AGRA
Growing Africa's Agriculture

Resilience:

Building integrated, responsive and sustainable agricultural systems

In all low-income countries across the world today, how many girls finish primary school?
A: 20 percent
B: 40 percent
C: 60 percent

In the last 20 years, the proportion of the world population living in extreme poverty has …
A: almost doubled
B: remained more or less the same
C: almost halved

How many people in the world have some access to electricity?
A: 20 percent
B: 50 percent
C: 80 percent

In 1996, tigers, giant pandas, and black rhinos were all listed as endangered. How many of these three species are more critically endangered today?
A: Two of them
B: One of them
C: None of them

Global climate experts believe that, over the next 100 years, the average temperature will …
A: get warmer B: remain the same C: get colder

Resilience: What is it?

- Ability to:
  - Anticipate
  - Absorb
  - Respond
  - Transform

To shocks and stressors in agriculture and food systems



Resilience: Context and Rationale cont'd

Stresses and **Shocks**

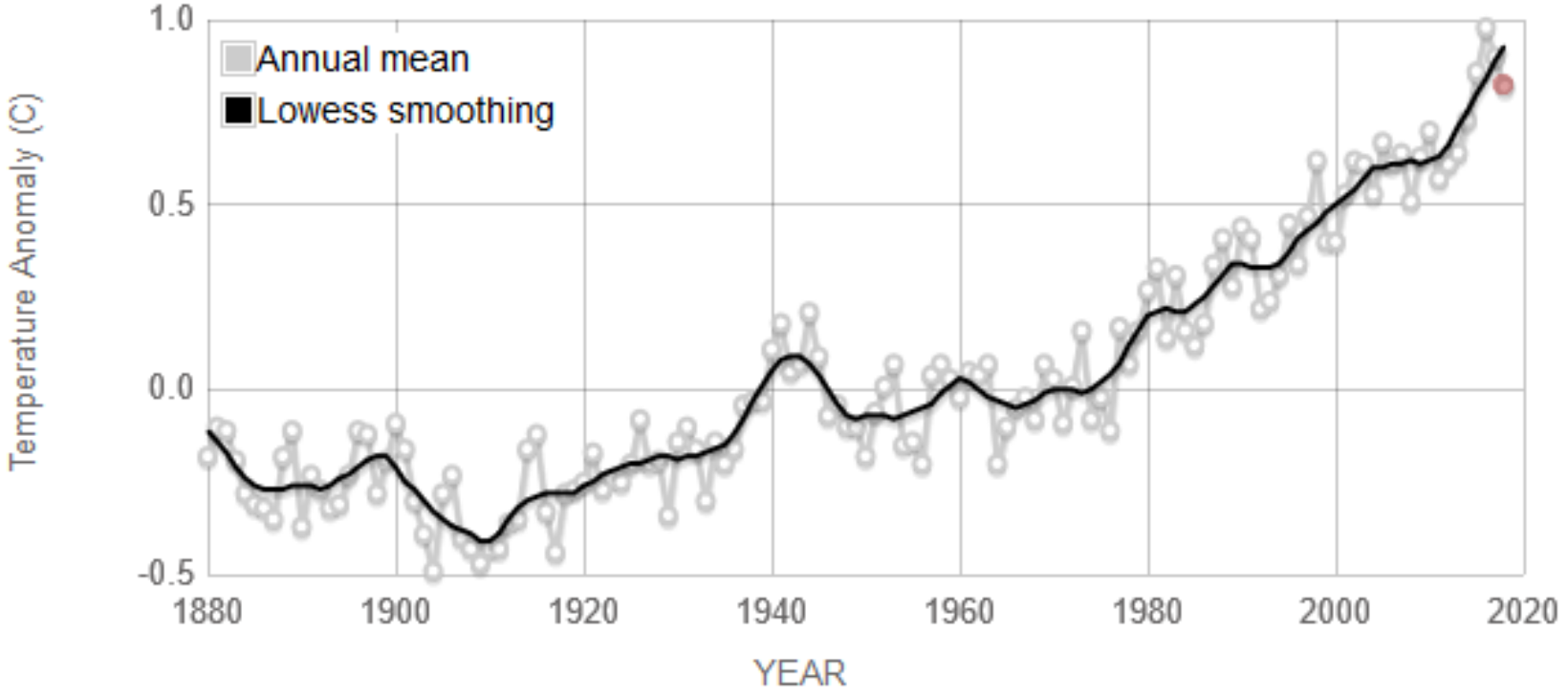
- Rapid soil degradation,
- Loss of biodiversity and accompanying ecosystem services
- Instability in economic imperatives
- High unemployment rates
- Poor infrastructure

- Climate variability (Shifting Seasons)
- Droughts
- Floods
- Commodity price instability
- Civil unrest/Insecurity
- Pests and disease outbreaks

With climate change, some of these Shocks & Stresses will increase in **Frequency**, **Intensity** and **Complexity**

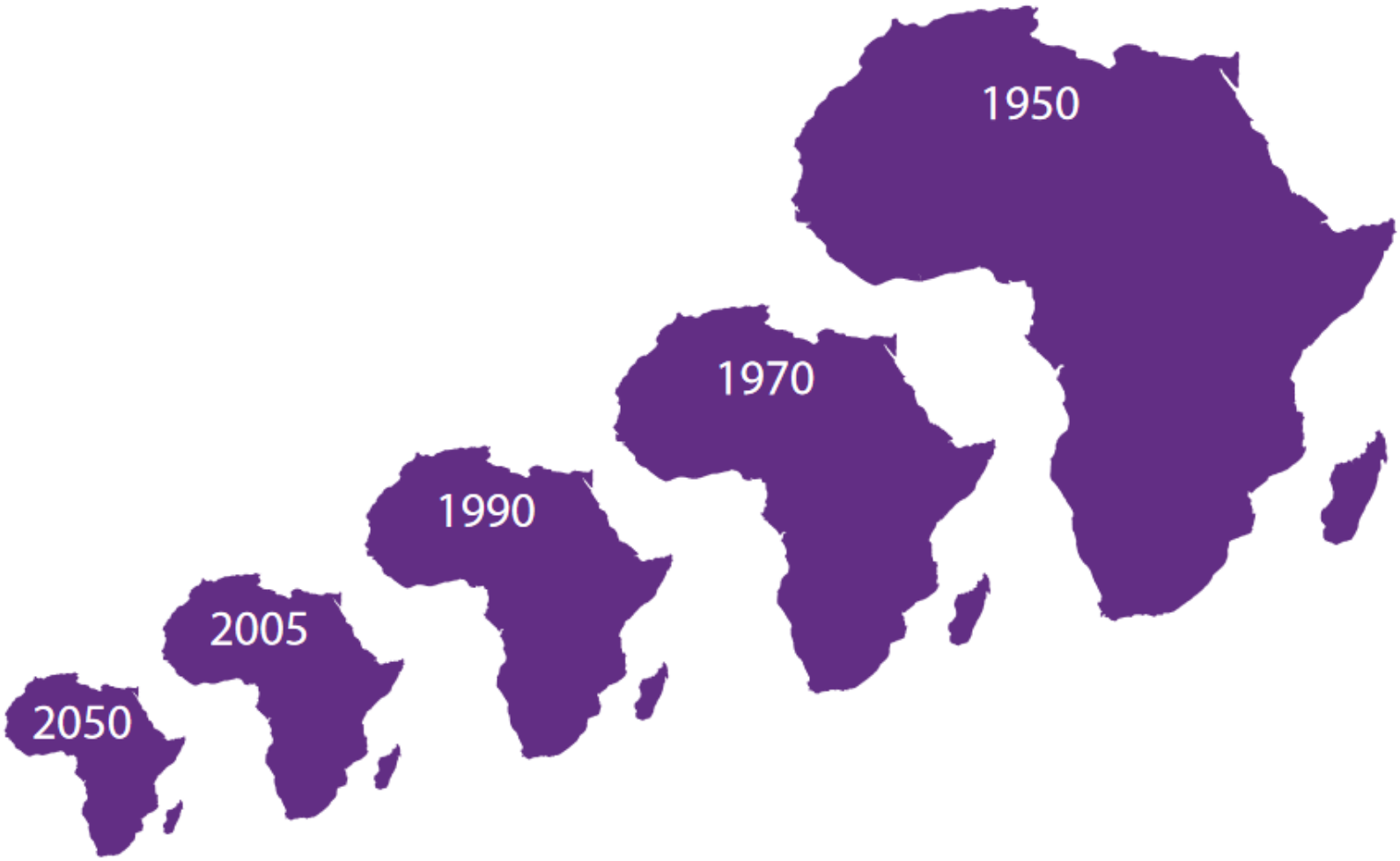
GLOBAL LAND-OCEAN TEMPERATURE INDEX

Data source: NASA's Goddard Institute for Space Studies (GISS).
Credit: NASA/GISS



Available Natural Resources

Figure 1.1.2: Shrinking per person land availability in Africa, 1950–2050

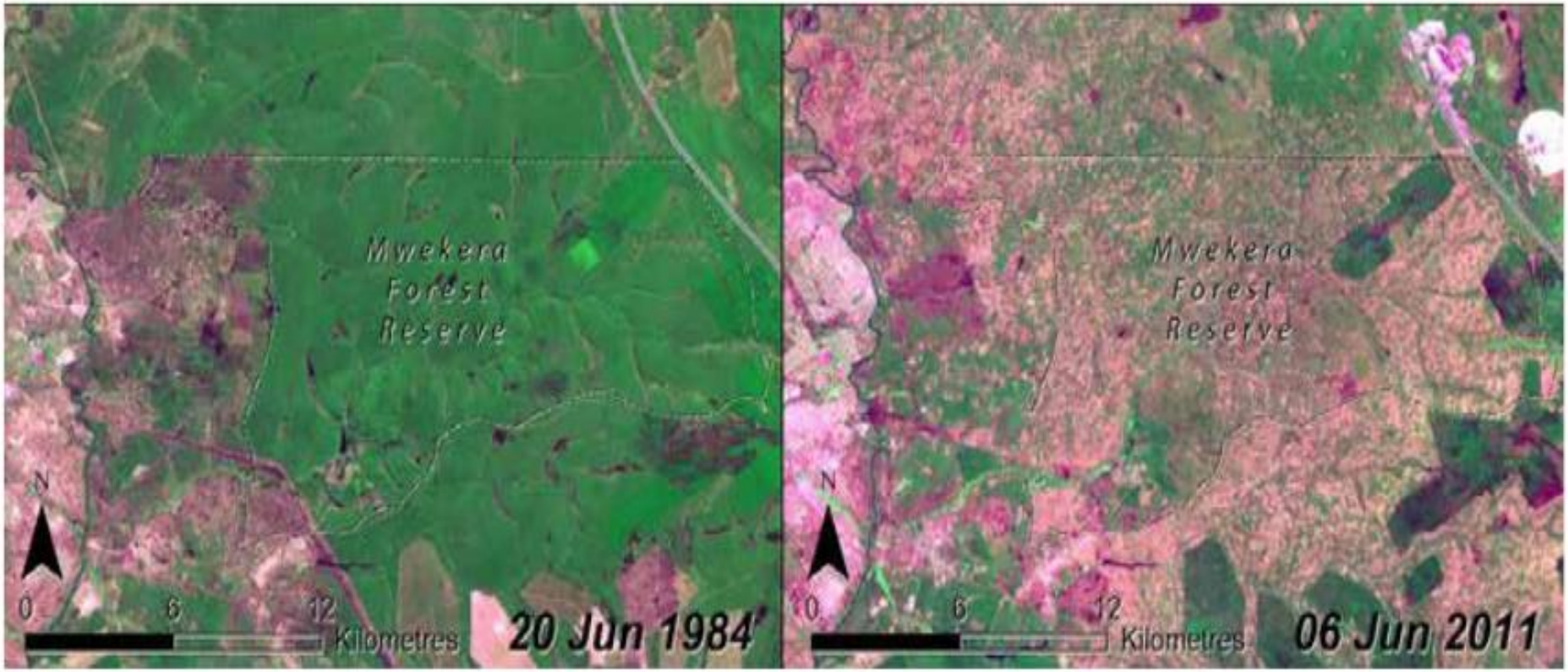


Source: UNEP 2008

GEO-6 Regional Assessment for Africa

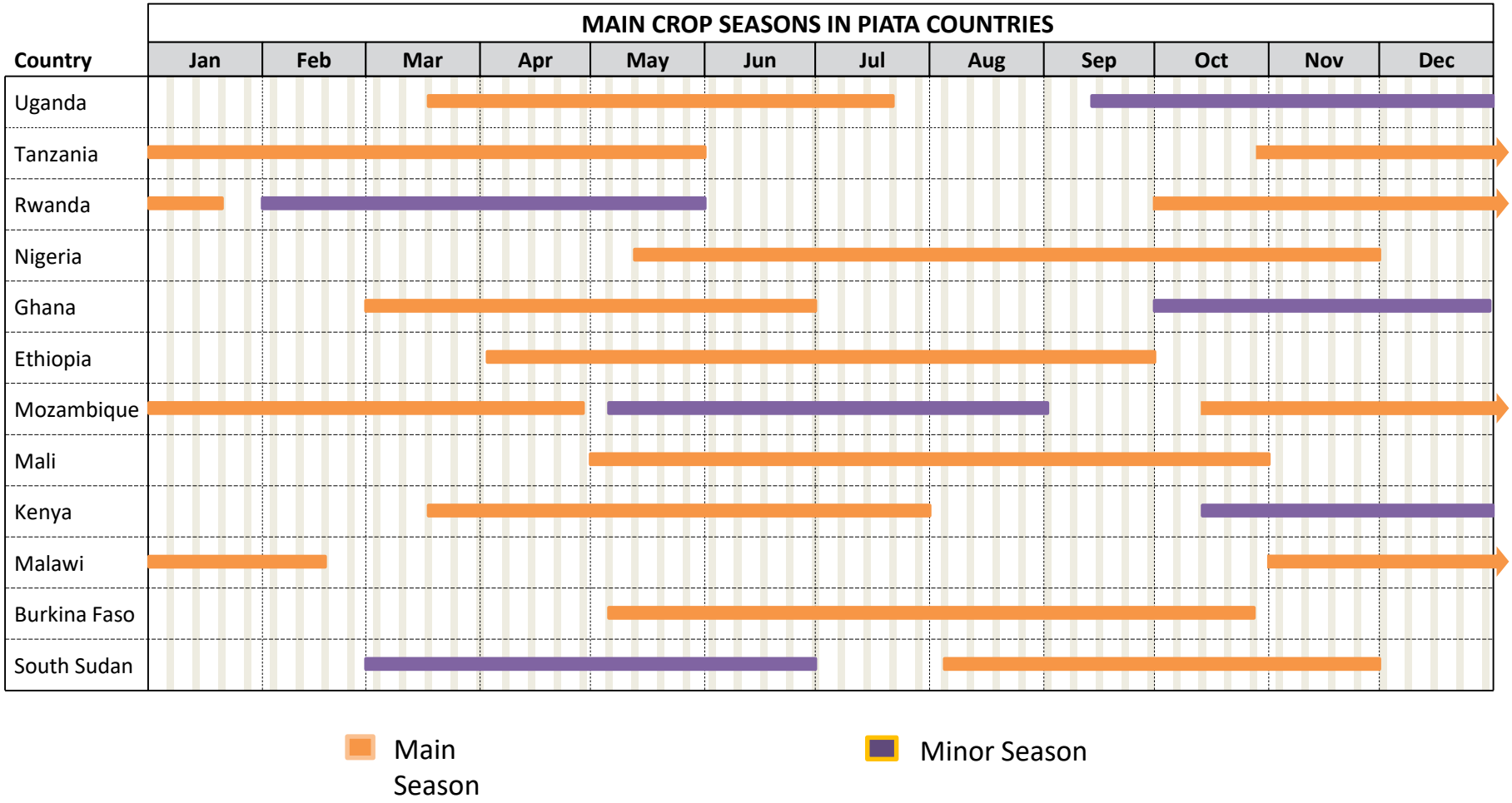
Available Natural Resources

Figure 2.2.4: Mwekera National Forest Reserve, Zambia, 1972 and 2011

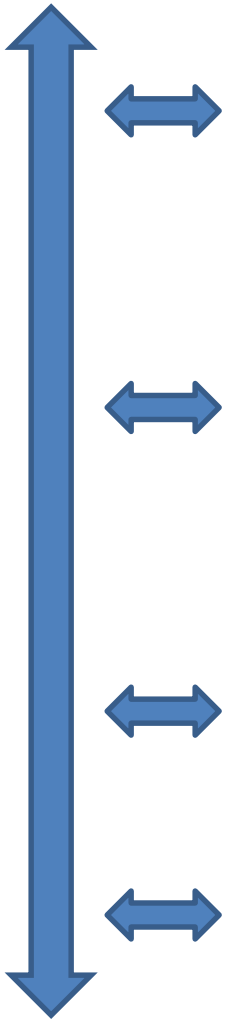


The Reserve covered 18 000 hectares when it was gazetted in 1946. Uniquely, the forest has legal human settlements, and human activity has caused rapid deforestation (shown in pink), particularly since 1997.
Source: SARDC *et al.* 2012

Evidence usage - Example



Effects on [Smallholder] Agriculture



» **Reduced yields:**
- Reduced rainfall
- Increased rainfall
- Drought
- Flooding
- Disease

» **Environment**
- Reduced soil fertility
- Reduced water availability and [use] efficiency
- Over use (expansive agric. practices; extraction)

» **Markets**
- Price volatility
- [In]availability

» **Poverty**
- Erode incomes / increased costs of agric.
- Heath / Nutrition

Building Resilience:

Dissemination of weather information at project level to farmers via farmer groups, mobile phone, radio, and other media (planting times, rainfall information, application of inputs, harvest information)

Information of crop health being generated and disseminated to farmers: FAW training, FAW brochures being printed and distributed in project areas

- **Cassava – Diversification -Climate Smart**
- **Early warning systems**

Match relief efforts with market oriented approaches through appropriate categorization of beneficiaries

Availability and access of stress tolerant varieties: With seed companies, with Agro-dealers

Conservation agriculture practices: Minimum Tillage, Cover crop usage, inter-cropping e.g., legumes with grain,

Soil fertility: organic manure use, farm residue usage, contouring, water harvesting and usage, agroforestry

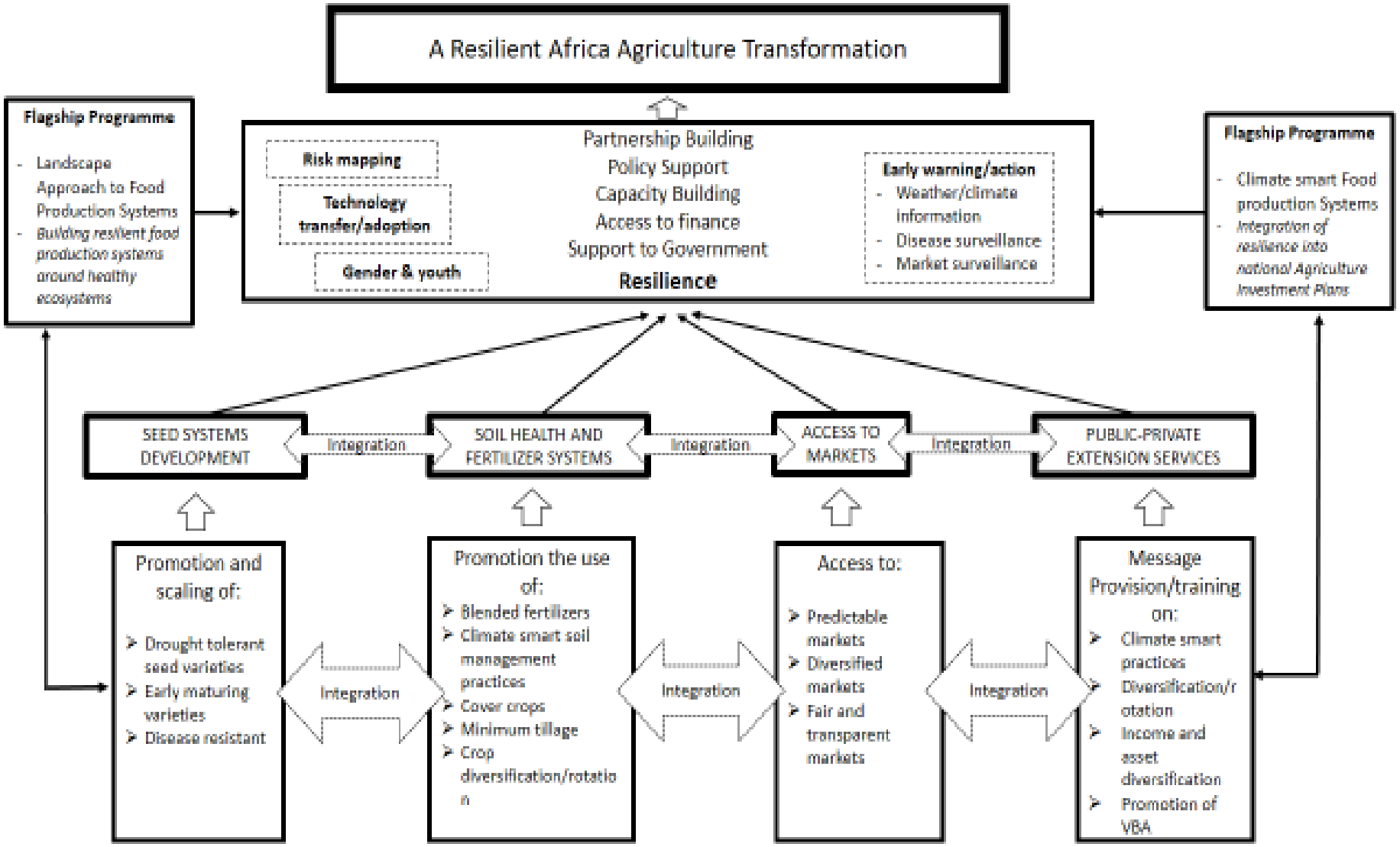
Knowledge Management

- **Climate Proofing**
- **Analytics on CSA**
- **Development of Flagships that integrate resilience**
- **Subsidy programmes to promote stress tolerant/high yielding varieties**

Partners

- Meteorology
- Extension
- DRR Committees
- NARS

AGRA Resilience Interventions:



Resilience

Thank you

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