

Introduction to the dimensions of digitalisation

Module 1.1: Introduction to D4Agriculture

Agenda

Module 1.1: Introduction to D4Agriculture

- Challenges and digital solutions
- Evolution of the D4Ag sector
- Data, Information, and knowledge flows
- Key functions of D4Ag solutions



10 min

Discussion

Take 1 minute, and think about a sectoral challenge you face

- Can digital technologies help?
- If yes, how?

Evolution of the D4ag sector

World Summit on the Information Society Forums 1 and 2 recognised the e-agriculture concept

2003-2005

World Bank releases report on ICTs in agriculture

2011

CTA hosts ICT4Ag International Conference in Kigali

2013

Dutch Ministry of Foreign Affairs establishes the Geodata for Agriculture and Water Facility

2014-present

ICTforAg annual event in Washington DC

2016-present

Release of CTA-Dalberg Digitalisation of African Agriculture Report

2019

2007

Web2forDev promotes adoption and dissemination of low-cost applications for development

2011-present

GSMA starts mAgri partnerships between MNOs and agriculture organisations

2014-present

Global Open Data for Agriculture and Nutrition launches

2014-present

USAID forms New Alliance ICT Agriculture Extension Challenge Fund

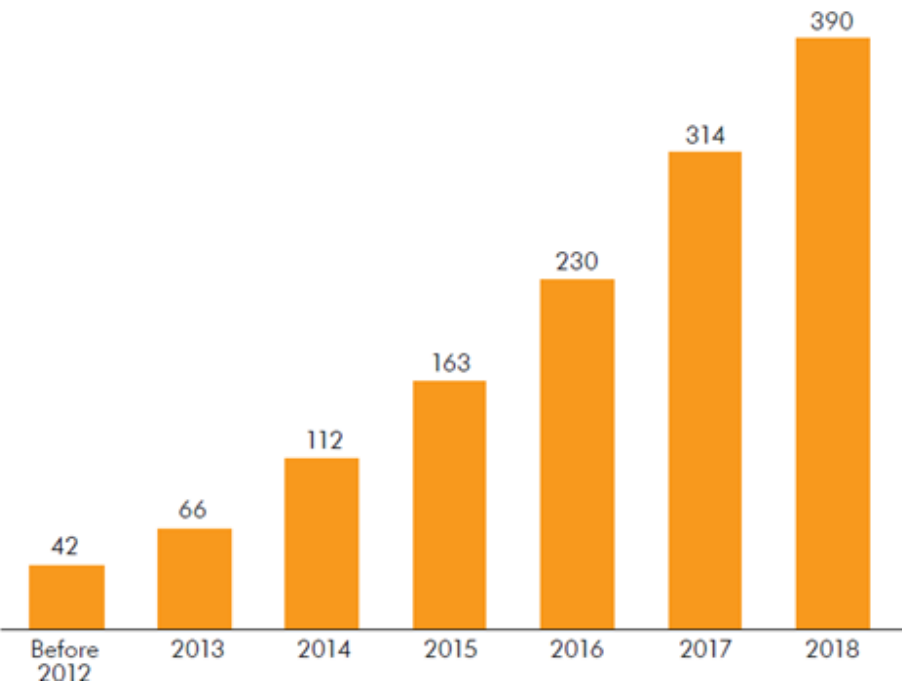
2019

WB Africa Disruptive Agricultural Technology Challenge and Conference

Evolution of the D4ag sector

Digital solutions have skyrocketed

number of active solutions, EOY 2018



- Number of farmers registered for D4Ag solutions in Sub-Saharan Africa has grown at 44% per year over the past three years
- Likely 50–60% CAGR over the past 8 years (33 million smallholder at the end of 2018)

D4Ag solutions by year of launch

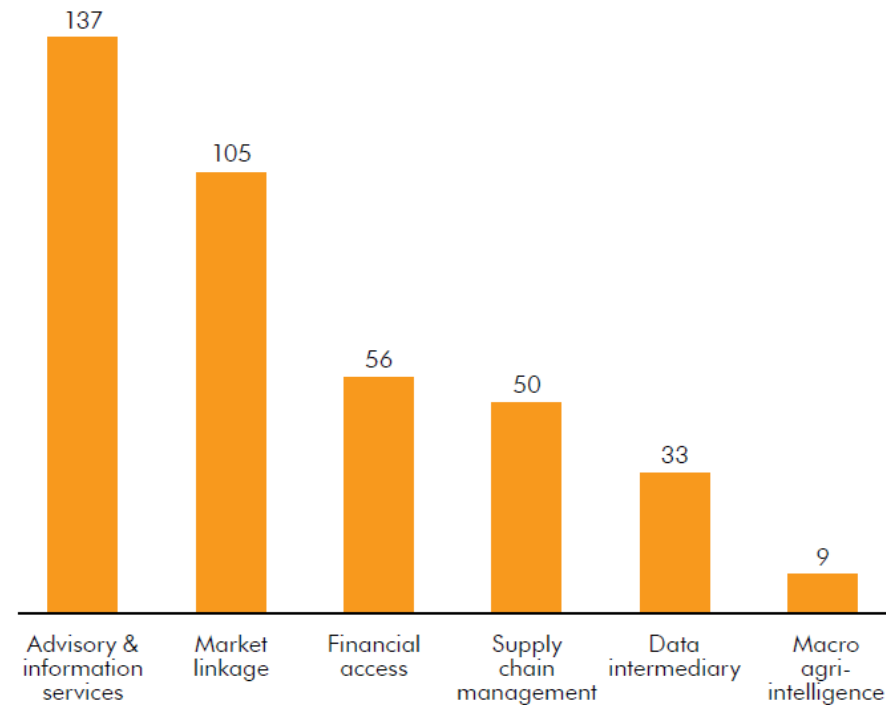
Evolution of the D4ag sector

Main use cases

Advisory services account for over two-thirds of registered farmers today in Africa

- Financial access, supply chain management, and macro agri-intelligence use cases at an earlier stage but developing rapidly.

number of active solutions, EOY 2018



D4Ag solutions by primary use case



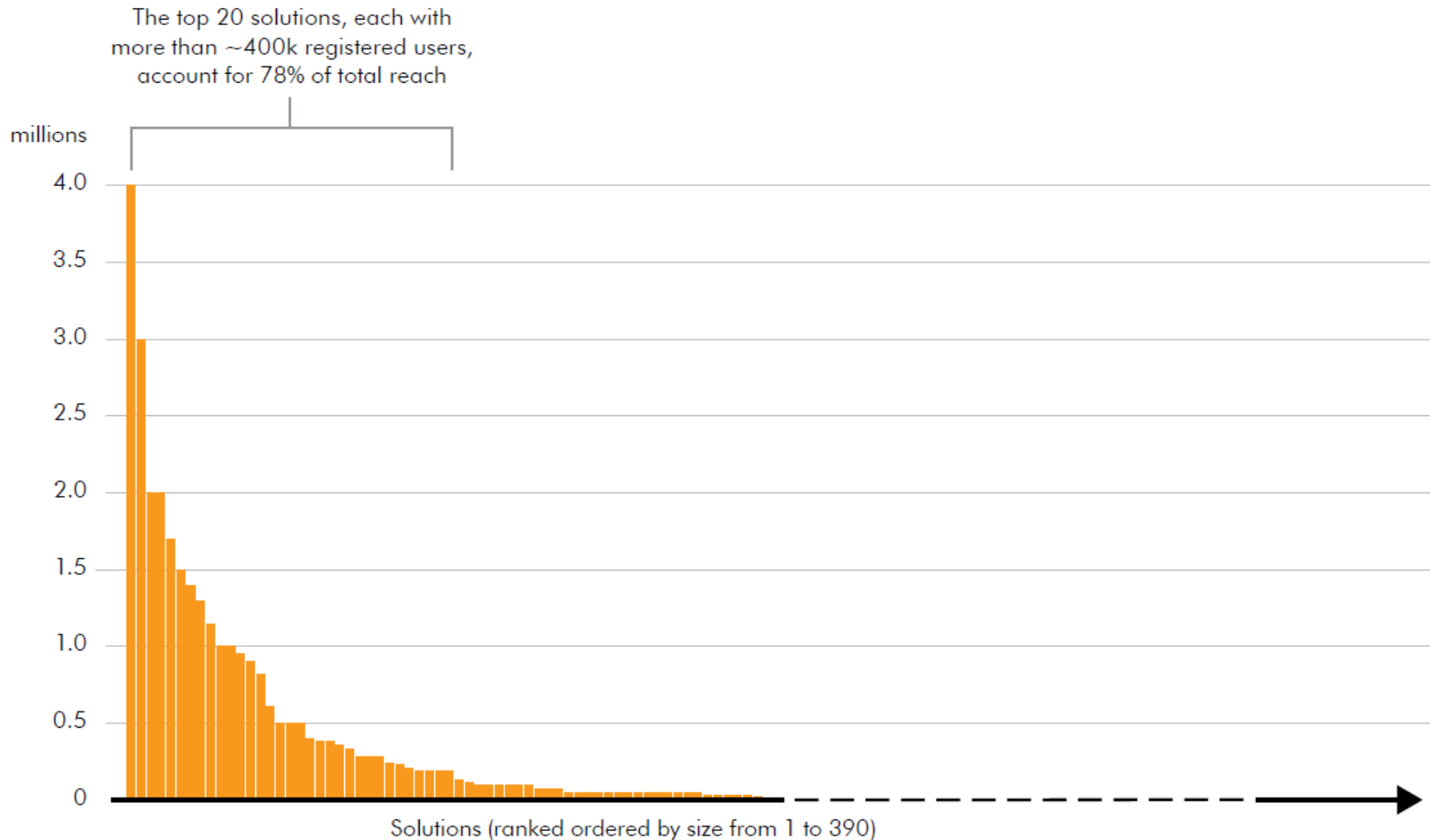
Evolution of the D4ag sector

High(er) concentration

- D4Ag enterprises (including both commercial and non-profit) account for the majority of registered smallholder farmers
- D4Ag enterprises are increasingly bundling services across multiple use cases into their solutions
- The top 20 players reach more than 80% of registered farmers
- In Africa, nearly 70% of all registered farmers are in the East Africa region.

Evolution of the D4ag sector

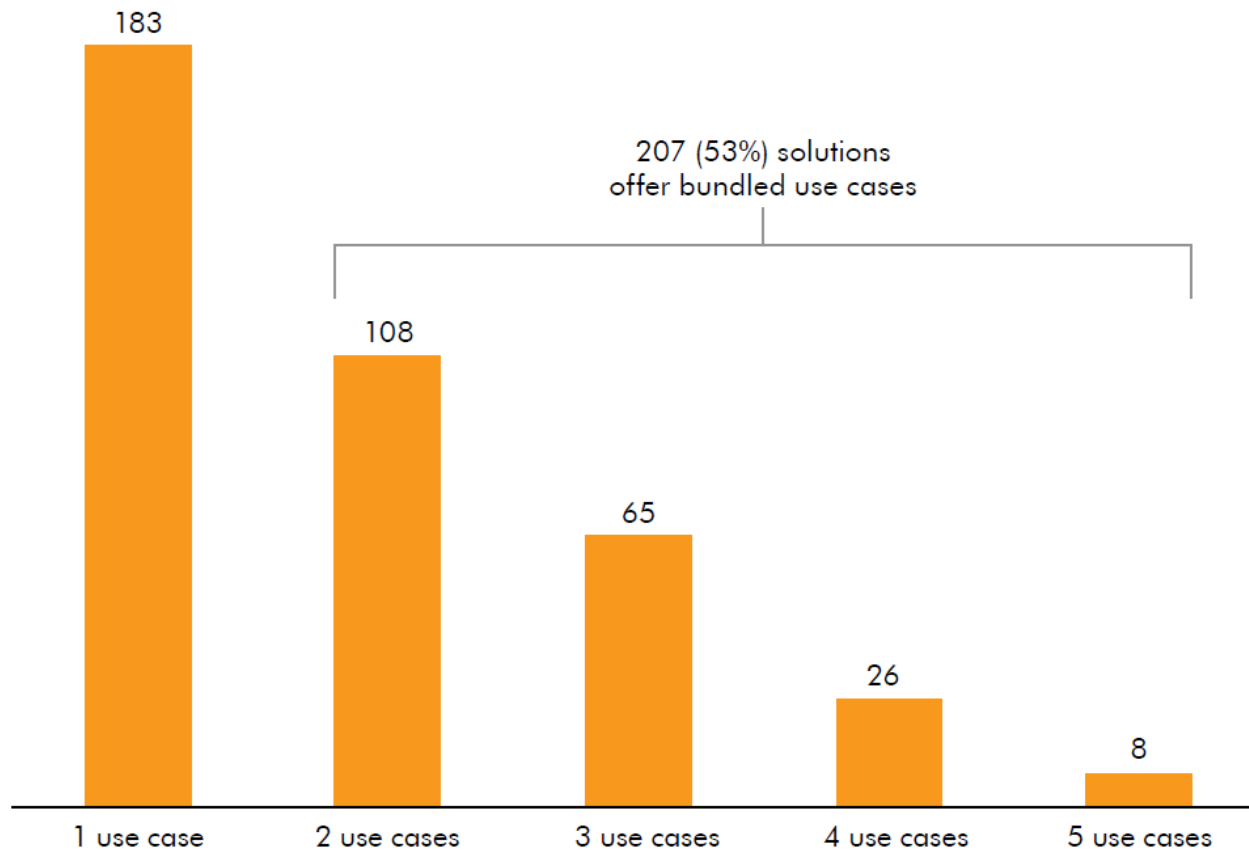
High(er) concentration



Evolution of the D4ag sector

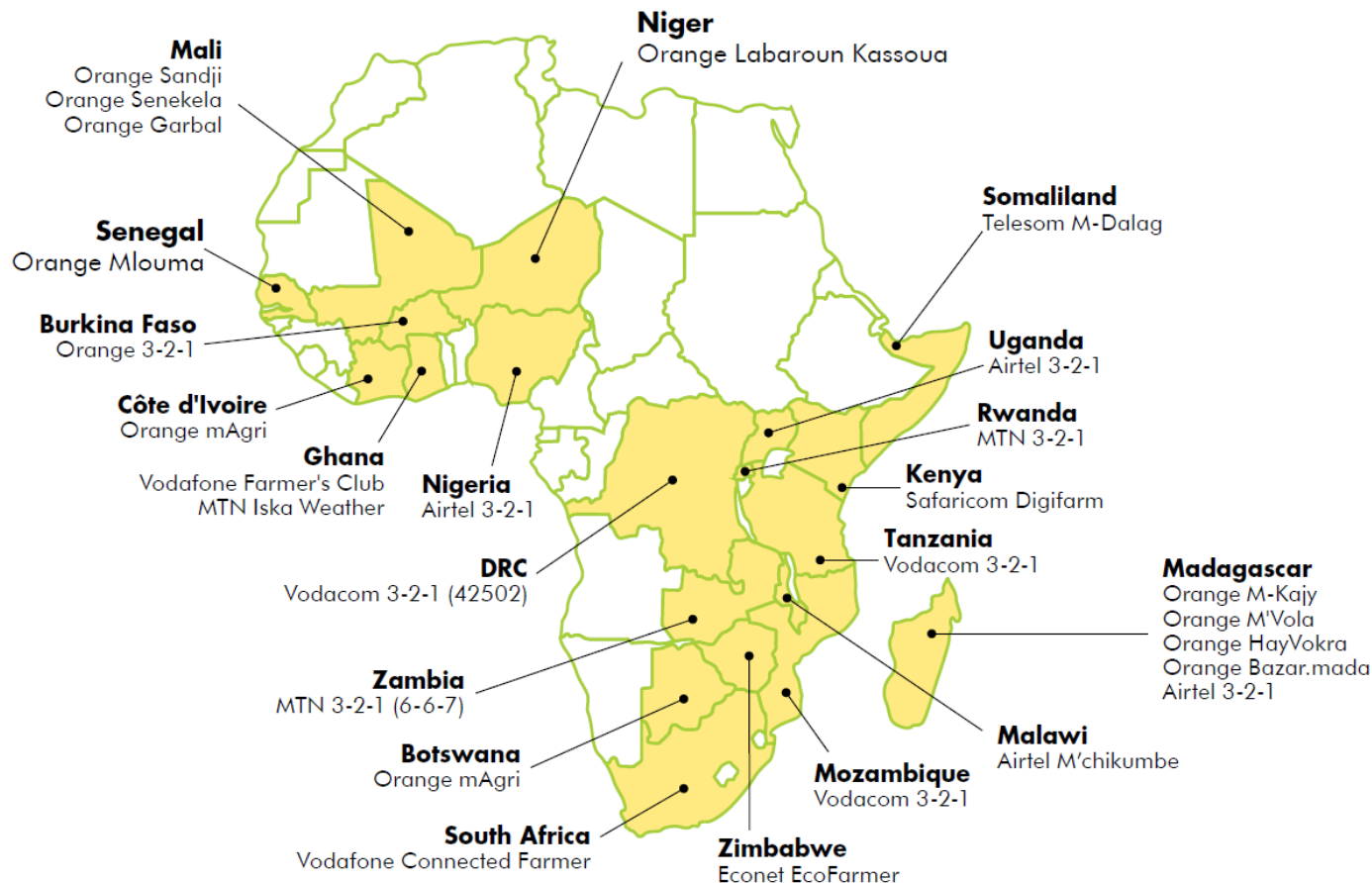
Number of bundled solutions

number of solutions, EOY 2018



Evolution of the D4ag sector

High(er) concentration



D4Agriculture

Data, information, knowledge flows

Record data
and
information



Transform data and
information into
knowledge



Broadcast &
Communicate
Information and
Knowledge

Observation



Analysis &
Strategic
Planning



Implementation
&
Management



Capacity
Building &
Networking

Natural
Resources
Monitoring



Agriculture
Planning



Decision
Support

Resources
Management

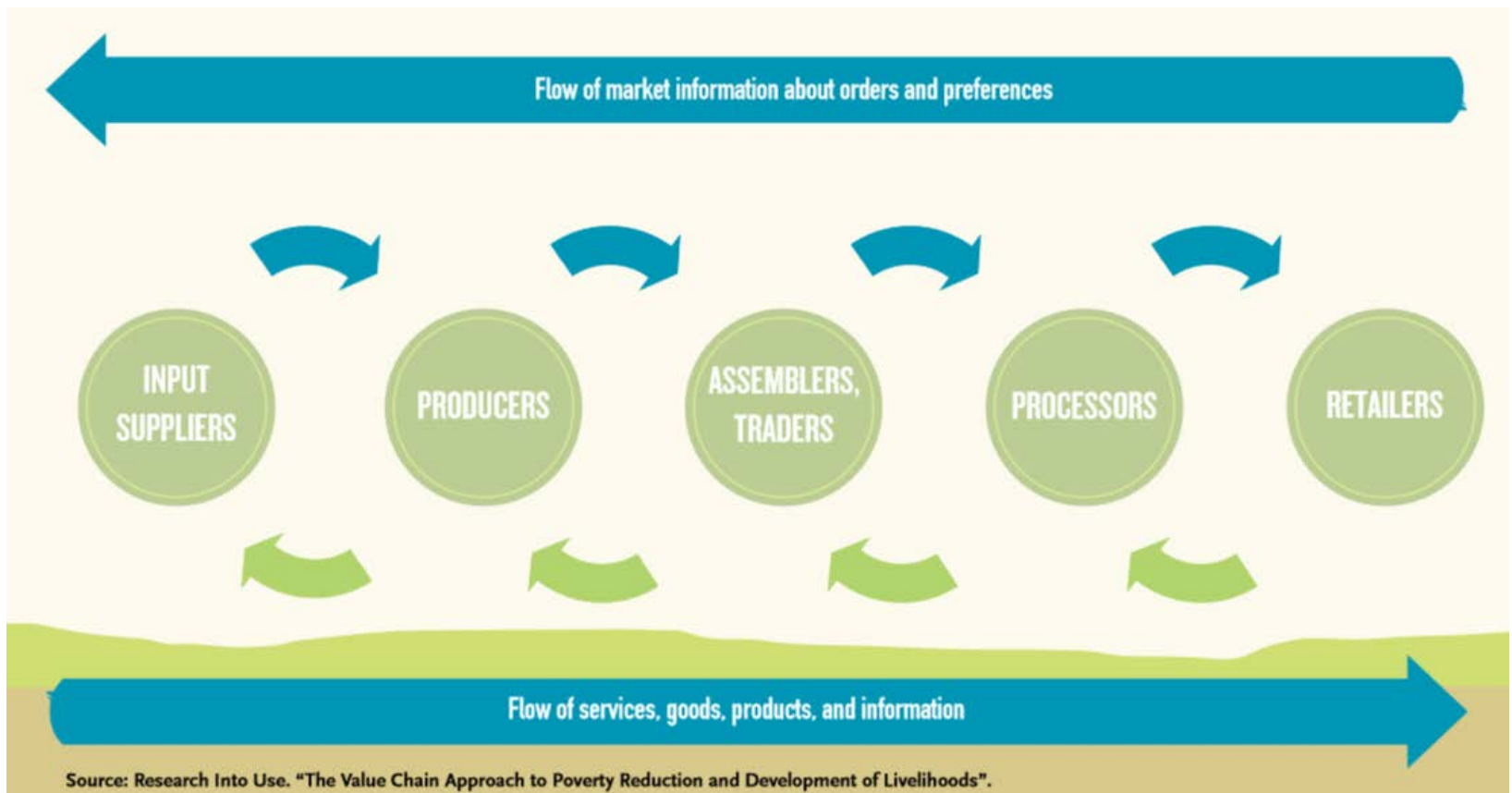


Knowledge
Sharing

Upscaling

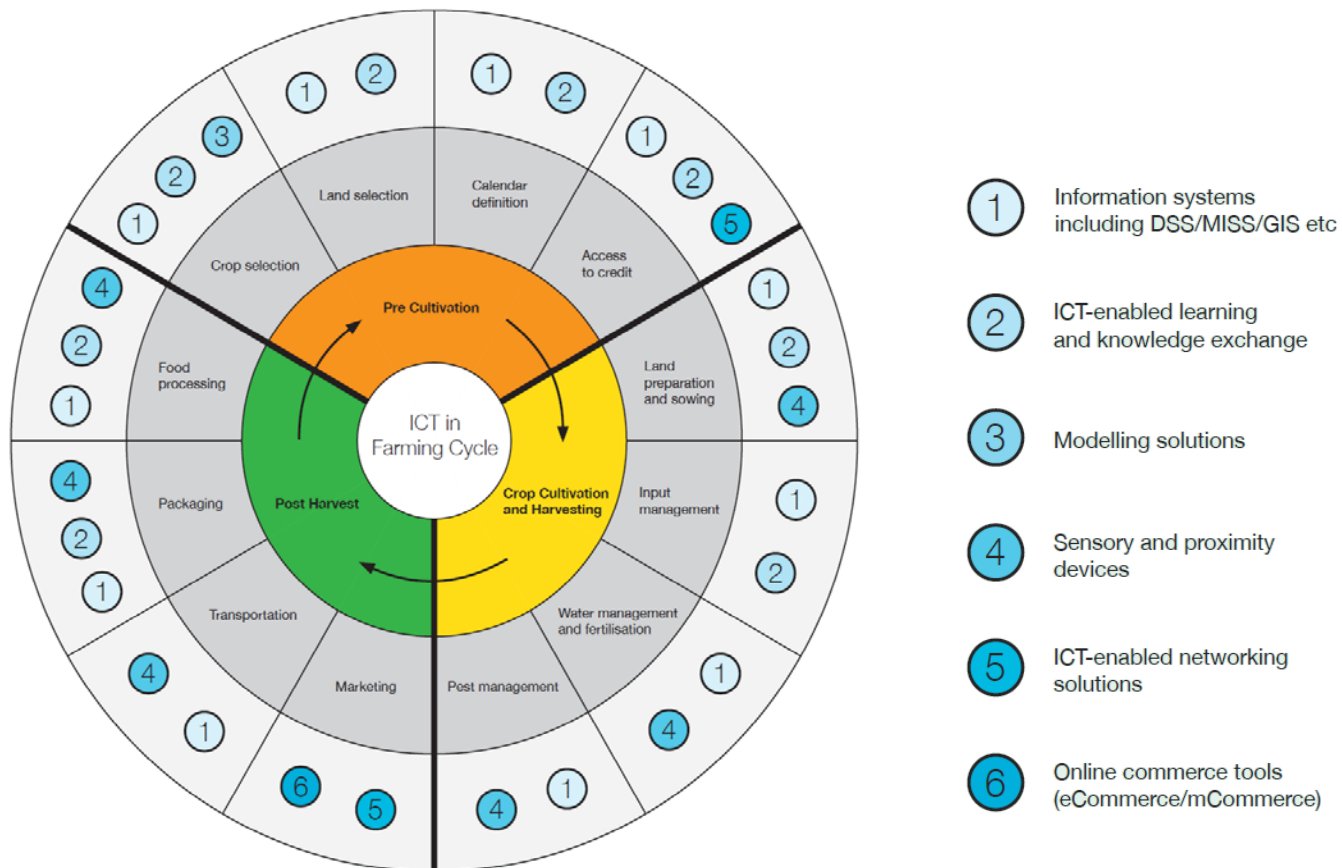
D4Agriculture

Data, information, knowledge flows



D4Agriculture

Digital solutions across the whole cycle



D4Agriculture

Digital solutions across the whole cycle



PLANNING

- Help farmers plan what, when to plant
- Tighten relationship with buyers, processors
- Adapt to climate change
- Provide data for farmers to make business decisions on cash flow and maximizing profit



INPUTS

- Reduce counterfeits
- Reduce costs and risks for buyers
- Increase access to quality inputs
- Enable sellers to know demand in advance
- Provide convenient and secure ways for farmers to purchase, save, and receive credit inputs



ON-FARM PRODUCTION

- Help extension services reach more farmers
- Provide timely reminders/alerts
- Use behavior change media to promote best practices among farmers
- Increase precision and/or adaptability of farming interventions and crop choices through applied data



Storage

- Improve links between farmers, processors
- Reduce post harvest loss with digitally-enabled harvest loans and digitally warehouse receipts
- Inform harvest practices to reduce post harvest losses.
- Monitor storage conditions



POST-HARVEST Processing

- Increase farmer negotiating power by providing market prices
- Track provenance for supply chain optimization and grading



Transport

- Reduce costs of transport
- Increase choice of different types of transport for farmers
- Increase access to timely information so that farmers know if and when transport is arriving



ACCESS TO MARKETS

- Increase ability of smallholder farmers to sell to larger markets by allowing buyers to track crops to source (certification and provenance)
- Increase market information available to farmers so that they have more choices

D4Agriculture

Digital solutions across the whole cycle

Institutions & rules



Core actors



Business service providers



D4Agriculture

Takeaways

- Positive **impact**
- A **variety** of D4Agriculture solutions
- Significant **variations** in the adoption of D4Agriculture solutions across countries
- Several **risks**
- Digital technologies: magnifier of human intent, not a substitute

D4Agriculture

Main functions

- Helping farmers manage a range of **risks**
- Helping poor farmers participate in **higher-value** agriculture
- Improving **land and natural resource management** and addressing environmental pressures
- Improving services and **governance** for the rural poor
- Increasing smallholder **productivity** and **incomes**
- Linking poor farmers to urban, regional and global **markets**
- Making agricultural markets more efficient and **transparent**
- Promoting – and including smallholders in – **agricultural innovation**
- Supporting the emergence of a more **diverse rural economy**, and supporting rural family decisions about their mix of productive activities

D4Agriculture

Another key function

- Overcome **non-technical issues**
 - Rarely the problem is technology per se
 - ICT can also be a very good excuse to *facilitate dialogue* to tackle a development problem
 - **E.g. engage youth in agriculture**

Discussion

Digital Green's work





5 min

Quick fire round

Digital Green's work

- What are the main functions of the D4ag solutions they propose?