



GLOBAL AGENDA OF ACTION

IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

Focus Area 1: Closing the efficiency gap

Efficiency matrix exercise

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1. Background – FA1 doc.: closing the efficiency gap in NRU

1. To establish practical livestock systems boundaries for the framing and measurement of NR efficiency.
2. Evaluation at the farm level?, food chain (LCA) ?, farm scale? agro-ecological system scale? each animal species or both?
3. Yield gap assessment?,
4. phytomass appropriation efficiency?, Total factor productivity (TFP), LCA?
5. Assess the potential NRU efficiency gains that can deliver both environ. and prod. benefits. These need to be complemented with cost benefit analyses.

1. Background – Liv. Inf. Syst. meeting (Brauns., 18-19/04/2013)

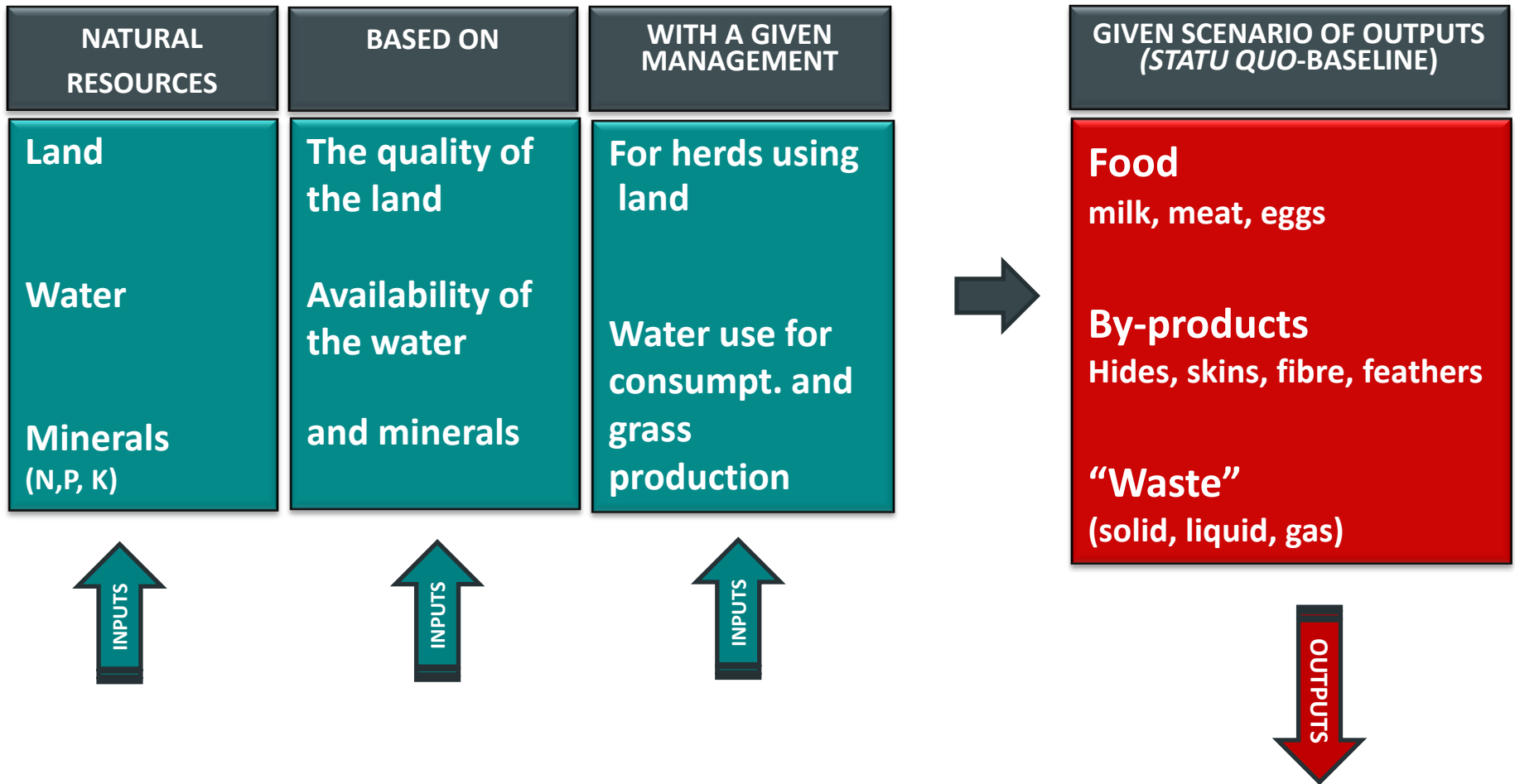
Outcomes re. efficiency

- A set of definitions is required, as a reference FA1 notebook.
- The term efficiency can be qualified as **technical efficiency** and **economic efficiency**.
- A framework has to be set up with the preliminary list of variables, which will be used to measure the input, output and therefore the efficiency (**metrics**).
- The starting point of the FA1 is on NRU, but the **economic dimension has to be added**.
- There is a need to have a reference system in order to **compare *status quo* and the new scenario**.

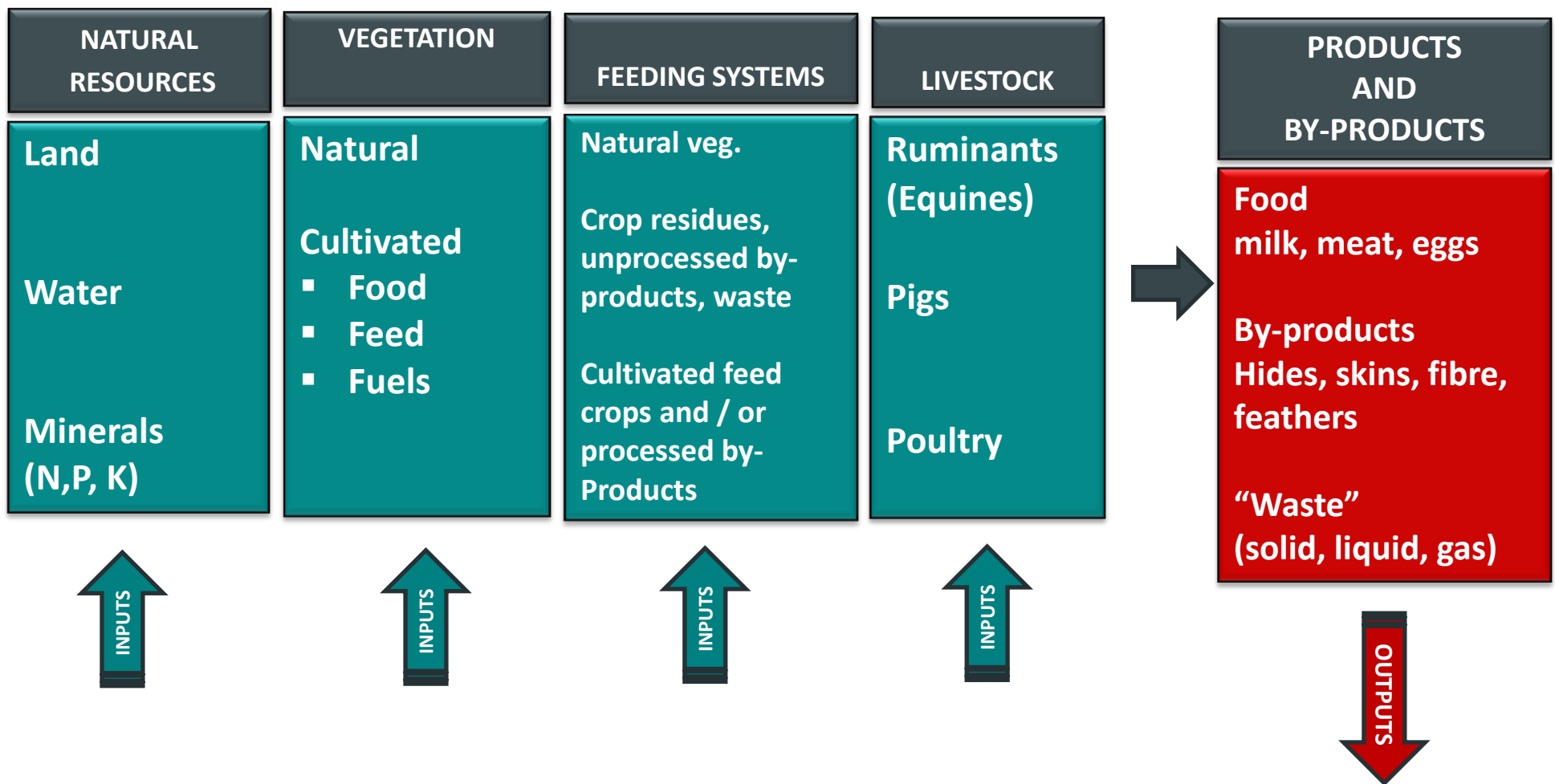
2. Objectives and expected outcomes

- To provide a frame work for the analysis of the NRU efficiency
- To exchange different ways of measuring efficiency.
- To explore how livestock efficiency can be measured in terms of the goals of the FA1.
- To determine the main elements that can be included for measuring efficiency in the activities of the FA1.
- **To define a tentative list of criteria to asses NRU efficiency gaps.**

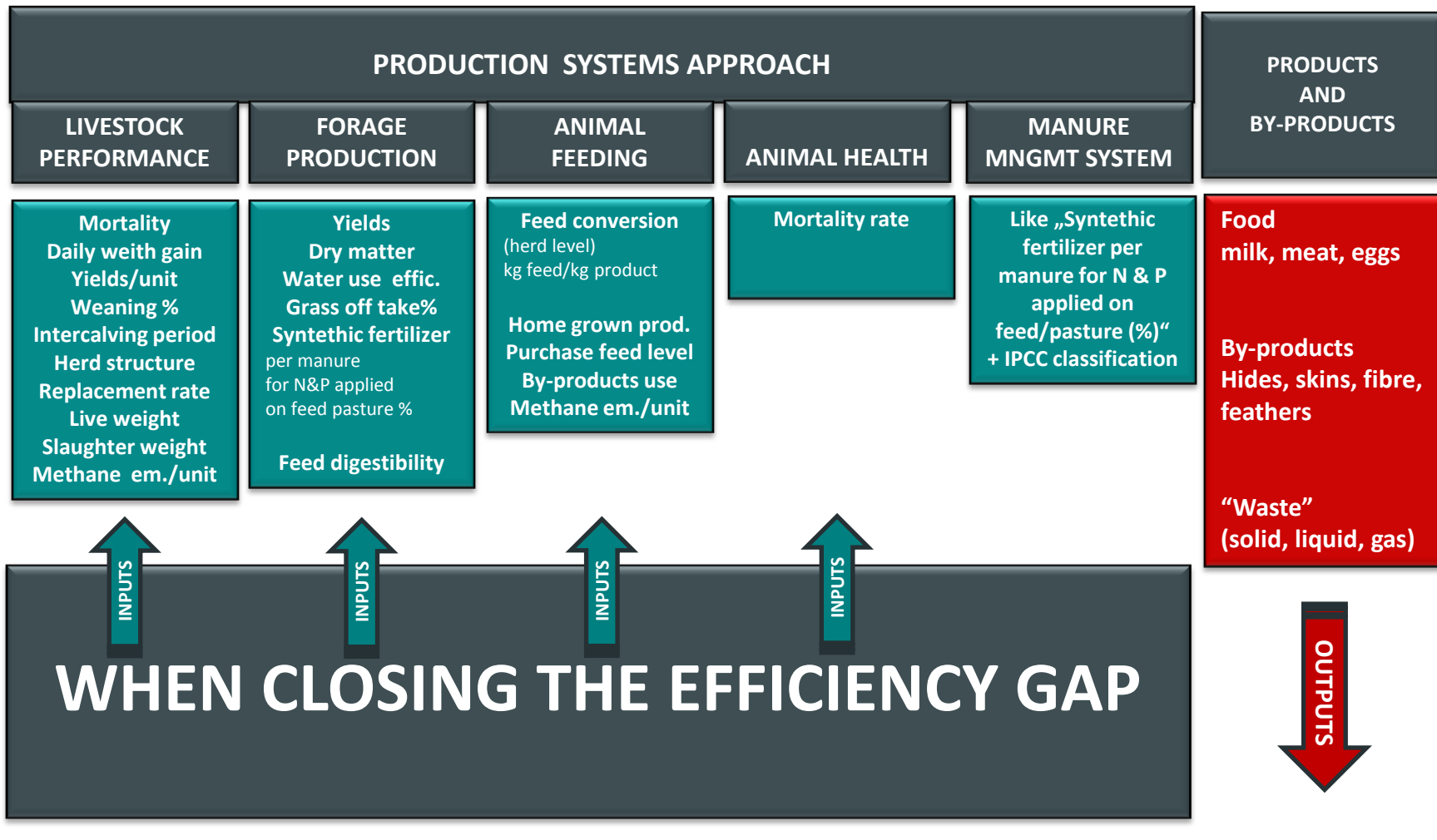
3. What we have? Feedback from the FA1



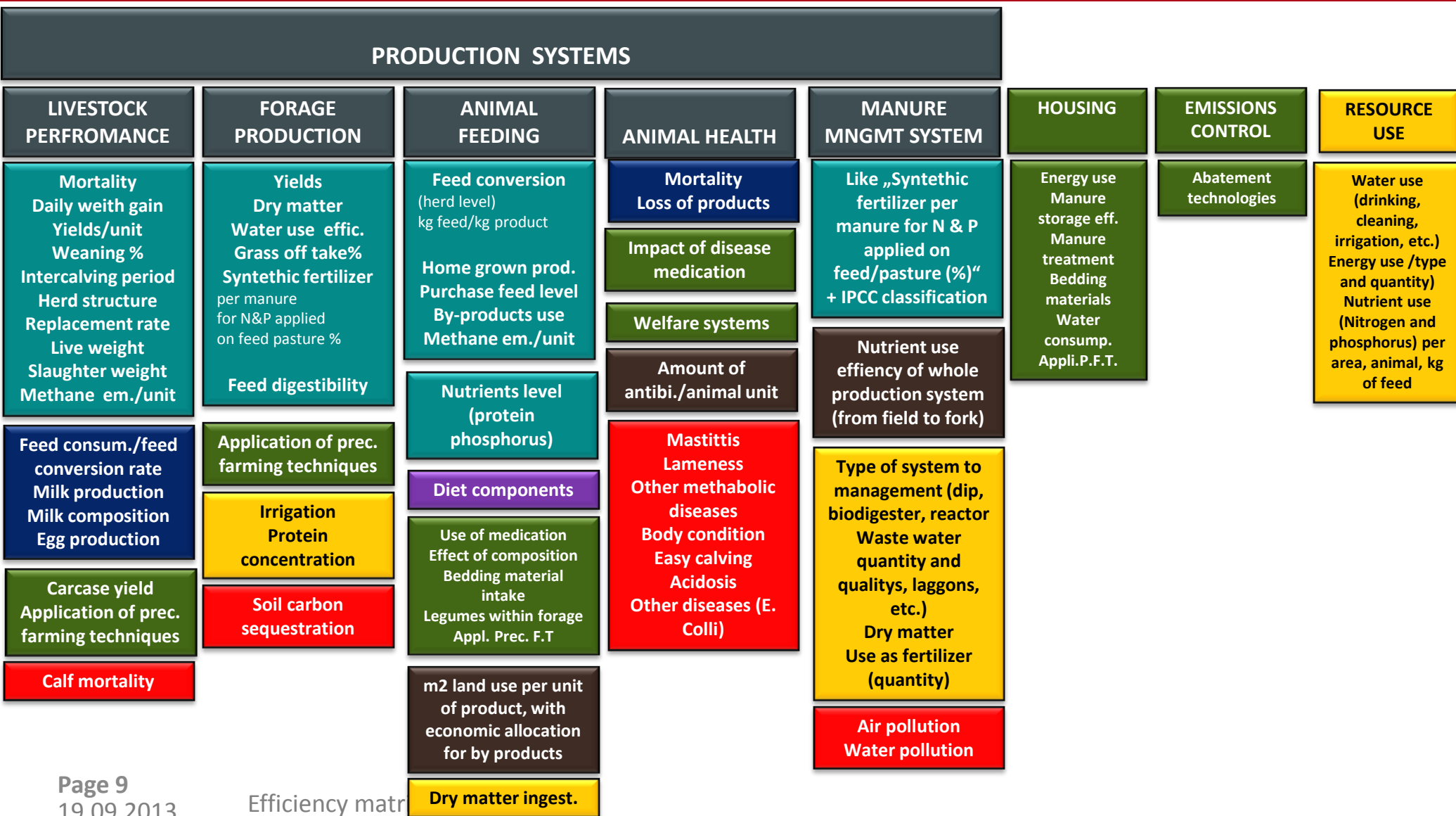
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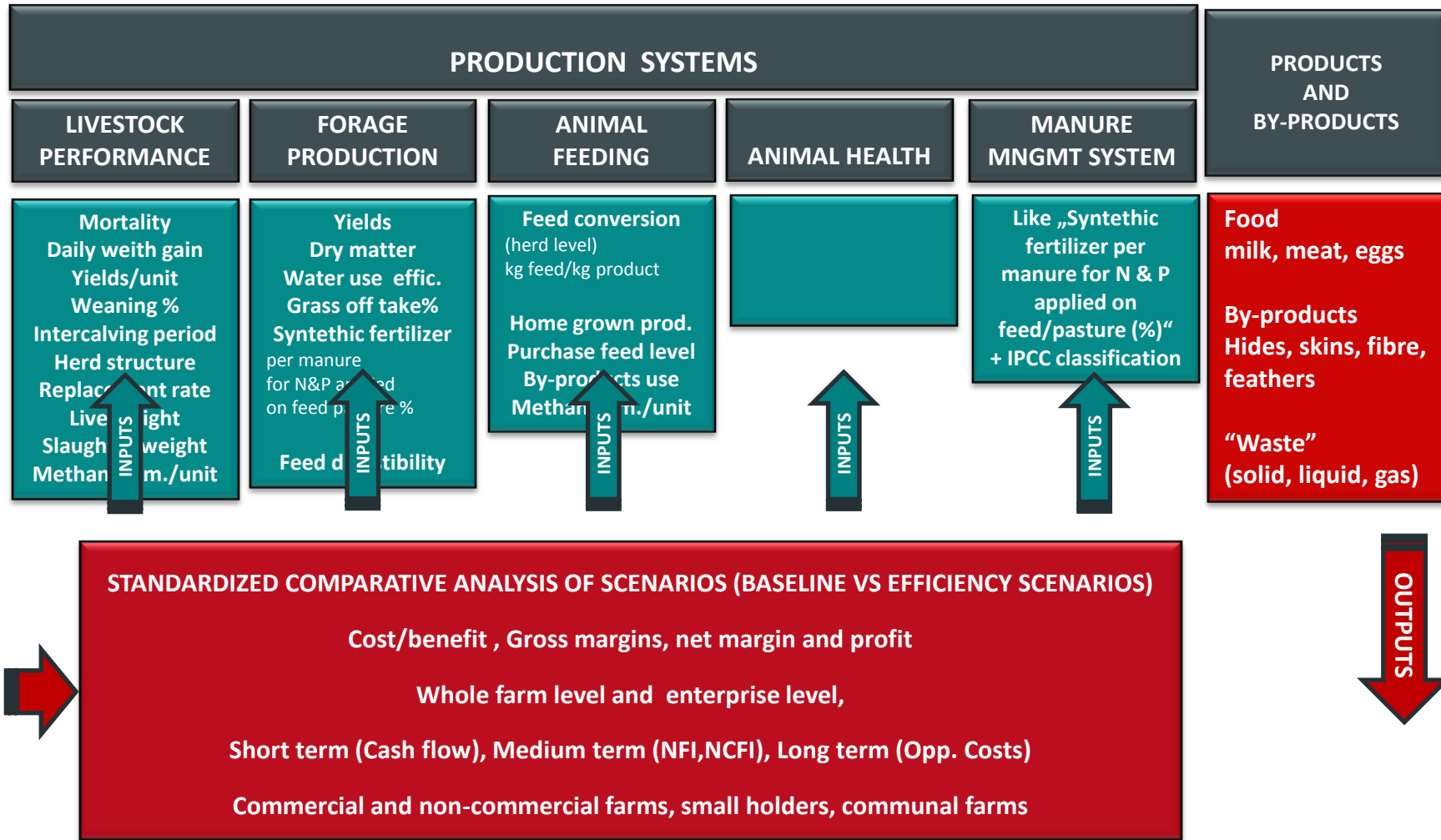
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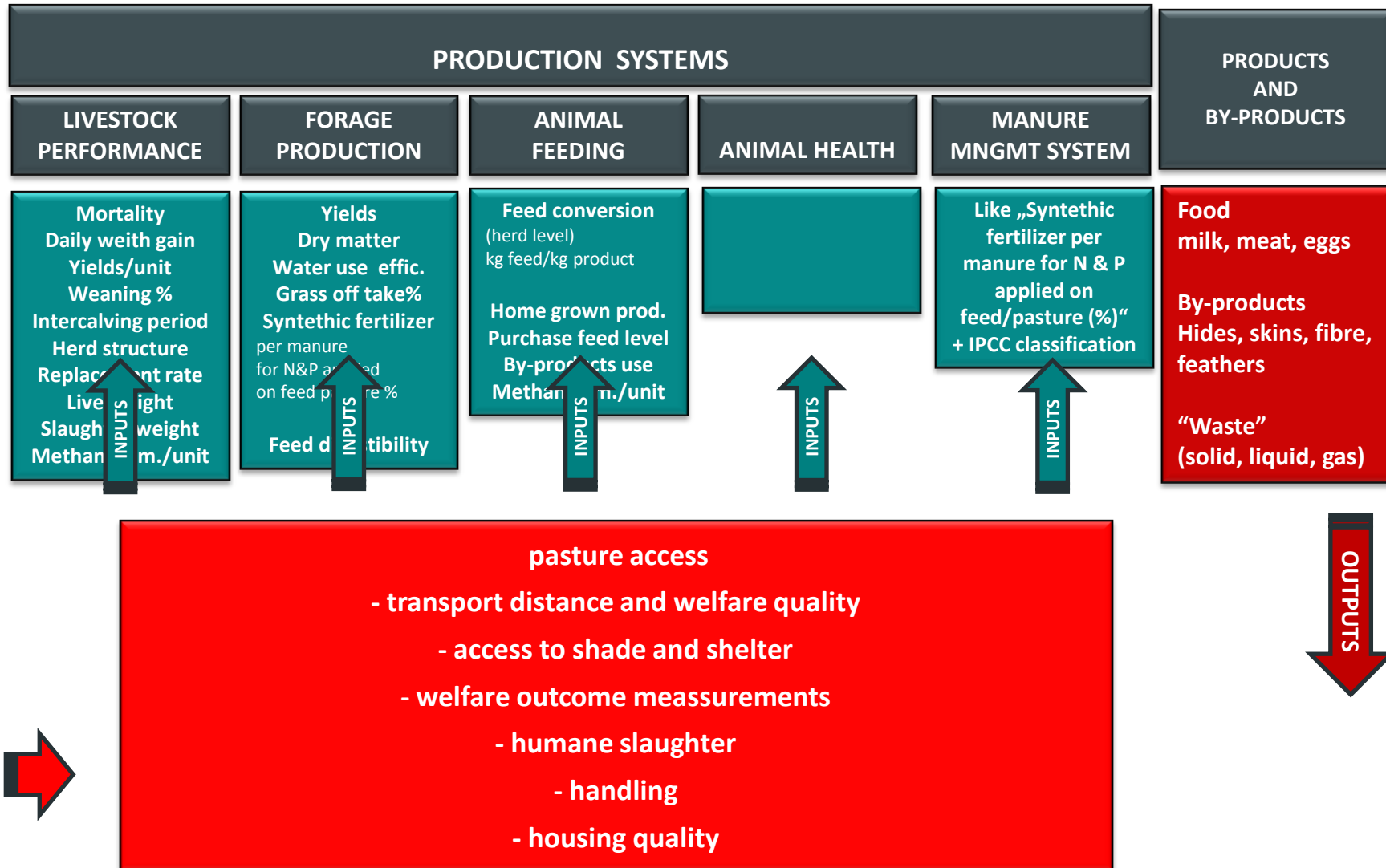
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Agenda Consensus



“Integrating respect for socially desirable outcomes that are not the immediate focus of Agenda related activities including, but not limited to, public health, biodiversity and animal welfare”

Principles underpinning animal welfare assessment

Five freedoms

- Pain Injury and Disease
- Hunger and thirst
- Shelter
- Fear and distress
- Natural behaviour

Broadly supported
(OIE etc.)

Welfare Quality

Four main principles:

- Good feeding
- Good housing
- Good health
- Appropriate behaviour

Scientific body of knowledge on
behaviour and welfare

Relevance of animal welfare - examples

- Good animal welfare systems can provide good productivity and sufficient food for the planet (Erb et al., 2012)
- Greenhouse gas emissions are can be optimised by moderate dual purpose production (e.g. dairy/beef consequential LCA – Cederberg and Stadig, 2003, Flysjo et al., 2011)
- Blue water efficiency (thus lower opportunity cost of its use) can be greater in extensive systems (Hoekstra, 2011)

Animal welfare is relevant to all types of production (McInerney, 2004)

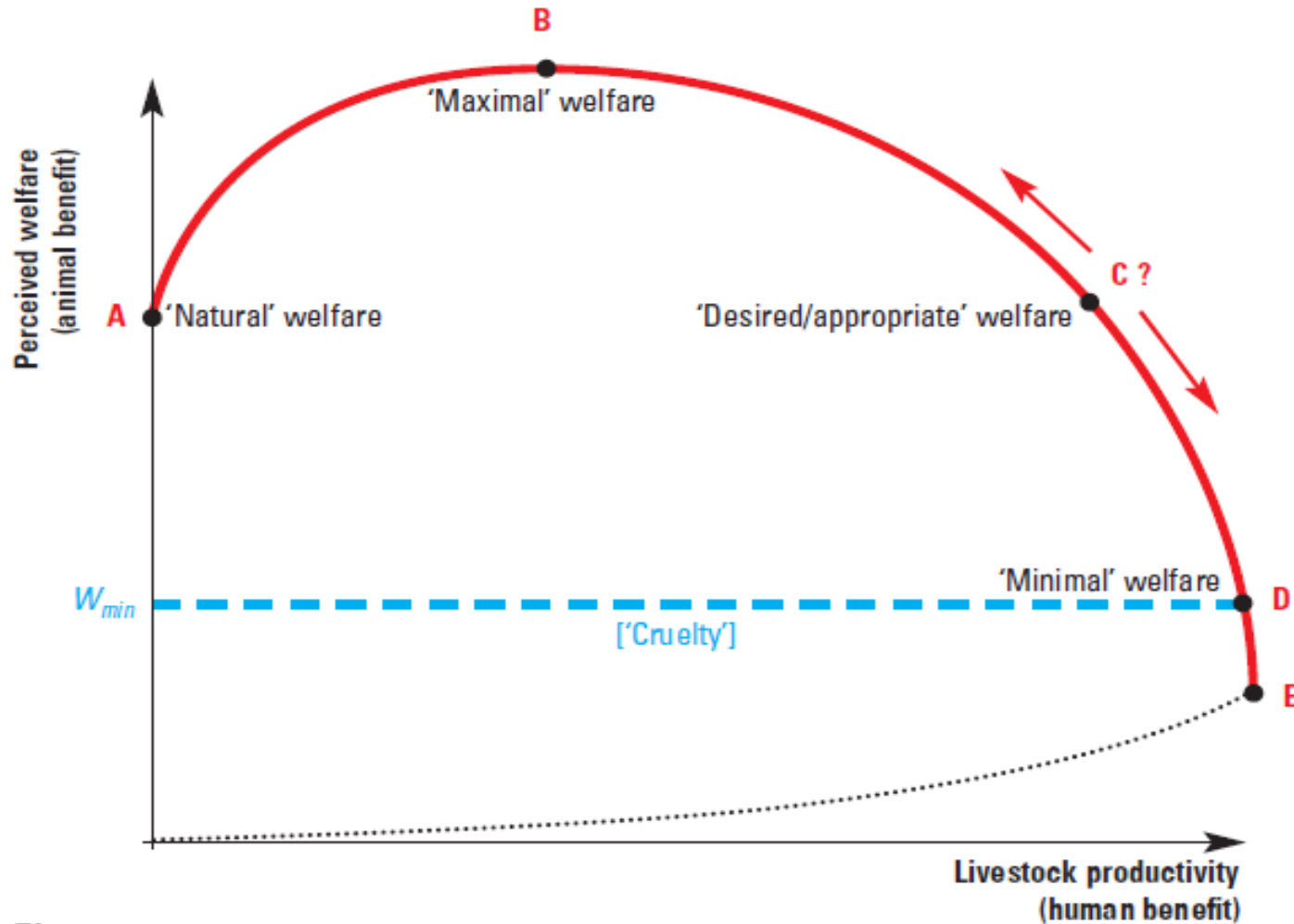


Fig. 1

4. Discussion

