

# Water Resources Monitoring and Forecasting

Connecting the space to monitoring temporary water bodies (Ferlo, Senegal)

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# Where are we now?

Reduction of crop and livestock production due to lack of knowledge on both surface and groundwater resources



## *Where are we now?*

### Development Problem

The low availability and limited accessibility of information on ephemeral water bodies affect the productivity of FERLO Sylvo-pastoral system.

### Problem analyze

**Sylvo-pastoral systems** in the Sahel, due to their extensive nature and their dependence on ephemeral surface water, **are becoming increasingly vulnerable in the context of Climate Change**. CC creates an imbalance in the agro-pastoral system, hence the need to increase the availability and accessibility of information (in connection with scientific knowledge and endogenous knowledge) in order to increase the resilience of FERLO local communities.

### Impact

Resilience of agro-pastoral systems is enhanced and productivity increased in the face of climate change.

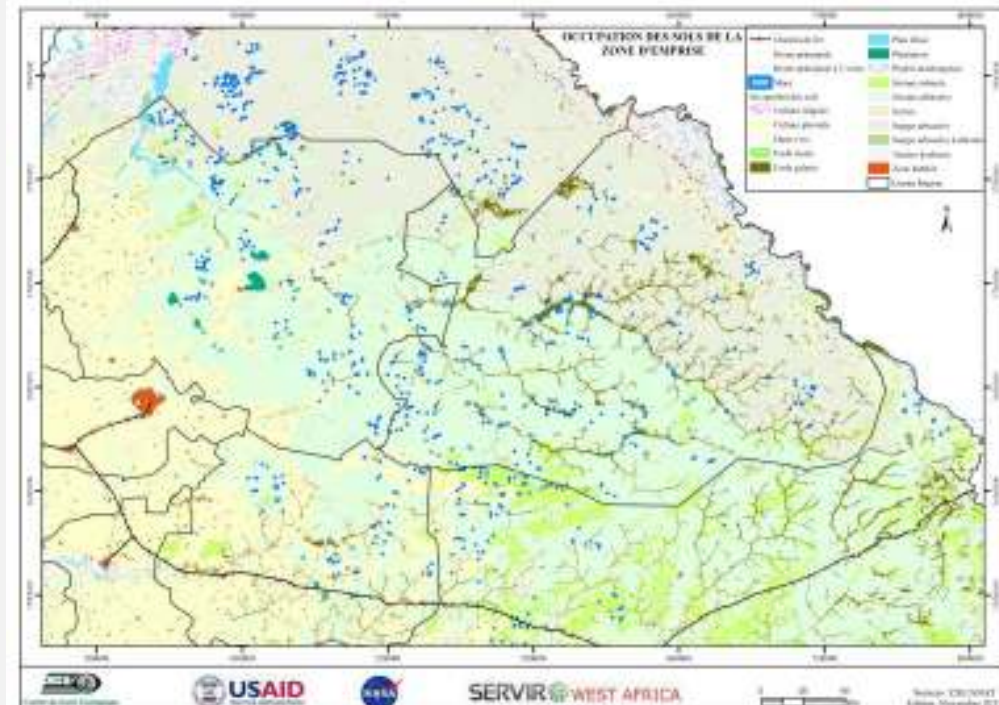
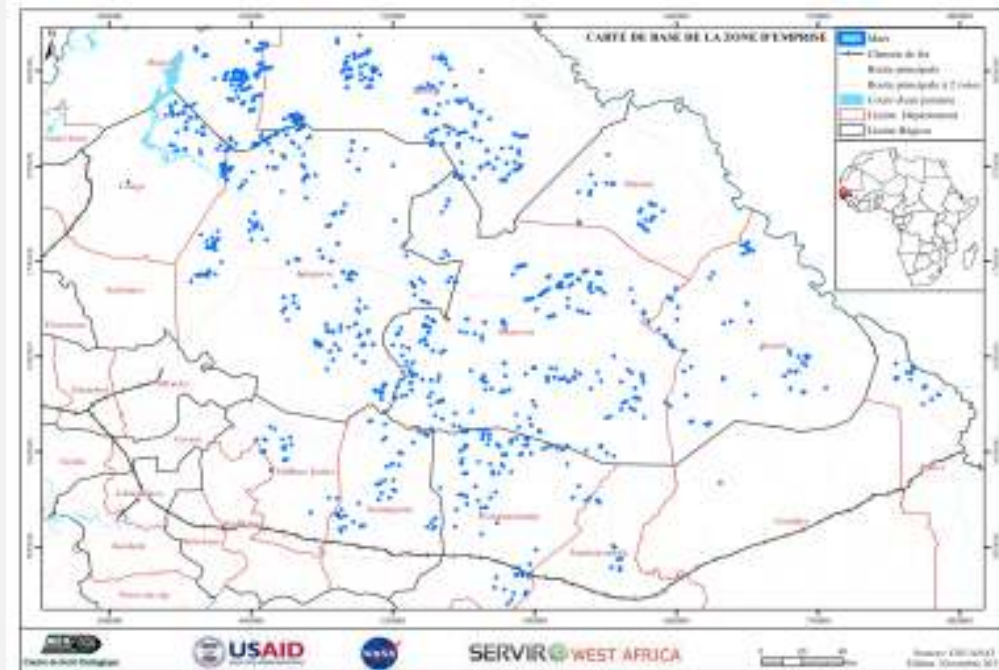
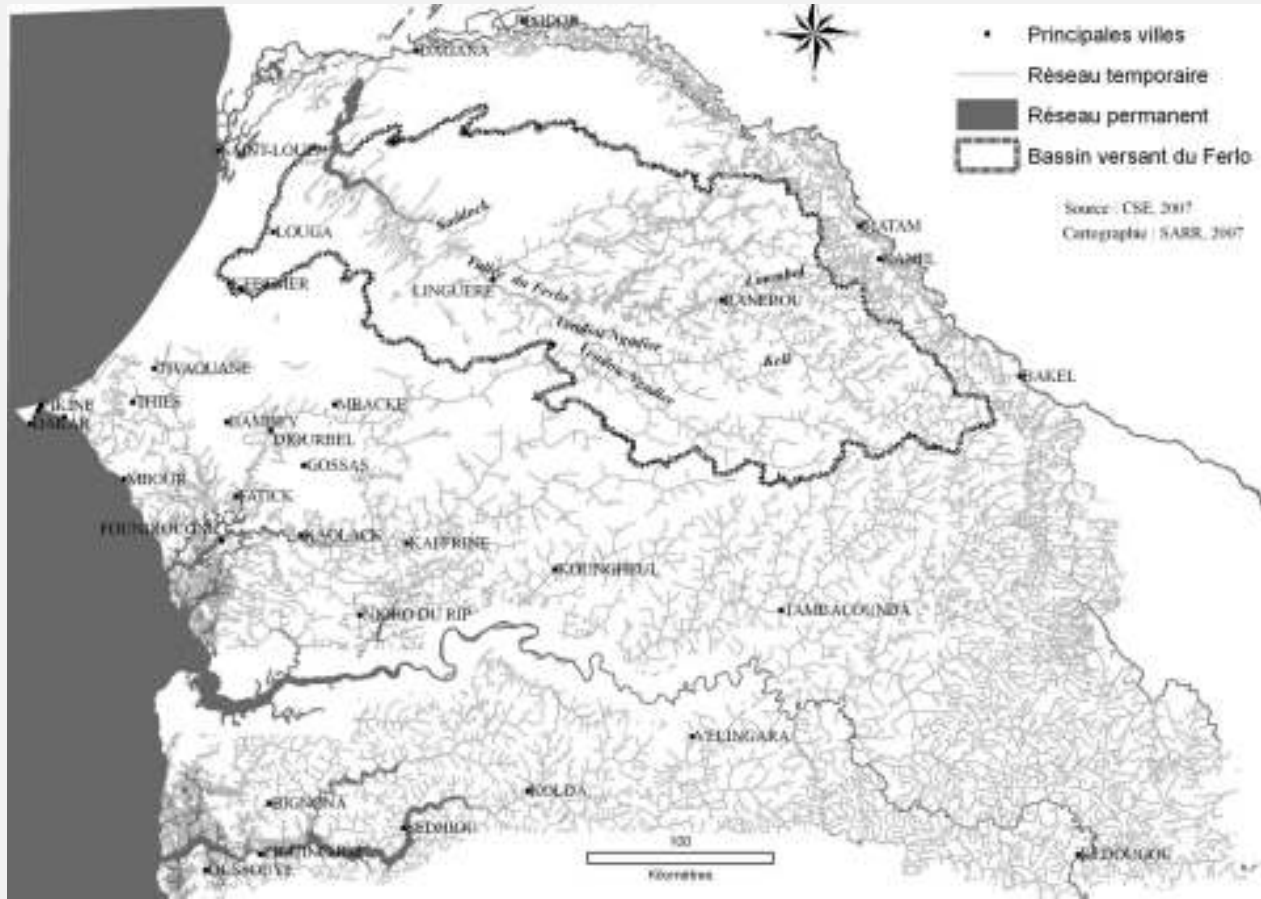
Outcomes , outputs , main activities to be conducted, stakeholders (5) and indicators

Service Concept Design

Draft of Product Document Definition



# Where are we working ?



# Where are we working ?

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*Yaralopé (© Ndione, 2006)*



*Yaralopé (© Sibert, 2003)*



*Niakha (© Ndione, 2006)*

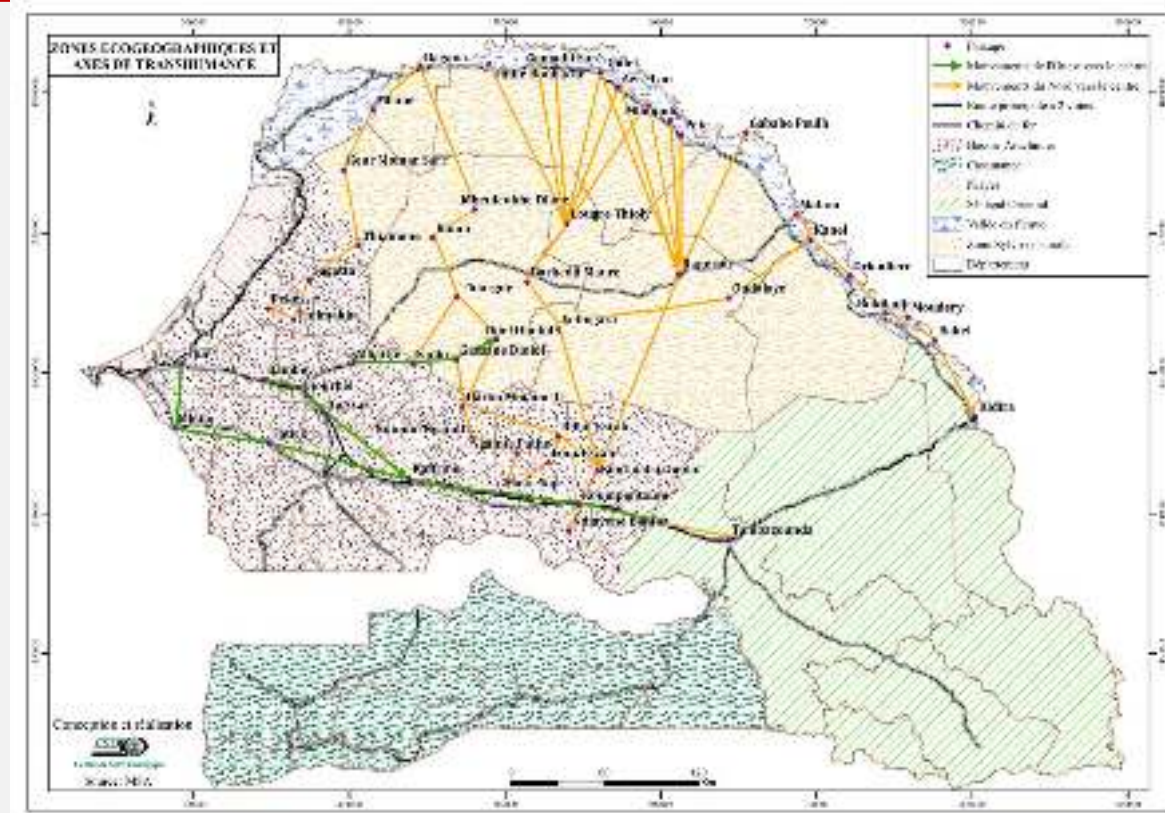


*Niaka (© Sibert, 2003)*

## WHY DOING THIS ?

Overall, the ephemeral water bodies in the sylvopastoral area are factors of productivity of the farming system but also of the reorganization of the landscape and environmental dynamics, especially in the context of climate change.

- Strengthening the financial capacity of women through the development of dairy activities;
- Reduce the time and effort required by women to look for drinking water; and
- Increase efficiency and reduce Impacts of transhumance



## HOW AND WITH WHOM ARE WE WORKING ?

Partnership with Ministry of Livestock for identifying and maintaining all partners

Awareness and user **capacity building at different levels** and at different level of product life cycle

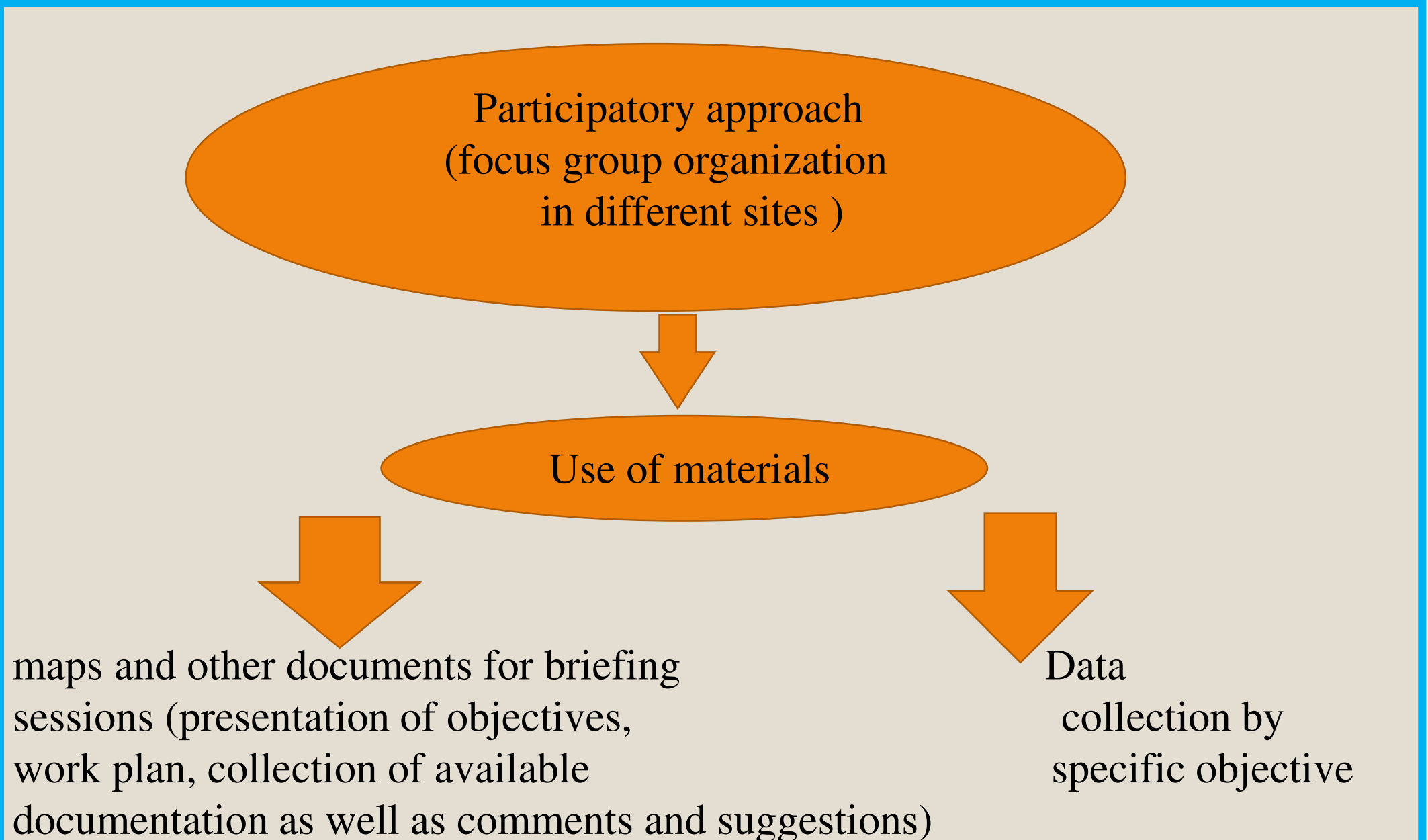


### Partners

- Pastoral Unity
- Technical Services (Livestock Inspector, Mayor, Chief of Forest Brigade, etc.)
- Breeders associations
- Women Organizations
- Community radios
- OLAC
- Medical structures



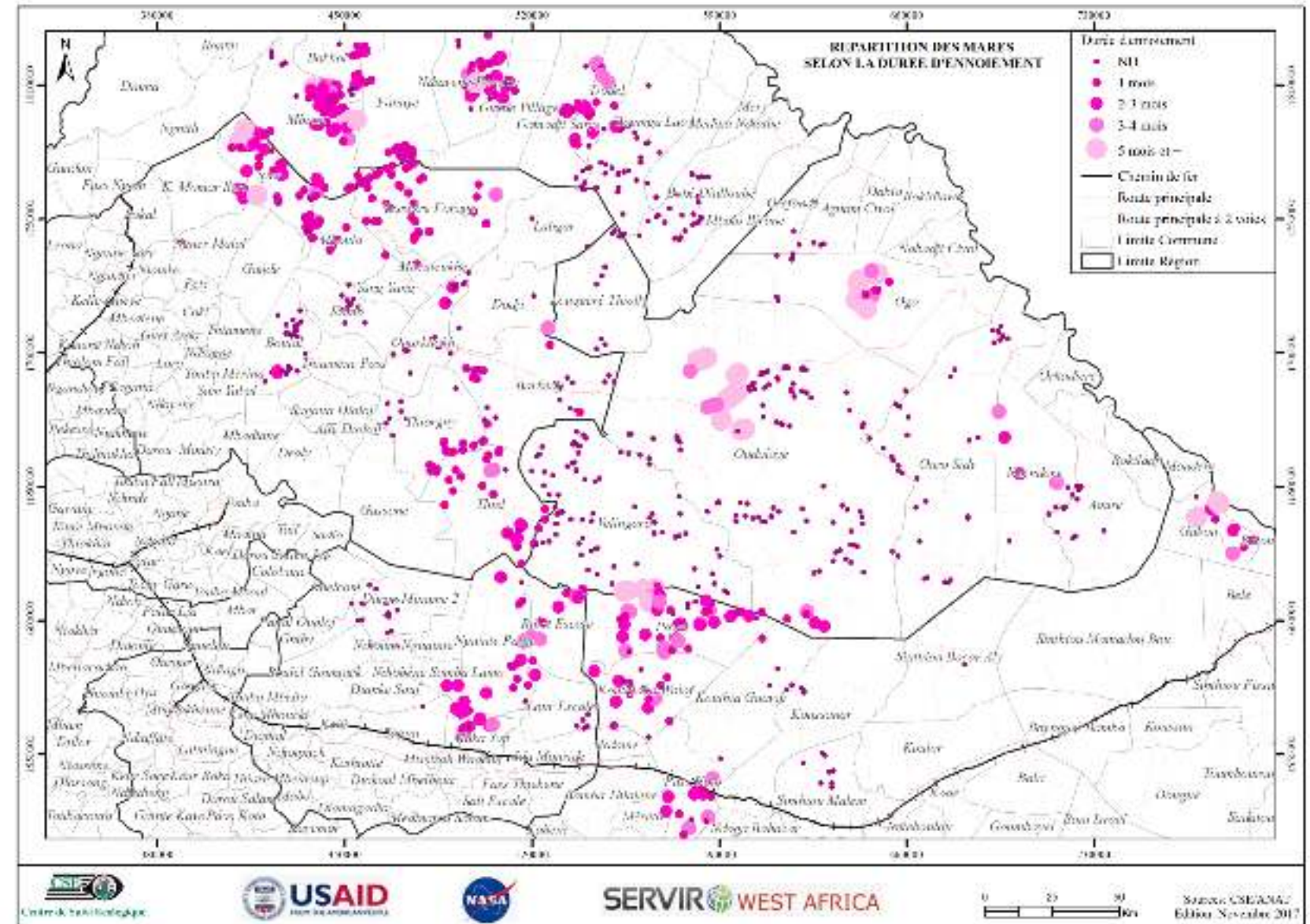
## METHODOLOGY





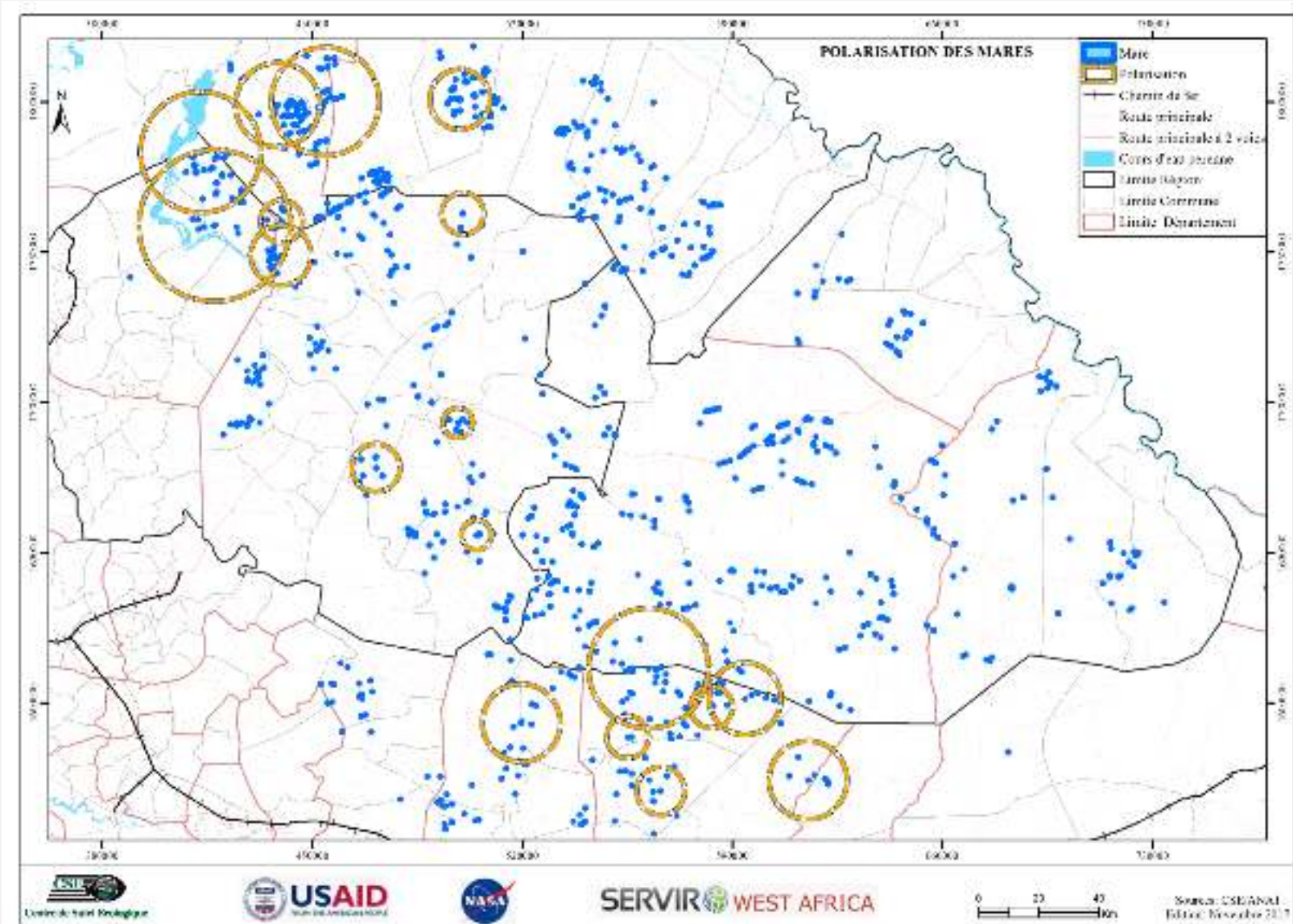
# FIELD DATA COLLECTION

An exhaustive cartography of the water bodies



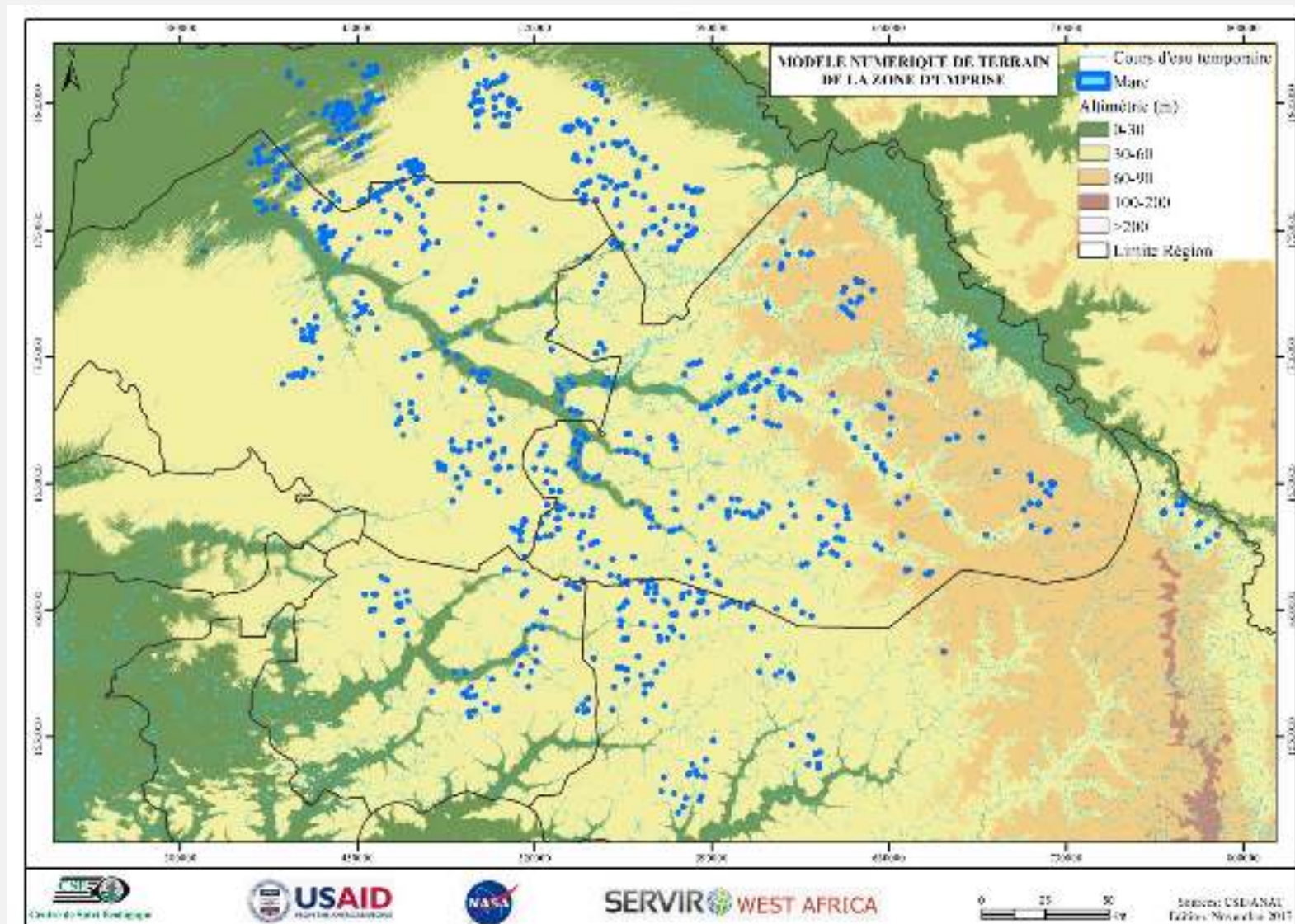
## FIELD DATA COLLECTION

An exhaustive cartography of the water bodies is made : **Area of influence**



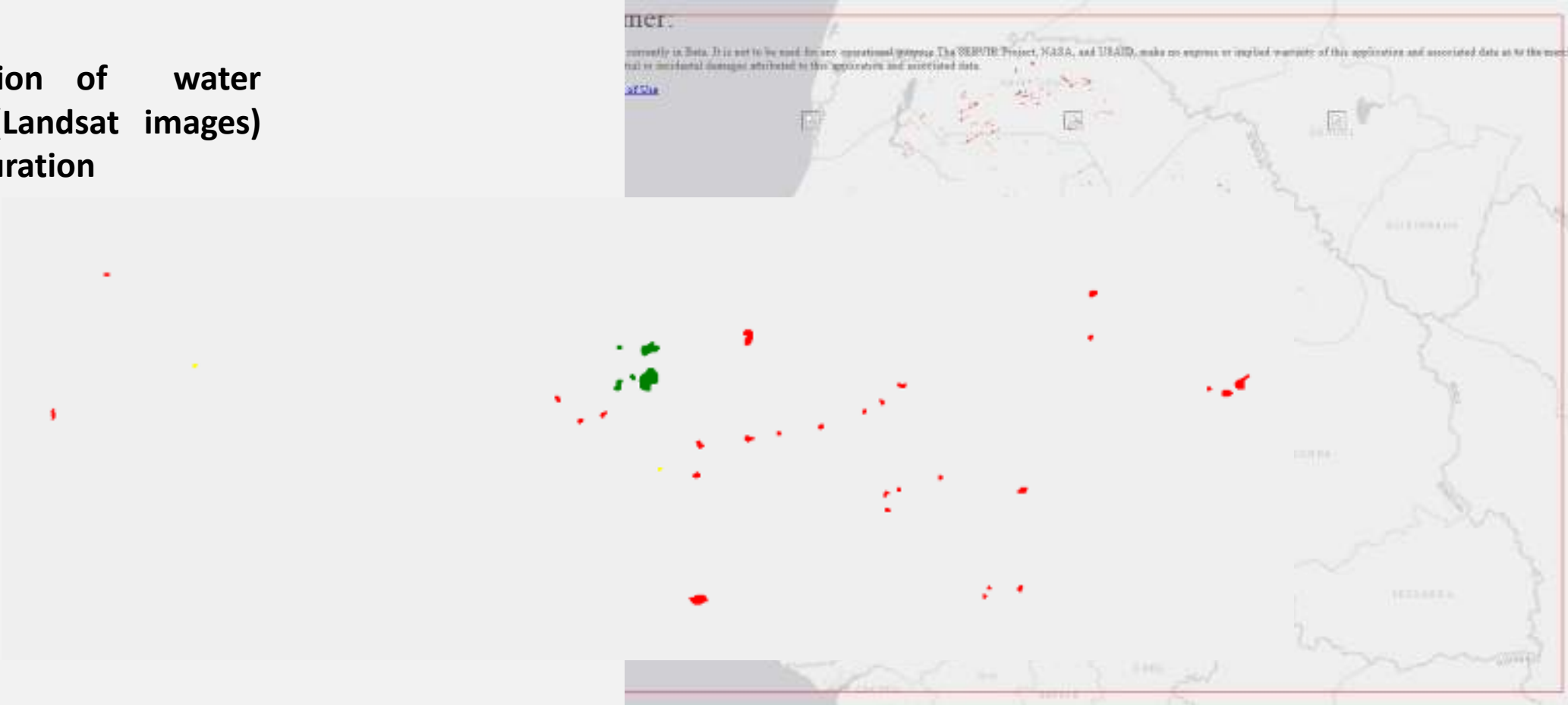
# DATA COLLECTION : DEM AND PONDS




An exhaustive cartography of the water bodies is made



# GOOGLE EARTH ENGINE

Identification of water bodies (Landsat images) and the duration



-  < 25% Water Coverage
-  25% to 75% Water Coverage
-  > 25% Water Coverage

NDWI Layer  Ponds Layer

# PARTNER PLATFORM

Partnerships are being established with actors in the field

**AVSF**  
 Association pour le Développement Rural et l'Élevage

**Systeme Pastoral d'Alerte et d'Information**

Home AVSF Monde AVSF SENEGAL Base Matam Base Linguère Base Niangara Base Kolda

Zone d'intervention AVSF

Bienvenue

Coordonnateur National  
 Ousmane Diawara

Editer

Les différents projets d'AVSF en cours

- Projet de sécurisation de l'élevage pastoral dans le Fatick au Sénégal
- Projet Adaptation Fatick à la lutte contre la désertification par l'appui au pastoralisme dans le Fatick
- Projet Renforcement de la sécurité alimentaire et nutritionnelle des exploitations familiales du département de Kolda par la promotion de l'agro-écologie et la réduction des inégalités de genre
- Projet Appui aux organisations de producteurs à la mise en place de circuits courts de commercialisation de produits locaux agro-écologiques, région de Kolda
- Projet Renforcement de la résilience des ménages vulnérables affectés par l'insécurité alimentaire et la malnutrition (Nianguar/Casamance)
- Projet de développement de la filière lait dans le département de Nianguar, en Casamance

AVSF MAP DEMO | © OpenStreetMap contributors  
 Partenaires

# Dissemination

1



2



3



Information available to  
end users!

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**Thank you for your attention**