

### **Objectives of the project**

Improve the assessment of carbon footprint of Sahelian agro-silvopastoral ecosystems in order to better quantify their impacts on climate change for the development of livestock policies adapted to the Sahel, strengthen the capacities of involved actors and support the changes of practices and policies.

### **Background**

The Paris Agreement has strengthened the global efforts to fight climate change by requiring all countries to set climate targets, particularly in terms of greenhouse gas (GHG) reduction. According to the current estimation models, GHG emissions from ruminants in (agro) pastoral systems represent a significant share of the total GHG emissions in many developing countries and are expected to increase in the coming decades. One of the major challenges of the CaSSECS project is therefore to improve the quality of the data to have a better vision of the impact of (agro) pastoral livestock farming systems on the environment. More specifically, it is about enabling (agro) pastoral farmers to continue to live from their practices, by producing products and services and having the ability to adapt and participate in the mitigation of climate change effects. Undeniably, Sahelian (agro) pastoral livestock systems are threatened, in particular because they are declared as significant emitters of GHGs. Such a vision could be balanced with more consistent data, repositories and reliable scientific and technical skills.



### **The theory of change to achieve the objectives**

The expected impacts of the project are: (i) the livestock farmers live from their practices, produce products and services and have the capacity to adapt and participate in mitigation, (ii) the national organisations of the CILSS (Permanent Interstate Committee for Drought Control in the Sahel) States have the capacities to understand, build and update the repositories on the environmental impact of livestock systems to elaborate their policies, (iii) livestock and pastoralism systems' contributions (environmental, economic and social) are recognized by politicians at national and international level.



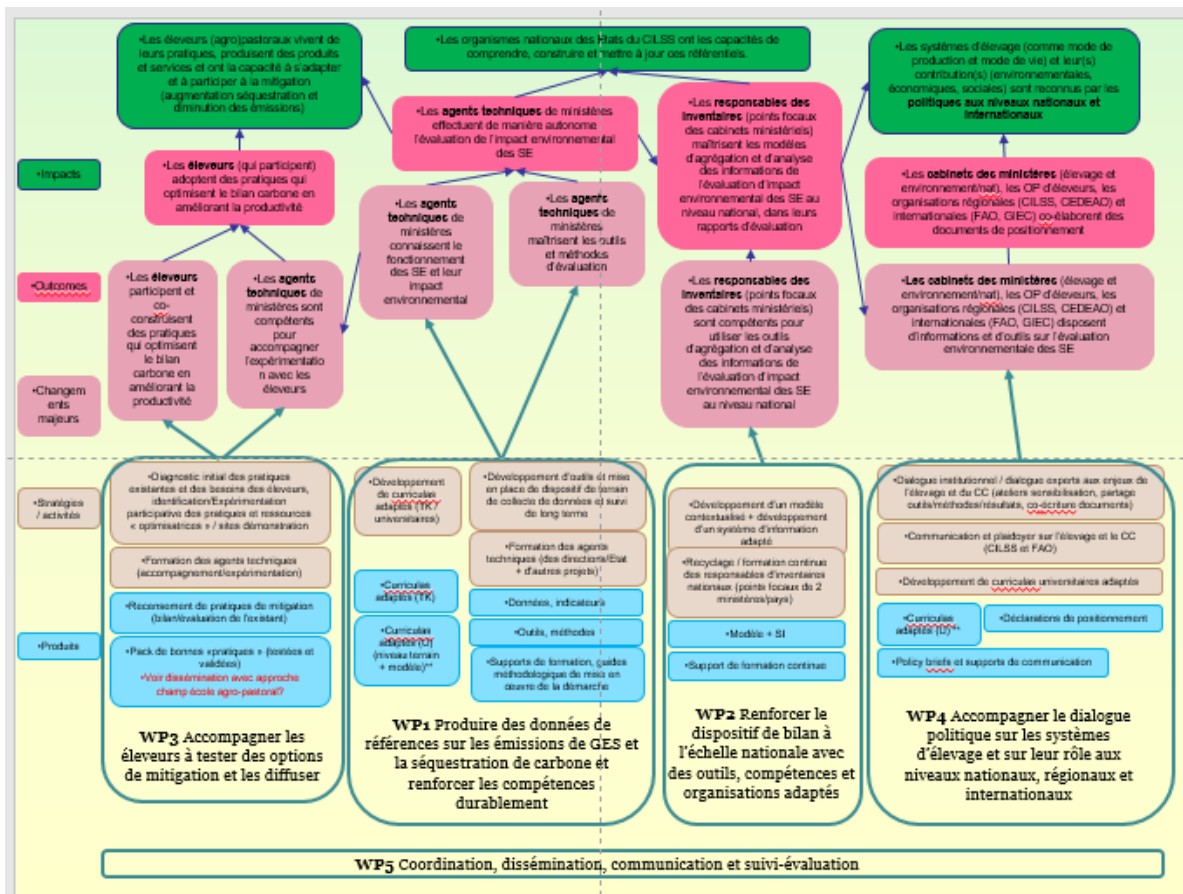
To achieve the results, the CaSSECS project will make an initial diagnosis of the existing practices and needs of livestock farmers, will implement participatory experiments of "optimal" practices and resources, will set up training for technical agents, will develop suitable programmes, tools and field devices for data collection and long-term monitoring, will develop a contextualized model and an adapted information system, will set up institutional dialogue, will communicate and advocacy on livestock and climate change.

The CaSSECS project will help (agro) pastoralists to adopt practices to improve their Carbon footprint, while maintaining/improving the productivity of production systems. Then, the project will make the technical staff of the ministries competent and autonomous in the implementation of reliable and rigorous devices for measuring the environmental impact of livestock systems. The project will avail to the national inventory managers the data necessary for a comprehensive trend analysis of the environmental impact of livestock systems. Finally, the CaSSECS project will support the cabinets of

ministries, professional livestock farmers' organisations, regional and international organisations to mobilize all the reliable data and the mitigation options.

The main outcomes will be: (i) livestock farmers adopt practices that optimize carbon footprint by improving productivity, (ii) technical agents from ministries carry out an independent assessment of the environmental impact of livestock systems, (iii) national inventory managers master aggregation models and information analysis from the national environmental impact assessment of livestock systems at national level, in their assessment reports, and (iv) cabinets of ministries, professional livestock farmers' organisations, regional and international organisations co-develop policy documents.

The outputs of the CaSSECS project are: (i) the inventory of mitigation practices, (ii) the provision of a pack of tested and validated good practices, (iii) adapted university curricula, (iv) data and environmental impact of livestock systems indicators, (v) data collection and long-term monitoring tools and methods, (vi) training materials, methodological guides for implementing the approach, (vii) policy statements, policy briefs and communication materials.



**Main activities**

The main activities of CaSSECS project are:

- ✓ production of baseline data on GHG emissions and Carbon sequestration: evaluation of productivity and emissions linked to animals, evaluation of the contribution of soil to the Carbon footprint, evaluation of the contribution of spontaneous vegetation to the Carbon footprint,

- ✓ improvement of the assessment system on a national scale: mapping the characteristics and dynamics of ecosystems, spatio-temporal modelling of the distribution of livestock and their mobility, fodder assessment and C footprint of agro-pastoral farming at the national level,
- ✓ co-design and dissemination of options to mitigate the impact of livestock on climate change: efficient improvements in animal ration, sustainable management of resources at the territorial level, evaluation of mitigation options,
- ✓ training and capacity building on the assessment of the environmental impact of livestock systems: student training, professional training.

### Organization

The project, built around five components, will use the achievements of a Research and Training Platform Partnership for "Pastoralism and Dry Areas" (dP PPZS). One of the member institutions of the Platform, the *Institut Sénégalais de Recherche Agricole (ISRA)*, is the main applicant for the project and will be accompanied by nine [9] co-applicants and eight [8] associated institutions. A CaSSECS coordination team will be established and will work under the direction of a coordinator and a facilitator on scientific matters. In the team, a specialist in project monitoring and evaluation bring his/her expertise. The project includes the establishment of a Steering Committee and a Scientific Committee.

### Implementing organization

Institut Sénégalais de Recherche Agricole (ISRA).

### Project partners

*Université Cheikh Anta Diop de Dakar (UCAD), Centre de Suivi Écologique (CSE), Centre de coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Institut de l'Environnement et de Recherches Agricoles (INERA), Centre International de Recherche-Développement sur l'Élevage en zone Subhumide (CIRDES), Centre Régional Institution spécialisée du CILSS (Agrhymet-CILSS), Institut de Recherche pour le Développement (IRD), University of Copenhagen, Université Catholique de Louvain (UCL).*

### Other stakeholders

*Direction de l'élevage du Sénégal, Réseau de Communication sur le Pastoralisme Antenne de l'Ouest (Recopa), Association pour la Promotion de l'Élevage au Sahel et en Savane (APESS), Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE), Centre national de la recherche scientifique (CNRS), Université Paul Sabatier Toulouse III, Lunds University, Food and Agriculture Organisation of the United Nations (FAO).*

### Region

Six Sahelian CILSS countries: Senegal, Burkina-Faso, Niger, Mali, Chad and Mauritania

### Funding and co-funding

EU	€ 5,000,000
Implementing organization and partners	€ 555,000
Total budget	€ 5,555,000

### Duration

four (4) years; January 2020 - December 2023

