Livestock in urban areas

Identification, problems and (suggestions for) solutions

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Animals and people

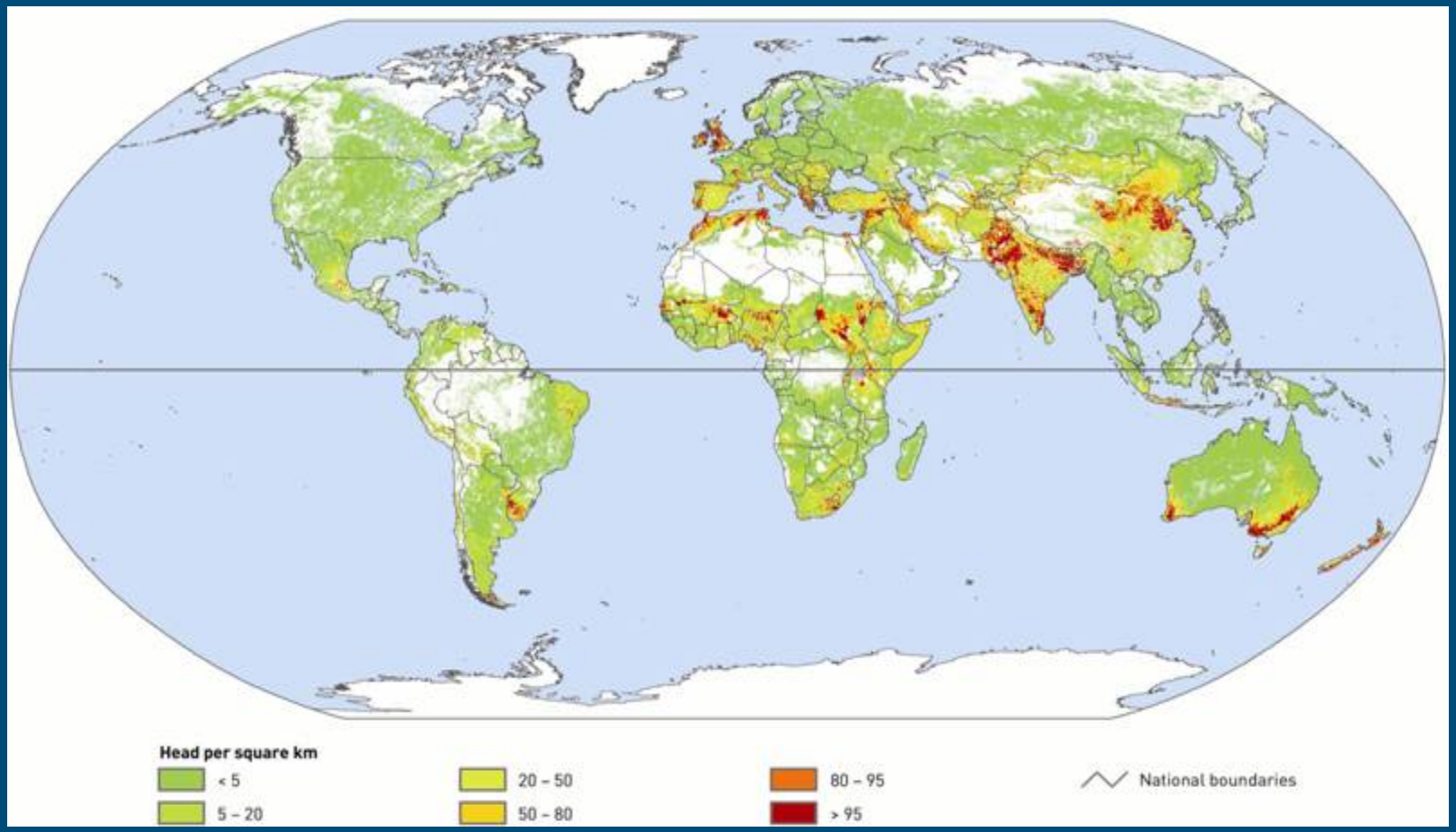
- Keeping animals is part of ‘domestication’ of man
- 1 billion people (800 million poor) depend on livestock
- Demand for animal products will increase
- Cultures without (use of) animals are very rare (non-existent?)
- Independent of circumstances people tend to keep animals, in difficult circumstances (crisis, isolation, prison) even more
- Animals are and have been kept for different reasons and many animals have multiple functions
- Animals are an ‘inevitable’ part of human society, whether rural or urban
- Urban livestock has a long tradition

Urbanisation increases worldwide

- Percentage of population living in urban area's increases to > 60% wordwide, over 80% in 'well off' regions and Latin America
- Annual growth rate of the population in urban area's > 2%, in rural area's in general negative

UNDP

Sheep and goat



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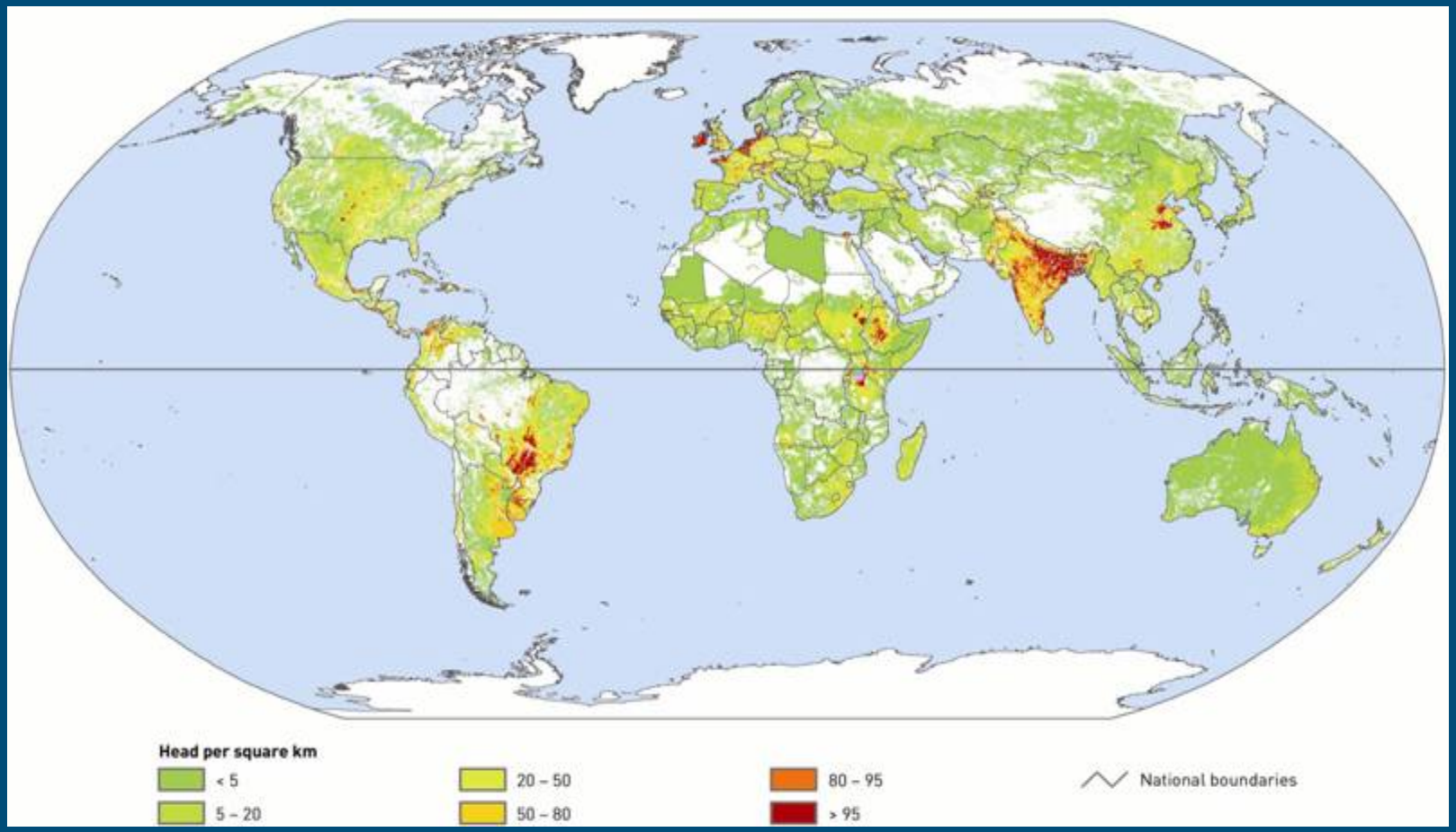
Cattle populations



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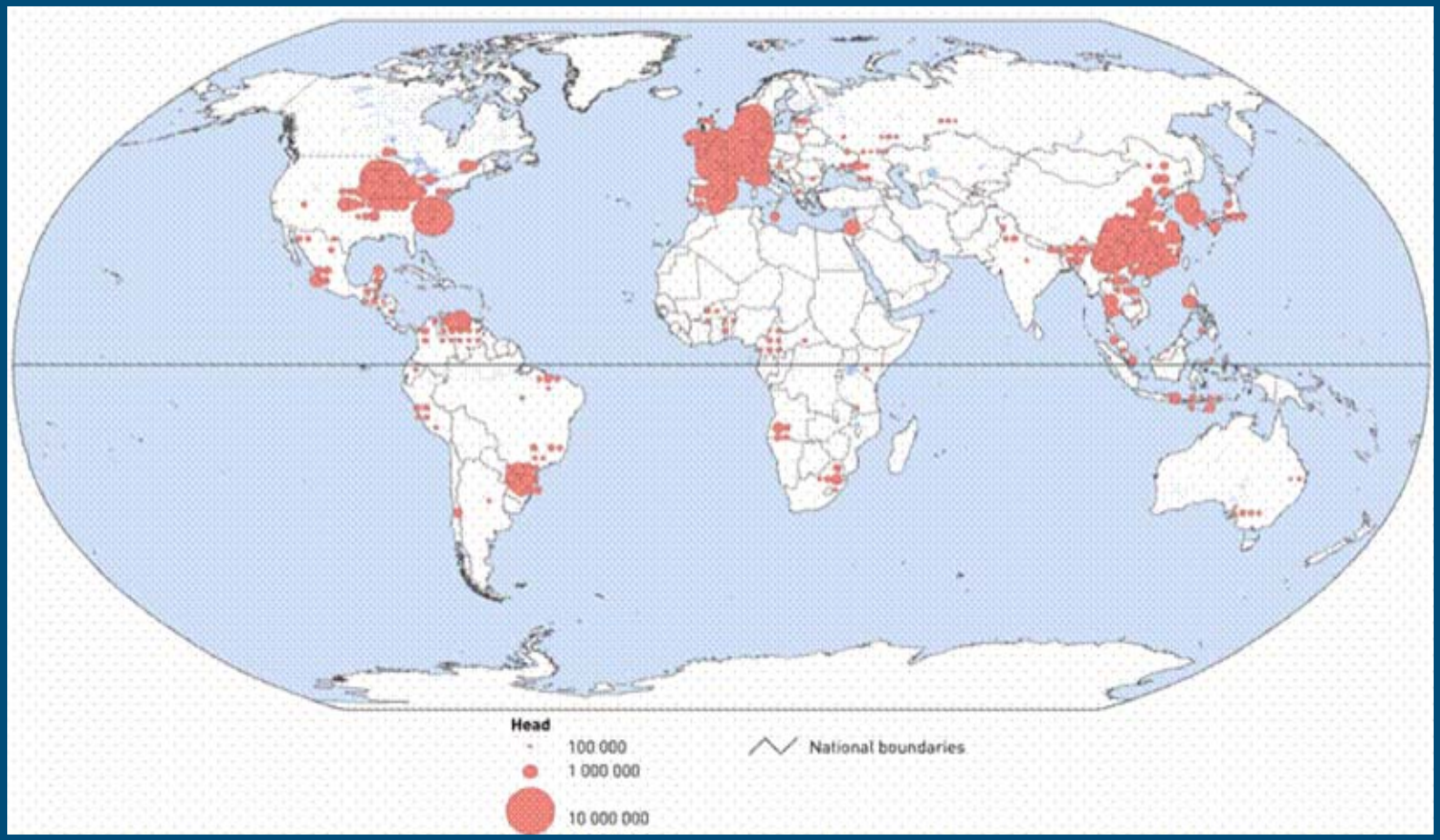
Pig populations



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Companion and recreation animals

- Estimates of numbers world wide not available
- Australia > 60% of households has a pet
- Netherlands > 50% households has a pet
- > 400.000 horses in The Netherlands (vs 1.5 M dairy cows)

Urban livestock and policy (makers)

- Appear to be two groups:
  - Those, that identify an important role for livestock in (urban) food security and poverty reduction, the directly involved ones and
  - Those, that see the risks, the nuisance, the 'backwardness'
- Rather close, but important, governmental and non-governmental network on urban livestock *farming* (Worldbank, UNDP, FAO, World Watch Institute, RUAF Foundation)
- More recent 'farming the city' groups often focus on plants, with a start from scratch on ('Michele Obama')
- The 'food security group' complains about linear and single issue thinking among 'the risk group'
- Animals for recreation, companion, education in general not mentioned, except some attention for stray animals

Stakeholders and urban animals

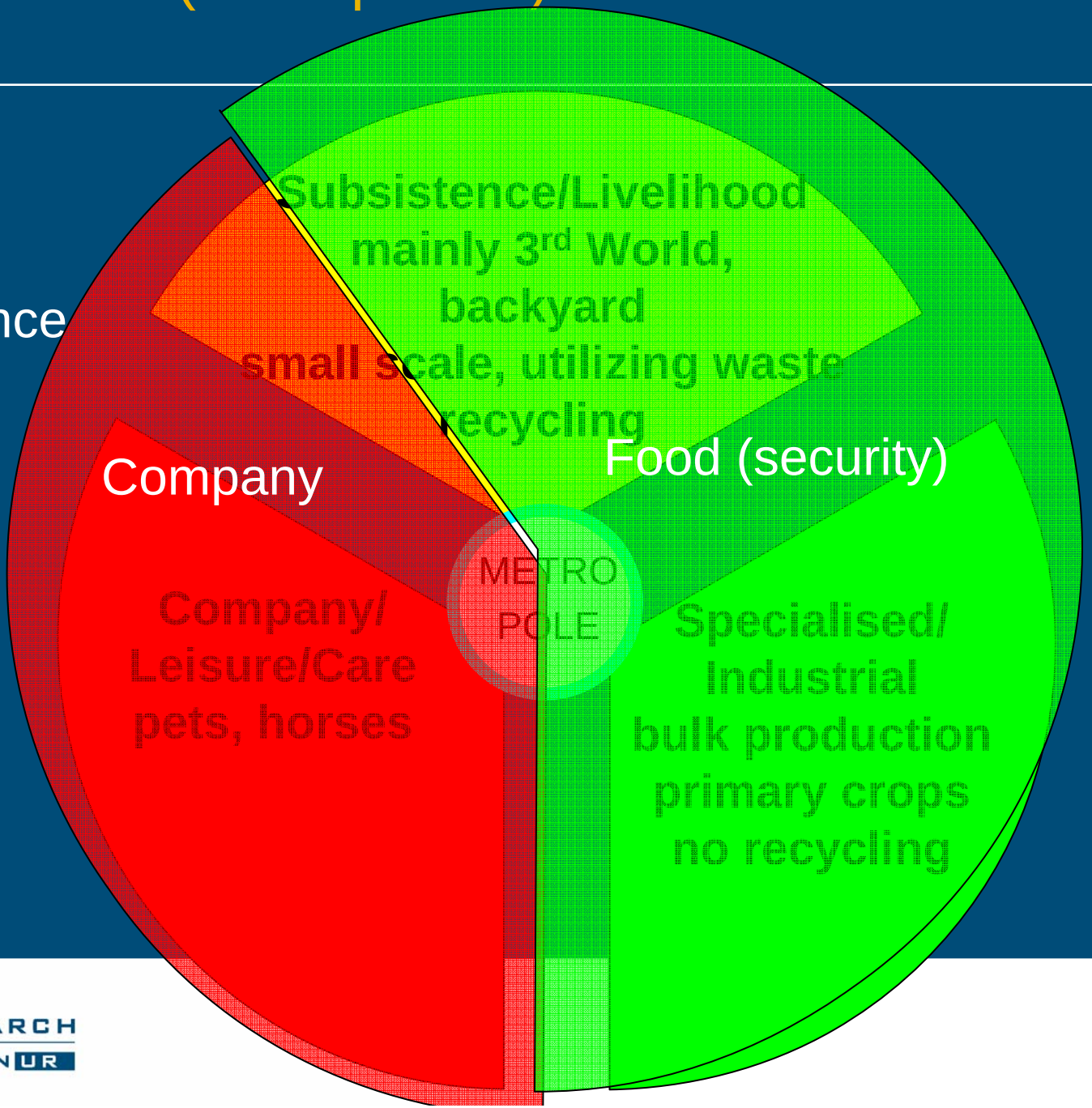
Wide variety, with different interests on different scaling levels

- Owners of animals
- Consumers of animals products
- Traders in animals and animal products
- Inhabitants/neighbours
- (Local) legislators
- Planners (space, food, (inter)national)
- NGO's (human and animal welfare, environment/landscape)
- ……

How to classify urban (metropolitan) livestock (systems)?

Function
Species
Economic importance
Husbandry system
…..

Partly overlapping



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Some more specifications on the 3 systems

- Back yard/subsistence
  - (semi) scavenging, low input, recycling
  - Small (poultry, goat, rabbit, guinea pig) and large (dairy cattle) animals
  - Home consumption, some cash, ceremonial, pet/companion, education
  - Women (children) (small animals), man (large animals)
- Industrial
  - High input, no recycling
  - Poultry, pig, dairy, fish
  - Commercial
  - Man's business
- Companion
  - High input, no recycling
  - Horses, goat, sheep, poultry, dog, cat, ornamental birds, fish, etc.
  - Recreation, education, care, therapy
  - Children, women, man, large economic sector around it

Pro’s and con’s for urban livestock

In general aimed at ‘food’, less at ‘company’

- Pro’s:

  food security, food quality, income generation, social network, social function, education, waste removal, public health

- Con’s:

  smell, noise, nuisance, ‘backward image’, public health, animal health

Pro’s and con’s seldom integrated, but handled as single issue

Legislation

Legislation on (keeping) animals often provides controversies (fraude, corruption, endless disputes, burden of legal system, disempowerment of the very poor)

Some examples

- In Khartoum having a scavenging goat is considered ‘bad image’; fighting tuberculosis (human health) among goats hardly possible
- In Cairo the Kopts kept pigs on waste; because of to Mexican flue pigs were banned; now there is a rat plague (and more people without a job)
- In Dar es Salaam dairy cows in the city are allowed; dairy production and trade is mainly civil servants business
- In New York it is not allowed to keep bees; there are a few 1000 bee keepers in New York. In Vancouver and London actions of bee keepers led to change of law (WWI). Bee’s do well in town
- Hygiene and food safety: too tight rules on slaughter of animals and processing of products implies illegal slaughter and processing
- Recycling ‘waste’ in animal products: in many countries forbidden, but reduces GHG-emissions, pests, soy requirements (meat and bone meal)

Analysis of externalities of the identified 3 metropolitan livestock systems

- Public human health
- Animal health
- Environment
- Landscape
- Logistics
- Ethical considerations

- BACKYARD
- INDUSTRIAL
- COMPANION

Public human health

BACKYARD

- High risk
  - HPAI
  - Parasites
  - Leptospirosis
- Risk reduction (no rats)
- Human nutrition
- Poverty reduction

INDUSTRIAL

- Low-medium risk
  - infectious diseases
  - dust

COMPANION

- High risk
  - Toxoplasmosis
  - Parasites

Animal products provided by (peri) urban agriculture

Dakar	60-70% poultry meat
Dar es Salaam	60% milk
Addis Ababa	70% milk
Sofia	48% milk
Shanghai	90-100% milk, 90% eggs, > 50% porc and poultry
Kumasi	> 80% poultry and eggs
Hanoi	> 50% fish, poultry, eggs, porc

FAO

Animal health

BACKYARD

- What's that? (not considered)
- Continuous risk at moderate level

INDUSTRIAL

- Very variable (good – poor)
- Antibiotics/ resistency
- Outbreaks
- Animal transports

COMPANION

- High care/high risk
- Obesitas (human conditions)
- Animal transport

Environment

BACKYARD

- Recycling wastes and manure

INDUSTRIAL

- No recycling
- External resources
- Nutrient accumulation
- High energy requirements
- Pollution with nutrients and drug residues

COMPANION

- No recycling

Landscape

BACKYARD

- Chaotic
- Sheds
- Dung everywhere

INDUSTRIAL

- Large scale high impact
- Infrastructure

COMPANION

- Chaotic
- Sheds
- Dung/shit on playgrounds
- Light pollution riding schools
- Public area ➔ private area

Logistics

BACKYARD

- None

INDUSTRIAL

- Large impact
- Feed, commodities, animals

COMPANION

- Limited (except horses)
- Pet shops
- Pet food

Ethical considerations

BACKYARD

- Low priority: welfare
- High priority: food security livelihood
- Poverty reduction
- Nuisance

INDUSTRIAL

- Feeding is OK
- Welfare/behavior poor
- Competing claims food/feed
- Animal as ‘thing’

COMPANION

- Alienation
- Animal is my child
- Affluence diseases
- Nuisance
- Left animals
- Competing claims food/feed

Directions for solutions (in all systems) to improve the pro's and reduce the con's

- Interaction, cooperation of animal and human health services
- Not technology driven, technology on demand
- No top down enforcement of rules, but stakeholder participation
  - Backyard and pets/company
- Environmental planning
  - Industrial systems (f.i high taxes close to the city, low taxes for larger distance)
  - Pragmatism: "if you can't beat them, join them"
- Do not create trade offs, identify all aspects not only the traditional ones

Some future needs

- Structures to discuss integration of ‘pro’s’ and ‘con’s’, to identify all aspects
- Technology (small scale)
  - Utilisation of food waste
  - Utilisation of manure
- Creating networks
  - Human and animal health
  - Recycling food residues in animals and animal manure in fertilator for vegetables/crops

To conclude

- Animals are an inevitable component of urban live all over the world
- Animals have positive and negative effects on their environment
- Whether for food security or for pleasure, problems with small holdings of animals are remarkably similar
- Societal demands are evident, public policy is required
- Only when all aspects of animals and their functions are considered simultaneously solutions with no trade-offs can be found

- Thanks for your attention
- Questions, comments?