



## TECHNOLOGY

FARM AFRICA'S APPROACH

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# FARM AFRICA

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# FARM AFRICA'S VISION FOR A PROSPEROUS RURAL AFRICA

Investing in smallholder farming is key to combating poverty in rural Africa. Prosperity depends on making agriculture work better, using natural resources well, creating strong markets for what farmers produce and facilitating access to finance to grow agri-businesses.

Almost half the world's extreme poor live in sub-Saharan Africa. The vast majority work in agriculture in rural areas. But agricultural yields and profits are a fraction of their potential.

The region is full of opportunities for growth, including much fertile land and water, and millions of smallholder farmers who are eager for change.

Farm Africa works with smallholders to develop practical solutions that work locally and can be replicated elsewhere. Our approach papers set what we aim to deliver, and how, in support of our vision of a prosperous rural Africa.



# PREFACE

Farm Africa's approach papers set out what we aim to deliver, and how, in relation to:

## Agriculture



- technology
- climate-smart agriculture
- land, water and environment

## Environment



- forests
- rangelands
- landscapes

## Business



- business development
- trade
- finance



# PREFACE

The Technology approach paper focuses on **innovations that aim to enhance smallholders' land and labour productivity** — such as improved seeds, irrigation, animal breeding, crop and animal health and many others. It also includes our approach to enhancing the capacity of smallholders to identify and adapt new technologies and the development of knowledge and input markets.

The paper derives from Farm Africa's longstanding experience in technology development, adaptation and extension across eastern Africa, including in crops and livestock production, post-harvest management, apiculture and aquaculture.

Further details about how to guarantee environmental sustainability and resilience to climate shocks and trends can be found in the approach papers on *land, water and environment* and *climate-smart agriculture*.

# WHAT'S THE ISSUE?

- Yields from smallholder crop production in eastern Africa are typically only **20-30% of what could be produced** if the best seeds, fertilisers, pest control and water management practices were applied
- Between 10 and 20% of total amounts of food-crop produced in eastern Africa are **lost between harvest and sale**
- Markets in both Europe and the growing urban centres in Africa are increasingly demanding that global standards of **Good Agricultural Practices** are applied in crop production
- Despite the many actors involved in research and extension, **knowledge** about production enhancing technologies **doesn't reach farmers**



# WHAT'S THE ISSUE?

- **Ineffective input supply markets** make it hard for smallholders to acquire a consistent supply of good quality seeds, fertilisers, irrigation and pest control
- Years of developing approaches to farmer participatory research and innovation have developed interesting models for **embedding innovation and technology adaptation in rural communities**
- There are exciting opportunities in **private sector input supply markets**, linked to innovative approaches to finance, that provide livelihood options for young people who do not find satisfactory employment in production
- **Information and computer technologies (ICT)** and mobile phones present new ways to share knowledge and experiences more widely and interactively and provide new business and service opportunities



# THEORY OF CHANGE

## MISSION

To ensure farmers have access to technologies that increase their land and labour productivity, food security and production of marketable goods

## GOALS

Increased smallholder productivity

Foster thriving markets to help make technology affordable

## STAKEHOLDERS

Producers

Private sector

Research & innovation centres

Government

## OUTCOMES

Technology adoption

Suppliers make technologies affordable

Collaborative innovation

## OUTPUTS

Technological knowledge

Increased production

Improved labour productivity

Increased production capacity

Access to affordable technology

Capacity to innovate

# FARM AFRICA'S APPROACH

**Community-led innovation based on international best practice and market needs supported by thriving input and output systems.**



# FARM AFRICA'S APPROACH

We develop technologies based on understanding of challenges and opportunities of the local context, value chains and gender

We select technologies that have the potential to increase land and/or labour productivity aligned to market needs

We build the capacity of local communities and agribusinesses to learn and adapt promising new technologies

We work closely with international, regional and national research and extension organisations and corporations to identify and share promising technologies

We strengthen and/or create new input suppliers to help create input and knowledge markets

# METHODOLOGY

<b>Phase 1. Context and mobilisation</b>	A. Stakeholder mapping and mobilisation: government, development partners, farmer organisations and associations
	B. Surveys and assessments: rapid rural appraisals, farming systems surveys, political economy and gender
	C. Mapping of the main value chains, including input markets and market needs



# METHODOLOGY

## Phase 2. Identification and prioritisation

- A. Identification of appropriate technologies guided by farming system surveys and Good Agricultural Practices (GAP)
- B. Cost-benefit analysis and prioritisation of main options
- C. Community engagement to agree range of options, and testing modalities
- D. Identification of opportunities to improve input markets



# METHODOLOGY

<b>Phase 3. Testing and adapting technologies</b>	A. Test and adapt prioritised technologies using demonstration plots
	B. Agree priorities for scaling up and roll out training
	C. Strengthen and develop the required input markets



# METHODOLOGY

<b>Phase 4. Learning and adapting</b>	A. Agree indicators of successful adoption and design a review process
	B. Collect and analyse data
	C. Collate feedback to and from local community and adjust technologies as required
	D. Consolidate learning and share with public and private sector



# HOW TO USE FARM AFRICA'S APPROACH PAPERS

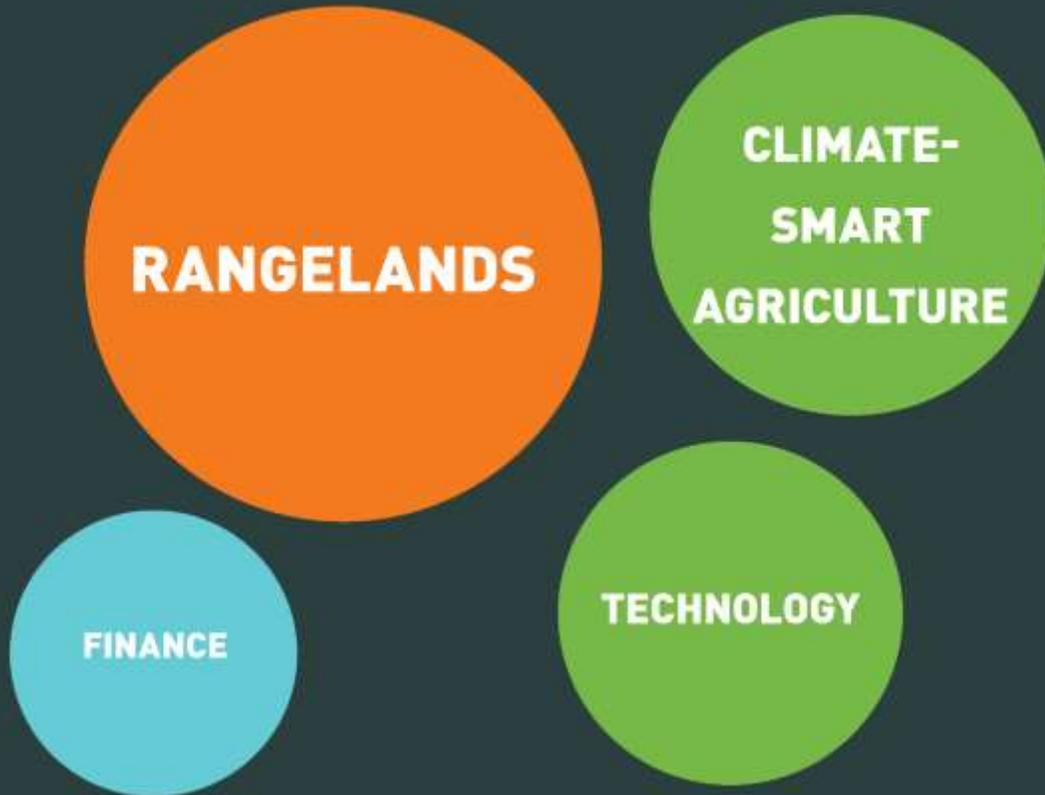


## What the approach papers are for:

- Provide clarity to the communities we work with and those who support us about what we do, and how
- Build coherence across our operations
- Ensure each project is based on our experiences, lessons learnt and consolidated knowledge

# HOW TO USE FARM AFRICA'S APPROACH PAPERS

## A typical natural resource management project



## How to use the approach papers in project design:

- The structure of our approach does not mirror the organisation of our individual interventions. The latter are constructed by combining elements from the approach papers — as illustrated in the diagram to the left.
- While the approach papers give detailed guidance about how to do things, this will not always be followed to the letter in all projects. Local context and needs will continue to guide Farm Africa's project design and implementation.

**We continuously learn and adjust our approach. The approach papers are regularly updated to reflect the dynamic nature of our experience.**