



GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK

ACTION NETWORK 1

Closing the Efficiency Gap

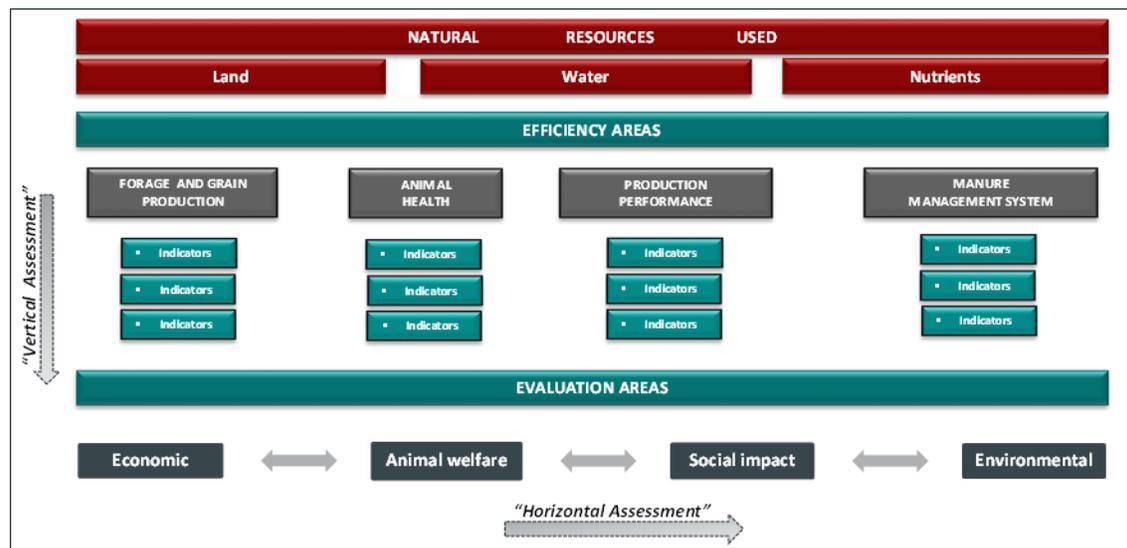
KEY MESSAGES

1. Aims to enable improved efficiency of livestock production while also respecting wider aspects of sustainability
2. Action Network 1 has been focused on developing tools and metrics to quantify Natural Resource Use Efficiency (NRUE – Efficiency Matrix)
3. Action Network 1 explores efficiency gaps and identifies current initiatives which can provide sustainable livestock options (pilots)

The Efficiency Matrix (EM)

The (EM) is a framework to quantify the impact of specific interventions or production system changes on natural resource use efficiency. It aims to describe the impact of production system changes, and so act as a decision-making advisory tool. Because livestock production systems are very diverse, phase one of the EM's development aims to provide a broad umbrella of assessment indicators that can be applied to different environments, geographies and scales of farming,

with a broad enough reach to fit with existing assessments. This evaluation should reflect efficiency such as productive performance, but also respect wider facets of sustainability including environmental, animal welfare and social impacts. The main long term objective of the EM is to provide an agreed, comprehensive and applied framework to assess NRUE in livestock production systems.

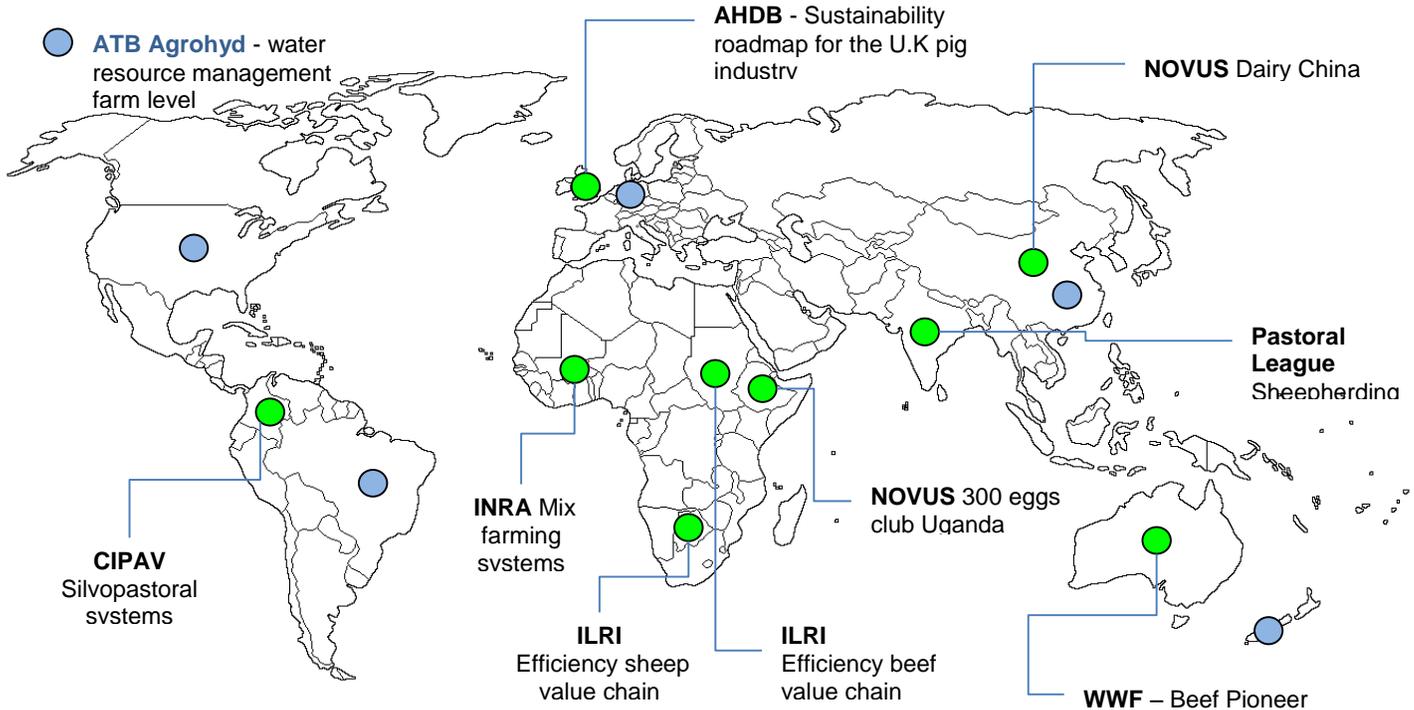


Pilot projects

To test the Efficiency Matrix methodology in the field, within the context of the Global Agenda's activities, projects, or 'pilots' have been identified for testing and quantify the benefits of practice change, and to demonstrate real examples of how to narrow the efficiency gap. Four types of pilot projects are sought to engage with the action network:

- Existing initiatives with which the action network can collaborate through the implementation of a NRUE evaluation using the Efficiency Matrix provide practical testing and input for the further development of the EM's use on the ground. The existing initiatives will conversely derive direct benefit from the application of the NRUE assessment framework developed through the action network;
- New pilot projects specifically designed and funded through the action network to assess production systems with high potential for 'win win' efficiency, social, animal welfare, economic and /or environmental gains;
- Collaborations on other methodologies and metrics with projects and initiatives that also work on NRUE (such as water efficiency methodologies),
- Targeted inputs and support to the development of new start-up projects.

FA1 Pilots projects



The Evidence: Testing the Efficiency Matrix

Silvopastoral systems: Case studies of triple wins in milk and beef production in Colombia

Five case studies were conducted and the Efficiency Matrix was applied.

Intensive silvopastoral systems have the potential to deliver much more feed from the land, through the planting of protein and mineral rich grasses and shrubs such as *Leucaena*. By growing plants, shrubs and trees, a three-dimensional feed source is created.

The main impact of intensive silvopastoral systems on productivity are:

- Higher feed quantity and better quality (digestibility, nutrient contents)
- Higher milk yields in cows, higher daily weight gains in finishing cattle, allowing the reduction of finishing periods and increasing cattle numbers
- Higher stocking rates; higher land productivity





The results of these case studies showed that:

- Intensive SPS are more productive and profitable than cattle ranching systems. Their success is based on good management, extension and access to capital that builds farmers' long term capacity to deliver efficient and increasingly productive beef and dairy production.
- Intensive SPS deliver productivity that goes hand in hand with animal welfare
- Intensive SPS provide a clear investment in sustainable environmental management, with potential climate mitigation benefits



The study were conducted by:



World Animal Protection



Centre for Research on Sustainable Agricultural Production Systems



Colombian Cattle Ranching Farmers Association

CONTACT INFORMATION

Global Agenda for Sustainable Livestock

Action Network 1

Closing the efficiency Gap

<http://www.livestockdialogue.org/action-areas/closing-efficiency-gap/en/>