

Global Agenda for Sustainable Livestock



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Action Network 2

Restoring value to Grasslands

MSP Mongolia June 2018

BUILDING TOGETHER SUSTAINABLE LIVESTOCK
for people, for the planet

AN2 “Restoring value to grassland”

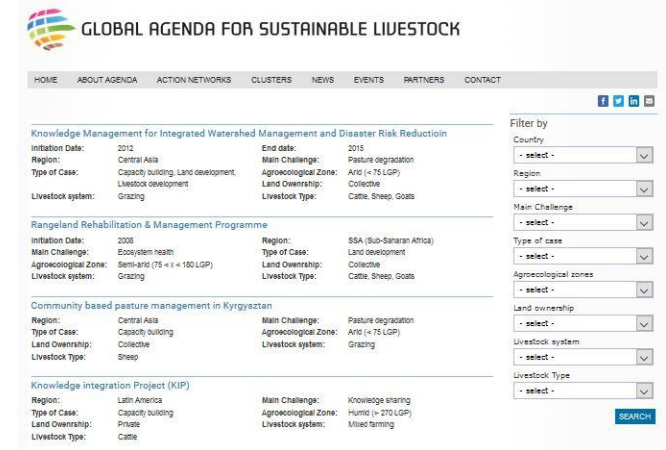
“To maintain, restore and enhance environmental and economic value of grasslands, while promoting their social and cultural functions globally”.



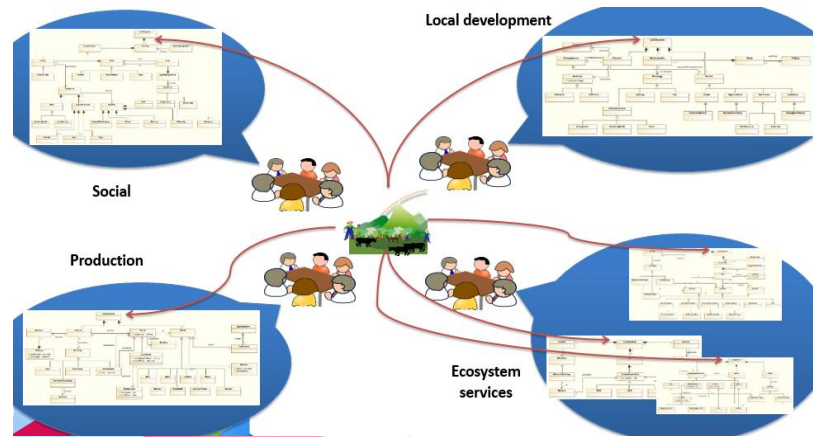
9 SDGs: 1,2,3,5,6,8,13,15,17

Key Areas of focus for AN2 over the last year

- Output 1 : Finalise a data base on grassland management case studies. Lessons learnt.

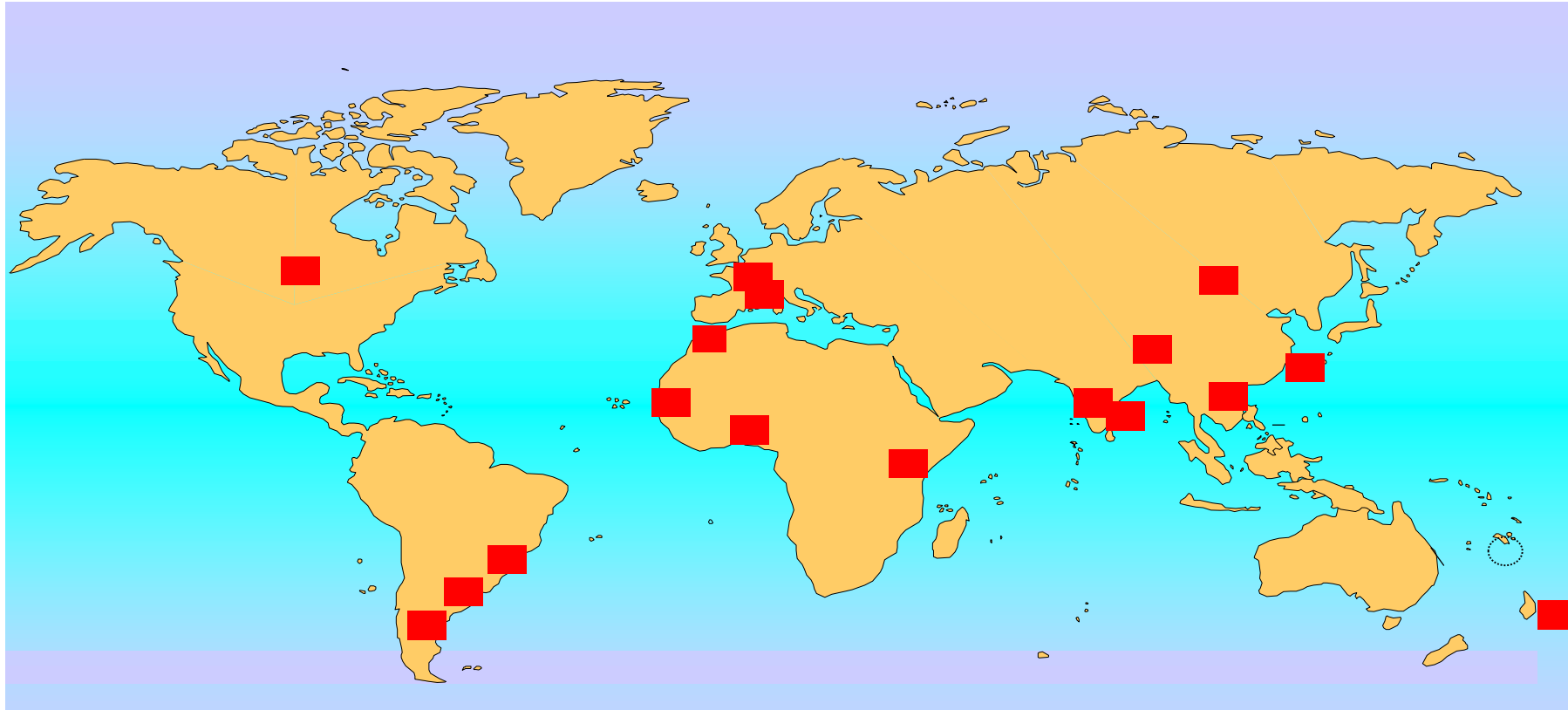


- Output 2 : Design and test an integrated assessment framework of multiple benefits from livestock grazing systems



- Output 3 : Capacity building of stakeholders on multiple benefits from grasslands

AN2 : Since 2013. 95 members



Methodology for multiple functions model development

Design an integrated methodological framework for assessing the contribution of grassland systems to multiple functions and values in relation to the SDGs and test on ground

- Literature review : 2016
- Conceptual model : Participative approach (Montpellier May 2016, IRC Canada July 2016)
- Participative films : mid 2016 - 2017
- Test and develop with partners on the field using case studies from Brazil, Uruguay, Argentina, Mongolia, Senegal, France, New Zealand, Vietnam



A conceptual model for a multidimensional understanding of livestock grazing systems

Journal:	<i>The Rangeland Journal</i>
Manuscript ID	RJ17060
Manuscript Type:	Research paper
Date Submitted by the Author:	02-Jun-2017
Complete List of Authors:	Muller, Jean ; CIRAD Languedoc-Roussillon, UR Green Opplert, Marie; Universidad de Brasilia Pachoud, Carine; Innsbruck University Morales, Hermes; Instituto Plan Agropecuario, Articulación y Proyectos Martins, Rogério; Universidade Federal de Sao Joao del-Rei Hubert, Bernard; Agropolis International Ickowicz, Alexandre; CIRAD Languedoc-Roussillon, SELMET Lasseur, Jacques; INRA-SAD, Selmet Blanfort, Vincent; Tourrand, Jean; CIRAD, - GREEN; Universidade Federal do Rio Grande do Sul, Post-Graduate Program in Rural Development
Keyword:	Grassland ecosystems, Social-ecological systems

From conceptual model to an “Ontology” of the domain of “Multifunctionality of Grazing Systems” : 4 dimensions identified

Social
point of view



Local development
point of view



Production
point of view



Ecosystem services
point of view



HOW

?

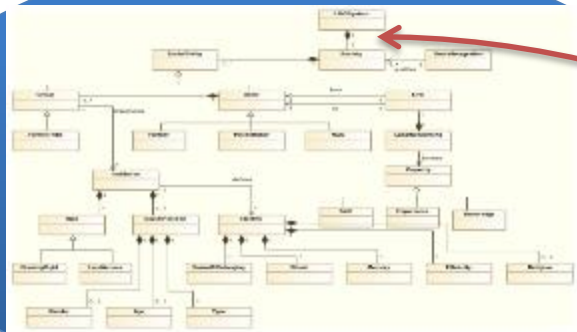
Multifunctionality :

**A cornerstone of the European model of agriculture
A matter of public debate in the French Mediterranean context**

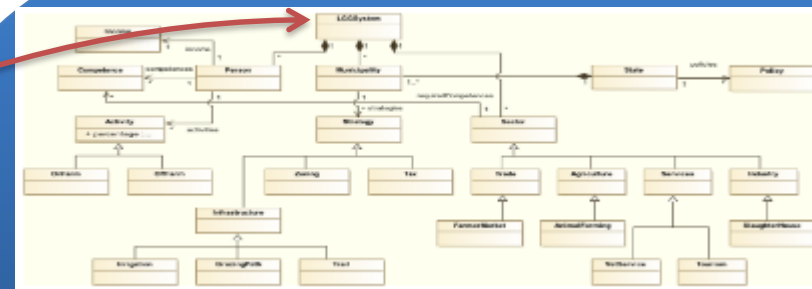


Ontology with 4 dimensions : Detailed components and processes for each value set

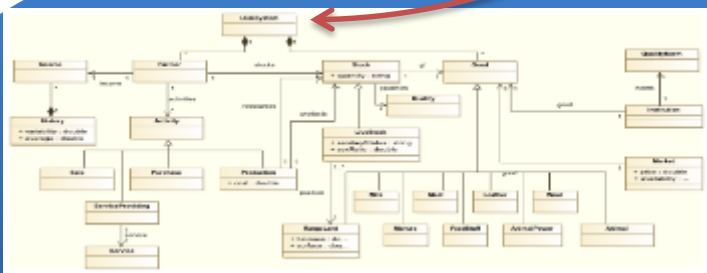
Local development



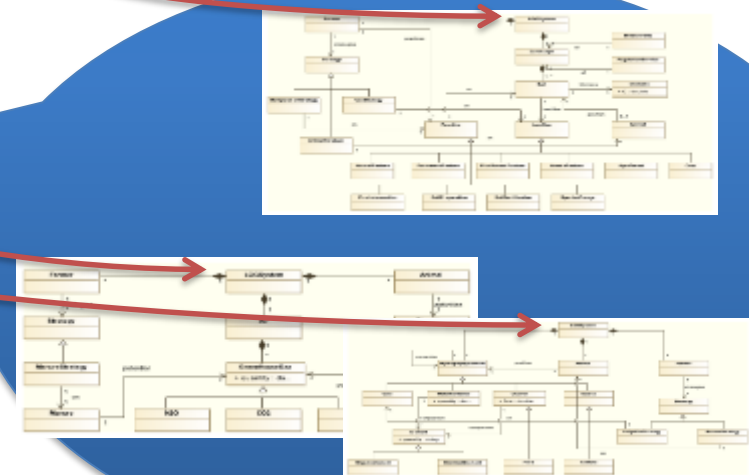
Social



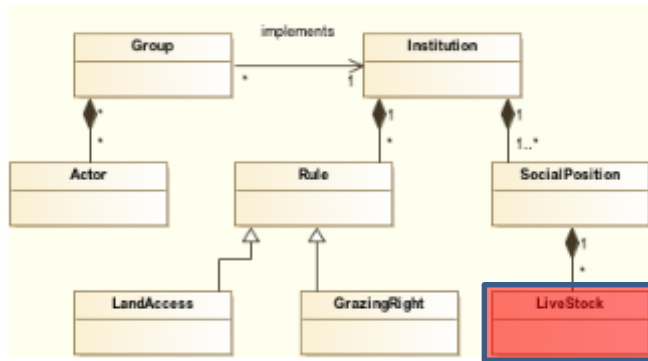
Production



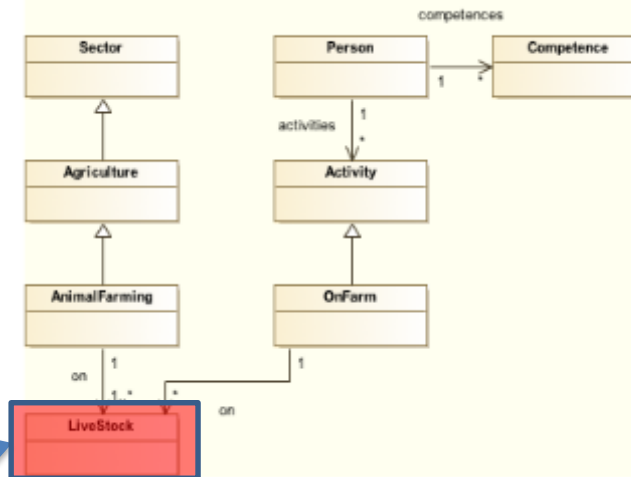
Ecosystem services



Conceptual Model: Contribution of livestock to the values

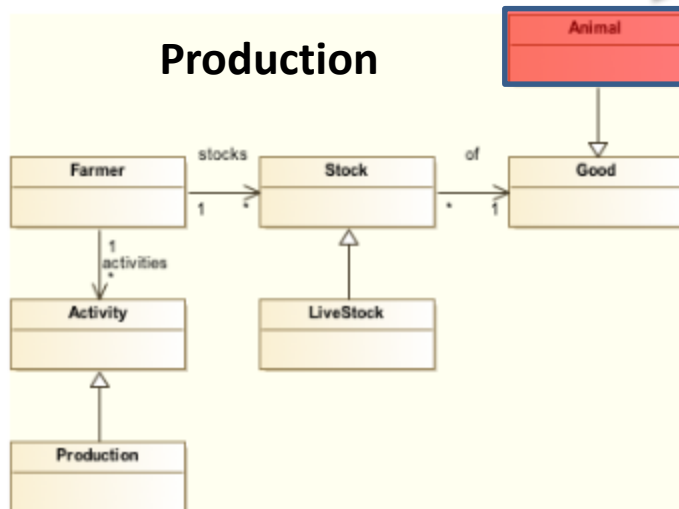


Social

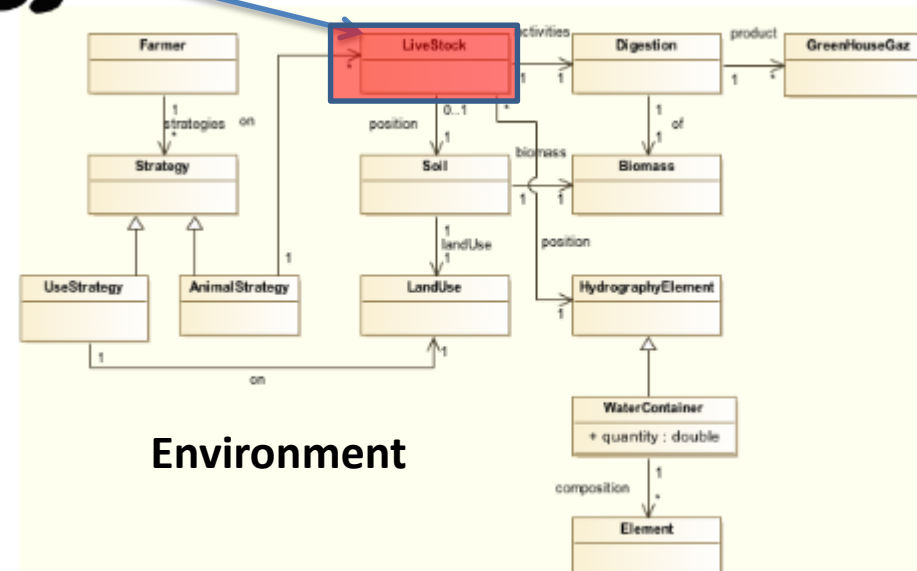


Local development

Synergies and trade-offs ?



Production



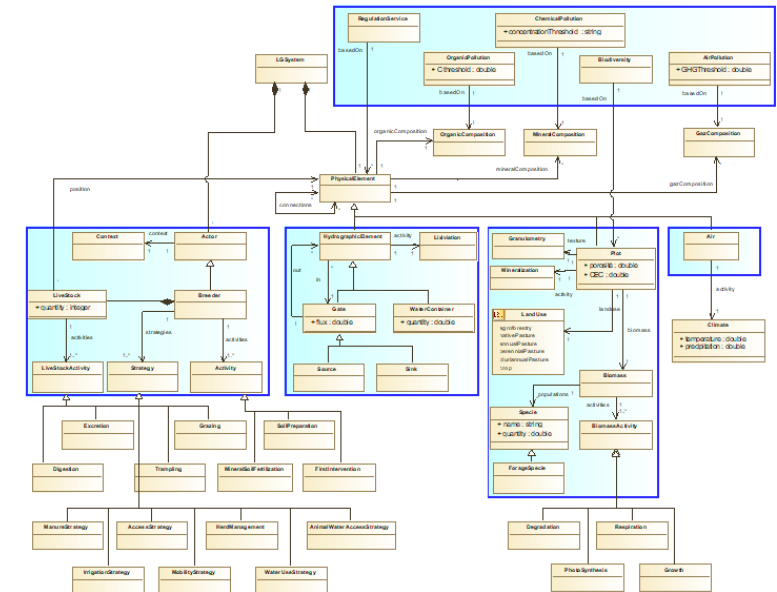
Environment

Outputs

- Academic publication (Rangeland paper submitted)
- Indicator library with each indicator mapped to an SDG
- UML diagram for each domain

Dimension	Indicator	SDG
2	<i>Local development</i>	
	Services	
2.1	nb and diversity of extension services	Nb, type 17
2.2	nb local services related to livestock activities	Nb, type 15
2.3	credit availability to resource users	Nb and amount in \$ of credit/y 8
2.4	number of processing units (dairy, slaughter,...)	nb per type 8
	Value chain	
2.5	distribution of added-value amongst stakeholders	% 5
2.6	marketing channels for pastoral products	nb, type 8,2
2.7	% production in short channels	% of total production for each product 8,3
2.8	added value	??? 8

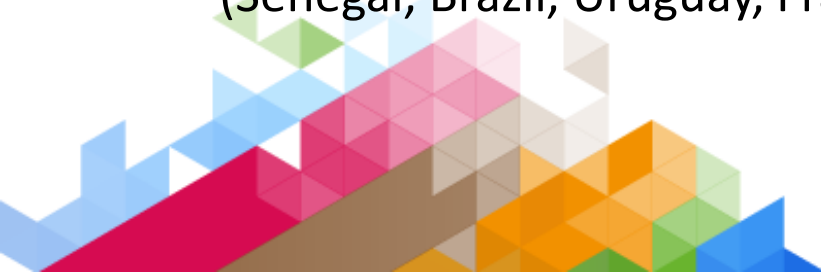
The UML diagrams for each dimension: ecosystem



Use of Ontology

Rich background of knowledge and diverse world views gives confidence in ontology robustness to be used in the:

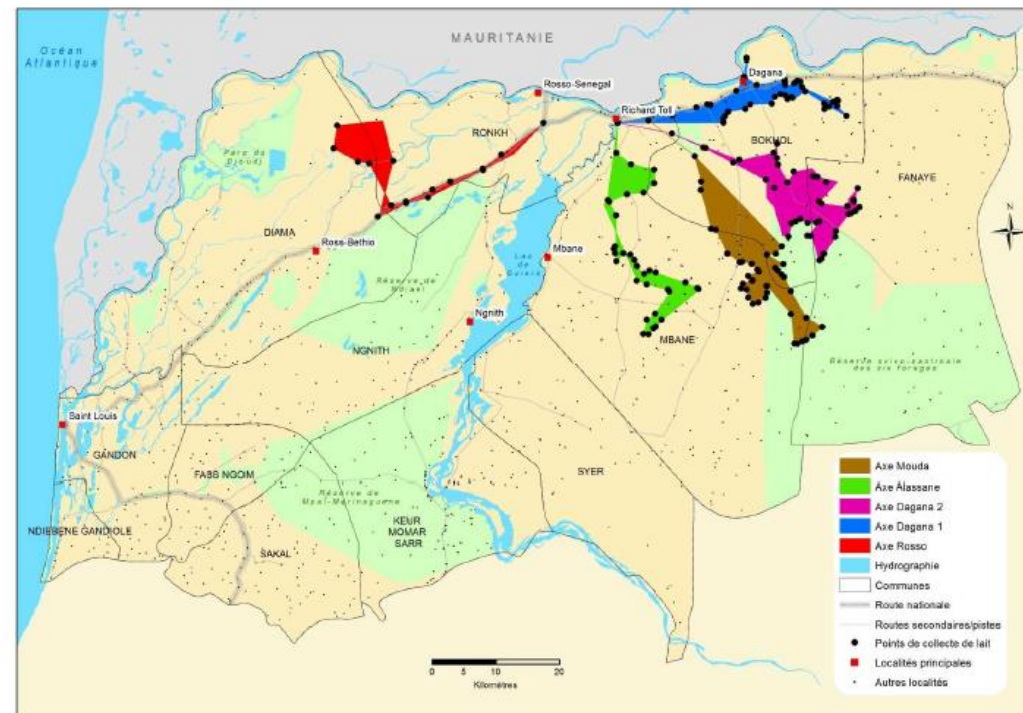
- Assess impact of livestock in case studies through provision information on the four dimensions (Vietnam, France, Uruguay, Mongolia, New Zealand,...)
- Help design of Policy (Vietnam, Senegal,...)
- Education of students (Brazil, France,...)
- Help to form and strengthened transdisciplinary teams (Argentina, New Zealand,...)
- Simulation models to explore the impact of “what if” strategies and scenarios (Senegal, Brazil, Uruguay, France,...)



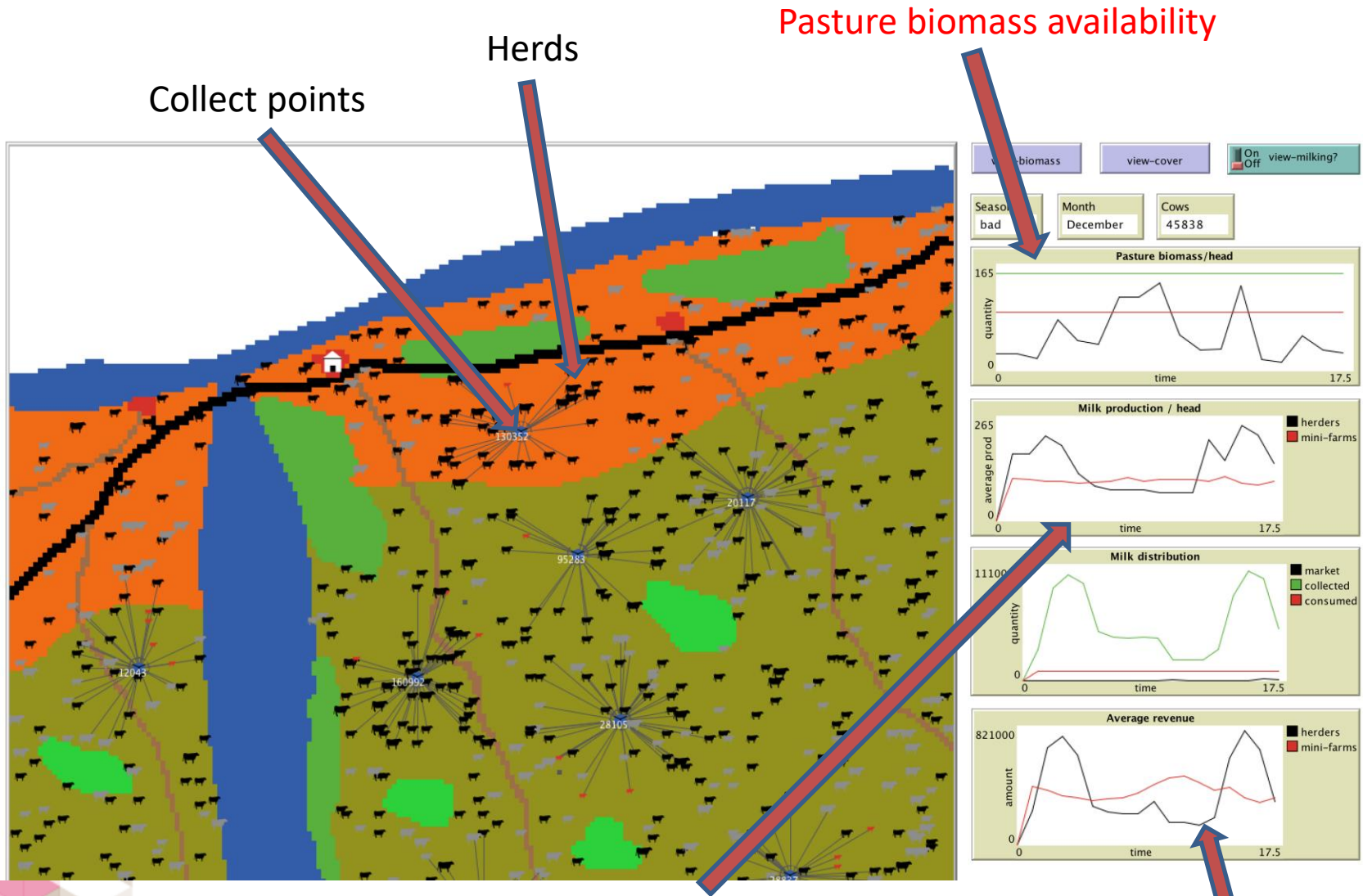
Simulation model : Senegalese Dairy exemple

- Organizing Dairy production and delivery to be less dependent on importations
- « Laiterie du Berger » collects milk in a large traditional pastoral area of north Senegal but needs to average production over the year and bad seasons

- Issue: understanding the multi-dimensional impact of introducing some additional small extensive farms in the area (nd, size,....?)



The simulation model : in progress



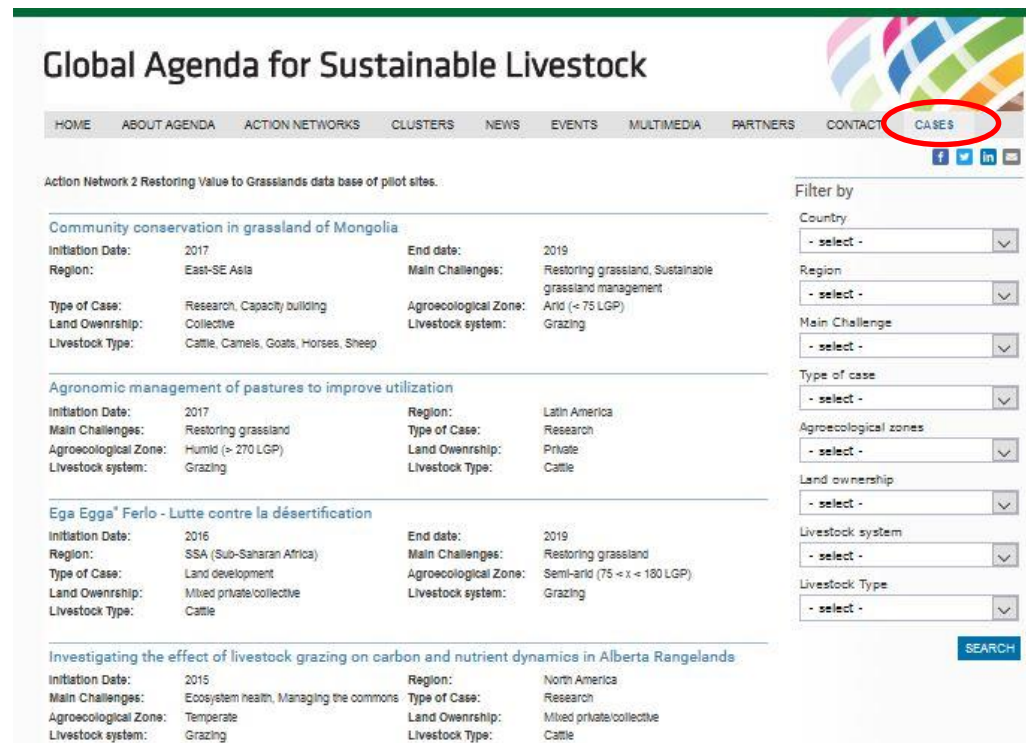
Milk production
Traditional and mini-farms

Revenues
traditional and mini-farms

Data Base of cases on lessons learnt

Document, standardise and share information on lessons learnt on sustainable grassland management

- Database on the GASL website: share knowledge and lessons (web master)

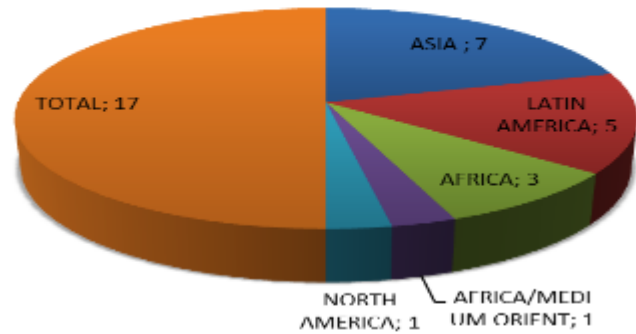


The screenshot displays the 'Global Agenda for Sustainable Livestock' website. The 'CASES' menu item is highlighted with a red circle. The main content area shows a list of cases with details for each, including initiation date, region, type of case, land ownership, and livestock system. A filter sidebar on the right allows users to search by country, region, main challenge, type of case, agroecological zones, land ownership, livestock system, and livestock type. A 'SEARCH' button is located at the bottom right of the filter sidebar.

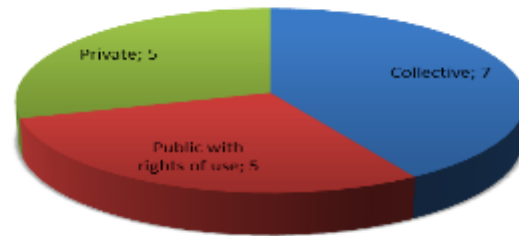
Case Title	Initiation Date	Region	Type of Case	Land Ownership	Livestock Type	Main Challenges	Agroecological Zone	Livestock System
Community conservation in grassland of Mongolia	2017	East-SE Asia	Research, Capacity building Collective	Collective	Cattle, Camels, Goats, Horses, Sheep	Restoring grassland, Sustainable grassland management	Arid (< 75 LGP)	Grazing
Agronomic management of pastures to improve utilization	2017	Latin America	Research	Private	Cattle	Restoring grassland	Humid (> 270 LGP)	Grazing
Ega Egga' Ferlo - Lutte contre la désertification	2016	SSA (Sub-Saharan Africa)	Land development	Mixed private/collective	Cattle	Restoring grassland	Semi-arid (75 - x < 180 LGP)	Grazing
Investigating the effect of livestock grazing on carbon and nutrient dynamics in Alberta Rangelands	2015	North America	Research	Mixed private/collective	Cattle	Ecosystem health, Managing the commons	Temperate	Grazing

Database utility

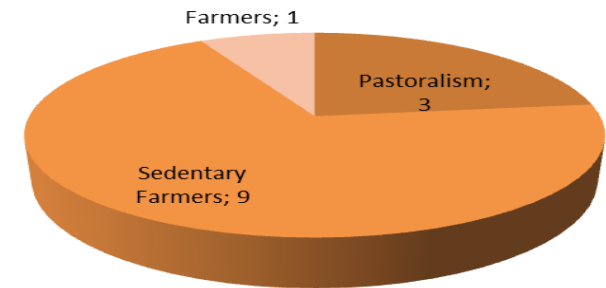
Number of Projects by Region



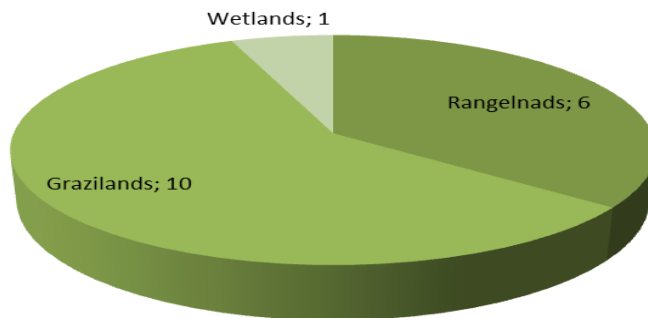
Projects by type of land ownership



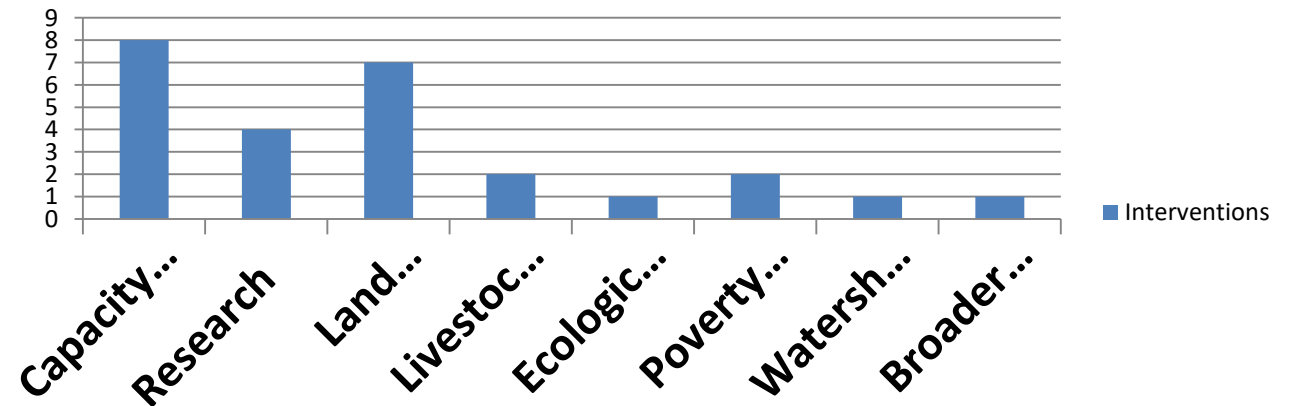
Projects by Type of Livestock system



Projects by Type of landscape



Type of interventions



Good practice Booklets

- Synthesis of case studies: lessons and evidence for sustainable grassland management



More information on AN2

- Next session :

 - You can get more information on simulation model

 - Get information on video as a research tool

 - Look at AN2 Database information

 - View some of the case study posters

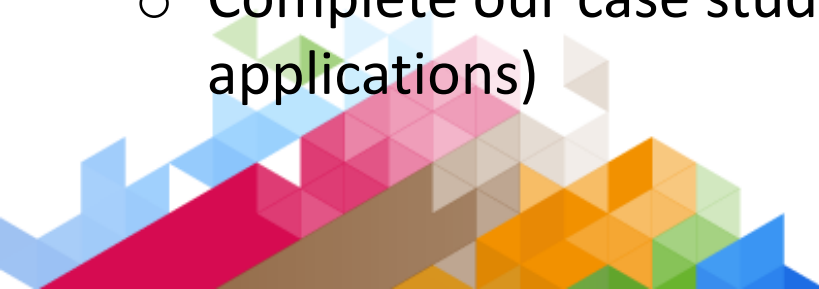
 - See some of our cases as videos (extra session)

- AN2 we will meet as an action network over the next days (Open on Friday 8:00 am)

 - Contribute through some of your own cases

 - Identify contribution to Work Areas for future AN2 Action plan

- Complete our case studies (diversified evidence, model robustness, other on ground applications)



Next Step for AN2

- Progress with present pilots to assess robustness and utility of the Ontology and Conceptual Model
- Complete our case studies (diversified evidence, model robustness, other type of on ground applications)
- Co-financed activities : French contribution to GASL and other sources (Pilots, Projects,..)
- Disseminate results and guidelines
- Complete Database of Case studies on lessons learnt
- Capacity building on Multifunctionality of Grasslands Systems