  - Changing food consumption patterns in most developing countries (FAO 2013)
- ✓ To meet the growing food demand
  - FAO projects the need to increase agricultural output by at least 60 % (FAO 2012)
- ✓ However
  - With 60 % of increase, 300 million people would still remain hungry in 2050 because they lack the means to access the food they need (FAO 2012)

Factors affecting Food Security

- ✓ Food availability
  - Agricultural production / sustainable productivity
  - Food waste (postharvest/processing level; retailer/consumer level)
  - Increased income → increased food demand
- ✓ Stability of food supplies
  - Higher climate change variability
  - Semi arid areas of SSA will be particularly affected
- ✓ Food utilization
  - Ability to use food effectively (food safety, disease pressure)

Factors affecting Food Security

✓ Access to Food

- Ability to purchase sufficient quality food
- High income growth needed
- Economic output of agriculture → economic growth
- Higher prices and price volatility will continue

The poorest and already food insecure region of Africa is expected to suffer the largest contraction of agricultural incomes.

Factors influencing Food Security

✓ Natural Resource Constraints/ Climate Change

- 25 percent of the world's agricultural land area is highly degraded (FAO 2013)
- At present, agriculture accounts for over 70 percent of global water use. The share of water available for agriculture is expected to decline to 40 percent by 2050 (FAO 2013)

The adverse impact of Climate Change will fall disproportionately on the poor. The socio-economic environment is decisive what impact climate change has → ability to cope (FAO, 2007)

Food Security Measures

- ✓ Comprehensive Approach needed
- ✓ Emphasis on private sector growth and PPPs
- ✓ New technologies and innovations
- ✓ Competitive commercial agriculture
- ✓ Preservation of the resource base
- ✓ Resilience and Risk Management
- ✓ Expansion of employment / work opportunity also in the non-agricultural sector
- ✓ Social protection measures, social safety nets

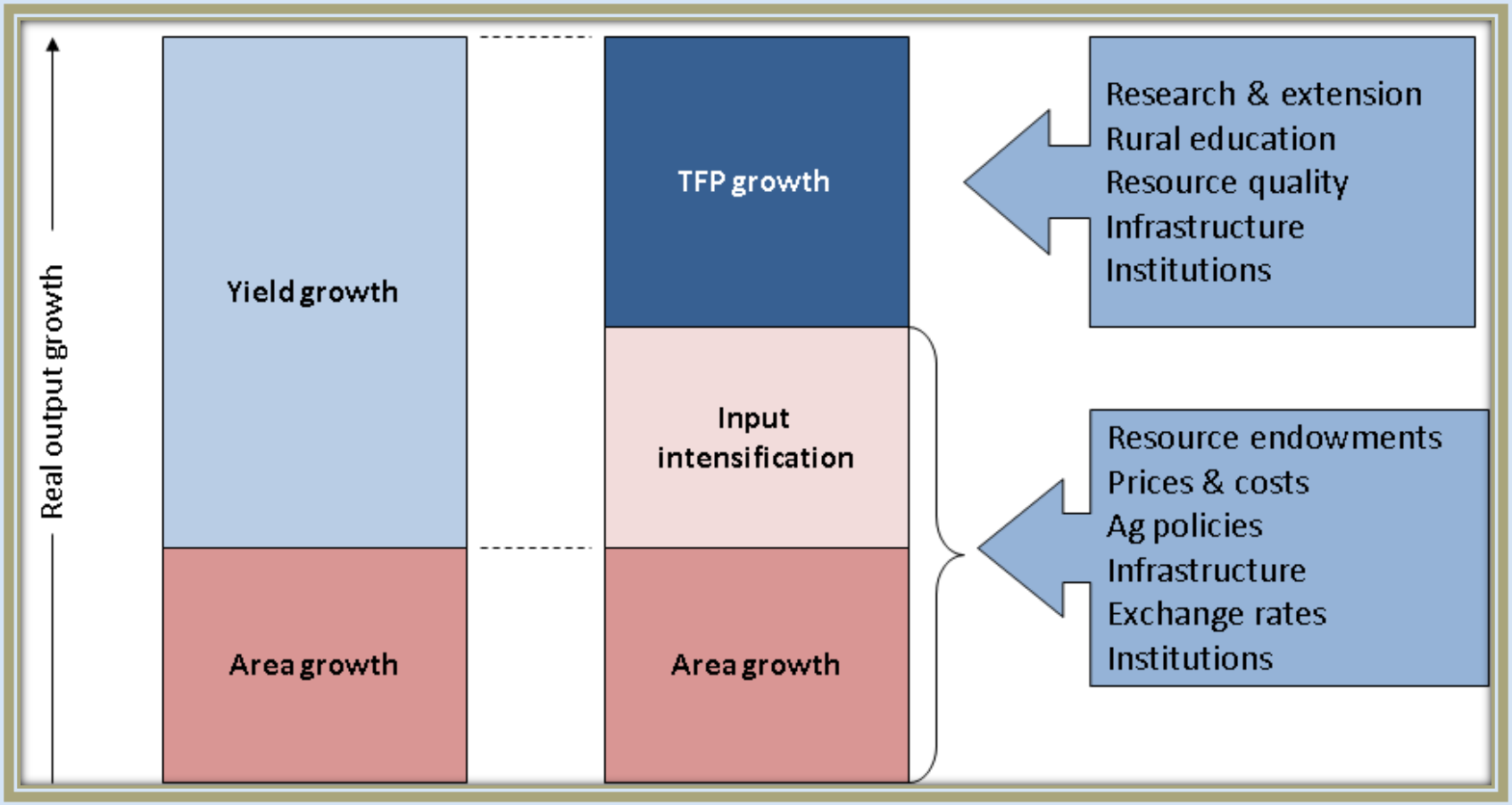
Food Security Measures

- ✓ Good governance and policy reform
- ✓ Organizational efficiency (FOs, service providers, …)
- ✓ Access to Knowledge, Information and training
- ✓ Improving gender issues, nutrition and health
- ✓ Economy-wide growth, Conducive business environment
- ✓ Vertical integration of smallholders (contract farming, supermarkets, …) and economies of scale
- ✓ Rural infrastructure, also in communication
- ✓ Open trade flows and effective markets

Where to set priorities?

- Country and situation specific
- Sources of growth

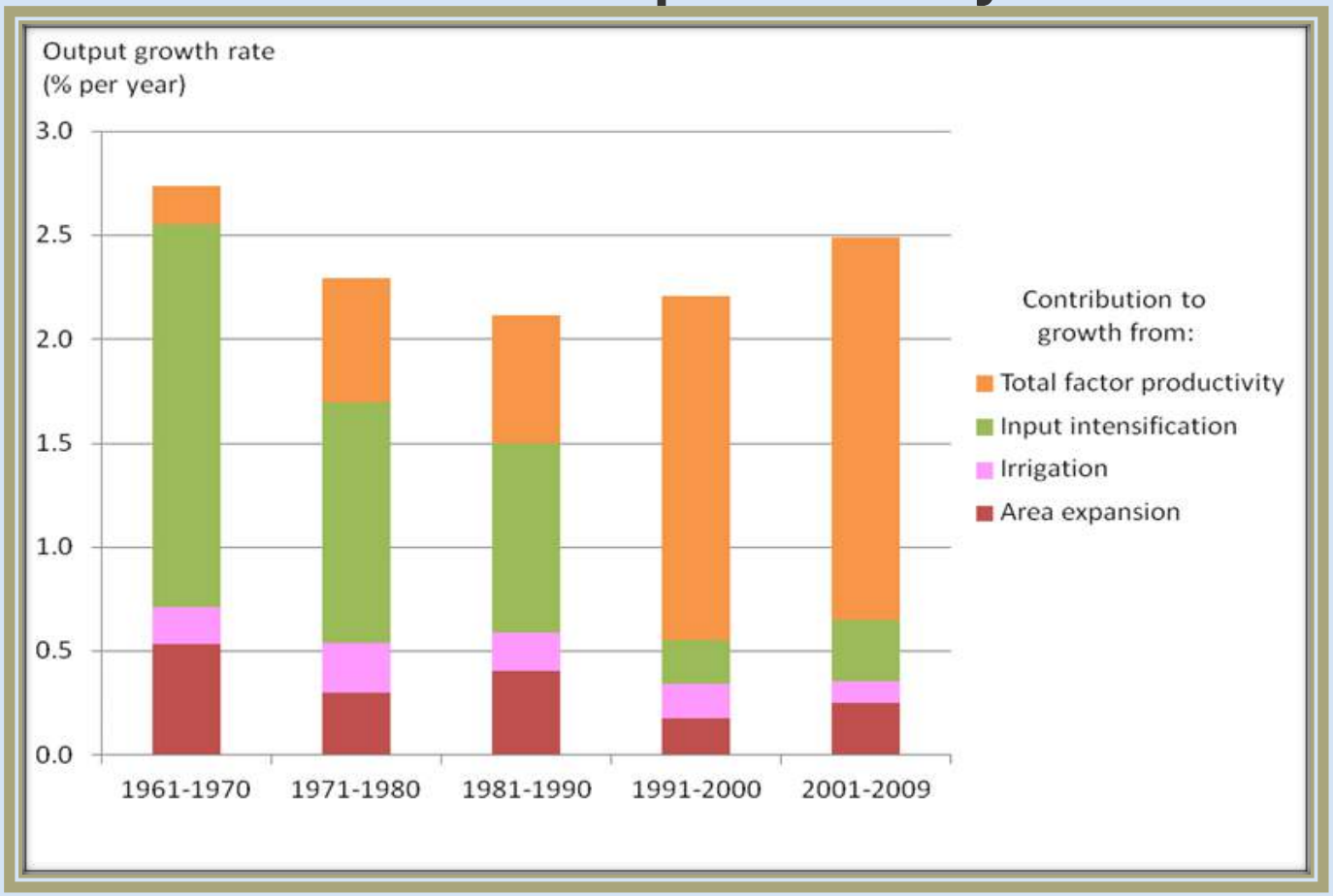
Unifying concept: Resource-led growth vs. total factor productivity (TFP) growth



Source: C. Woteki , New Horizons for Research, PowerPoint, USDA 2012

United States Department of Agriculture
Research, Education, and Economics

Growth in global agricultural output has remained steady; Source of growth has shifted from resource-led to productivity-led



Source: Fuglie, K.O. 2012, "Productivity Growth and Technology Capital in the Global Agricultural Economy", in Fuglie, K.O., S.L. Wang, and V.E. Ball (eds.) (2012), *Productivity Growth in Agriculture: An International Perspective, CAB International, Oxfordshire, UK.*

Conclusion

- ✓ Input intensification and land increase are no longer main factors of productivity growth
- ✓ But Total Factor Productivity - Difference in growth between outputs and inputs
  → efficiency gains

Not only doing more with less, but a matter of how, e.g. right action at the right time, organizational innovations, new ways of collaboration, flexibility, etc.

Extension's role in Food Security

- ✓ How to achieve better relevance, efficiency and impact in extension?
  - Pluralistic extension
  - Demand led extension
    - Including promotion of FOs
  - Market oriented advisory services
  - Knowledge management
  - Human resource development
  - Innovative Financial mechanisms

Pluralistic Extension Systems

- Chance that diversity of services and providers match with diversity of rural life and development challenges
- Services beyond agricultural production, including processing, marketing, resilience, nutrition, environmental issues
- Composition varies locally, by countries, by regions
- Smaller, flat organizations with high flexibility
- Multiple opportunities of horizontal collaboration

Demand – led extension

- ✓ Difference between needs and demand orientation
- ✓ Organizing demand for advisory services
  - identification of advisory needs by FOs
  - priority setting by FOs
  - expression of demand
  - negotiation for services
- ✓ Empowering smallholders and their FOs to pay for their services
- ✓ Further involvement of FOs in extension
  - representation of FOs in decision-making bodies
  - farmer(s)-to-farmer(s) learning
  - FOs as service providers
- ✓ Promotion of FOs indispensable and task of AAS

Market-oriented Extension

- ✓ Advisory services along the entire value chain
- ✓ Advisory services of input and output markets largely by the private sector
- ✓ Organizing smallholders for marketing of their products → social capital
- ✓ Facilitating access of smallholders to credit, resources, technical and extension services, insurance, and markets
- ✓ Increasing transparency and exchange to build trust in value chain development.

Knowledge management

- ✓ Major difference to former extension systems
- ✓ Not by one institution, but jointly by all actors of the agricultural innovation system

  → national, regional, global

- ✓ Use of ICTs for knowledge exchange

  → mobiles, rural radio, internet

  → examples: VERCON, TECA, …

- ✓ Brokerage role of advisors

  → emphasis on facilitation, coordination, linking and directing farmers to where they can find solutions

  → new skills and extension profiles required

- ✓ Continuous learning and Training short term, specific

Human resource development

Advisors - what profile ?

- ✓ New topics such as climate change, environmental issues, marketing, economies of scale, … but also former topics such as post-harvest losses, nutrition, resilience, …
- ✓ Gender-sensitive training
- ✓ Soft skills in new role of brokering for innovation
- ✓ Innovation capacities
- ✓ Management skills, team work

Smallholders

- ✓ Vocational training in modular courses

Innovative Financial mechanisms

- ✓ More balanced financial support to supply and demand side (Denmark)
- ✓ Co-financing mechanisms, incl. fees for services
- ✓ Subcontracting arrangements (e.g. Ghana)
- ✓ Contract farming arrangements (e.g. Morocco, China)
- ✓ Smallholders and their FOs to pay for their services
  - subsidies to FOs, e.g. through levies (Senegal), …
  - Extension agents hired by FOs, particularly cooperatives
  - required for achieving demand driven advisory services
- ✓ Funds managed by FOs for their development activities and advisory services (Senegal, Mexico)
- ✓ More mechanisms and tools to be developed

Networking and Partnerships

- ✓ Increased complexity of problems
  - → requires joint efforts
  - → tailor made solutions
- ✓ Complementarity of providers
  - → value added through synergies
- ✓ Increased visibility and impact
- ✓ Insufficient systematic analysis of networks and partnerships
  - → more research needed on what works under which conditions

Conclusions

- ✓ New Innovation capacities needed at all level of capacity development
  - Policy / enabling environment
  - Institutional and organizational capacities
  - Human resource capacities
- ✓ Continuous adaption to chance
- ✓ Linking stakeholders in the innovation system
- ✓ Considering farmers' own innovation processes

THANK YOU