SDG 2: The Hunger Goal

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

The challenge of enabling farmers to increase productivity and profitability through sustainable systems of food production

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SDG 2: How do we get there?

- 2.3: To double the agricultural productivity and incomes of small-scale food producers by 2030

- 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production that help maintain ecosystems and strengthen capacity for adaptation to climate change

Complex Diverse and Risk-prone Agriculture

- Small scale farms in poor countries are often underestimated in terms of their complexity, diversity and exposure to risk

Source: Agridiet, 2015

Small-scale rainfed farming systems are often:

- internally **complex**, with many linkages between their parts
- **diverse** over short distances
- **dynamic** in adapting to and exploiting unpredictable conditions

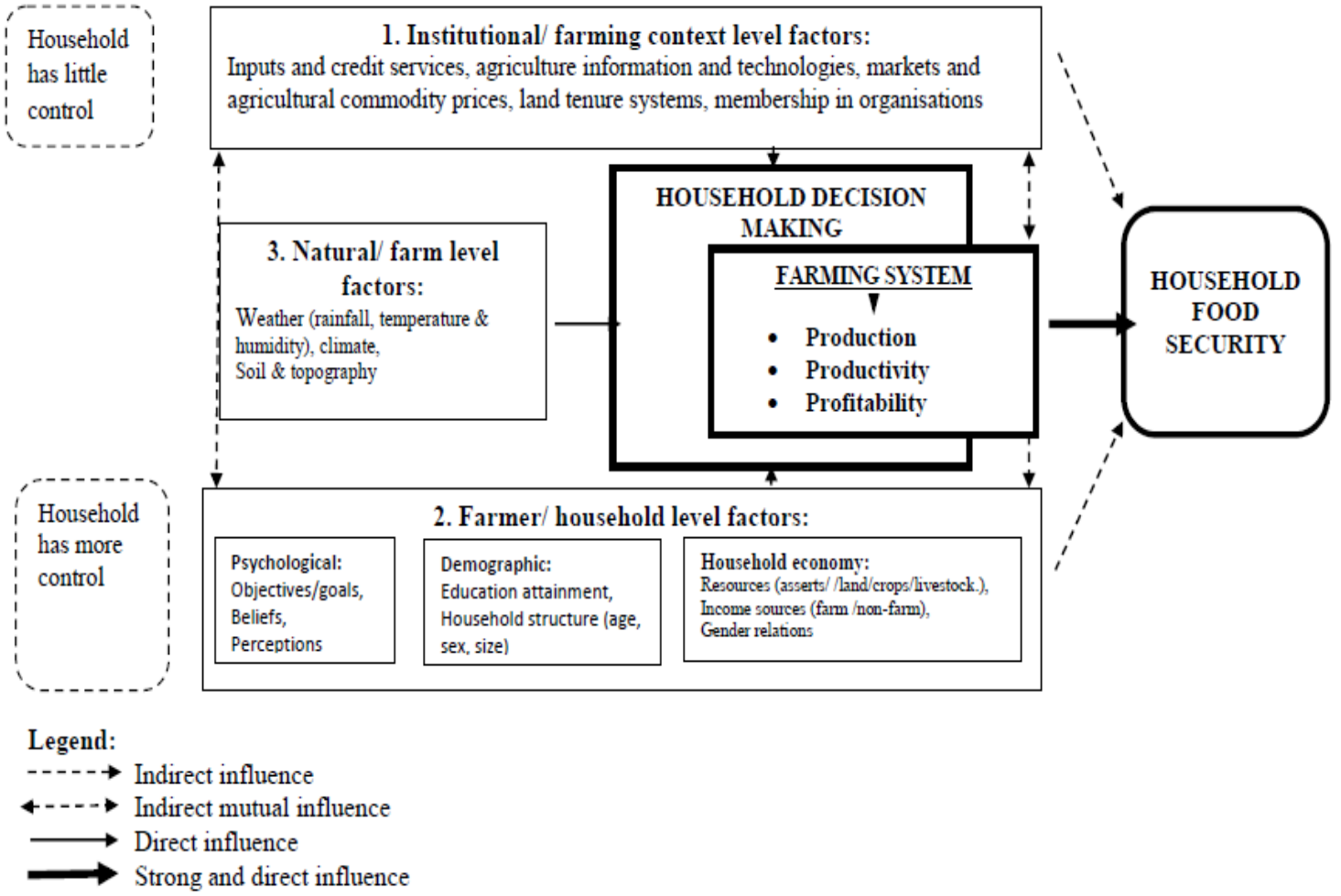


Figure 8: Study Analytical Model of the Factors that Impact on Household Food Security

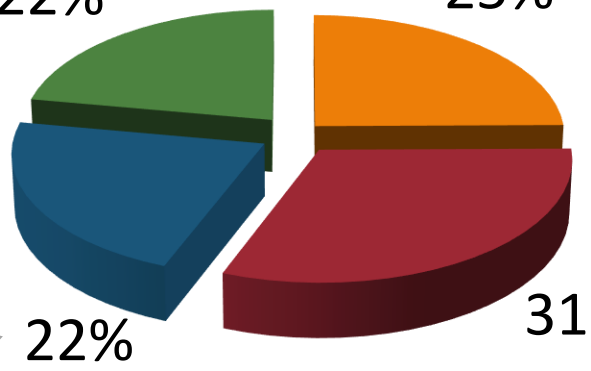
Source: Goodluck Massawe, 2016. *Farming Systems and Household Food Security in Tanzania: The case of Mvomero and Kishapu Districts*. Unpublished PhD, UCD

The case of farming systems and food security in Tanzania

Characteristics of Households by Main Farming Systems (n=506)

Mixed Crop-Livestock (MCL)
Household size: 10 persons
Cultivated land: 14 acres
Livestock: 30 TLUs
% income (off farm): 14%

Single Food Crop (SFC)
Household size: 5 person
Cultivated land: 2.2 acres
Livestock: 0.4 TLUs
% income (off farm): 63%



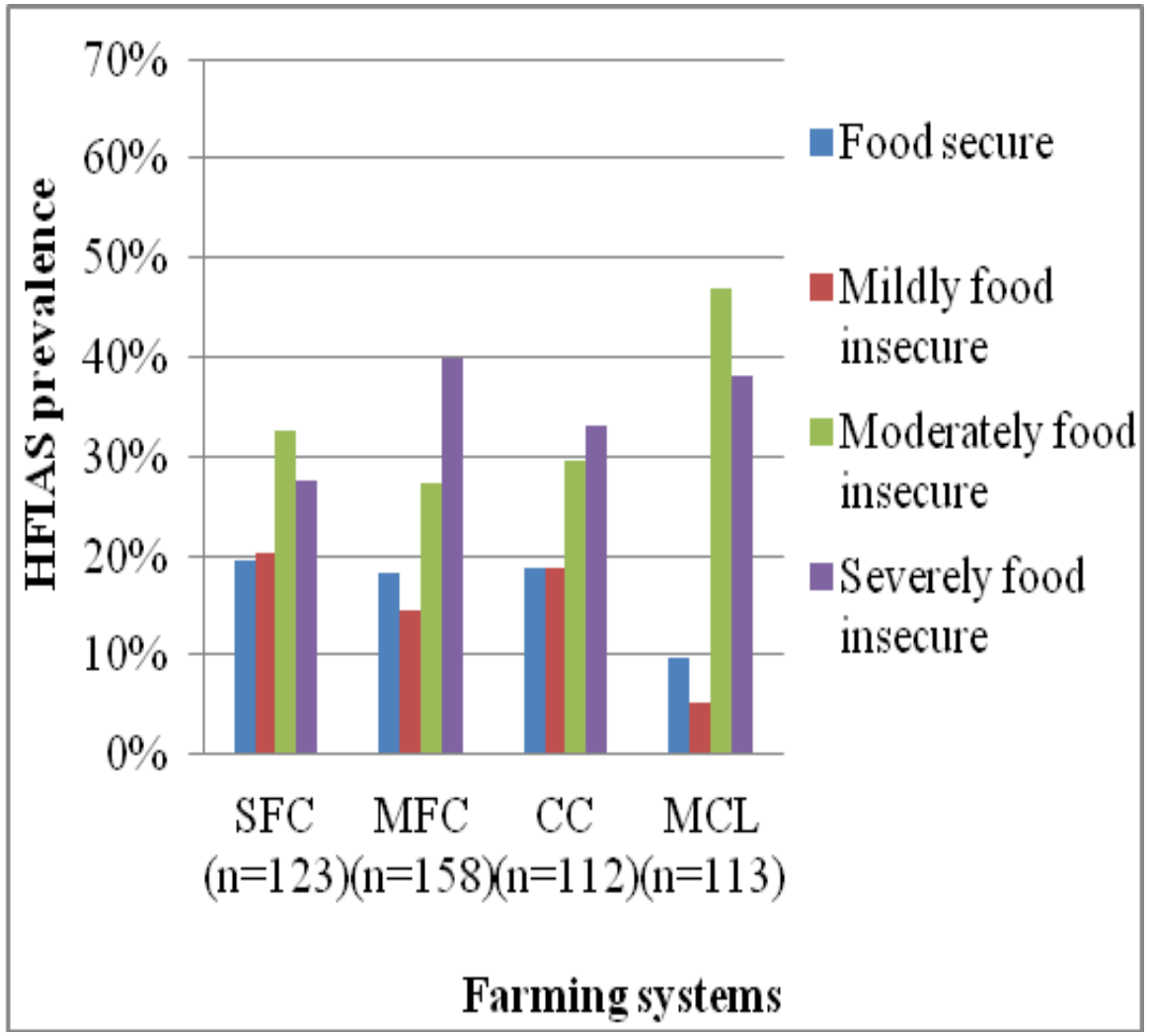
Cash crop (CC)
Household size: 6 persons
Cultivated land: 5 acres
Livestock: 0.9 TLUs
% income (off farm): 60%

Mixed Food Crop (MFC)
Household size: 6 persons
Cultivated land: 5.5 acres
Livestock: 1.2 TLUs
% income (off farm): 52%

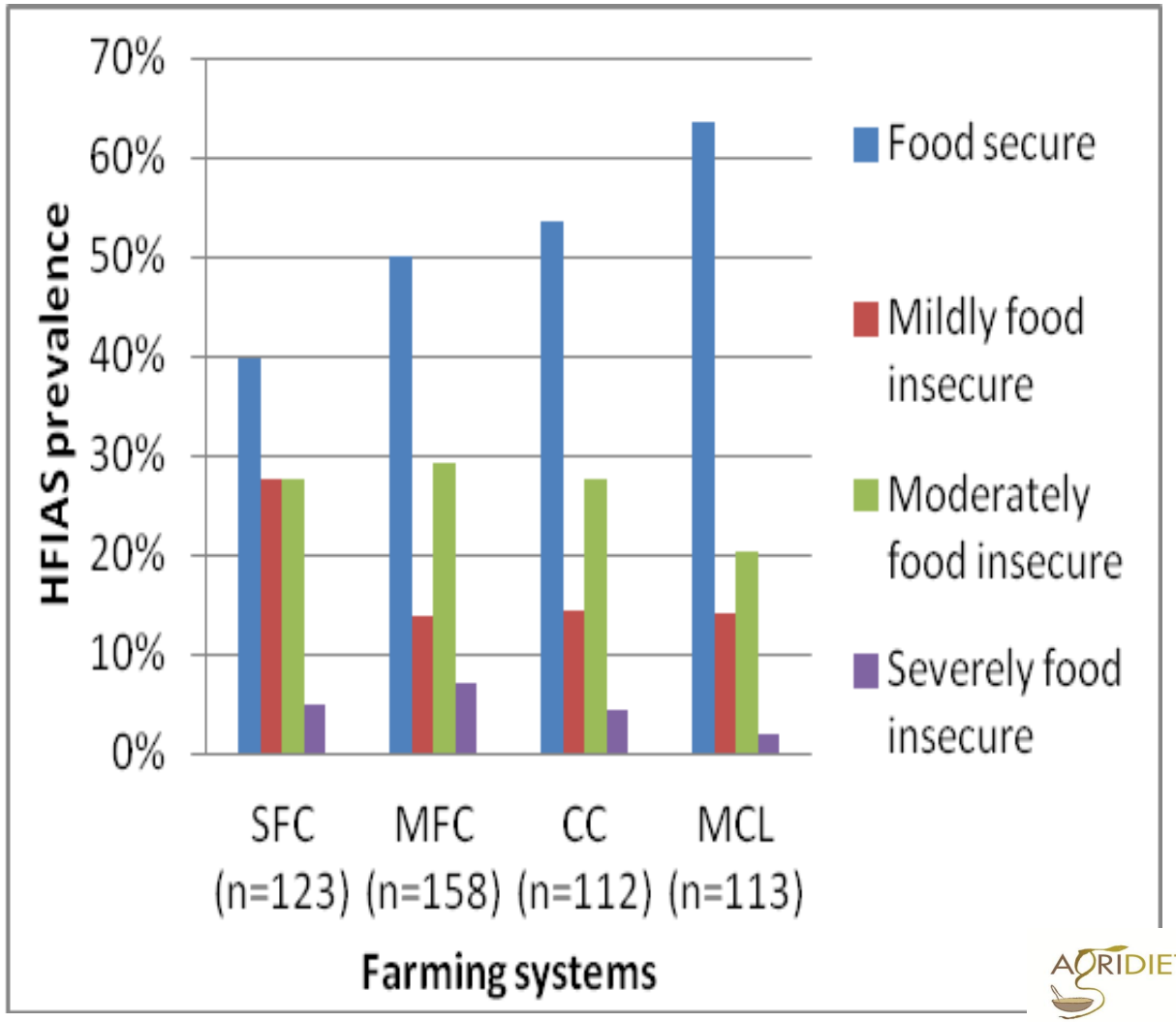
Source: Massawe, Kinsella and Mattee, 2016. Agridiet Project (2013-16)

Pre and post Harvest Season Food Security Status of Farm Households in Tanzania (2014/5)

Pre-harvest



Post-harvest



Enabling decisions for change

- ‘Many small or medium-sized family farms could make a greater contribution to global food security and rural poverty alleviation depending on, among other things their capacity to innovate and that through a supportive agricultural innovation system these farms could help transform world agriculture’

(FAO, State of Food and Agriculture Report, 2014)

For this to happen, family farmers must have the knowledge and economic and policy incentives they need (FAO, 2014)

Role of extension, education and research to introduce new ideas, innovation, improved practices and build farmers’ confidence to make changes

Source: Farm Africa

Extension Services to support farm households in poor countries

- Primary role of agricultural extension (public and private) is to *support decision making processes of farm families*
- Extension services are cost effective in raising agricultural productivity and incomes (high rate of return)
- Can be delivered in many ways:
  - One-to-one between farmer and Extension Worker (EW)
  - Groups – EW facilitates peer learning amongst farmers
  - Farmer field schools/ demonstrations
  - Public events such as open days or meetings
  - Mass media – radio, press, newsletters
  - Social media

Source: Farm Africa

Source: Agridiet

Source: Agriculture for Impact

Status of Agricultural Extension Services?

- *'It will not be possible to increase sustainable agriculture yields in all countries without a functioning public and/or private agricultural extension system'* (SDSN, 2018)

World Bank recommended ratio for

EWs to Farm households = 1: 500

Uganda – 1 EW to 5,000 farm households

Nigeria: 1 EW to 3,500 farm households

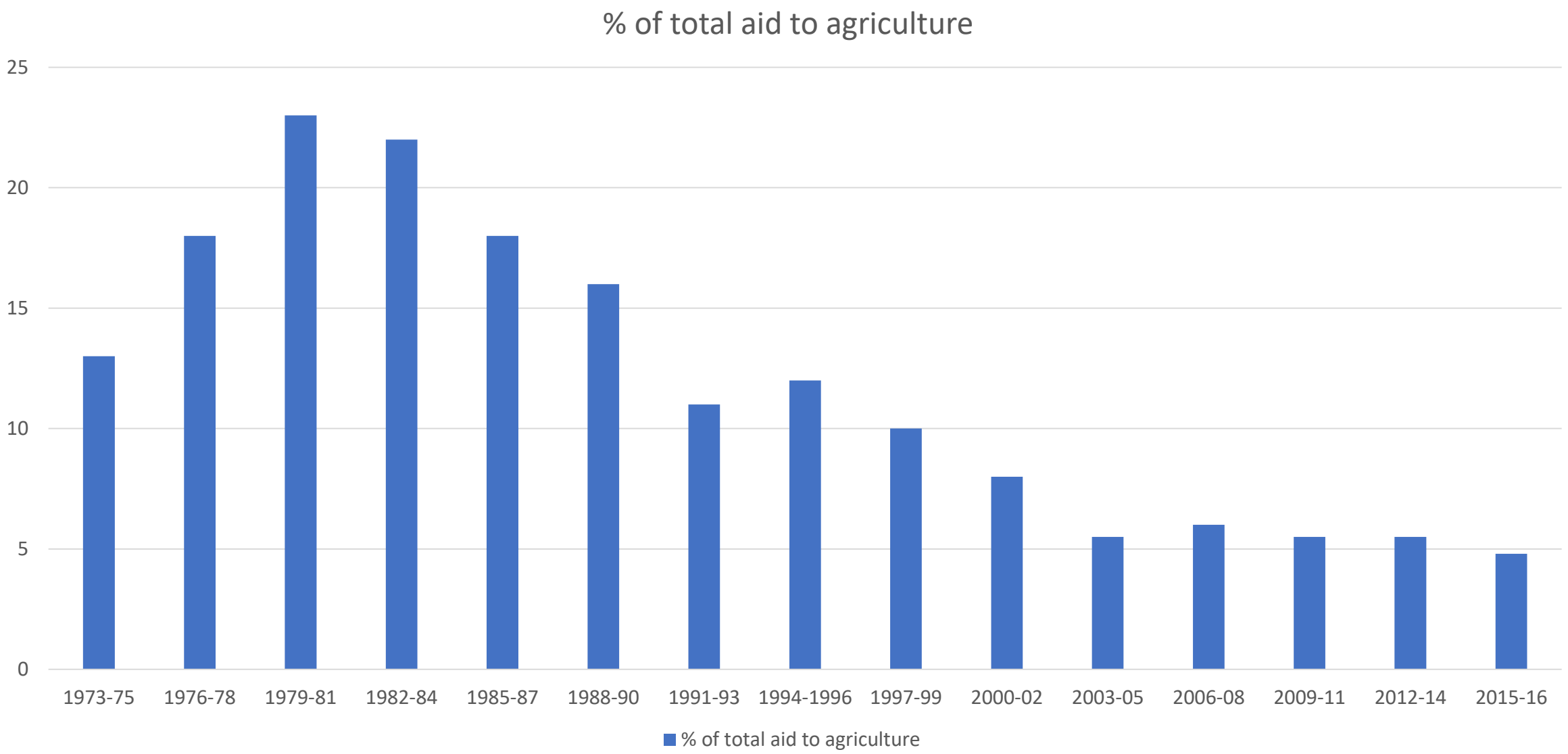
Malawi – 1 EW to 3,000 farm households

Zambia – 1 EW to 2,000 farm households

Vietnam – 1 EW to 280 farm households

Ireland – 1 EW to 180 farm households

Total Aid (Bilateral and Multilateral) to Agriculture Sector 1973-2016



Not just the Aid Sector!

- The African Union leaders pledged in 2003 (Maputo Declaration) to allocate 10% of their national budgets to agriculture

however

- Fewer than 20% of the member countries met this target and many fell far short

Agriculture share of government expenditures fell from 2000 to 2013

Why fall in supports to agriculture?

- Shift to more investment in rural infrastructure (roads and transport) to enable market access for farm produce in 1970s to mid 1990s
- Social sectors of education and health increased their proportion of development aid from mid 1980s
- Concurrently
  - Institutions poorly equipped to support complex smallholder agriculture *('fixed solutions and inflexible practices')*
  - Lack of sustained benefits due to high input systems (esp. irrigation)
  - Progress and gains in agriculture proved to be relatively slow
  - Low world market food prices discouraged aid investments in agriculture

Source: world press.com

Source: PrimaryschoolinAfrica.com

Source: Schwartz, 2015

The Challenges to deliver SDG 2 targets?

- **Need to address the chronic underinvestment** in capacity of extension services resulting in:
  - Inadequate numbers of extension workers to meet farmers' needs
  - Poor levels of skills in working effectively with smallholder farmers
  - Inadequate budgets and resources to function effectively

- **Need to address the gender gap** - only 15% of the world's extension agents are women, while only 5% of women farmers benefit from extension services

- **Need to appreciate the complex, diverse and risk-prone nature of small holder farming** in poor countries and adapt strategies that reach smallholder farmers with relevant, timely and usable information

Thanks for listening