Global Food Systems

One World One Health
2-4 October 2007
Brasilia, Brazil

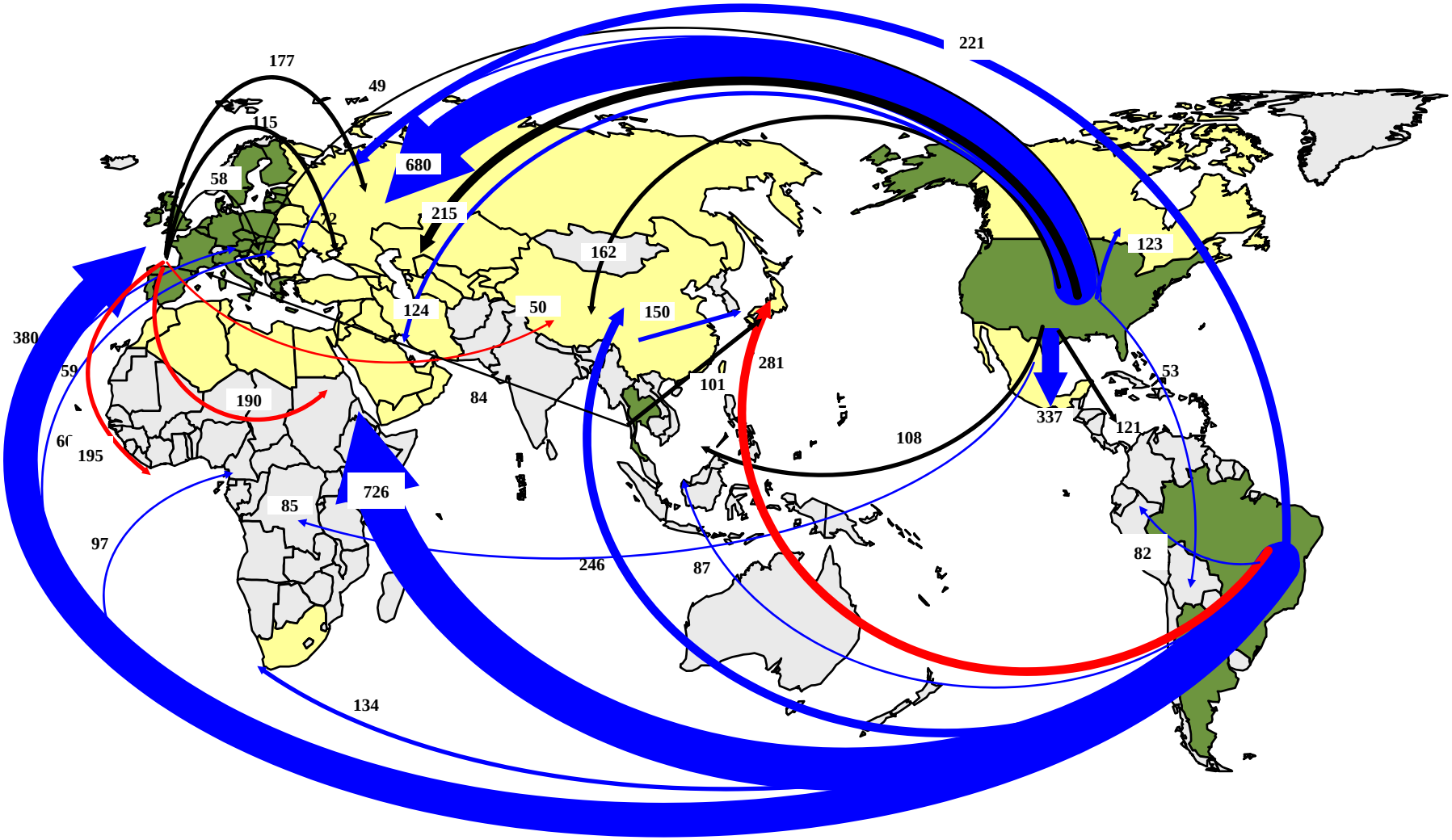
- An International Provider of Food, Agricultural and Risk Management Products and Services

- Over 150,000 employees in 63 countries

- Customer Solutions: Food Ingredients, Grain & Oilseed Processing, Animal Proteins (Beef, Pork, Poultry & Eggs), Animal Feed & Feed Ingredients, Risk Management & Transportation

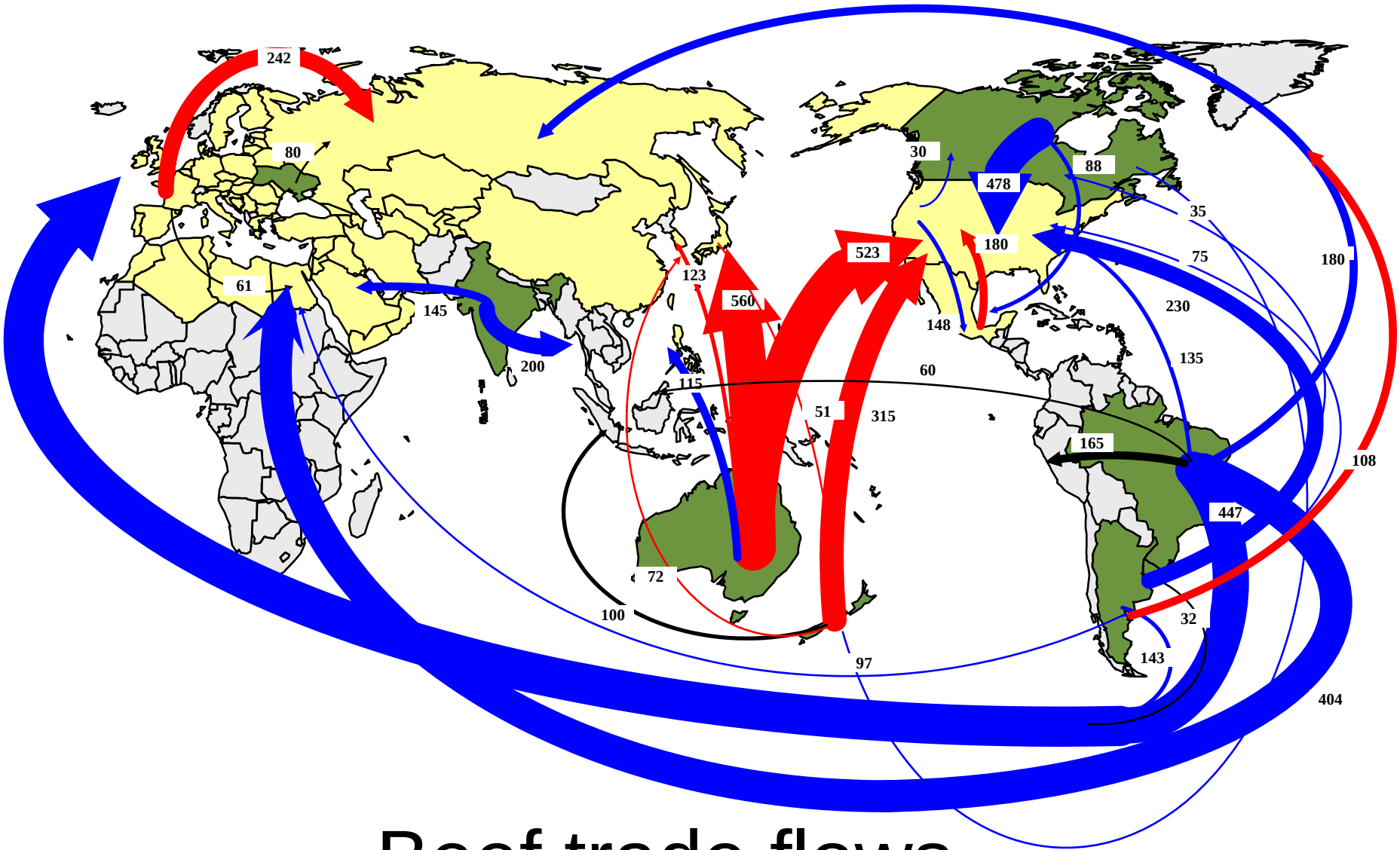
Global Leader in Nourishing People

Photo: D. Harlan



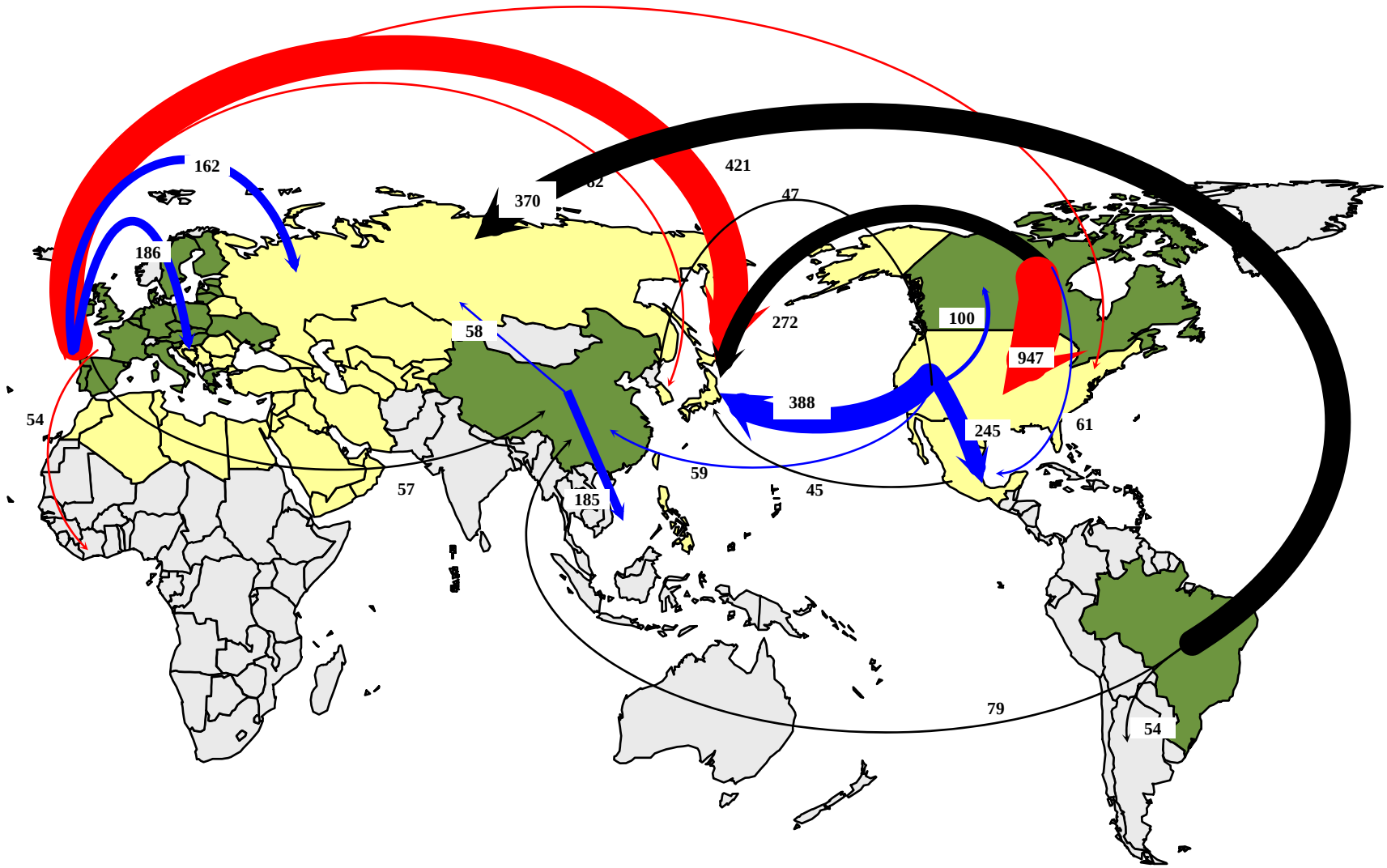
Poultry trade flows

Source: GIRA, 2004



Beef trade flows

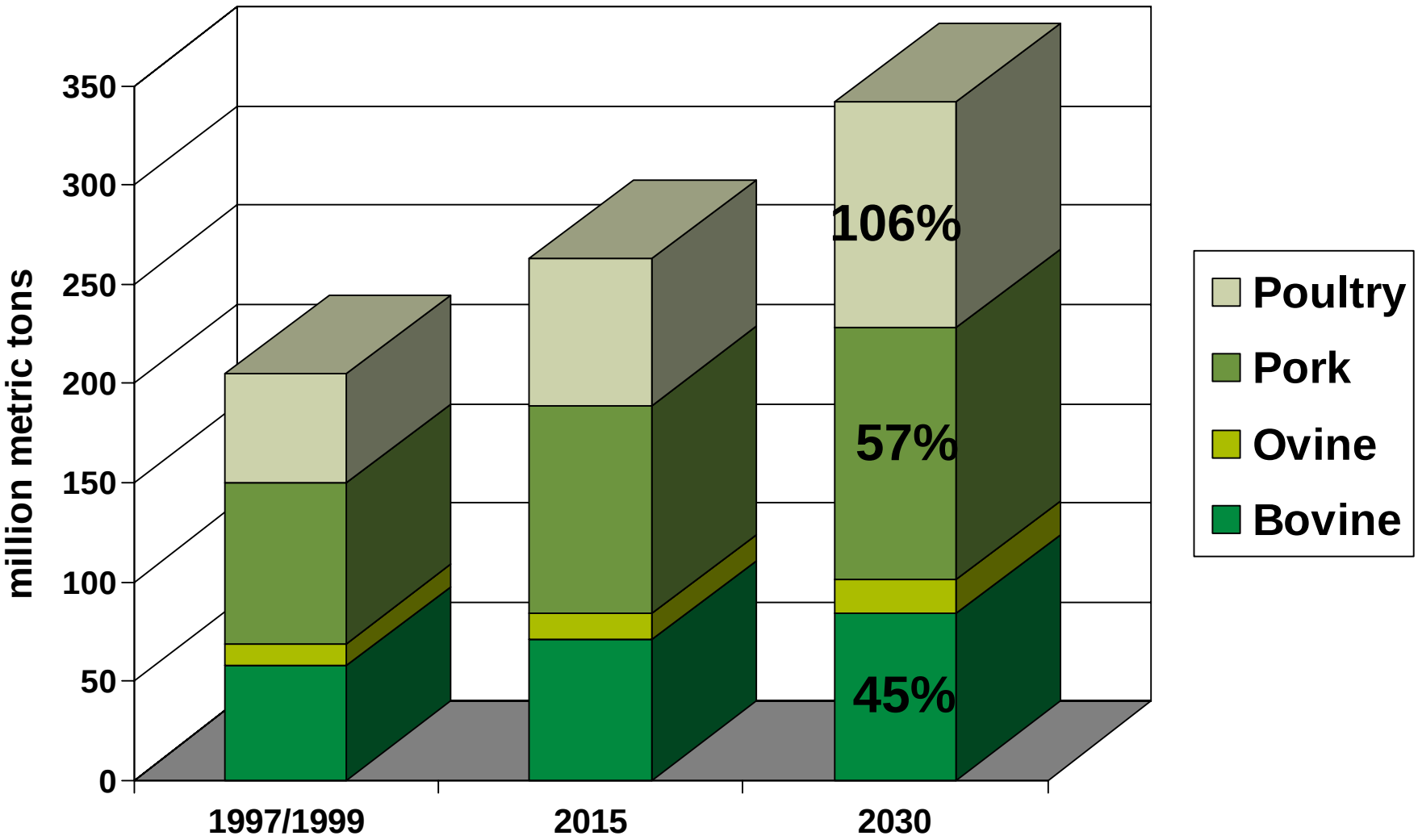
Source: GIRA Meat Club, Dec 2004



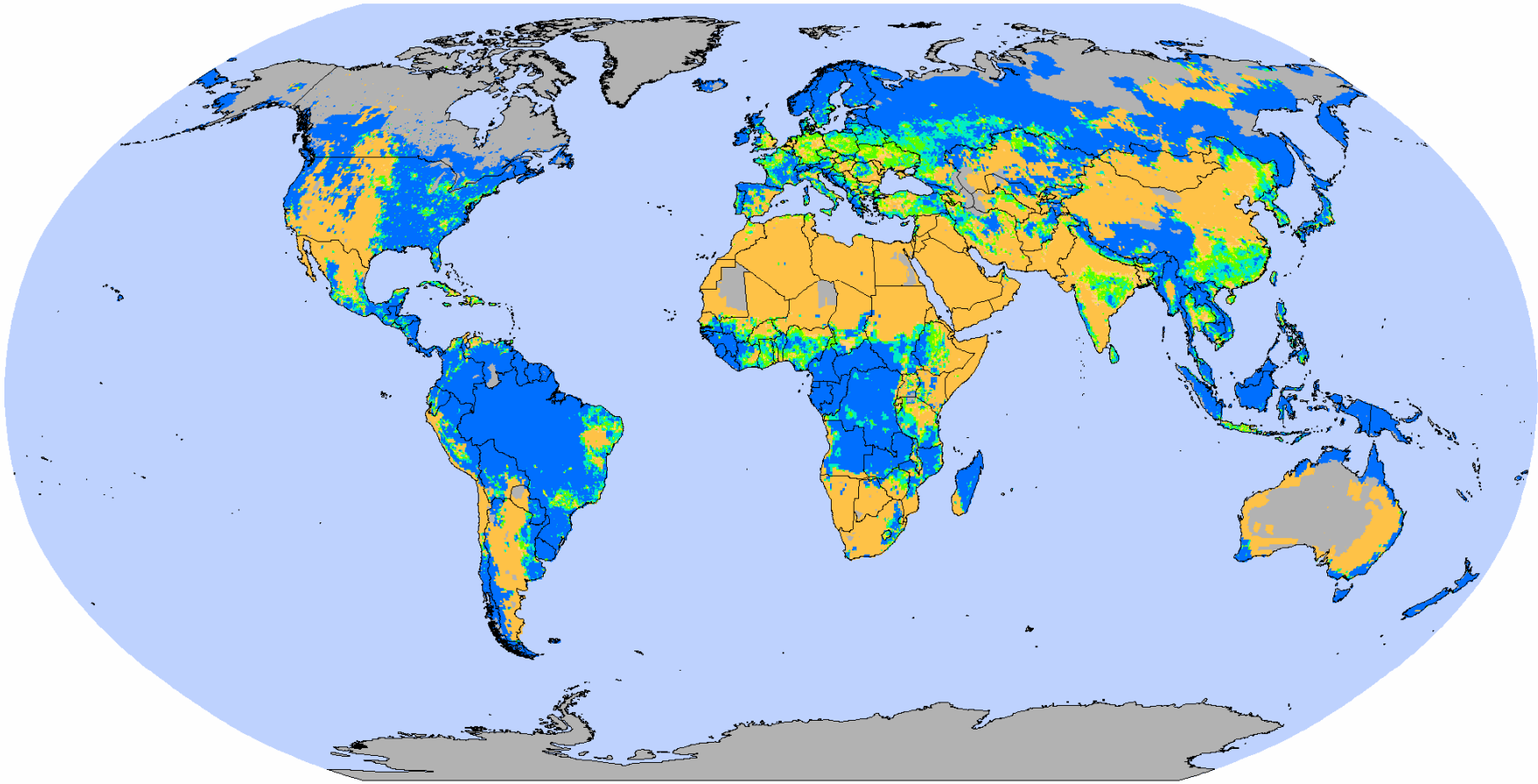
Pork trade flows

Source: GIRA Meat Club, Dec 2004

Global Meat Demand by Protein



Global Annual Renewable Freshwater Availability (2.5 minute)

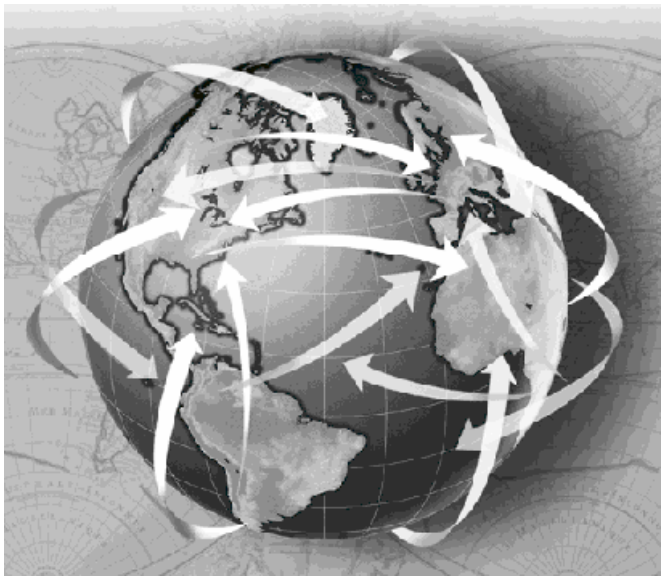


Annual Renewable Freshwater Availability [m^3/capita/year (gallons/capita/year)]

- ≤ 500 (132,000) -- Extreme Scarcity
- ≤ 1,000 (264,000) -- Scarcity
- ≤ 1,700 (448,800) -- Stress
- ≤ 4,000 (1,056,000) -- Adequate
- ≤ 10,000 (2,640,000) -- Abundant
- > 10,000 (2,640,000) -- Surplus

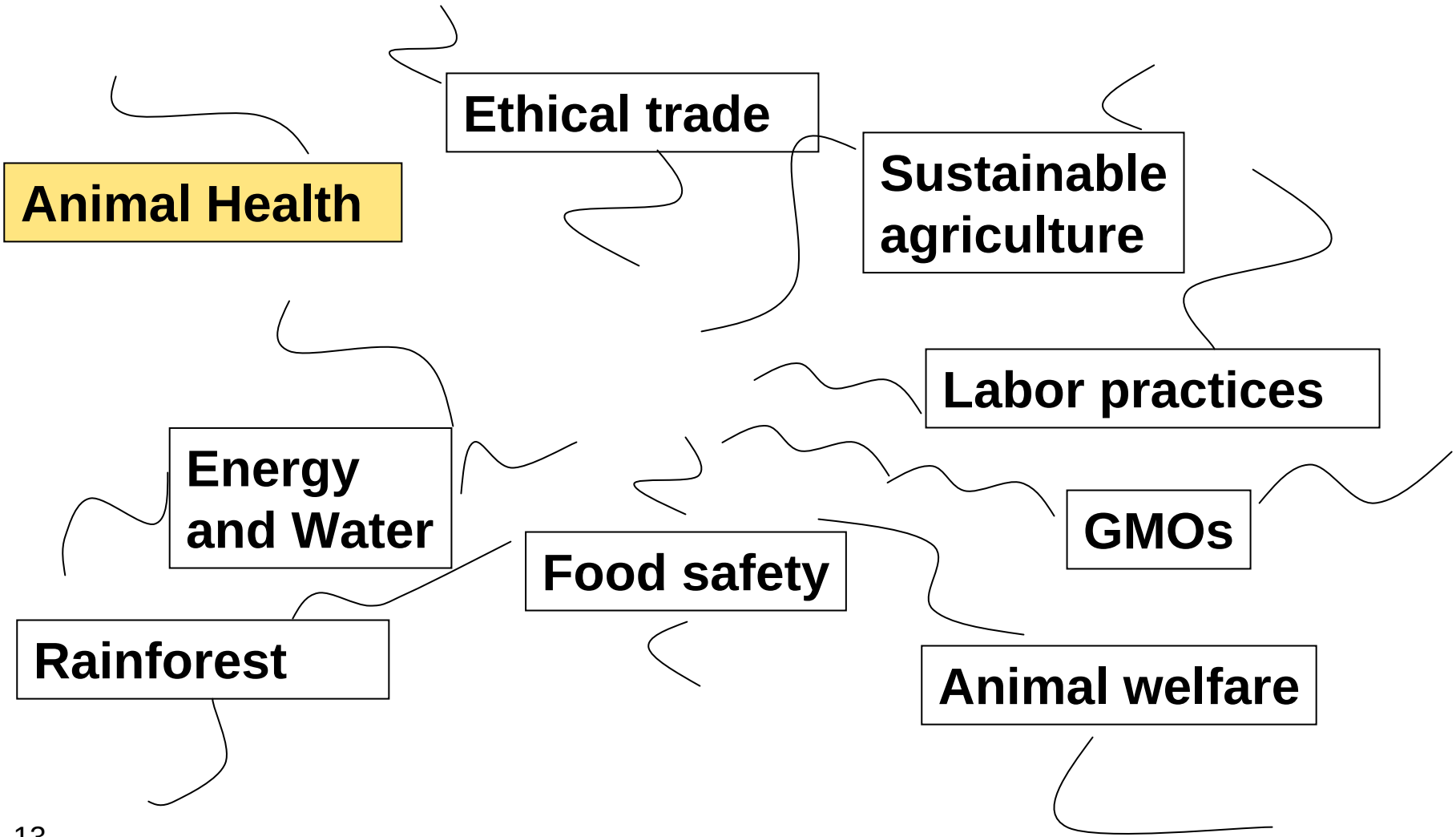
Sources: ISciences, LLC (processing & visualization); University of New Hampshire & Global Runoff Data Center (annual freswater runoff); Center for International Earth Science Information Network, Columbia University (population); United States Geological Survey (water sheds, rivers), Geoscience Australia (Australian watersheds); ESRI, Inc. (national and state/province boundaries).

Benefits of a Global Food System



- Produce in optimal regions
  - Resources, Labor, Water, Soil
- Balance annual and seasonal production variations
- Optimize value of “parts”
- Stimulates global economic development
- Increased variety of food for global consumers

Complex Global Food System Issues



The Wakeup Call

H5N1

Aftosa

BSE

Animal Diseases

- Disrupt lives, societies and supply chains
- Impact consumer confidence
- Inflict huge economic damages
- Are increasing in frequency and severity

70% of known pathogens are zoonotic

- Food-borne, environmental and direct animal contact
- Virus evolution into new strains (ex: pandemic)

Some Observations

- Disparity in animal and public health capacity undercuts global disease control
- Failure to recognize the global public good of animal and public health systems
- National self-interests often trump global needs
- Failure to implement science-based trade standards needed to optimize global food systems
- Lack of integration between the animal, human and wildlife/environmental health communities
- Resistance to technology limits solutions
- Lack of sustainable models for animal health services in the developing world

A New Reality?

- Not all diseases can be eradicated globally
- Diseases do not always respect borders
- Most diseases do not require complete trade suspension to prevent, control, eradicate
- Prevention and risk management are more effective than a crisis response

Governments alone can not effectively manage risk

Role for Public Private Partnerships

SSAFE
SAFE SUPPLY OF AFFORDABLE FOOD EVERYWHERE

one world • one health

Opportunities

- Public-Private Partnerships
- Implementation of international standards
- Veterinary Services capacity building
- Adopt tools to limit supply-chain disruption
  - Compartmentalized animal production
  - Geographic Zoning where appropriate
- Leadership Development
- New VS models for the developing world

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Photos: D. Harlan