

# **THE CURRENT CHALLENGES FOR COMPETITIVENESS IN EU LIVESTOCK FARMING**

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# **FOOD SECURITY AND COMPETITIVENESS IN EUROPE**

# Is food security an issue in Europe?

- **European food production is comfortingly high** - for more than five decades, the EU has produced more than enough food to nourish its citizens in every single year
- **Production potential is even higher** - farmers can easily expand cultivated areas, use more intensive farming methods and shift production patterns to increase yields.
- **Saving food: the guaranteed reserve** - if food should ever become scarce - in the EU, about one third of the food production is lost after the harvest
- **World markets: an additional reservoir** - the EU has sufficient purchasing power to fulfil its needs even on a high-price world market.

# Is competitiveness an issue in Europe?

- In EU-27<sup>1</sup> the combined agricultural and food sector accounts for 17 million jobs (7.6% of total employment) and for 3.5% of total Gross Value Added
- But the increase in food demand generated by the rising global population is being satisfied mainly by emerging economies eg BRIC and other developing countries
- These countries are rapidly increasing production, productivity and competitiveness
- In contrast EU agricultural output is relatively static, and regulations within the EU are likely to slow down the rate of growth in production, productivity and competitiveness
- Clearly there are questions about EU competitiveness in an increasingly competitive global market place

<sup>1</sup>European Commission 2012

# Forward prospects for EU meat imports and exports

## European Commission view:

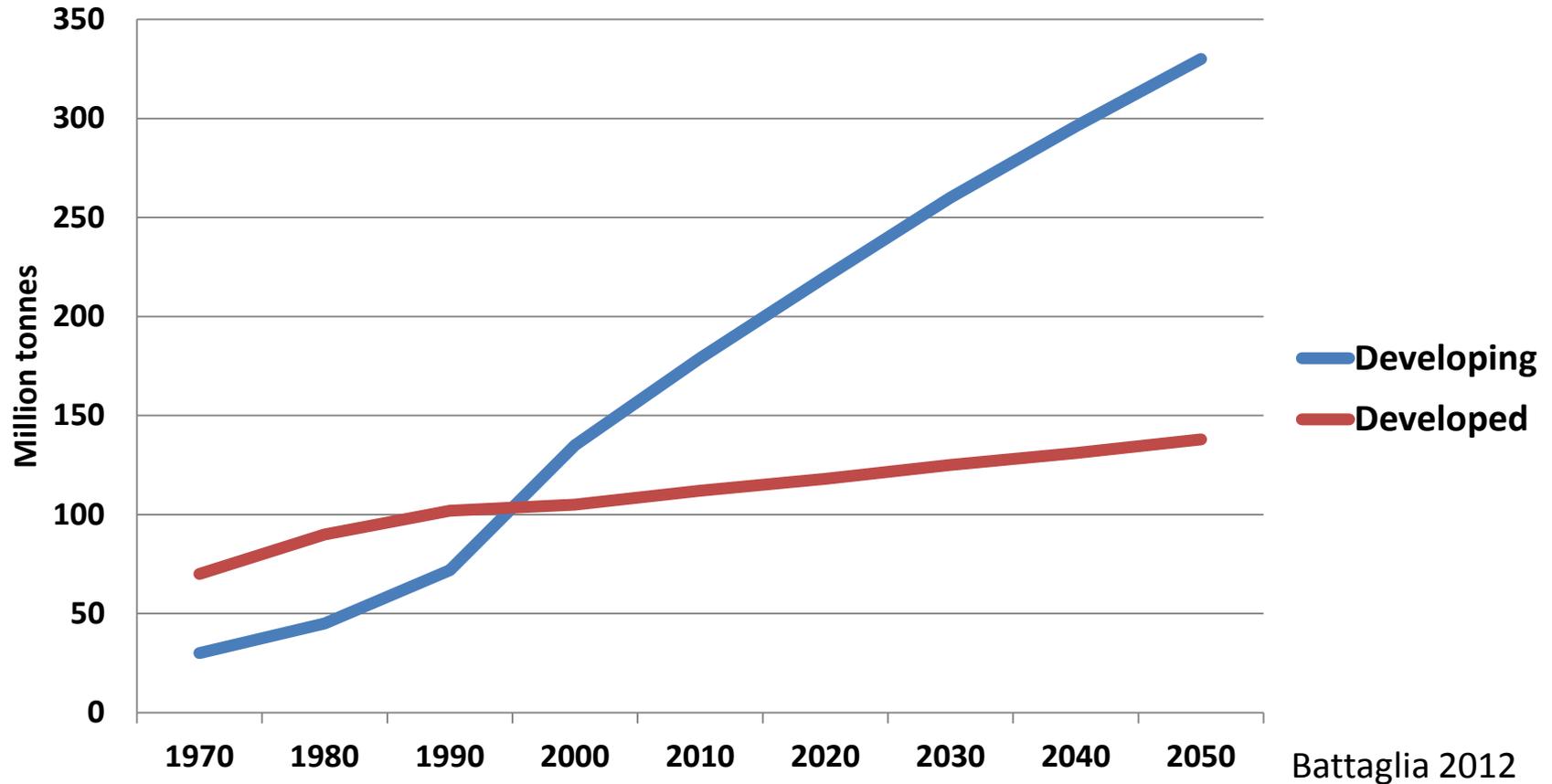
‘The net trade position of the EU is projected to deteriorate over the outlook period, driven by an increase in meat imports (of beef/veal, sheep and goat and poultry meats) and a parallel decline in exports of poultry.’

‘Aggregate meat imports would grow by 5.2% (2022 vs. 2011) and exports would decline by 6.8%’<sup>1</sup>

**Surely this provides a clear indication of declining competitiveness?**

<sup>1</sup>Prospects for Agricultural Markets and Income in the EU 2012-2020 (December 2012)

# Changes in global meat production



Forecast that future increases in global meat production will be mainly from developing countries with fast economic growth

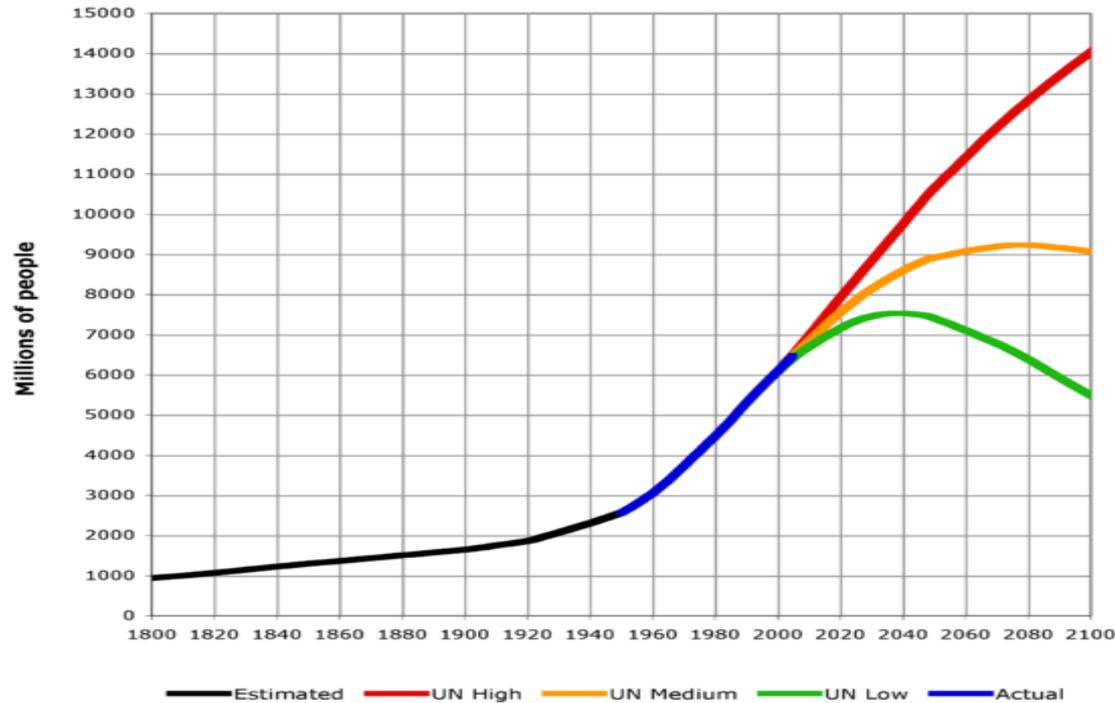
# **RAPID CHANGES IN GLOBAL FOOD SUPPLY AND DEMAND**

# The Global 'Perfect Storm'

- Food, energy water security have risen up the political agenda driven by global population growth and increasing concerns over climate change
- 'All of this is expected to cause a "Perfect Storm" of food, energy and water shortages as soon as 2030'<sup>1</sup>
- Future of agriculture must be in 'sustainable intensification' ie increased production with fewer inputs per unit of output, with less waste and with low environmental impact
- 'High priority needs to be attached to research and to facilitating the real world deployment of existing and emergent technologies'<sup>1</sup>

<sup>1</sup>Professor Sir John Beddington (UK Government Chief Scientific Adviser)

# Global population growth



Wikipedia 2010

Currently world annual growth is 75m people per annum, with a high proportion in developing countries

Strong consensus that global population will increase to over 9 billion by 2050 from today's 7 billion<sup>1</sup>

<sup>1</sup>United Nations 2008

# Changing world of food supply and demand

- Estimated that global food production will have to increase 50% by 2030 to satisfy the increase in food demand<sup>1</sup>
- But there will be a decreasing area of agricultural land per person available to produce that food (between 1967 and 2007 agricultural land available per person globally declined from 1.7 to 0.7ha)<sup>2</sup>
- Population growth, greater urbanisation and diet change in emerging economies are making livestock one of the fastest growing sectors of the global agricultural economy
- In the EU livestock contribute 39% of agricultural output compared with 19% for arable and 15% for fruit and vegetables

<sup>1</sup>Foresight Report 2011

<sup>2</sup>FAOStat 2010

## Global consumption of livestock products

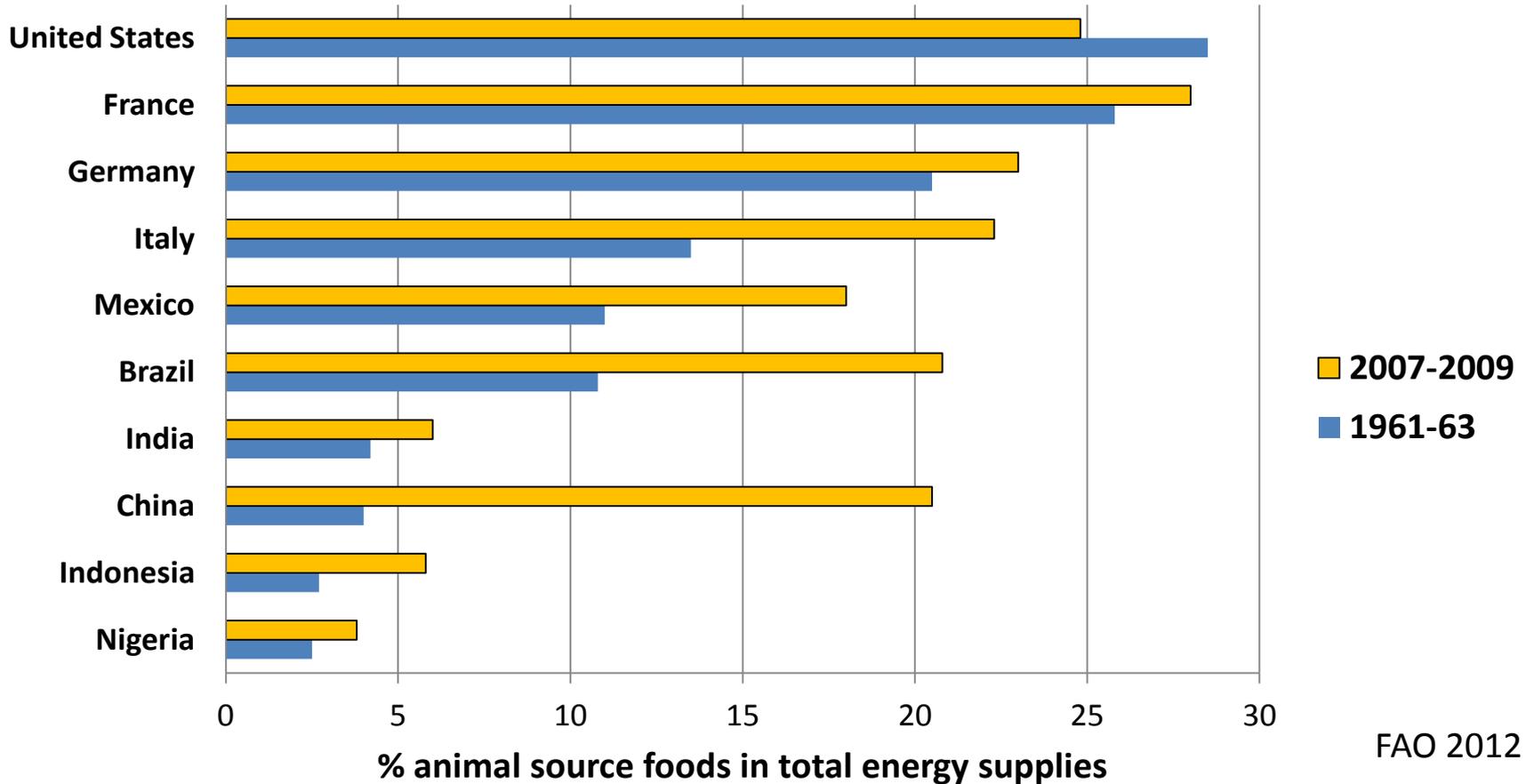
<u>Developed (kg/year)</u>	Meat	Milk	Eggs
1995	77	198	12
2007	82	208	13
% increase	7	5	8

<u>Developing (kg/year)</u>	Meat	Milk	Eggs
1995	24	41	6
2007	31	51	8
% increase	29	24	33

FAO 2009

Consumption of livestock products per person is increasing most rapidly in developing countries

# Proportion of animal source foods in the total diet



Diets in different countries are converging towards 20-25%  
of animal source foods in the total diet

# Global production of agricultural products

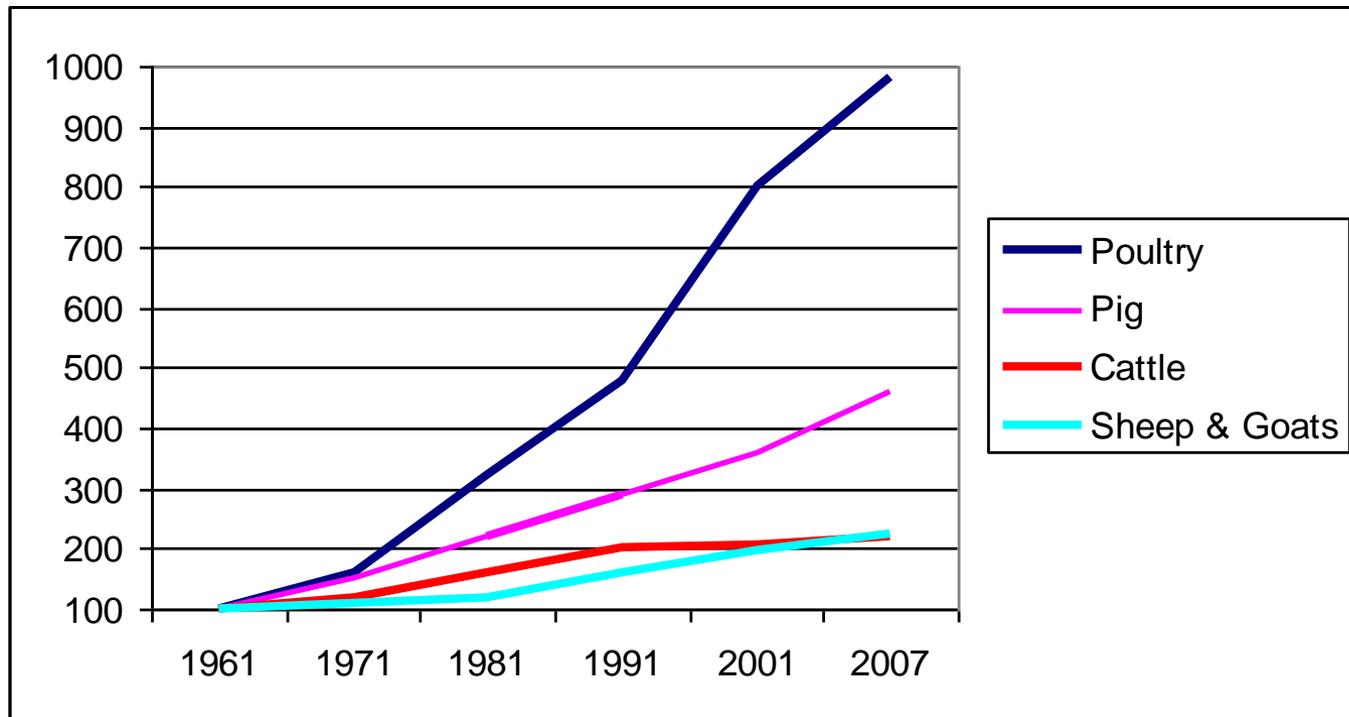
<u>Production (mt)</u>	Meat	Milk	Eggs
1995	207	540	47
2007	286	671	68
% increase	38	24	45

<u>Production (mt)</u>	Cereals	Oil crops
1995	1975	91
2007	2351	149
% increase	19	63

FAO 2009

Production of livestock products has increased to meet this rising demand, and also for cereals and oil crops which are partially used to feed livestock – especially pigs and poultry

# Global production of meat (1)



FAO 2009

Since 1961 poultry meat production has increased 10 fold, pig production 5 fold, and cattle, sheep and goat production has doubled

## Global production of meat (2)

m. tonnes	Pigs	Poultry	Cattle	Sheep	Total
1995	80	55	54	10	<b>199</b>
2007	115	87	62	14	<b>278</b>
% increase	44	59	14	35	<b>40</b>

FAO 2009

The most significant increases in production are in pig and poultry meat

**A CHALLENGE IS THAT LIVESTOCK SYSTEMS  
IMPACT ON LAND USE AND THE ENVIRONMENT**

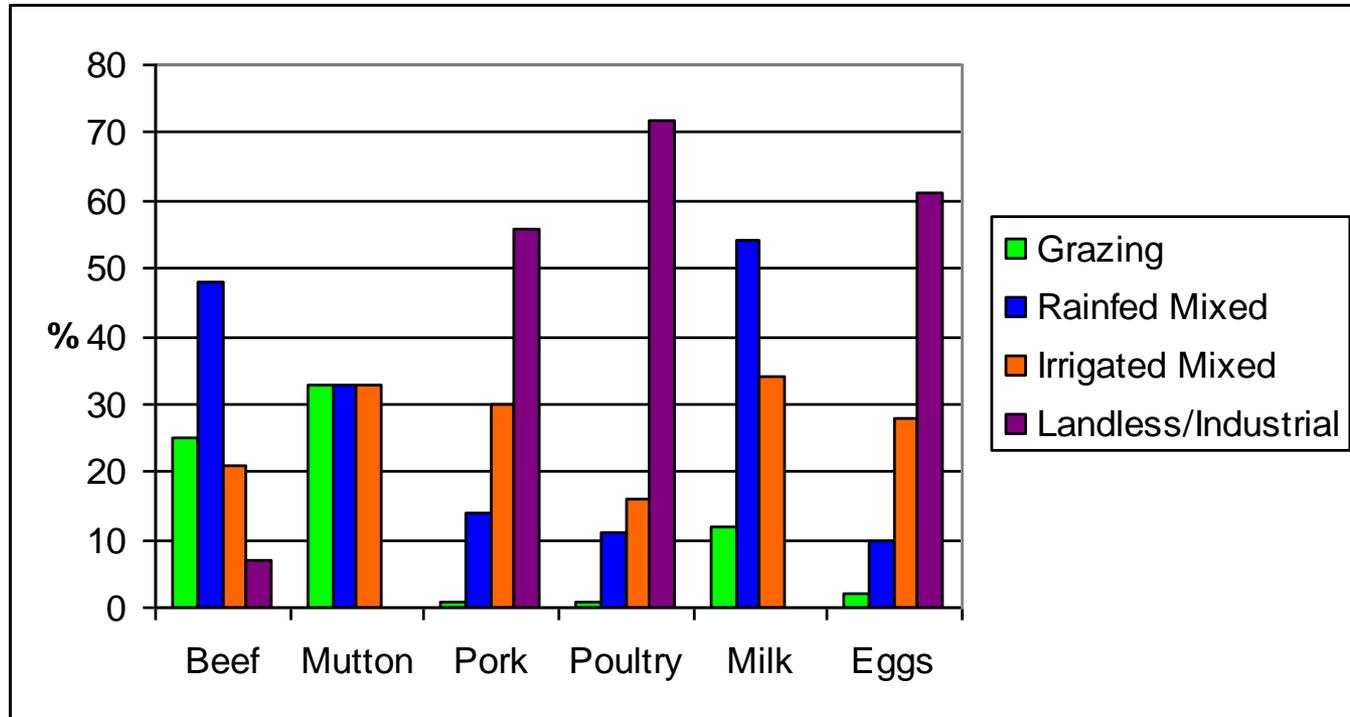
# GHG emissions of livestock and contribution to global warming

Emissions	% of total	Small rums	Cattle /Buffaloes	Pigs	Poultry
Land use & change	36	ns	***	*	*
Animal production	25	*	****	*	*
Manure management	31	ns	**	***	ns
Feed production	7	ns	*	**	**
Processing & transport	<1	ns	*	*	***

FAO 2009

Livestock produce 9% carbon dioxide, 37% methane and 65% nitrous oxide of total anthropogenic emissions and 18% of global anthropogenic GHG emissions

# Systems of production (1)



FAO 2009

Production from the industrial (intensive) sector has grown twice as fast as that from more traditional mixed farming systems and more than six times faster than from grazing systems

## Systems of production (2)

- Livestock sector is becoming more capital-intensive, with more specialised larger units, but with higher productivity levels (efficiency of production)
- Wide range of technologies used including animal nutrition, genetics, health and housing to improve productivity
- Increased productivity means less energy, land and water required per kg livestock product – so environmental benefits
- Shift towards pigs and poultry production has improved the livestock sector's overall feed efficiency
- But expansion of the global livestock sector means impacts on animal disease, food safety and the environment - and these will rise in prominence

**ANIMAL DISEASE-RELATED PROBLEMS  
ARE LIKELY TO INCREASE**

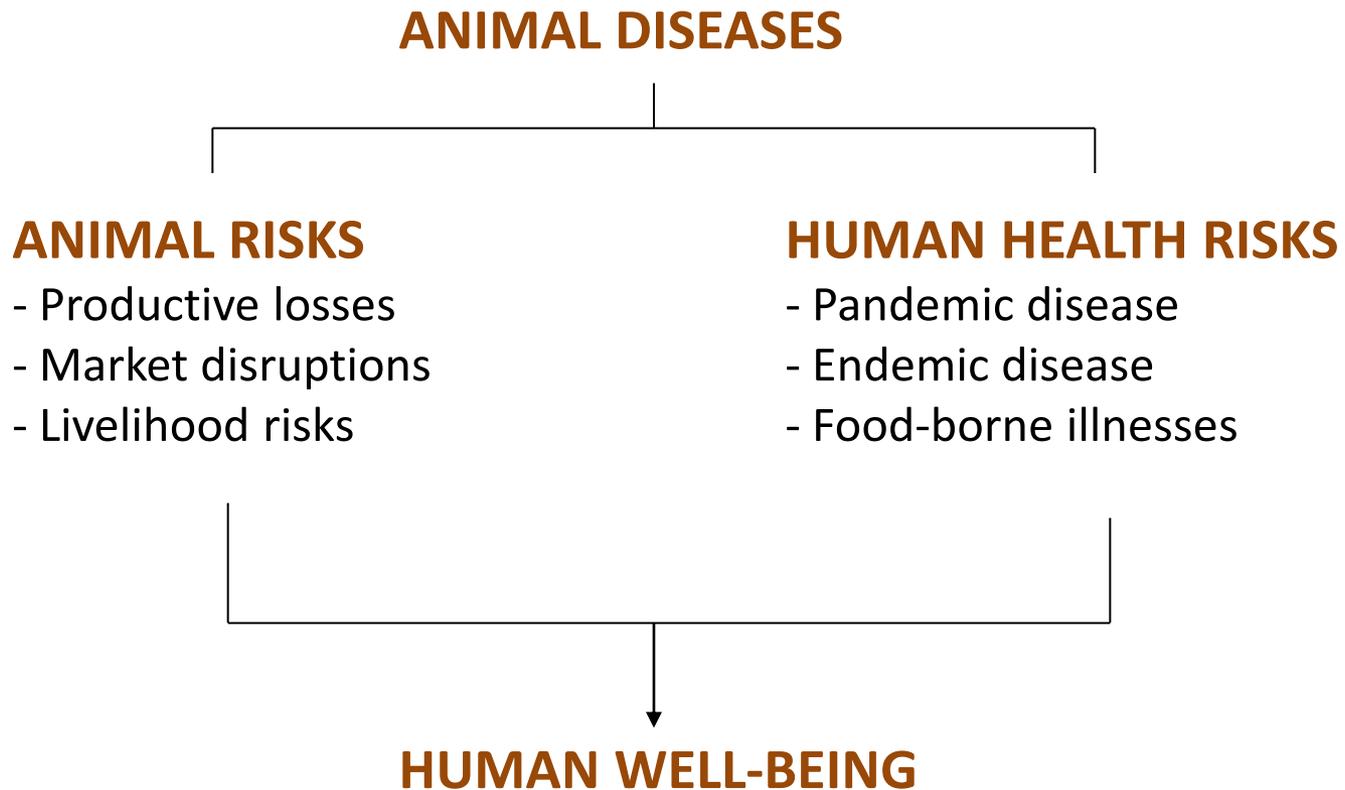
# Animal disease

- Globally, average losses from animal disease are more than 20% and good animal health is a pre-requisite for efficient livestock productivity
- Consumers have confidence in the food chain using animal medicines appropriately to produce safe food<sup>1</sup> (even though many vaccines now produced by GM)
- Concerns are directed more at animal welfare, living conditions, hygiene standards on farms and what animals are fed<sup>1</sup>
- Risk of disease transmission from animals to humans will increase due to human and livestock population growth, changes in livestock production, emergence of worldwide food networks and a significant increase in the mobility of people and goods<sup>2</sup>

<sup>1</sup>NOAH, 2009

<sup>2</sup>FAO ,2007

# Impacts of animal disease on human well-being



# **SUMMARY AND CONCLUSIONS**

# Summary

- Growth in productivity is essential if EU farms are to be competitive with the rapid growth of efficient farming businesses outside the EU
- Without competitiveness the EU will produce less and import more of its food and food products
- This has implications in the longer term for EU food security
- Innovation and R&D in animal science are essential to the development of more sustainable systems of production and of animal health
- The production of a new generation of safe and effective vaccines, prophylactics and treatments is an important component of future productivity and competitiveness

# Conclusions

- The increase in livestock production and productivity over the past 50 years represents **a success story for science and practice**
- However **the future will present many new economic, environmental and social challenges** in addressing the rising demand for livestock food products
- It is essential that policies within the EU, especially the CAP, have **sustainable intensification of food production as their strategic priority** - otherwise future food security will be increasingly at risk