



Food and Agriculture
Organization of the
United Nations

AFRICA
SUSTAINABLE
LIVESTOCK
2050



Country Brief
EGYPT



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**ASL
2050**

The imminent Egyptian livestock revolution

Egypt's population is expected to grow by 65% in the next three decades, from 92 million in 2015 to 151 million in 2050; over the same period, the urban share of population will rise from 43% to 56.5%. Up to 2050, national projections foresee a 642% increase in GDP, with GDP per capita expected to grow from about USD 4 000 to over USD 20 000. The larger, increasingly affluent and urbanized population will consume more high-quality foods, and in particular meat, milk and eggs.

People will be better nourished and more food secure. Indeed, estimated changes in the demand for livestock products between 2010 and 2050 are impressive: consumption of beef, milk, poultry and eggs will increase by over 400%, 300%, 1100% and 480% respectively.

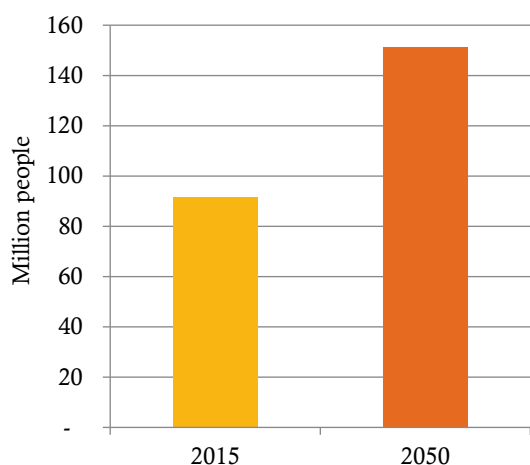


Figure 1. Egypt population growth 2015-2050

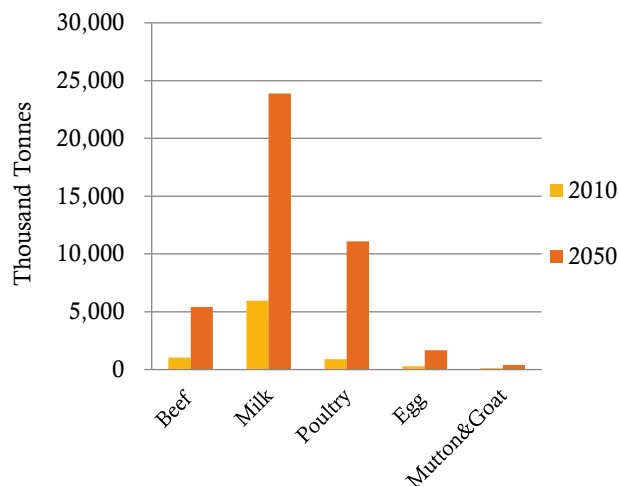


Figure 2. Livestock product demand 2010-2050

Changing livestock systems

In response to the growing demand for animal source foods, livestock farmers will expand their production and consequently improve their livelihoods. Some may even exit poverty through livestock. As a result, the livestock sector, which currently accounts for about 40% of agricultural value added, could become the largest contributor to the value of agricultural production.

Commercial farms and large holders, which today make up less than 10% of the poultry production sector and about 21% of large animal production, will increase their contribution to total livestock production. At the same time, smallholder livestock producers – which currently account for 27% of livestock-keeping households in Egypt, producing around 25% of poultry, 28% of eggs and a considerable amount of milk for commercial use and home consumption – will face increasing challenges to improve their productivity. This holds true particularly for the less well-off: 54% of livestock farmers are poor (in the bottom wealth quintile), with insufficient access to the information, services and capital necessary to expand their livestock asset base and invest in productivity-enhancing technologies and practices.

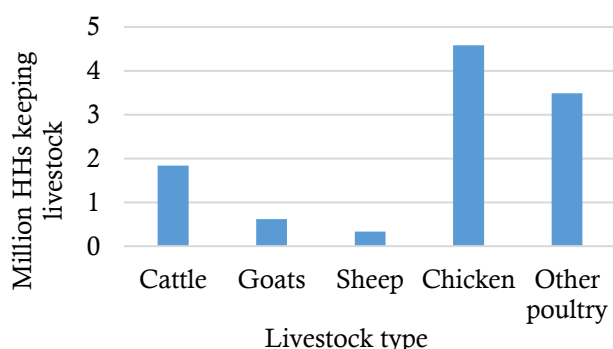


Figure 3. Livestock keeping households in Egypt 2014

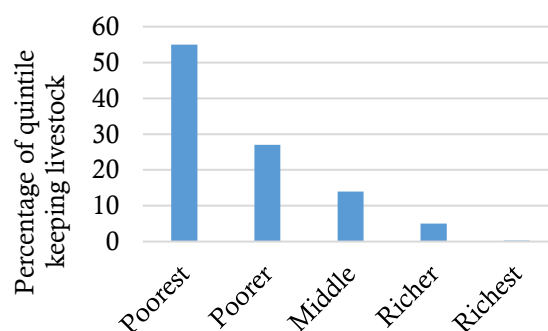


Figure 4. Percentage of livestock keepers by wealth, Egypt 2014

The Egyptian Government is supporting livestock intensification as a way to meet growing demand for livestock products. For example, a ministerial decree (368/2017) has been recently issued to organize poultry farm operation licensing, with the aim of pulling together smallholder farmers to operate as one larger farm on new land. The objective is to ensure that Egypt more efficiently utilizes its livestock resources and relies less on imports to satisfy internal demand.

In recent years, the value of livestock product imports has increased as demand outstrips supply. Local meat production, for example, satisfied 74% of the local demand in 2013, with the remaining covered by imports.

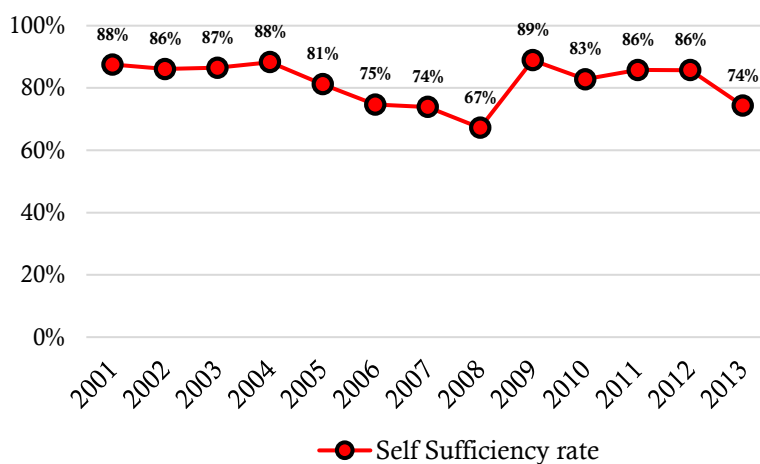


Figure 5. Proportion of Egyptian meat demand met by endogenous supply.

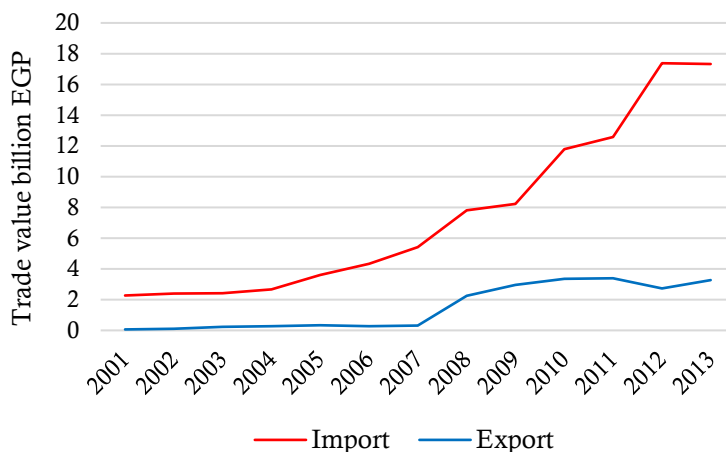


Figure 6. Livestock product trade deficit value in Egypt Source: CAPMAS, Egypt

Challenges

Changing livestock systems can have negative effects on public health and the environment. The fast growth of the Asian livestock sector, for example, resulted in biodiversity loss, surface water eutrophication, groundwater contamination, reduced soil fertility, emerging infectious diseases, antimicrobial resistance, rural impoverishment and migration. With significant growth predicted in the Egyptian livestock sector, it would be wise to learn from the experience of Asian livestock sector growth and to plan the necessary actions now to ensure healthy and sustainable growth of the livestock sector in years to come.

The livestock sector already impacts public health and the environment in Egypt significantly. Since 2006 there have been 359 human cases of highly pathogenic avian influenza reported, causing 122 deaths. Brucellosis incidence in humans reached 5.17% in 2016, with a considerable burden both for farmers' livelihoods and public health.¹ In 2012, a foot and mouth disease (FMD) outbreak resulted in losses of 365 million EGP.²

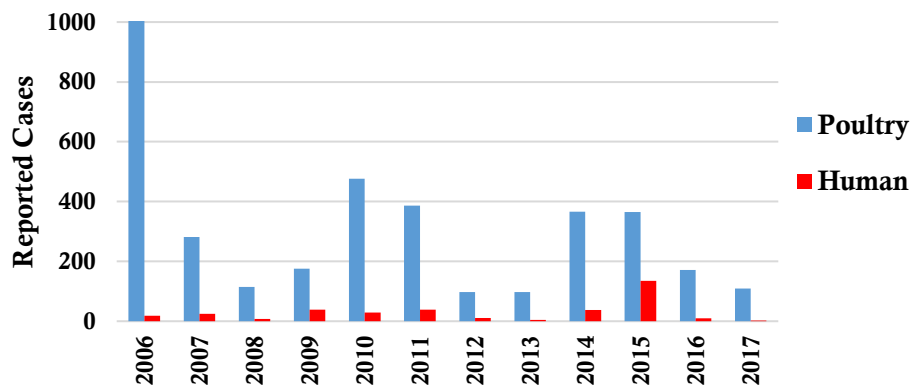


Figure 7. Poultry and Human H5N1 cases in Egypt 2006-2017

Genetic diversity is being lost in natural ecosystems and in crop and livestock production systems due partly to the intensification of production, and partly to the abandonment of rural areas for larger cities and urban areas³. Environmental consequences of agricultural growth are expected including increased water demand, competition over land and the contribution to climate change by greenhouse gases (GHGs), such as methane, generated by livestock agriculture⁴ (livestock contribute about 14.5% of GHGs worldwide). Assessment of Egypt's GHG emissions revealed total emissions in the year 2000 were about 193 MtCO₂eq, compared to about 117 MtCO₂e in 1990, representing an average increase of 5.1% annually. Agriculture is the second largest producer of GHG emissions in Egypt.⁵

Action

Egypt is making major efforts to improve the efficiency and inclusiveness of its livestock systems, making them sustainable. The Sustainable Agricultural Development Strategy Towards 2030 (SADS), aims to achieve comprehensive economic and social development based on a dynamic agricultural sector capable of sustained and rapid growth, while paying special attention to helping underprivileged social groups and reducing rural poverty. One component of SADS directly targets livestock production, with a focus on increasing average per capita consumption of locally produced milk and meat while protecting livestock, poultry and fisheries against endemic and transboundary animal diseases, as well as protecting consumers from zoonotic diseases.⁶

ASL2050 aims to engage stakeholders, to generate evidence for revamping and refining current livestock development efforts, to ensure a sustainable development trajectory for the sector and make it fully consistent with SADS. It focuses on selected livestock commodities, describing current livestock systems and those predicted in 2050, and identifies the challenges they will encounter. By assessing the current and future impact of livestock systems on public health, the environment and livelihoods, ASL2050 is generating evidence of the major challenges that must be addressed for a sustainable livestock sector in 2050, and identifying the risk mitigation measures necessary to ensure sustainable and growing livestock systems, which in turn will provide increased quality and quantity of animal products and income for the people of Egypt in the future.

¹ Ministry of Health and Population

² General Organization for Veterinary Services

³ Egypt's fifth national report to the convention on biological diversity

⁴ Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction

⁵ Egypt National Environmental, Economic and Development Study (NEEDS) for Climate Change

⁶ Sustainable Agriculture Development Strategy 2030, Ministry of Agriculture

Annex 1: Livestock Statistics for Egypt

Macroeconomic statistics and long-term projections

Population	Value	Year	2050 Projections
Total population	91,508,084	2015	151,111,009
Urban / rural	43.1% / 56.9%	2015	56.5% / 43.5%
Employment in agriculture	25.8%	2012	
HDI ⁷	0.691	2015	
Poverty rate	4.2%	2013	
GDP	Value	Year	2050 Projections ⁸
Gdp (million)	USD 376,912	2015	USD 2,798,536
Gdp per capita	USD 4,119	2015	USD 22,413
% Agriculture	12.06%	2012 (2011/2013)	
% Livestock	4.81%	2012 (2011/2013)	
Net Trade (EX - IM) (2012)	Value (EX - IM) (1000 USD)	Traded items	Value (EX - IM) (1000 USD)
Agricultural products	- 9,893,356	Live animals	- 64,799
Livestock products	- 1,380,957	Feed	- 121,159

Current consumption of animal food and long term projections

Demand	Thousand tonnes			% Change			Annual growth rate		
	2010	2030	2050	2010-2030	2030-2050	2010-2050	2010-2030	2030-2050	2010-2050
Beef	1,025	2,411	5,401	135%	124%	427%	4.37%	4.12%	4.24%
Milk	5,957	12,103	23,888	103%	97%	301%	3.61%	3.46%	3.53%
Poultry	903	3,187	11,092	253%	248%	1129%	6.51%	6.43%	6.47%
Egg	283	786	1,661	177%	111%	487%	5.24%	3.81%	4.52%
Mutton & Goat	135	247	385	83%	56%	184%	3.05%	2.24%	2.65%

Livestock population

Number of animal heads by species			
Species	Heads	Year	Source
Asses	1,452,262	2015	Ministry of Agriculture and Land Reclamation
Buffaloes	3,701,559	2015	Ministry of Agriculture and Land Reclamation
Camels	152,518	2015	Ministry of Agriculture and Land Reclamation
Cattle	4,883,196	2015	Ministry of Agriculture and Land Reclamation
Chickens	776,424,139	2015	Ministry of Agriculture and Land Reclamation
Dairy	402,070	2015	Ministry of Agriculture and Land Reclamation
Goats	4,046,238	2015	Ministry of Agriculture and Land Reclamation
Horses	72,709	2015	Ministry of Agriculture and Land Reclamation
Sheep	5,463,169	2015	Ministry of Agriculture and Land Reclamation

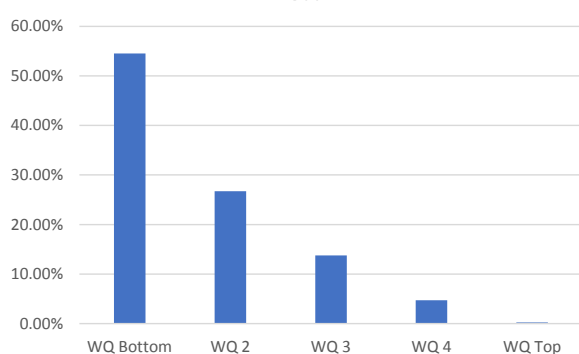
⁷ HDI (Human development index) is a measure of economic performances and welfare, combining Life Expectancy Index, Education Index and Income Index (GNI at PPP), thus providing important information on country development.

⁸ 2050 Projections are in PPP 2005 USD.

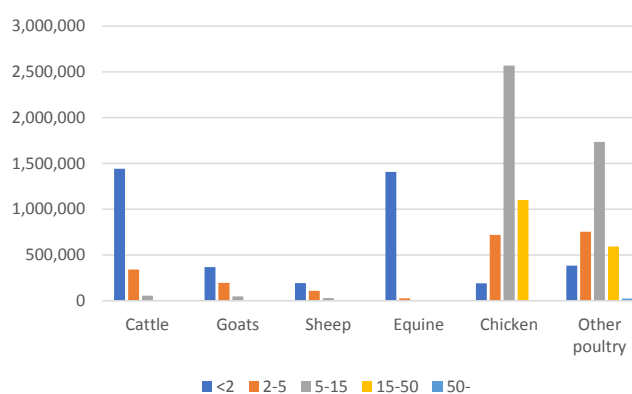
Households' ownership of livestock

Total number of households: 20.66 million	Number of HHs keeping livestock	% of total number of households	% of livestock keeping households			
Livestock keeping households	5,535,128	27%				
<i>Cattle</i>	1,840,141	9%	33%			
<i>Goats</i>	616,046	3%	11%			
<i>Sheep</i>	331,036	2%	6%			
<i>Equine</i>	1,434,076	7%	26%			
<i>Chicken</i>	4,582,071	22%	83%			
<i>Other poultry</i>	3,486,588	17%	63%			
Herd/flock size	<2	2-5	5-15	15-50	50-	Total
Cattle	78%	18%	3%	0%	0%	100%
Goats	60%	32%	8%	1%	0%	100%
Sheep	58%	32%	9%	1%	0%	100%
Equine	98%	2%	0%	0%	0%	100%
Chicken	4%	16%	56%	24%	0%	100%
Other poultry	11%	22%	50%	17%	1%	100%

% of livestock keepers by Wealth Quintiles
(WQ), Egypt 2014



Herd/flock size, Egypt 2014



Animal health and human health statistics

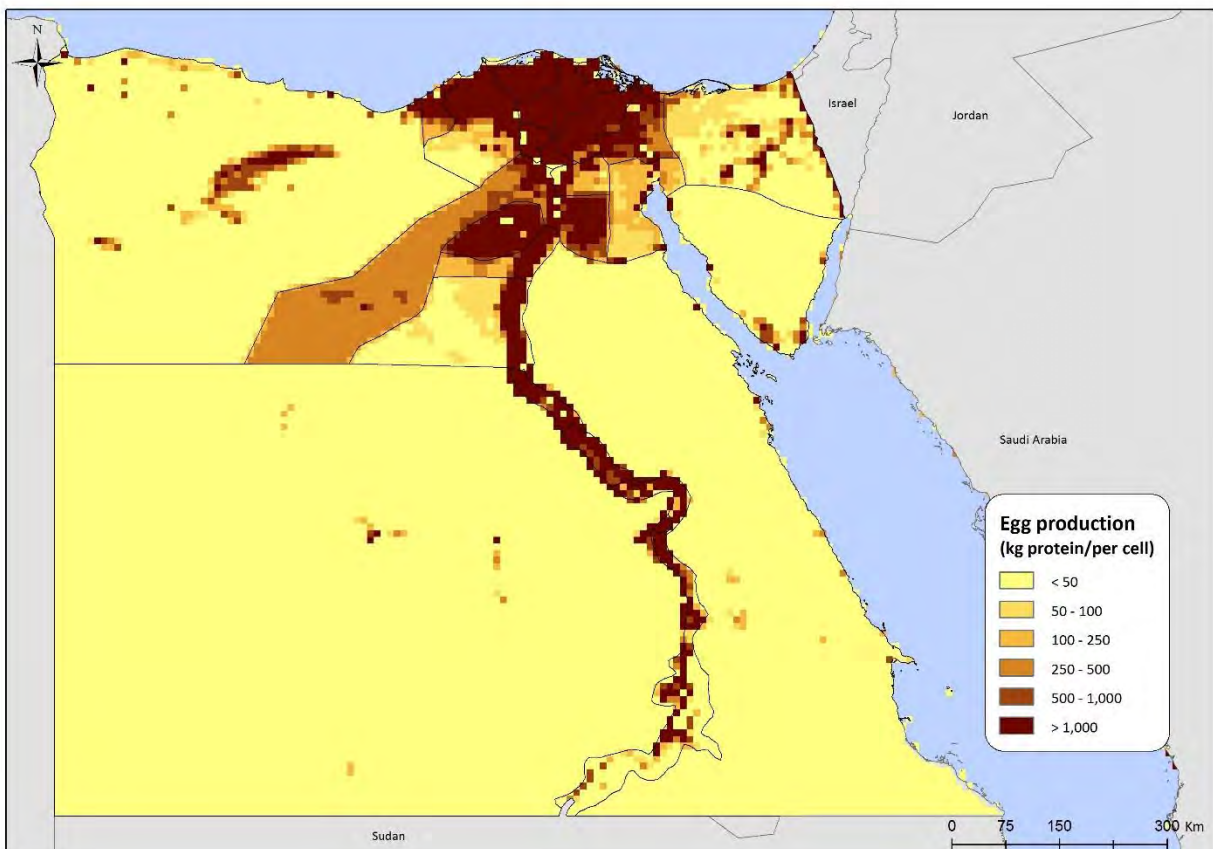
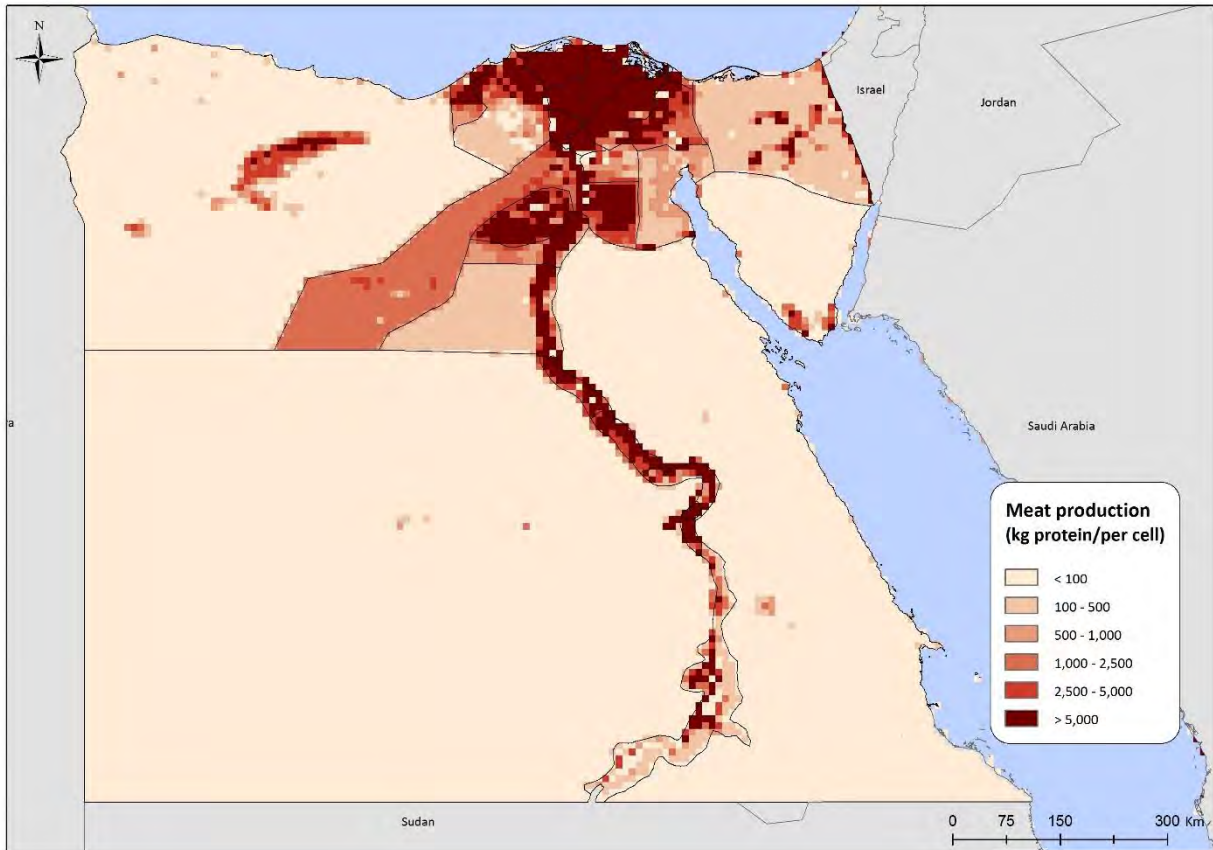
DALYs/100,000 people (2010)	Total	%
All causes	30,964	100.0%
<u>Nutr. deficiencies</u>		
<i>Protein-energy malnutrition</i>	96	0.3%
<i>Iron deficiency anemia</i>	970	3.1%
<u>Zoonoses</u>		
<i>GID (40% zoonotic)</i>	290	0.9%
<i>TB (2.8% zoonotic)</i>	1	0.0%
<i>Cysticercosis</i>	-	0.0%
<i>Rabies</i>	3	0.0%

Number of outbreaks of zoonotic diseases 2006 – 2017

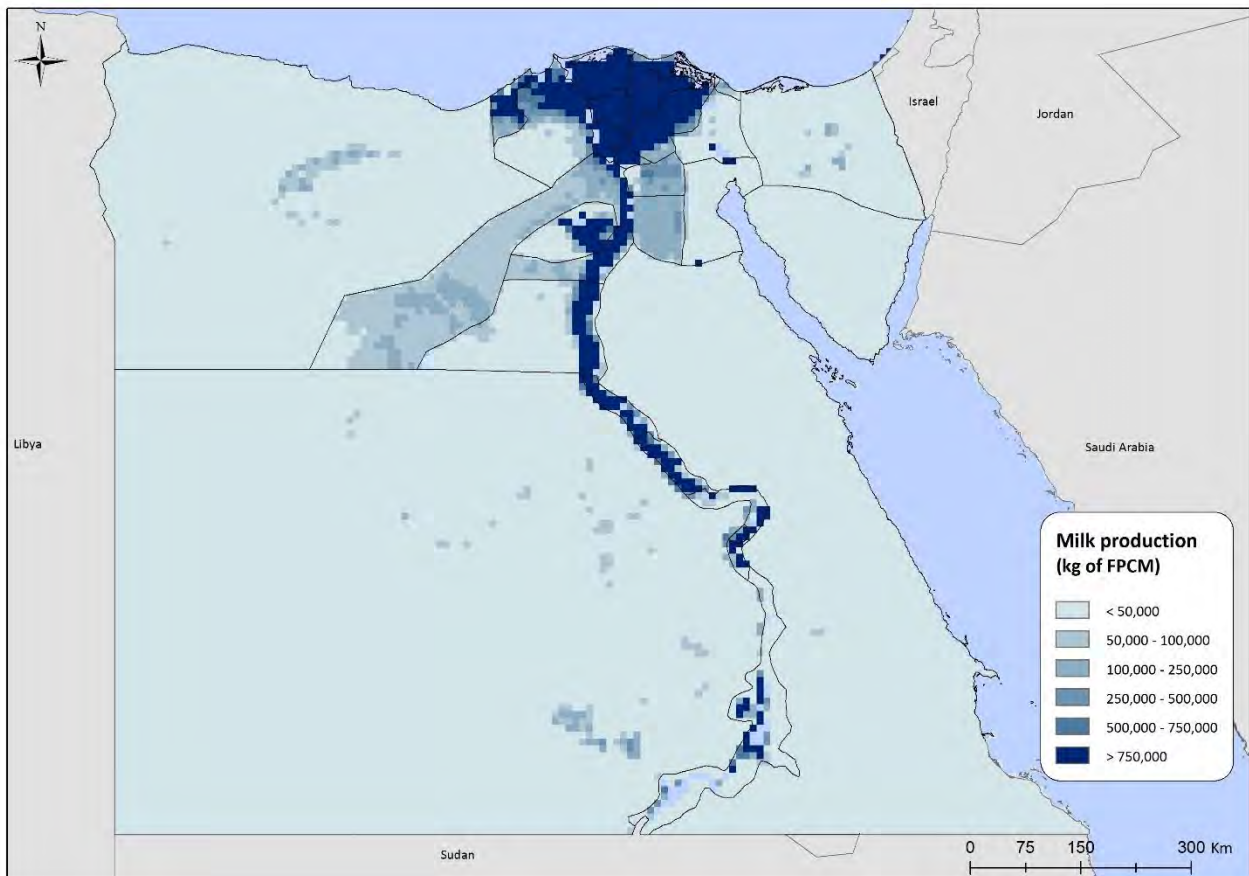
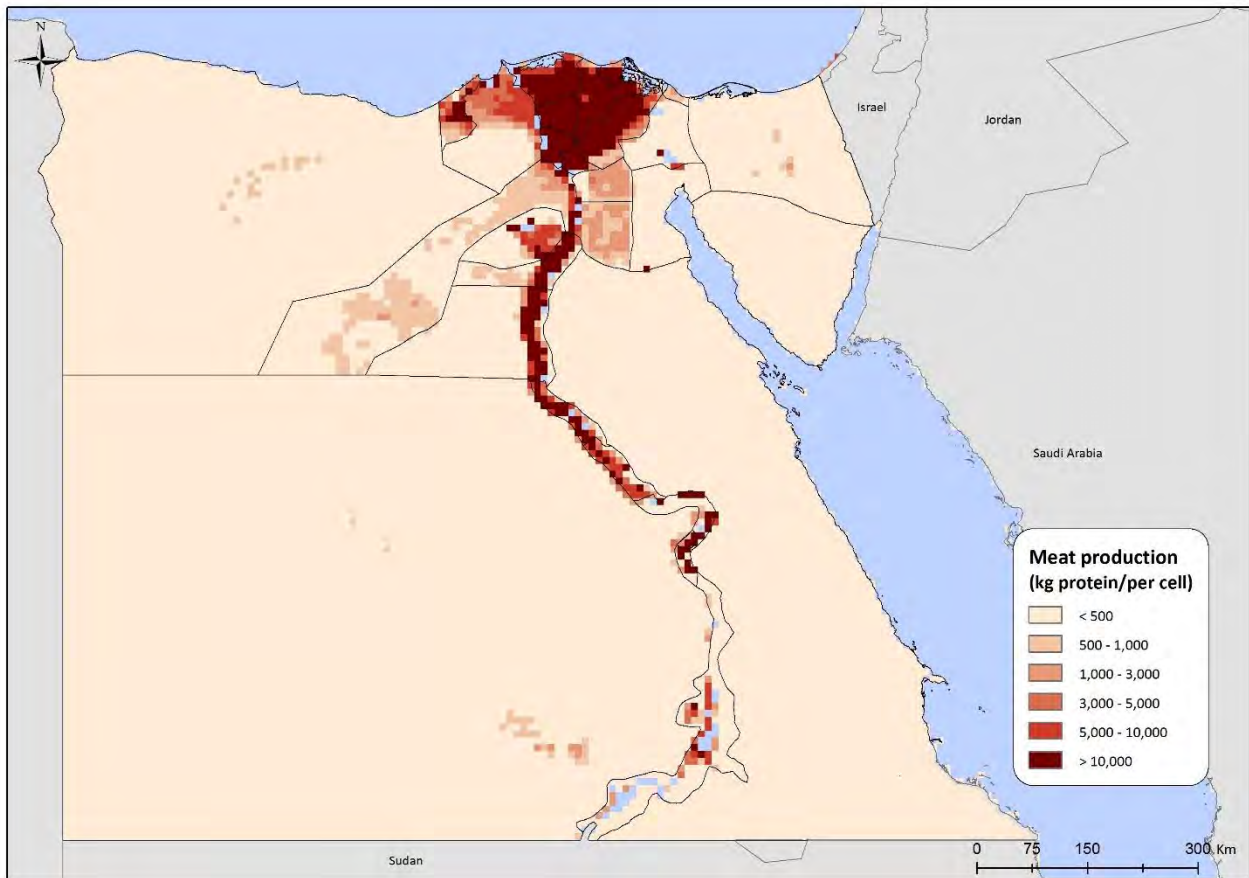
- **MoH- Egypt:** from 2006 on, a total of 359 **human cases** of HPAI have been confirmed in Egypt, out of which 122 have been lethal.
- **Empres-i:** from 2006 to 2017, 3,577 **animal outbreaks** of HPAI have been reported, with about 3 million animal cases.

Livestock maps

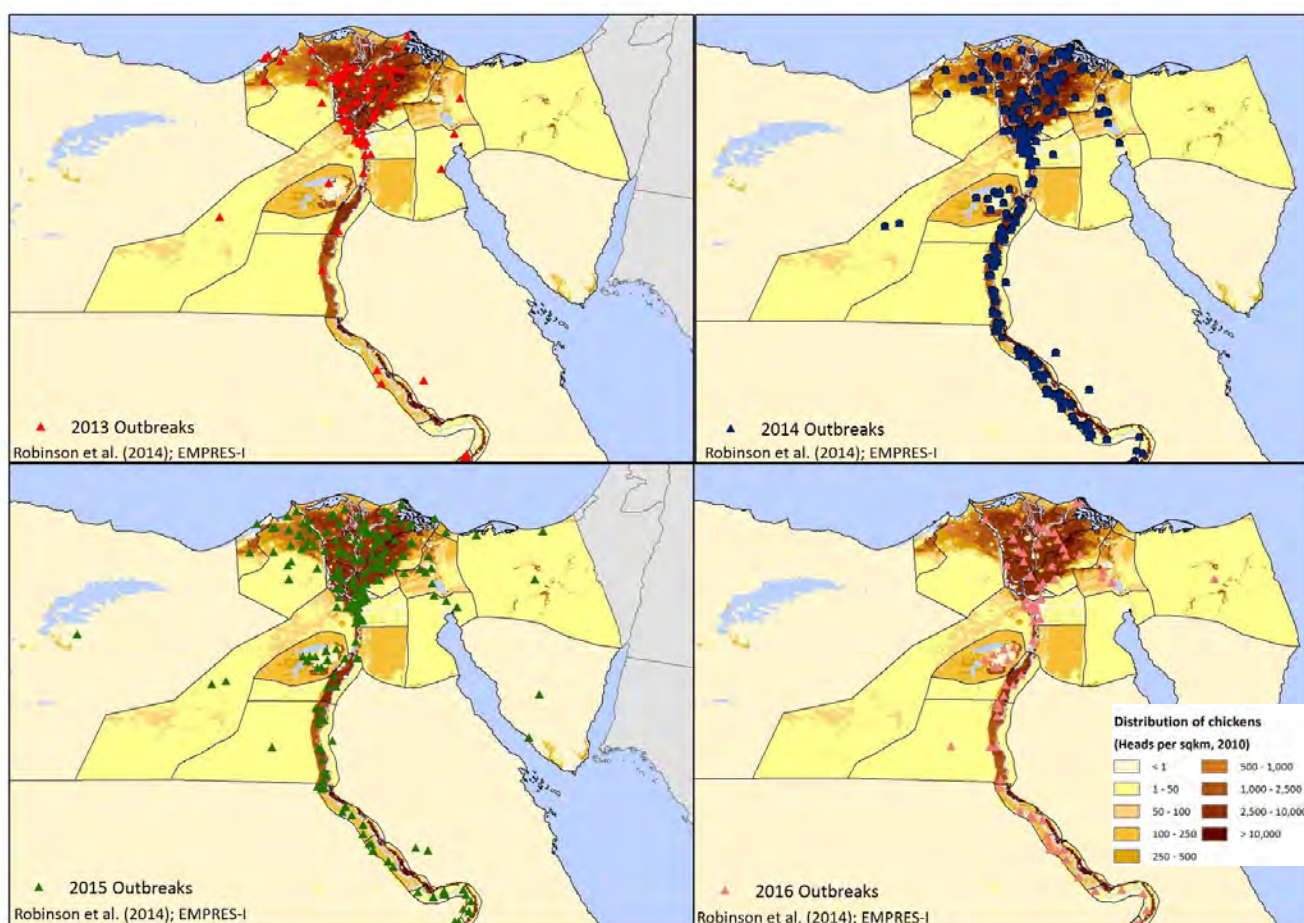
Chicken Production, Meat and Eggs (Kg protein/year)



Cattle production, meat and milk (Kg protein/year)



Poultry total distribution, HPAI outbreaks per year and distribution



Sources

- **Macroeconomic statistics and projections:** National accounts, UN Population Fund, UNDP data, FAOSTAT and OECD. Exchange rates to USD from the World Bank World Development Indicators Dataset. Trade **statistics** elaborated from FAOSTAT.
- **Consumption statistics:** Acosta and Felis (2016) and FAOSTAT.
- **Household level statistics:** Elaborated from Demographic and Health Surveys <http://dhsprogram.com/>
- **Livestock Statistics:** National accounts, FAO Gridded Livestock of the World.
- **Animal and human health statistics:** Empres-i, OIE, MoH Egypt, AU-IBAR. DALYs statistics elaborated from Institute for Health Metrics and Evaluation (2015) and Müller *et al.* 2013
- **Maps:** Gridded Livestock of the World: FAO, Université Libre de Bruxelles and Environmental Research Group Oxford, International Livestock Research Institute <http://www.fao.org/ag/againfo/resources/en/glw/home.html>;
Global Livestock Environmental Assessment Model: FAO: publicly available at <http://www.fao.org/gleam/en/>; FAO & New Zealand Agricultural Greenhouse Gas Research Centre. <http://www.fao.org/in-action/enteric-methane/en/>

