



منظمة الأغذية
والزراعة
للأمم المتحدة

联合国
粮食及
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Food
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para la
Agricultura
y la
Alimentación



FAO Statistical Initiatives in Measuring Investment in Agriculture: Global Investment dataset and Country Investment profiles

Recent advances in Economic Statistics

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Outline

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Investment Data – Introduction & Policy Rationale

Monitoring Regional Agreements

- Maputo Declaration – 10% of government spending on agriculture & rural development
- CAADP – 6% agriculture productivity growth p.a.

Productivity and Food Security Driver

- Capital ↑ → Productivity ↑ → Food Supply & Real Income ↑

Challenges in Financing Agriculture

- High risk: weather, pest/disease, price volatility ...
- Borrowers: Lack of collateral, seasonality of income, heterogeneity of types, dispersed demand
- Lenders: Lack of well developed credit markets, high transaction costs for lending to smallholders

Investment Data Framework & Components

Agricultural Capital Formation (ACF)

$$ACF_t = ACS_t - ACS_{t-1}$$

Domestic Financing

Foreign Financing

Private Domestic

Credit,
Savings/Private
Equity,
Remittances,
Product financing

Public Domestic

Government
Expenditure

Private Foreign

Foreign Direct
Investment

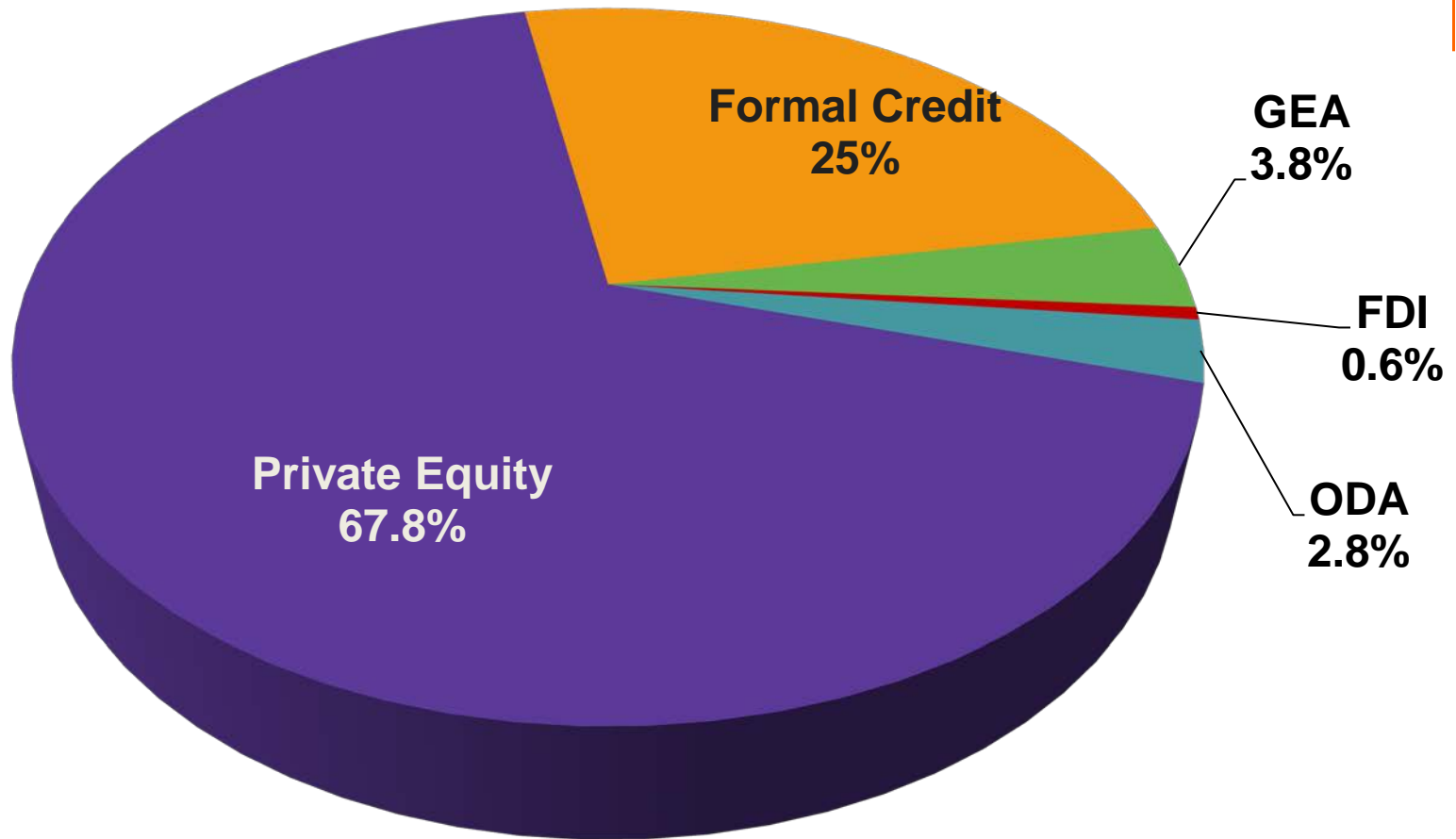
Public Foreign

ODA + Other
Official Flows

Country Investment Profile: Kenya 2007



Agricultural Capital Formation - Kenya 2007
(Total = 1,703.23 millions USD)



* Private Equity estimated as a residual ($PE = ACS - GEA - ODA - FDI - Credit$)

Framework approach

- Requirements for FAOSTAT investment database
 - Internationally comparable (international classifications /guidelines)
 - Coverage of physical investment + investment financing sources
 - Minimize questionnaire response burden by harvesting data from national and international sources to the greatest extent possible
- Financing sources – public & private; foreign & domestic
 - Foreign Direct Investment
 - Remittances - private foreign
 - Official Development Assistance to Agriculture – OECD-CRS
 - Government Expenditures on Agriculture – FAO questionnaire
 - Credit to Agriculture - Central Bank websites/reports
 - Private equity – residually measured

Data Compilation - Challenges

- Interrelationships among FAO investment financing datasets link to ACS estimates
 - FAOSTAT: in Kenya, 2007, ACS (excluding forestry and fisheries) increased by 1,703 millions USD.
 - Private Equity accounts for the 2/3 of the total (1154 mln USD). (estimated as a residual $PEq = \Delta ACS - GEA - ODA - FDI - Credit$)
- Reliability? Answer requires time-series
 - Providing desired disaggregations to support a robust analysis of the dynamics of capital stock accumulation

Agricultural Capital Stock (ACS)

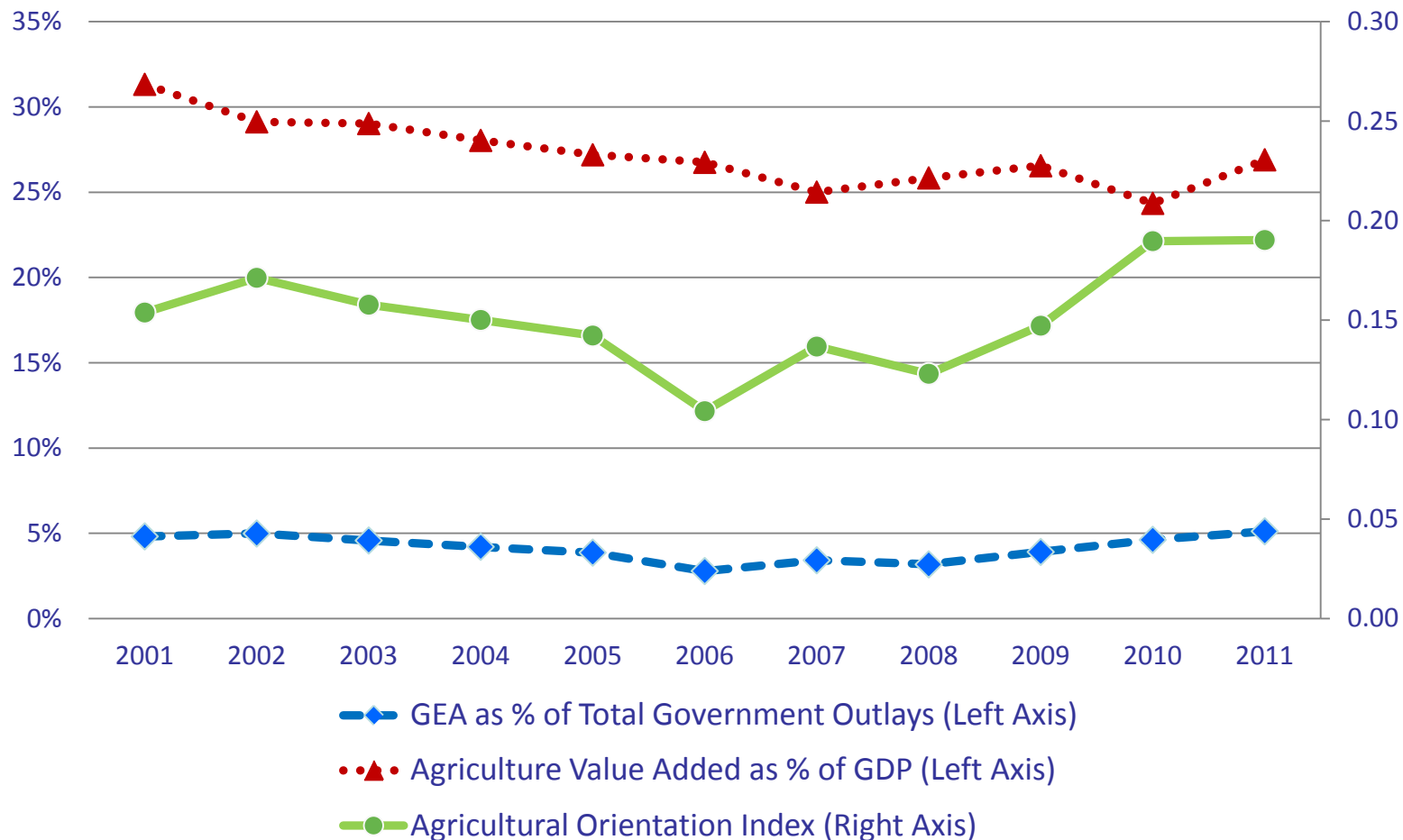
- Old FAO approach to measuring ACS:
 - Inclusions: land development, livestock (fixed assets and inventory), plantation crops, machinery and equipment, structures for livestock
 - Scope: narrow definition of agriculture, excluding forestry and fisheries
 - Other limitations: out dated (2007); weak machinery component
- New proposed FAO approach
 - System of National accounts (SNA) based
 - Data: value added, gross output, GFCF, capita stock, employment & labour compensation in agriculture, forestry and fisheries & total economy
 - Data sources: UNSD National Accounts Estimates and official country data and OECD
 - Need to improve machinery component

Government Expenditure on Agriculture

- The public sector — general government units and public (financial and nonfinancial) corporations — remains critical
 - To create conducive environment for private investment
 - Address market failures (rural infrastructure, market openness)
- FAO Statistics Division and the IMF Statistics Department developed a new questionnaire based on GFSM 2001
 - Extension of Table 7: Outlays by Function of Government from the IMF's annual questionnaire on fiscal statistics
 - FAO launched questionnaire in 2012, requesting a General Government (and its subsectors) time series: 2001 to 2011
 - Includes current and recurrent expenditures; agriculture, forestry, fisheries, and protection of the environment

Agricultural Orientation Index

Government Expenditure on Agriculture - Kenya



Ratio between the share of GEA over Total Government Outlays and share of Agricultural Value Added over GDP (source: World Bank's World Development Indicators).

Credit to Agriculture

- Investment oriented loans provided by banking sector directly relate to the rate at which, *inter alia*, ACS is being accumulated and food security is enhanced
- Positive correlation between development of formal credit markets and economic development
- Measure of domestic private sector investment financed by formal domestic credit market
 - Data measure: domestic credit extended to emerging farmers, commercial farmers, agricultural cooperatives, businesses
 - Data source: harvest central bank monetary and financial statistics and publications
 - Data release: early 2014 in FAOSTAT
 - Challenge: not all countries provide on-line information

Official Development Assistance to Agriculture

Official Development Assistance and Other Official Flows to Agriculture by major bilateral and multilateral donors:

- Data measure: foreign public support to agriculture, forestry and fisheries, along with food security, rural development, etc.
- Data source: OECD Creditor Reporting System (CRS), 1974-2011
- Data release: December 2013 in FAOSTAT
- Challenges: inability to distinguish flows for investment from total flows; missing some key multilateral donors; pre 1995 data less reliable

Foreign Direct Investment in Agriculture

- Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods and Resources, promoted by FAO, IFAD, the UNCTAD Secretariat and the World Bank Group
 - Monitoring all countries from which investment initiatives are emanating and towards which investments are directed
- Improving data/analysis aimed at maximizing the economic value-added and job creation potential arising from private investment in sustainable agriculture value chains
 - Data measure: foreign private source of financing
 - Data source: UNCTAT, OECD
 - Data development: to begin in 2014
 - Challenges: limited ability to distinguish flows for investment vs consumption (e.g. land grabbing)

Foreign Remittances

- Remittances account for a significant share of financial flows, exceeding official development assistance for many countries.
- World Bank estimates that developing countries will receive \$414 billion in migrant remittances in 2013, a 6.3% increase over 2012. Global remittances estimated at \$550 billion.
 - Data measure: foreign private source of financing
 - Data source: World Bank
 - Data development: to begin in 2014
 - Challenges: inability to distinguish flows for: investment vs consumption; agriculture vs other sectors

Data Compilation - Challenges

- Interrelationships among FAO Investment Datasets are supported by data collection templates that may be linked to ACS estimates
 - FAOSTAT database would indicate that in Kenya, 2007, ACS (excluding forestry and fisheries) increased by 1,703 millions USD.
 - Private Equity accounts for the 2/3 of the total (1154 mln USD). (estimated as a residual $PEq = \Delta ACS - GEA - ODA - FDI - Credit$)
- Reliability? Answer requires time-series
 - Providing desired disaggregations supports a robust analysis of the dynamics of capital stock accumulation

Data Availability



FAO code	Country	Region	ACS ESS	ACS SNA	ODA	FDI	GEA	CRED
4	Algeria	Northern Africa	1975-07		1995-11		2006-09	
7	Angola	Middle Africa	1975-07		1995-11		2001-11	
53	Benin	Western Africa	1975-07		1995-11		2001-02,10	1990-09
20	Botswana	Southern Africa	1975-07	1970-07	1995-11		2001-11	1995-11
233	Burkina Faso	Western Africa	1975-07		1995-11		2004-10	1990-09
29	Burundi	Eastern Africa	1975-07		1995-11			2007-11
32	Cameroon	Middle Africa	1975-07		1995-11			
35	Cape Verde	Western Africa	1975-07		1995-11		2005-10	
37	Central African Republic	Middle Africa	1975-07		1995-11		2008-10	
39	Chad	Middle Africa	1975-07		1995-11			
45	Comoros	Eastern Africa	1975-07		1995-11			
46	Congo	Middle Africa	1975-07		1995-11		2004-05,09	
107	Côte d'Ivoire	Western Africa	1975-07		1995-11		2008-11	1990-09
250	Democratic Rep. of Congo	Middle Africa	1975-07		1995-11		2001-10	
72	Djibouti	Eastern Africa	1975-07		1995-11			
59	Egypt	Northern Africa	1975-07	1960-07	1995-11	2001-10	2001-10	1991-12
61	Equatorial Guinea	Middle Africa	1975-07		1995-11		2007-09	
178	Eritrea	Eastern Africa	1975-07		1995-11			
238	Ethiopia	Eastern Africa	1975-07		1995-11	1993-00	2001-09	2004-11
74	Gabon	Middle Africa	1975-07		1995-11			
75	Gambia	Western Africa	1975-07		1995-11			
81	Ghana	Western Africa	1975-07		1995-11		2004-09	
90	Guinea	Western Africa	1975-07		1995-11			
175	Guinea-Bissau	Western Africa	1975-07		1995-11			2002-09
114	Kenya	Eastern Africa	1975-07	1964-06	1995-11	1992-95, 07-08	2001-11	2001-12

Data Availability (2)



FAO code	Country	Region	ACS ESS	ACS SNA	ODA	FDI	GEA	CRED
122	Lesotho	Southern Africa	1975-07		1995-11		2006-10	
123	Liberia	Western Africa	1975-07		1995-11		2005-10	2001-11
124	Libya	Northern Africa	1975-07		2005-11			
129	Madagascar	Eastern Africa	1975-07	1961-01	1995-11	2005-10	2001-08	1990-11
130	Malawi	Eastern Africa	1975-07	1964-96	1995-11	2002-04, 08		
133	Mali	Western Africa	1975-07		1995-11		2009-11	1990-09
136	Mauritania	Western Africa	1975-07		1995-11	1999-06		
137	Mauritius	Eastern Africa	1975-07	1953-06	1995-11	2001-11	2001-11	
143	Morocco	Northern Africa	1975-07	1964-07	1995-11	1996-10		2006-11?
144	Mozambique	Eastern Africa	1975-07		1995-11	2001-09	No COFOG	
147	Namibia	Southern Africa	1975-07	1979-06	1995-11		2001-11	2006-11
158	Niger	Western Africa	1975-07	1970-07	1995-11			1990-09
159	Nigeria	Western Africa	1975-07		1995-11	1990-10	2001-10	2006,08-11
184	Rwanda	Eastern Africa	1975-07		1995-11		No COFOG	1995-11
193	Sao Tome and Principe	Middle Africa	1975-07		1995-11		2008-10	
195	Senegal	Western Africa	1975-07		1995-11		No COFOG	1990-09
196	Seychelles	Eastern Africa	1975-07		1995-11		2006-11	1997-11
197	Sierra Leone	Western Africa	1975-07		1995-11		2002-11	
202	South Africa	Southern Africa	1975-07	1950-07	1995-11		2001-11	
276	Sudan	Northern Africa	1975-07		1995-11			1999-11
209	Swaziland	Southern Africa	1975-07		1995-11		2002-10	
217	Togo	Western Africa	1975-07		1995-11			1990-09
222	Tunisia	Northern Africa	1975-07	1960-07	1995-11	1980-11	2001-11	1995-10
226	Uganda	Eastern Africa	1975-07		1995-11	2000-10	2001-11	1996-12
215	United Republic of Tanzania	Eastern Africa	1975-07	1960-02	1995-11	1999-08	2001-11	1995-10
251	Zambia	Eastern Africa	1975-07		1995-11	1993-95	2005-09	2004-10
181	Zimbabwe	Eastern Africa	1975-07	1954-99	1995-11	1993-95	2009-10?	

Questions & Recommendations for Discussion

Can you comment on:

- The suitability of the proposed datasets and investment profiles to monitor and enhance investment in agriculture at country level?
- Availability of allocations of financing sources (GEA, ODA, FDI and credit) for investment in agriculture?
- Addressing challenges in collecting data on GEA and Credit to Agriculture?
- Relevance of the proposed dataset to facilitate FAO's work in support to investment in member countries?



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Thank you

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