How land administration can contribute to food security

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'Innovative Cadastres and Land Rights Management'

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Most recent figures Hunger: FAO

(Source: FAO, 2012, The State of Food Insecurity in the World, Rome)

millions	total	1990-1992	1999-2001	2004-2006	2007-2009	2010-2012
World	6559	1000 18.6%	919	898	867	868 12.5%
Sub Sah Africa	729	170	200	205	216	234
Asia	3558	739	634	620	581	563
Latin America	556	65	60	54	50	49

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Population Prospect 2050

millions	1950	1980	2011	2050 low	2050 medium	2050 high	2050 constant
World	2532	4453	6974	8112	9306	10614	10934
Africa	230	483	1046	1932	2192	2470	2997
Asia	1403	2638	4207	4458	5142	5898	5908
Europe	547	693	739	632	719	814	672
Latin America	167	362	597	646	751	869	863
North America	172	254	348	396	447	501	444
Oceania	13	23	37	49	55	62	60

(Source: UN, 2011, World Population Prospects, New York)

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Poverty+Hunger+Population Growth

- By 2050 need for 70% more food at global scale, but 100% more in developing countries
  (Source: FAO, 2009, How to feed the world in 2050, Rome; FAO, 2011, The State of the world's land and water resources (SOLAW), Rome)
- + 1 billion tons cereals and + 200 million tons meat every year
  (Source: Bruinsma, 2009, The Resource Outlook for 2050, for FAO Rome)

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Feeding the growing population

- 80% from higher yields
- 20% from land expansion
- in general 4.2 billion hectares suitable for agriculture, of which 1.6 billion hectares is already cultivated

(Source: FAO, 2002, Global Agri-ecological Assessment for agriculture in the 21st century, Global Agri-Ecological Zones Initiative Rome

How much land area is needed?

- 120 million hectares globally, of which
- in Latin America +52 and
- in Africa +64,
- + 32 should be irrigated.

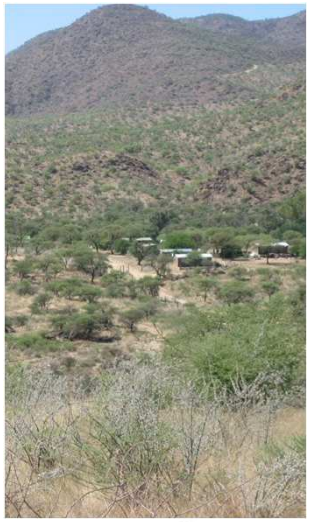
(Source: Bruinsma, 2009, The Resource Outlook for 2050, for FAO Rome)

	Total production increase
Africa Sub Sahara	+68%
Africa North + East	+89%
Latin America	+53%
South East Asia	+86%
East Asia	+81%

Source: FAO, 2009, How to feed the world in 2050, Rome

Closer look at Africa: productivity

- Growth index developing countries per capita 100 (in 1961) to 170 (in 2003), Asia from 100 to 130 and Africa from 100 to 90
  (Source: African Union, 2006, Framework for Agricultural productivity, Accra)
- African growth from 2.3% (1990) to 3.8% (2005), however based on expanding land use, not on higher productivity
  (Source: Okeyere, K.A., 2012, Productivity Boost, IFPTA 2012/3)
- Food import from 30-50 billion $ now, to estimated 150 billion $ in 2030.
  (Source: Okeyere, K.A., 2012, Productivity Boost, IFPTA 2012/3)



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What is the potential? Three opinions.

- IFPRI: better technology brings: production rice x 1.9, maize x 2.7, potatoes x 4.7 and bananas x 4.5
  (Source: IFPRI, 2011, Yield Gaps, Washington)
- Growth from 280 billion $ (2010) to 880 billion (2030): + *225 billion $ through expanding land*, + 235 billion $ by higher yields, and + 140 billion $ by shift towards high value crops
  (Source, McKinsey Global Institute, 2010, Lions on the move, New York)
- Current use of potential: Europe 63%, North America 63%, Asia 30-50%, Latin America 45%, China 63% Indonesia 63%, India 50% and Africa 15%.
  (Source: Van Vollenhoven, J., 2012, De waarde van voedsel (The value of food), SAFE Magazine Rotterdam NL; her source was The Economist)

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Land is a fundamental asset

Source: Nagayets, O., 2005, Small farms: current status and trends, IFRPI Washington

Million farms	total	< 2 ha
World	525	446
Asia		388
China		193
India		100
Indonesia		17
Africa	42	33
Latin America		4

(Source: IAASTD, 2009, Agriculture at crossroads, Washington)

Average farm size	hectares
Latin America	67
Asia	1.6
Africa	1.6
Tanzania	2
Rwanda	0.5

Source: UN/ECA, 2010, Press Release

Landlessness

% landless	Of people living on < 1$/day
Asia	60-80%
Africa	40-60%

'People in Africa have more land than in Asia, but not enough to survive, and suffer poor access to markets and other key resources such as credit and agricultural inputs' (Source: IFPRI, 2007, The World's Most Deprived, Washington) + (Source: FAO, 2011, The State of the World's land and water resources (SOLAW), Rome)

How to boost productivity?

- Change of institutions and policies *(the institutional approach)*
- Change of techniques *(the technical approach)*

(Source: FAO, 2011, The State of the World's land and water resources (SOLAW), Rome)

What entails the technical approach?

- Availability improved crop varieties
- Irrigation (4% SSA compared with 35% LA)
- More fertilizers (11 kg/ha SSA compared with 110 kg/ha world)
- Control of pest and other diseases
- Mechanisation (4 tractors /100km2 SSA compared with 443 OECD)
- Better roads (9-17% paved SSA compared with 90% OECD)
- Better electricity supply
- Improve limited transfer of knowledge
- Solve land degradation

Source: FAO, 2011, Why Africa has become a net importer of food, Rome

What entails the institutional approach?

- Need for adequate institutions for land regulation and land administration has constrained implementation of new land policies
  (Source, UN.ECA, Land Tenure Systems and their impact on food security and sustianable development, Addis Ababa)
- Access to land and water to be improved markedly
- Need for stable land and water rights
- Remove barriers to secure land tenure
- Recognize customary and common property systems

  (Source: FAO, 2011, The State of the World's land and water resources, SOLAW, FAO Flagship publication Rome)

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What is said about security of tenure?

- Expansion problematic because much land is owned by the State, which might not be managed at all
- Customary systems not recognized
- Grabbing by governments and elites
- Local land rights should be secured
  (Source: FAO, 2011, The State of the World's land and water resources, SOLAW, FAO Flagship publication Rome
- Barriers to raise production are a.o. unclear land rights
  (Source, McKinsey Global Institute, 2010, Lions on the move, New York)

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What more?

- Common land captured
  (Source: Mwijage, A., 2011, Impact of land tenrue change on subsistence agriculture, Journal African Studies 3(3)2011)
- Neglection women's rights
  (Source, IAASTD, 2009, Agriculture at crossroads, Washington)
- Land tenure systems discriminatory (Source Moyo)
- Narrow spread agricultural capitalism; 'failed agrarian transition' (Source Moyo)
- Dependence production for own survival
  (Source, Moyo, S., 2008, The African Land Question, CODESRIA Senegal)

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Women and food security

- 70% agrucultural workers are women, 80% of food producers are women
  (Source: IAASTD, 2009, Agriculture at crossroads, Washington)
- 31% households are female headed, yet 'own' < 2% of the land
  (Source: ECA, 2004, Addis Ababa)
- Not reached by land reform, suffer forced break up of customary land holdings, ignored by governments, legislation apply to urban not rural areas: 'remains unsolved issue'.
  (Source, McAuslan, P, 2010, Personal Reflections on drafting laws to improve women's access to land : is there a magic wand?, Journal East African Studies Vol 4 No. 1)

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Large scale investments in agriculture

- The increased investments in large-scale agriculture jeopardize local land rights, while meanwhile about 50-80 million ha worldwide already have been transferred to large investors.
  (Source, FAO/HLPE, 2011, Land tenure and international investments in agriculture, Rome)
- Two unsolved questions:
  (1) how land rights for the local population can be secured, to avoid eviction and marginalization
  (2) how can foreign investors be provided with access to land already claimed and used by indigenous peoples
  (Source: World Bank, 2009, Awakening Africa's sleeping giant, Washington)

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FAO/HLPE 2011:

'Registration of land and natural resource rights is critical to providing security to rural people and to enabling them to negotiate from a better position with both investors and government. However, levels of rights registration are very low in many parts of the world, especially in Africa. At current rates of operation, such systems will take decades to cover the territory of many countries. A more immediate means to provide secure rights for smallholders would be through community land registration, whereby land is mapped and registered at the level of a village as a whole, rather than plot by plot. This allows for a far more speedy process of coverage, and under certain conditions would offer some protection from land seizure. However, this may also be vulnerable to capture by local elites given the fact that most local communities are highly differentiated along wealth, gender and ethnic lines. Thus the security of land rights is dependant on a range of factors (beside their formulation) that bear on the governance of rights such as low-cost, easily accessible and prompt mechanisms of conflict resolution, fair and reliable enforcement, as well as the equitable distribution of benefits'

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Economies of scale matter

(Source: Okyere, K.A., 2012, Productivity Boost, IFPRI D+C 2012/03)

- Higher productivity over time results in increase of farm size
  (Source: FAO/HLEF, 2009, How to feed the world in 2050, Rome)
- More secure land rights might give farmers opportunity to consolidate land holdings
  (Source: IAASTD, 2009, Agriculture at crossroads, Washington)
- Assembling land parcels difficult because administrative hurdles and lack of clear land rights
  (Source, McKinsey, 2010, Lions on the move, New York)
- Rural unemployment unless more agribusiness
  (Source: Okyere, K.A., 2012, Productivity Boost, IFPRI D+C 2012/03)

What we can do.

- When problems around land and water rights are not solved, they will severly obstruct increase of food production
- We are responsible for designing efficient and effective LIS/LAS that respond to local context and to financial constraints, making use of technical and institutional opportunities
- Buildings blocks are there, guidance too (LGAF, FAO Vol Guidelines, GLTN etc)

Many thanks for listening

North Korea, 2005