

# **Cost-Benefit of Foot and Mouth Disease Control on Global Food Security**

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# FMD and Markets

- **Developed economies**  
actual or potential losses
  - Great Britain 2001 outbreak:  
**5 Billion U\$**
  - California simulation exercise:  
**possible losses 8 – 13 billion U\$**

# FMD and Markets

- **Meat exporting developing economies**

Enormous potential losses

- **Brazil:** meat exports 5 billion U\$s/year
- **Uruguay:** meat exports 1 billion U\$s/year
- **Paraguay:** meat export 0,7 Billion U\$s/year

# FMD and Markets

- **Low-income, non meat exporting countries :**

**What are the market impacts of FMD ?**

**What are the incentives ?**

**What are the allocation of resources ?**

# FMD and Food Security

## Poverty and extreme poverty a serious problem

- **1000** or more million persons suffer food insecurity (USDA and FAO studies, 2007)
- Last 4 years number food insecure persons *increased* by 75 – 133 million (USDA and FAO studies, 2007)
- **700** or more million of worlds poor (income < 1 US\$/day) are livestock keepers (ILRI study)
- **How are poor livestock owners and consumers affected by FMD?**

# Impacts of animal diseases on the poor economies

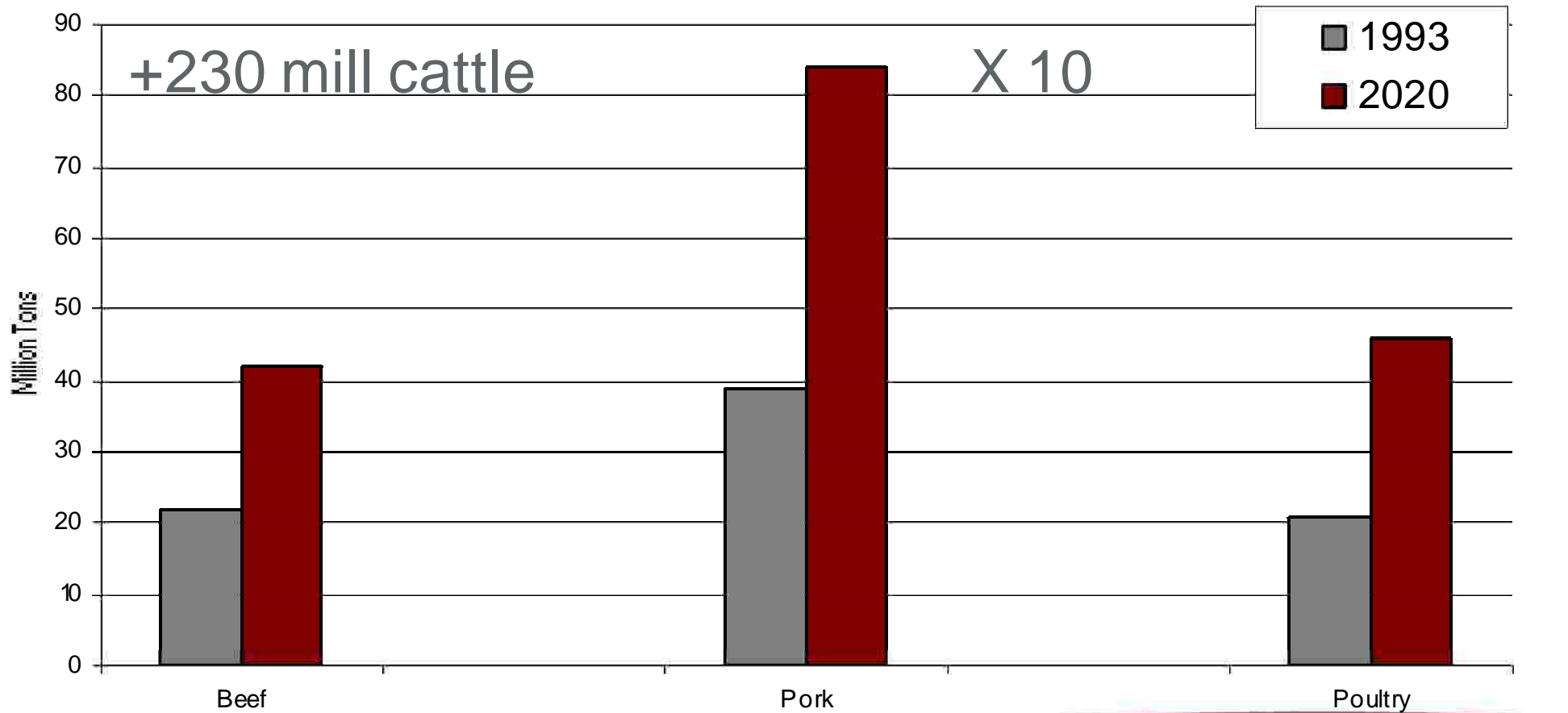
- **Most evident impacts :**
  - **Mortality/morbidity/ Treatment costs**
  - **Restrictions on access to domestic markets**

# Impacts of animal diseases on the poor economies

- **Hidden impacts (may be more important than above)**
  - Reduced medium and long-term productivity gains
  - Reduced incentives for saving *and* investment
  - Increased production and household uncertainty
  - Indirect impacts on human well-being

# Projected Production Trends Developing Countries 1993-2020

Source: Delgado, Courbois and Rosengrant 1998.





# Impacts of Increase in Livestock Production 1993-2020\*

Increase in number of animals  
Cattle +230 Mill

Increase in Disease Risk

Increased B/C  
of Resources  
Allocated to OVS

Production intensification

# Livestock Production and Food Security

- Per-capita consumption of livestock products in developing countries less than 1/5 of developed economies.
- Research results show for developing and poor countries: positive impact of livestock ownership on nutrition status
- High-energy, high protein food. Source of micronutrients

# Livestock Production and Food Security

- Positive impacts on child nutrition
- Positive impacts on household savings and asset base

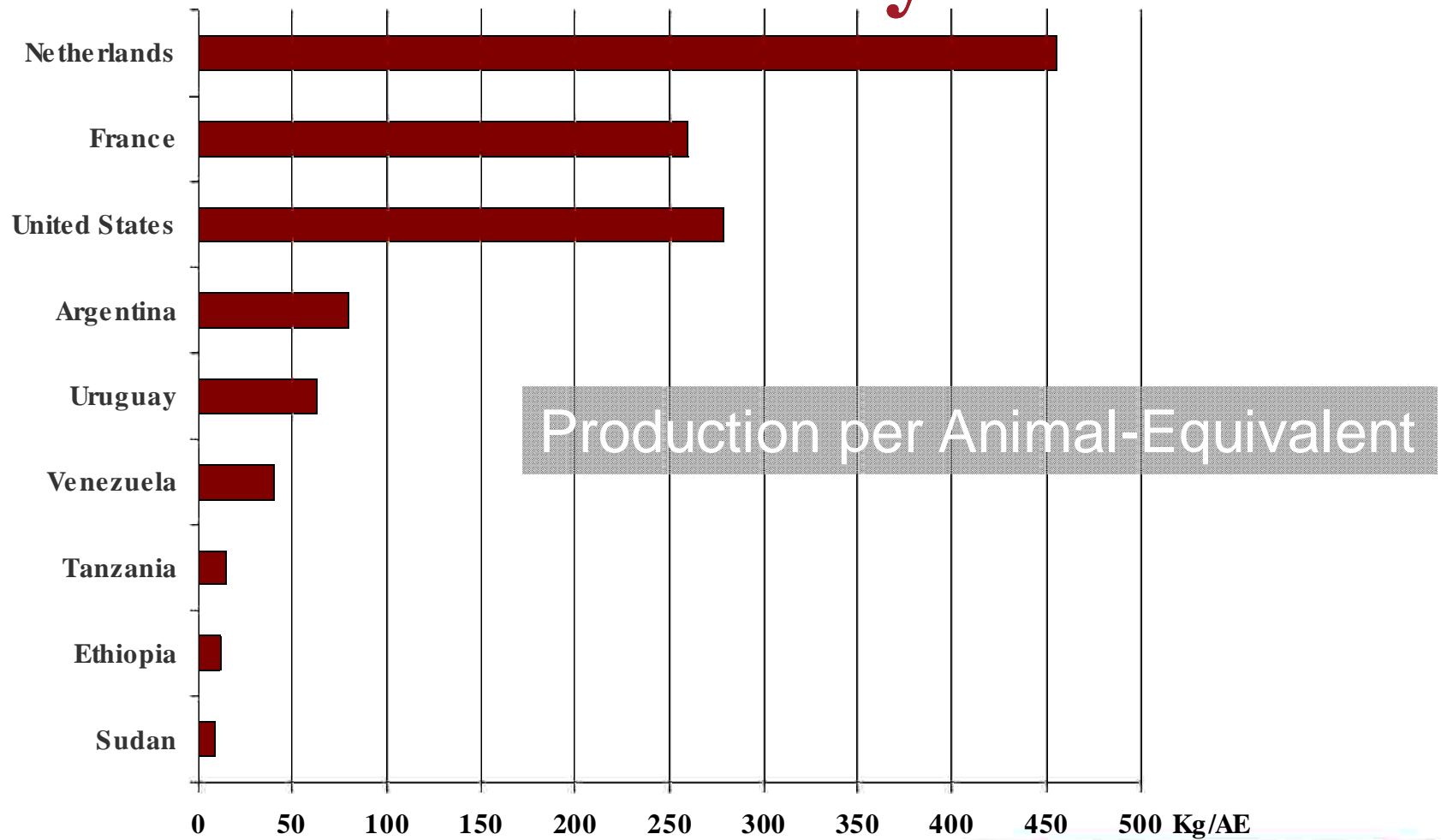
# Economics of FMD Control in Developing Countries

- **Developed and meat exporting countries:**
  - High B/C of programs directed to FMD prevention/erradication
- **Less developed countries:**
  - What are the incentives for FMD control?

# B/C of FMD Control in Developing Countries

- **Proposition:** Low livestock productivity both a *consequence* and a *cause* of underinvestment in Animal Health programs
- **Implication 1:** Economics (including C/B analysis) of AH programs should be viewed as part of overall livestock development effort
- **Implication 2:** Priorities should be set according to C/B criteria

# Enormous Gaps in Livestock Productivity

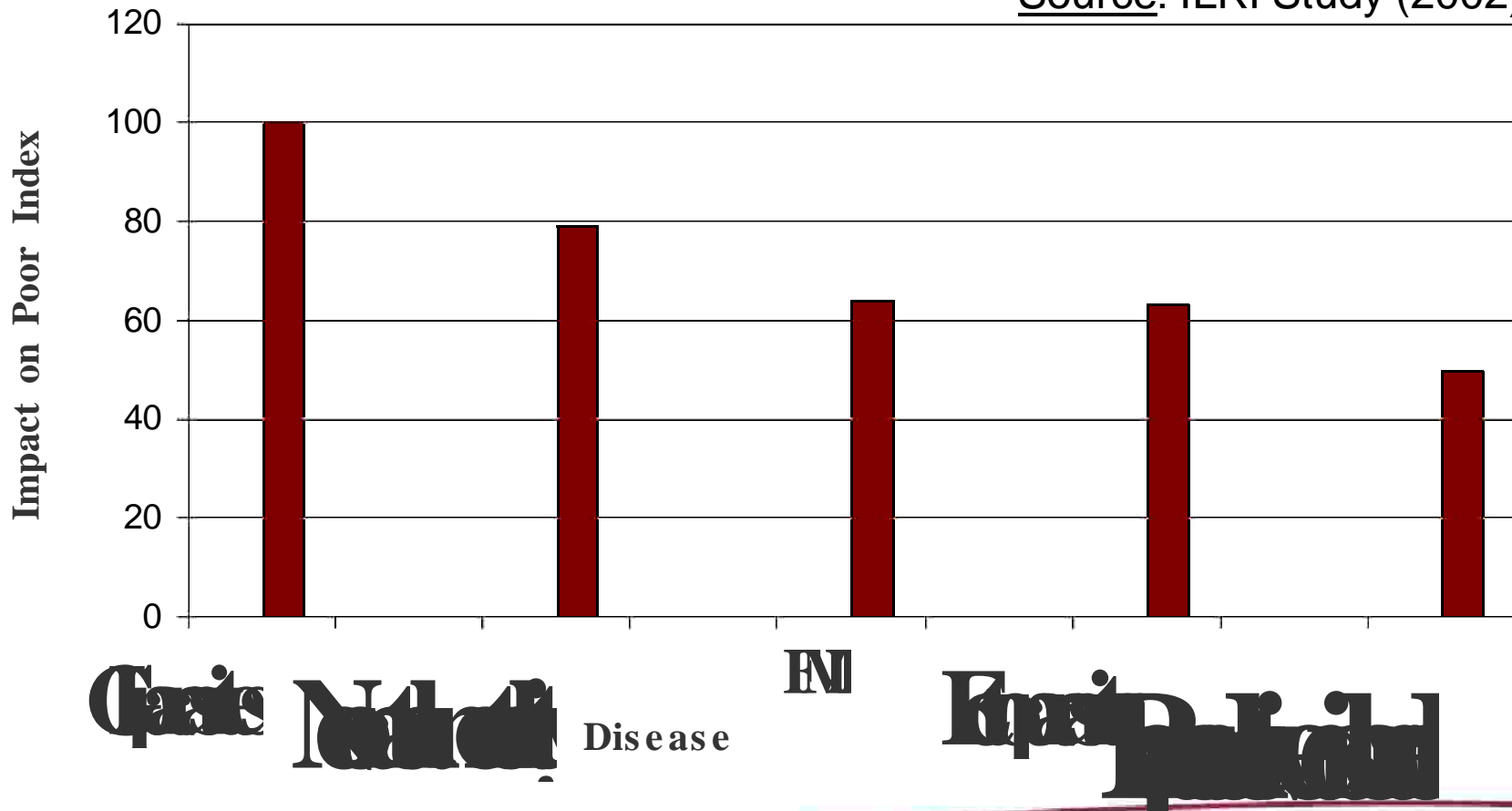


# Resource Allocation in Poor Countries

- Budget for VS competes with other public programs (human health, education, infrastructure, ag research)
- Given a budget constraint for the OVS, how are priorities set among different programs?
- Role of C/B analysis in decision-making?

# Poor countries : Animal Health Resource Allocation

Source: ILRI Study (2002)





# Possibilities for “Economies of Scope”?

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	GI parasites	FMD
Total impact on poor	++	+
Total cost of control	++	++
Technical complexity	+	++
Probability of success	?	?
“Public good” dimension	-	+++

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(entries are only illustrative)

# Conclusions (I)

- Developed and meat-exporting developing countries:
  - FMD can cause billions of dollars of losses
  - FMD control in less-developed countries also benefits developed countries

# Conclusions (I)

- Low-income, food deficit countries :
  - Severe constraints for effective FMD programs
  - FMD eradication increasingly important given livestock production and consumption trends for next decades
  - Increase benefits from FMD control/eradication can be expected

# Conclusions (II)

- International assistance benefits *both* developed and developing countries
- Transference of Resources from  
Developed to Developing

# Conclusions (II)

- **Focus and linkages**
  - Quality of Veterinary Services
  - C/B analysis
  - PVS and Gap Analysis
  - Political commitment

**Thank you !**