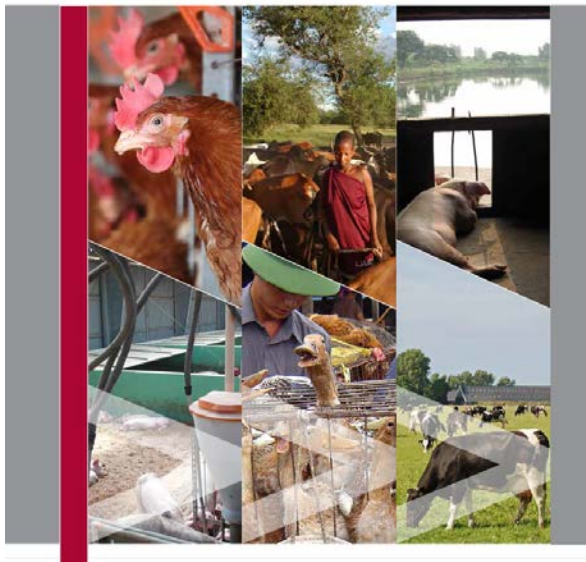




BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT



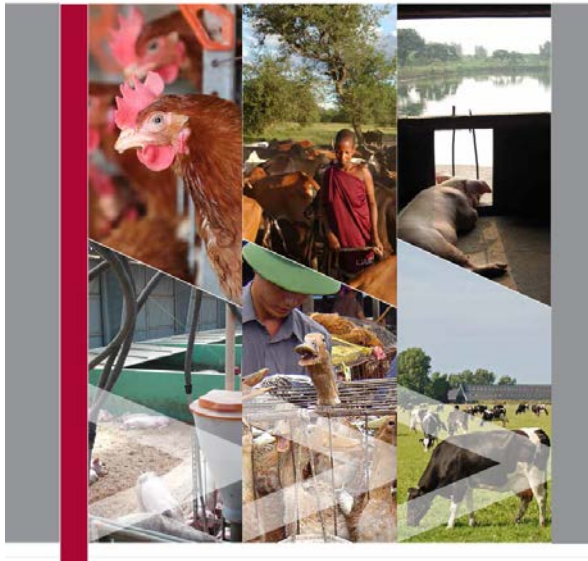
- Why focus on NRUE?
- Overview of presentations

*Closing the efficiency gap
in natural resource use*

2 to 4 April 2012
Rome

Why focus on NRUE?

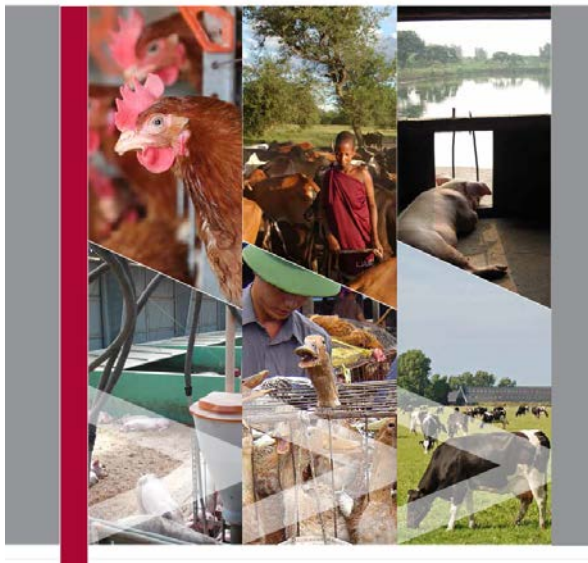
BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT



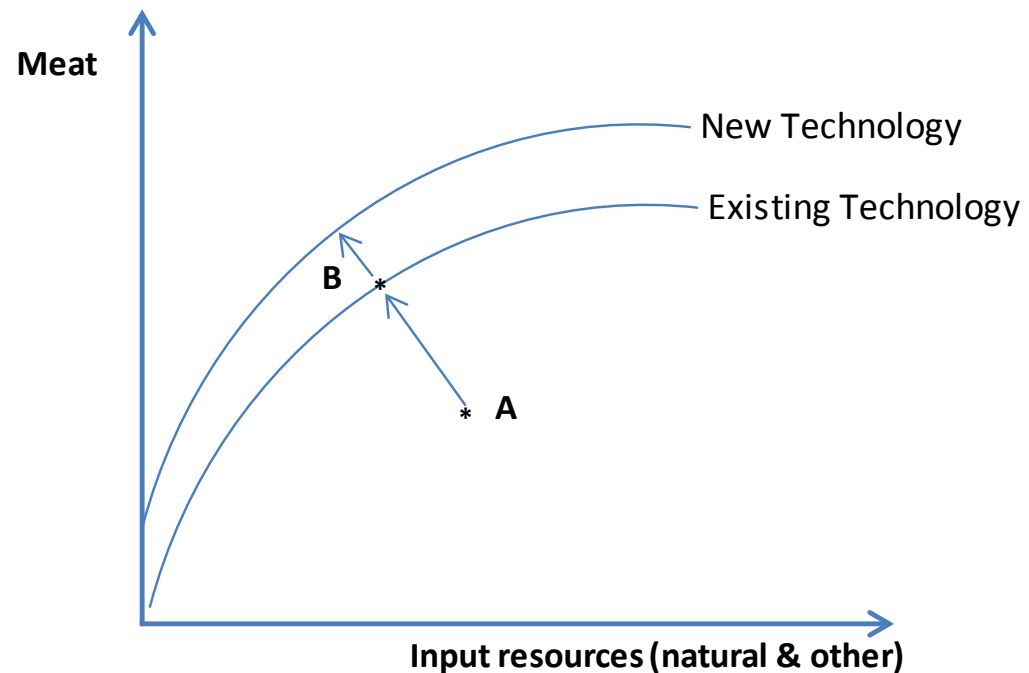
- As many natural resources have historically been either underpriced or unpriced, they have been overutilized
- NRUE is a concept that can accommodate both better environmental performance and growth

NRUE -conceptually

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

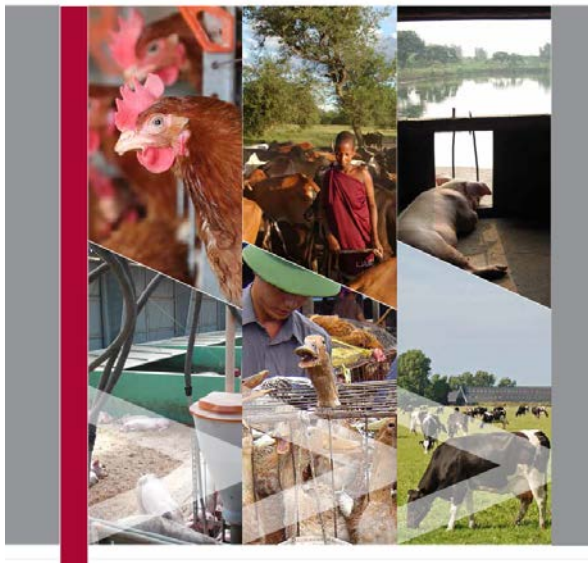


1. More efficient production can simultaneously \uparrow output & \downarrow resource use
2. Proposition: gains moving from closing efficiency gap $>$ gains from \uparrow technology frontier



The concept of NRUE has been embraced in CC & related policies/programmes

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

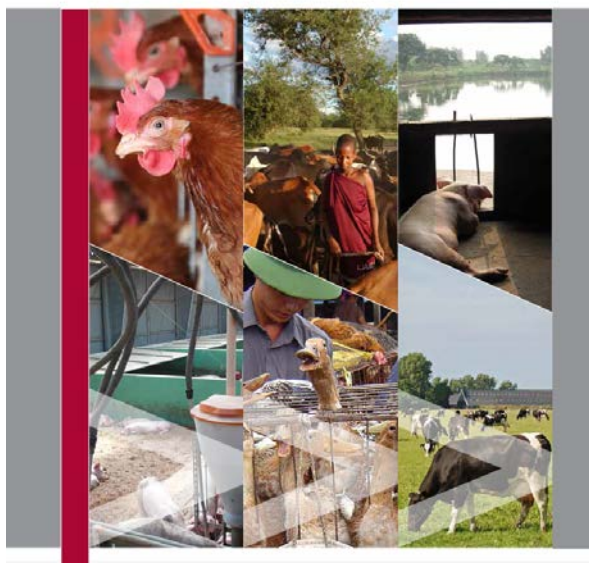


- At national economy level:
 - China, India have mitigation targets based on emission intensity per unit of GDP (NAMA)
 - South Korea: Low Carbon and Green Growth Act (2009)
- C crediting programmes for agriculture:
 - Energy efficiency in agriculture -CDM
 - Performance benchmarks - VCS

1st presentation session:

Definitions and findings on the natural resource use efficiency gap for livestock

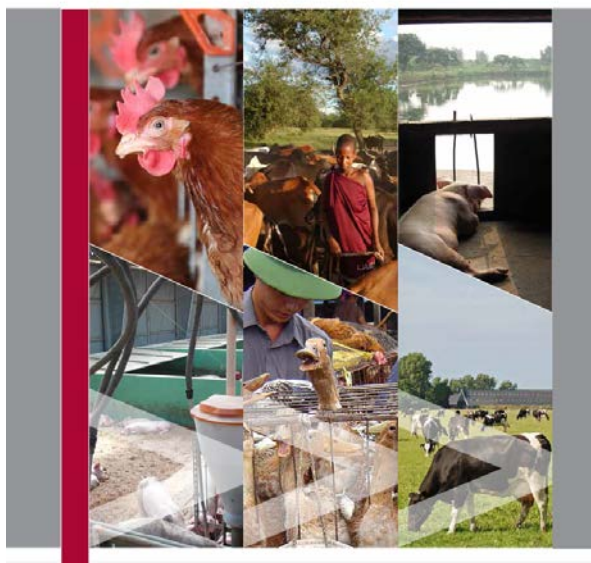
BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT



- Range of methods for measuring NRUE introduced
 - Frontier efficiency analysis
 - Life cycle assessment
 - Nutrient use efficiency

1st presentation session

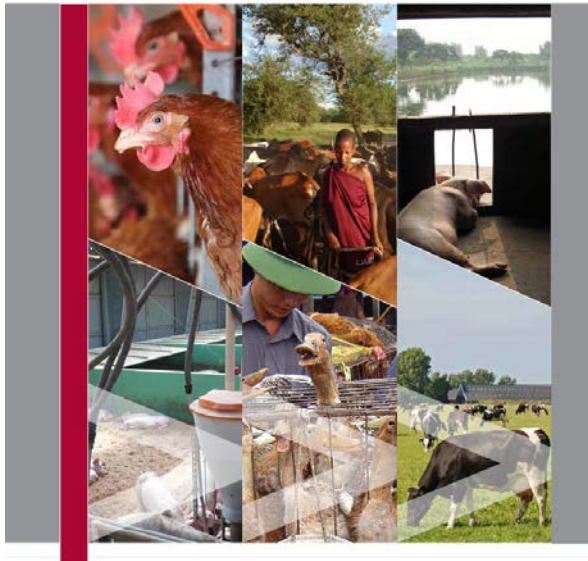
BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT



- Frontier efficiency analysis
 - Highly popular in the 1990's (T. Coelli, R. Fare etc)
 - Originally for purpose of “conventional” efficiency, TFP assessment
 - Enjoying recent renaissance:
 - realization that efficiency gains in natural and other resources often ‘coupled’
 - Original approach modified/expanded to explicitly incorporate natural resources

1st presentation session

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

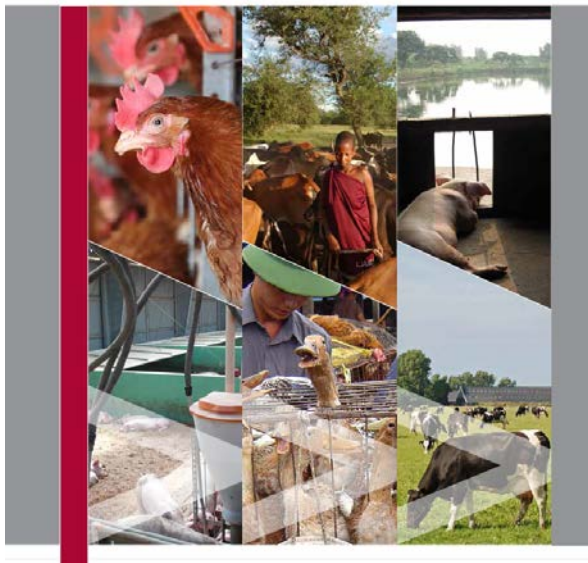


- Life cycle assessment
 - Increasingly popular: comprehensive accounting of NRU & environmental impacts through entire production cycle
 - Prevents pollution swapping
- Nutrient use efficiency
 - Indicators for detecting and quantifying inefficient nutrient use

2nd presentation session:

Findings on livestock productivity gaps and trends, and their implications for natural resource use efficiency

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

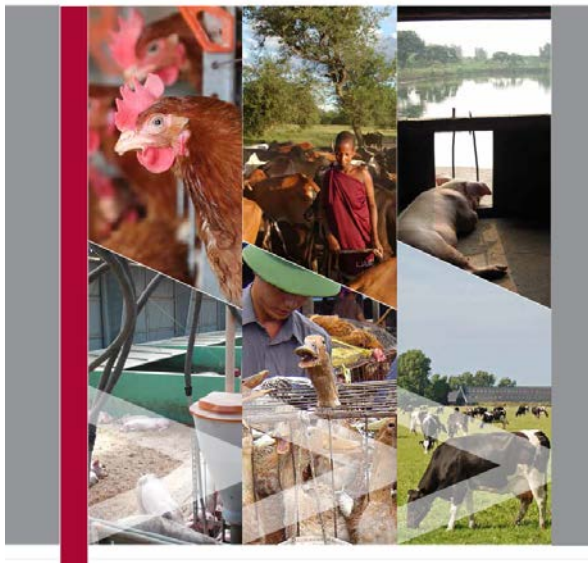


- Focuses on “conventional” productivity improvements & implications for NRUE
- Builds on notion that conventional productivity improvements, in some cases, can yield a “double dividend”: environmental & economic

2nd presentation session:

Findings on livestock productivity gaps and trends, and their implications for natural resource use efficiency

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

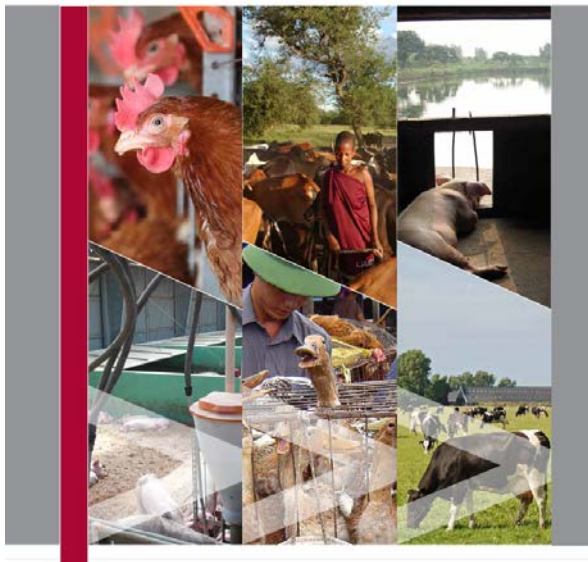


- Global livestock TFP trends, by commodity and region: where is performance is improving fastest?
- Implications of productivity growth in livestock on land use requirements
- Yield gaps - can partial productivity indicators serve as useful proxies for NRUE?
- Efficiency gains from better use of agricultural by-products

3rd presentation session:

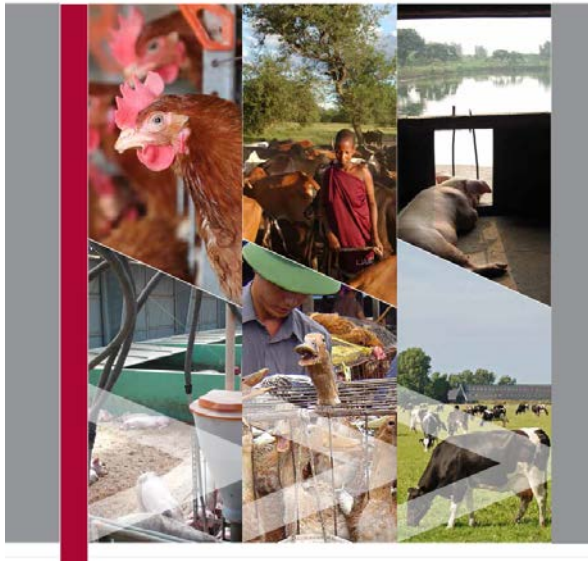
Private sector perspectives

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT



- Sector-specific examples of NRUE challenges
- Business programmes & initiatives (incl. R&D, extension, knowledge transfer)
- Operating within regulatory frameworks (e.g. cap & trade) that aim to enhance NRUE

BUILDING A GLOBAL AGENDA OF ACTION
IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT



Thank you