



Food and Agriculture
Organization of the
United Nations



World Organisation
for Animal Health
Founded as OIE

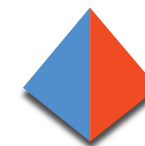
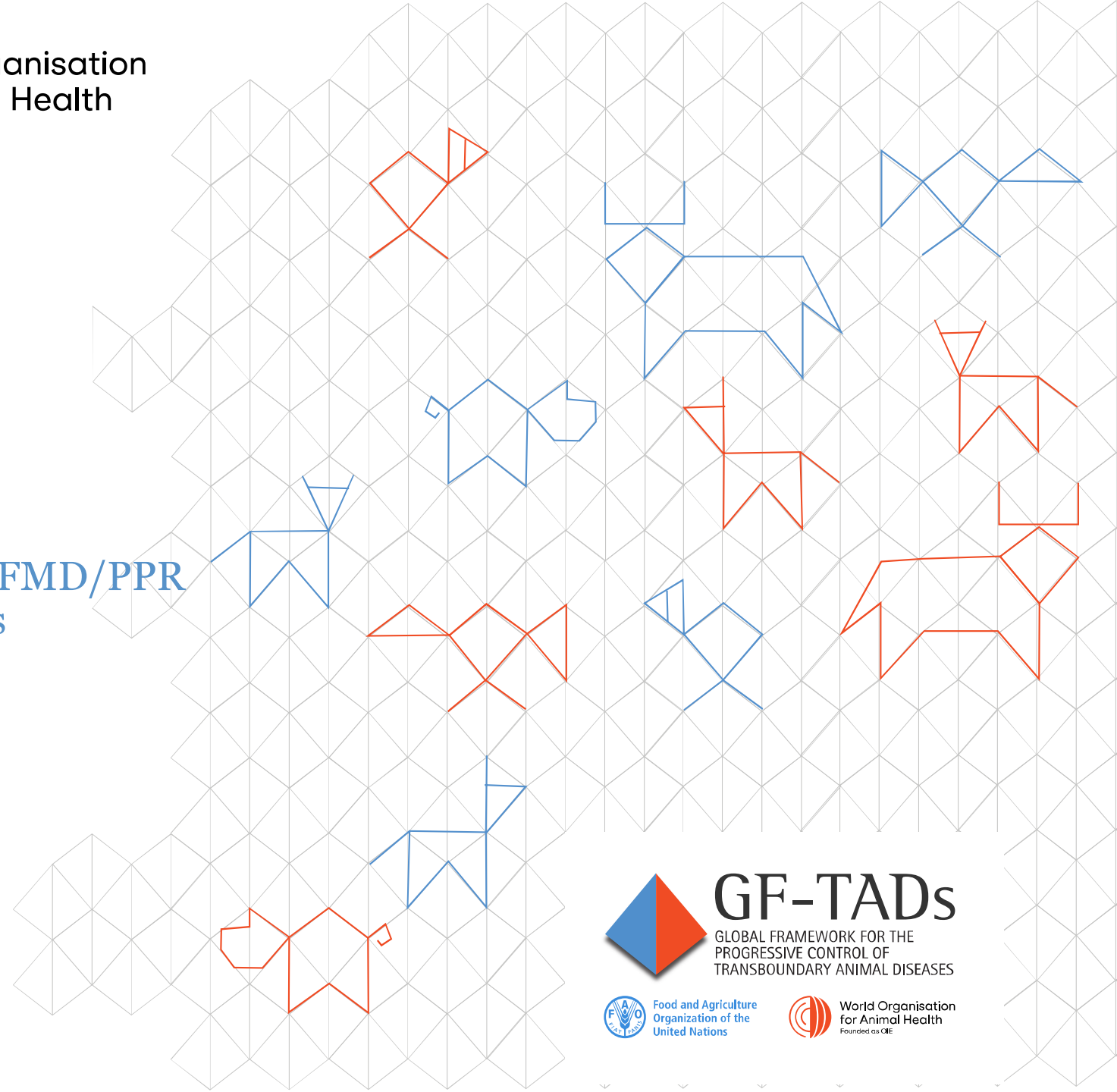
Report on the PPR situation in *Republic of Sudan*

Consultative seminar on progress made in FMD/PPR
roadmaps for East Mediterranean countries
Beirut-Lebanon
11-12 September 2022

Dr. Hassan Eltoum (CVO)

Dr. Amira Awad Salih- (PPR FP)

Ministry of Animal Resources



GF-TADs

GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



Food and Agriculture
Organization of the
United Nations



World Organisation
for Animal Health
Founded as OIE

Background

The livestock sector in Sudan is the pioneer sector both in terms of its contribution to GDP and its absorption of large and important fields in the labor forces

Sheep and goats account for **37.79%** and **29.40%** respectively of the total livestock population and contribute significantly to the national economy

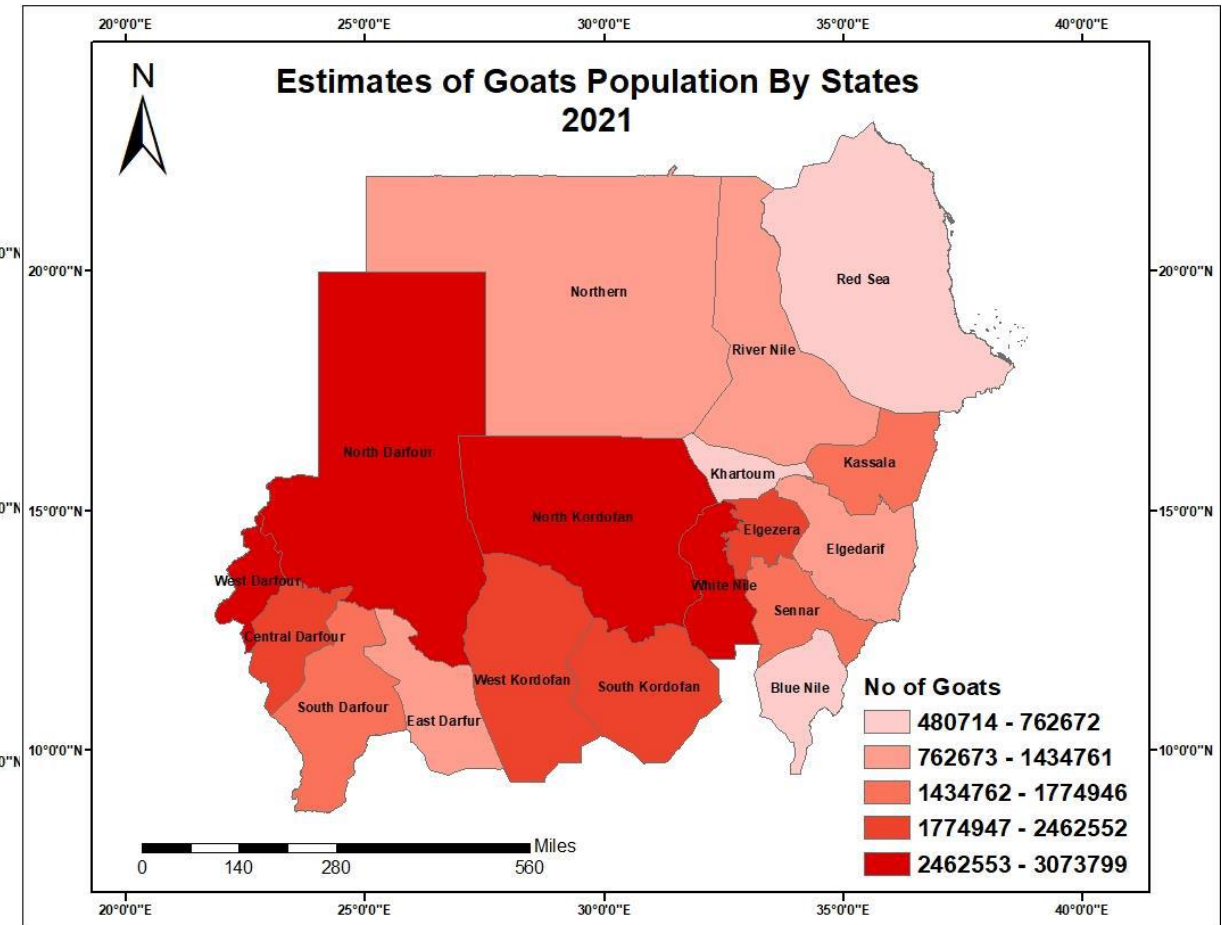
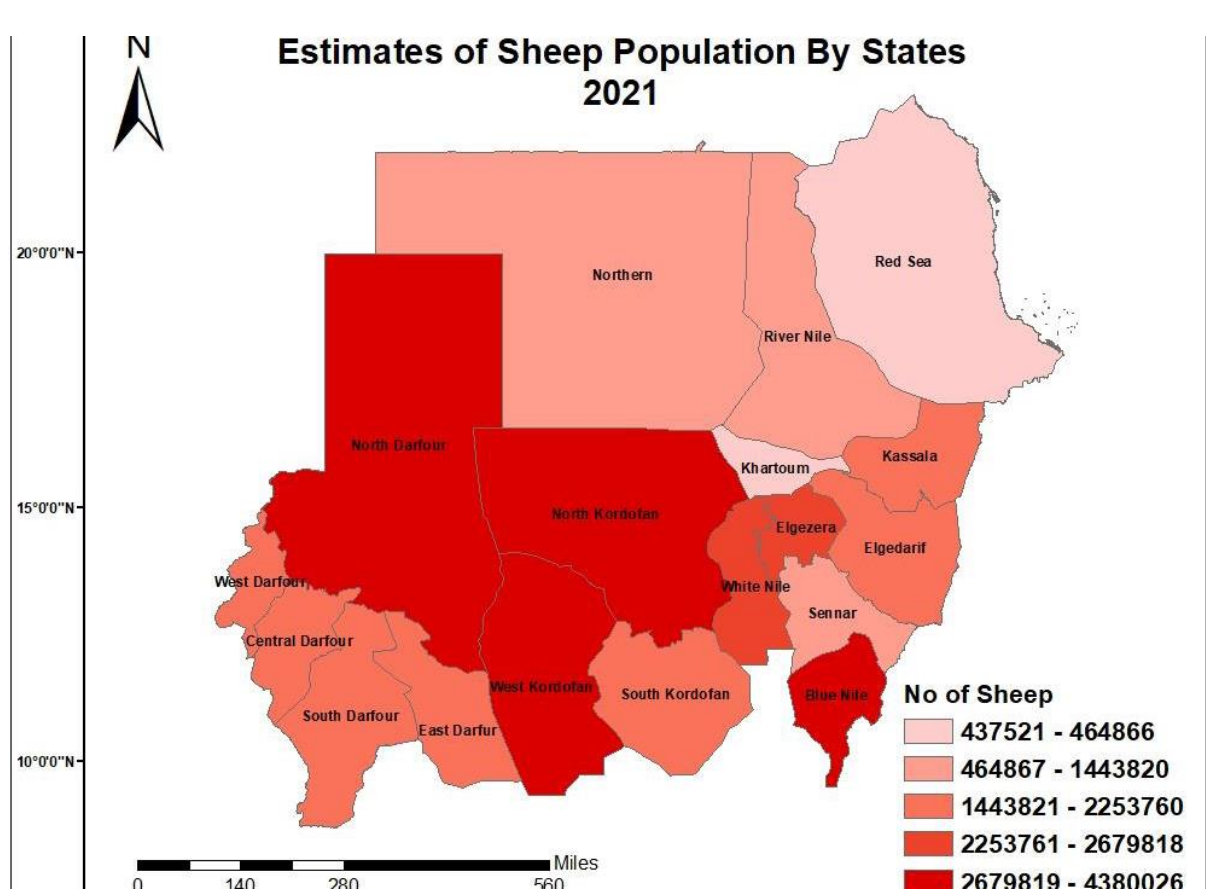
In 2020, Sudan exported \$143M in Sheep and Goats, making it the 3rd largest exporter of Sheep and Goats in the world. At the same year, Sheep and Goats was the 5th most exported product in Sudan

The sector is seriously constrained by the continued presence of trans-boundary animal diseases (TADs) such as peste des petits ruminants (PPR) and (SGP) that limited productivity and access to domestic and export markets and are therefore key obstacles to improving food security and the national economy



Background

Estimates of sheep & goats by state 2021





PPR Situation in Sudan

History of PPR outbreaks

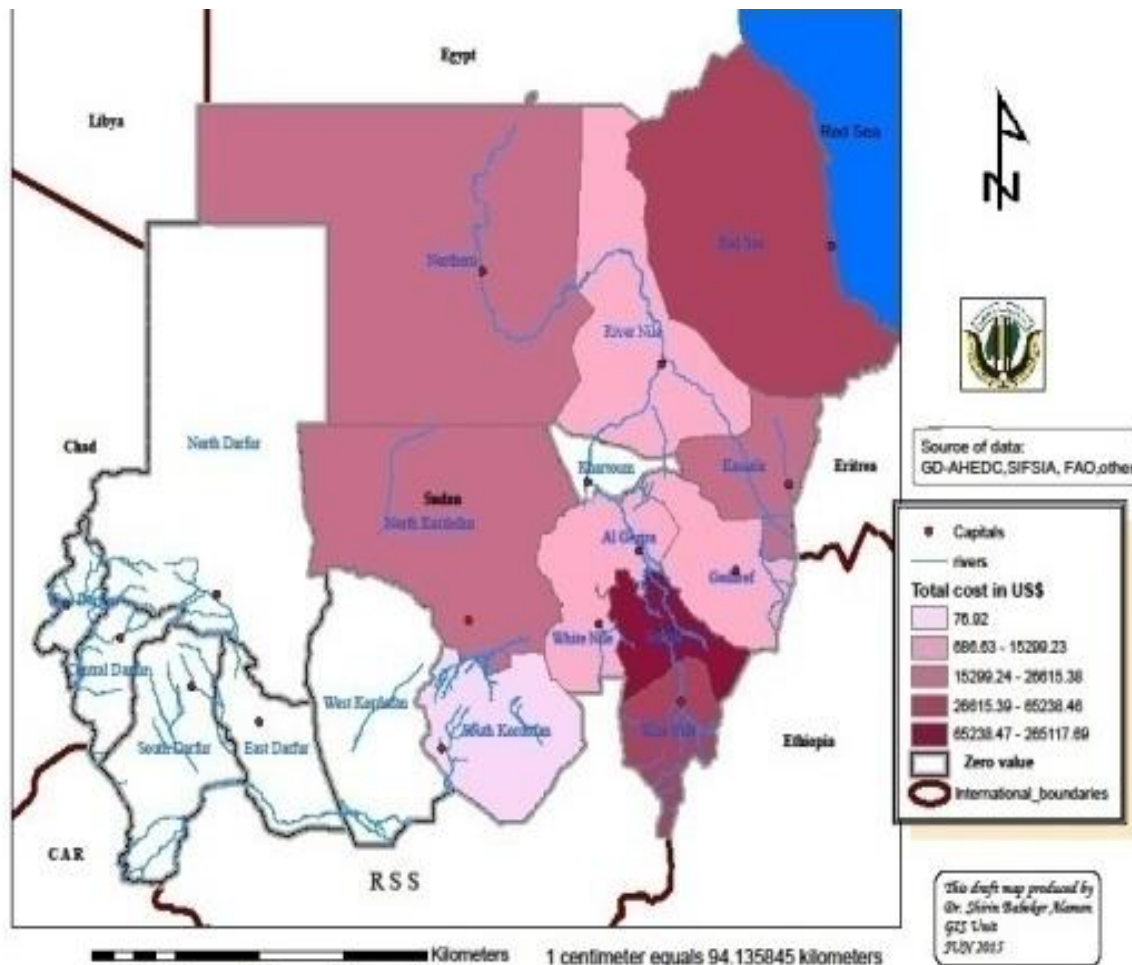
- The disease was first reported in Sudan in 1971 at Gedarif area (Eastern Sudan).
- Consequently, reports from entire different parts of Sudan, followed that report.
- For the period 2000-2007, the disease picture in Sudan seemed to be alarming covering many parts of the country, with the highest number of outbreaks (43.6%) reported in Kassala and Gedarif in the east, followed by Khartoum (19.5%), River Nile State (17.4%) and the rest of the States accounting for 19.5%.

REPORTED in many parts of the country.

PPR has been ranked as the TOP priority of SR diseases in 2009 in an assessment study focused on the relative importance of priority SR diseases in Sudan.

Currently, the disease is ENDEMIC & wide spread.

PPR Situation in Sudan



PPR impact

Wide impact on small ruminant production, household economy and the country macro economy.

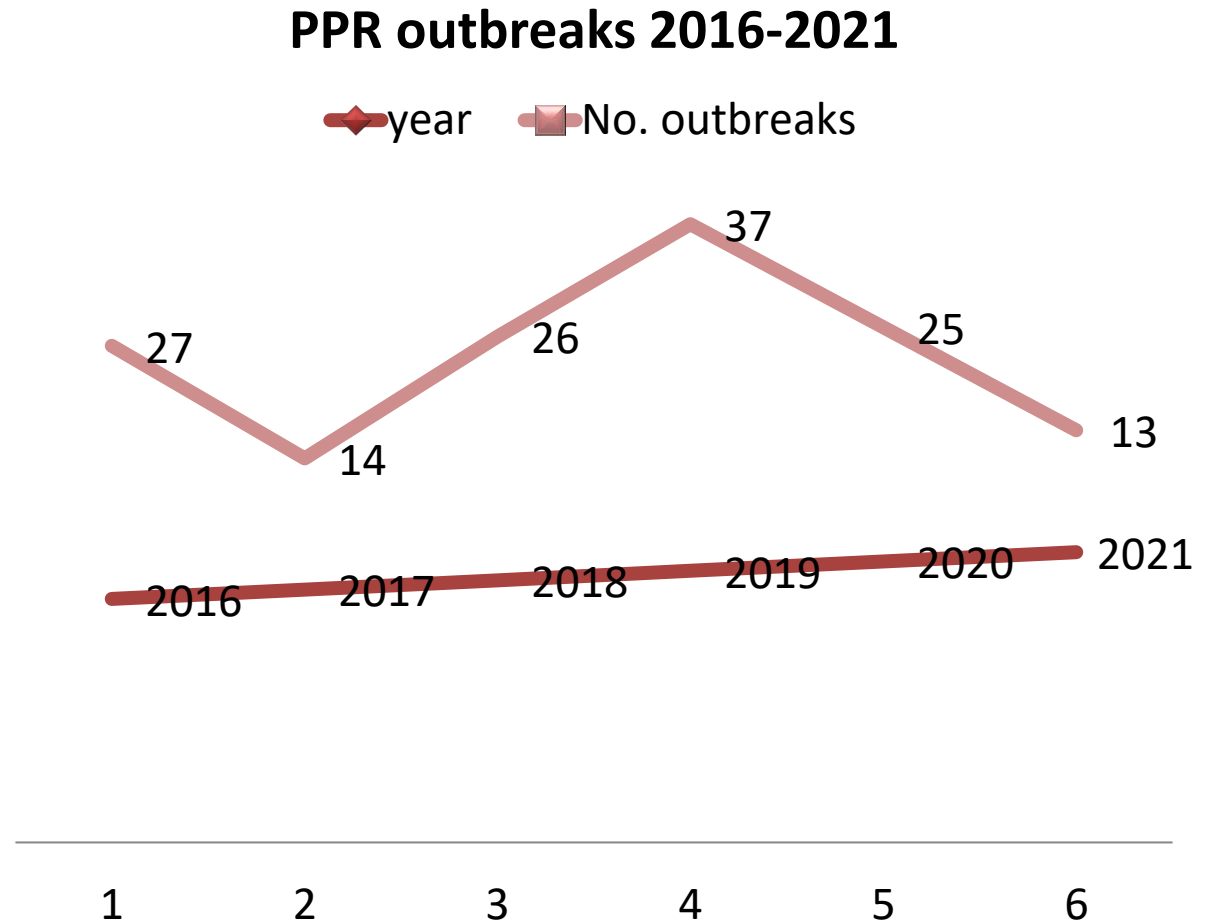
Causes direct and indirect cost for pastoralist and agro-pastoralist households trade, export and the development of livestock production.

The overall losses due to PPR estimated to be **9,282,782 \$** country wide, with **90%** general expenditure to combat the disease (**socio-economic study 2012**).

PPR Situation in Sudan

PPR outbreaks 2016 & 2021

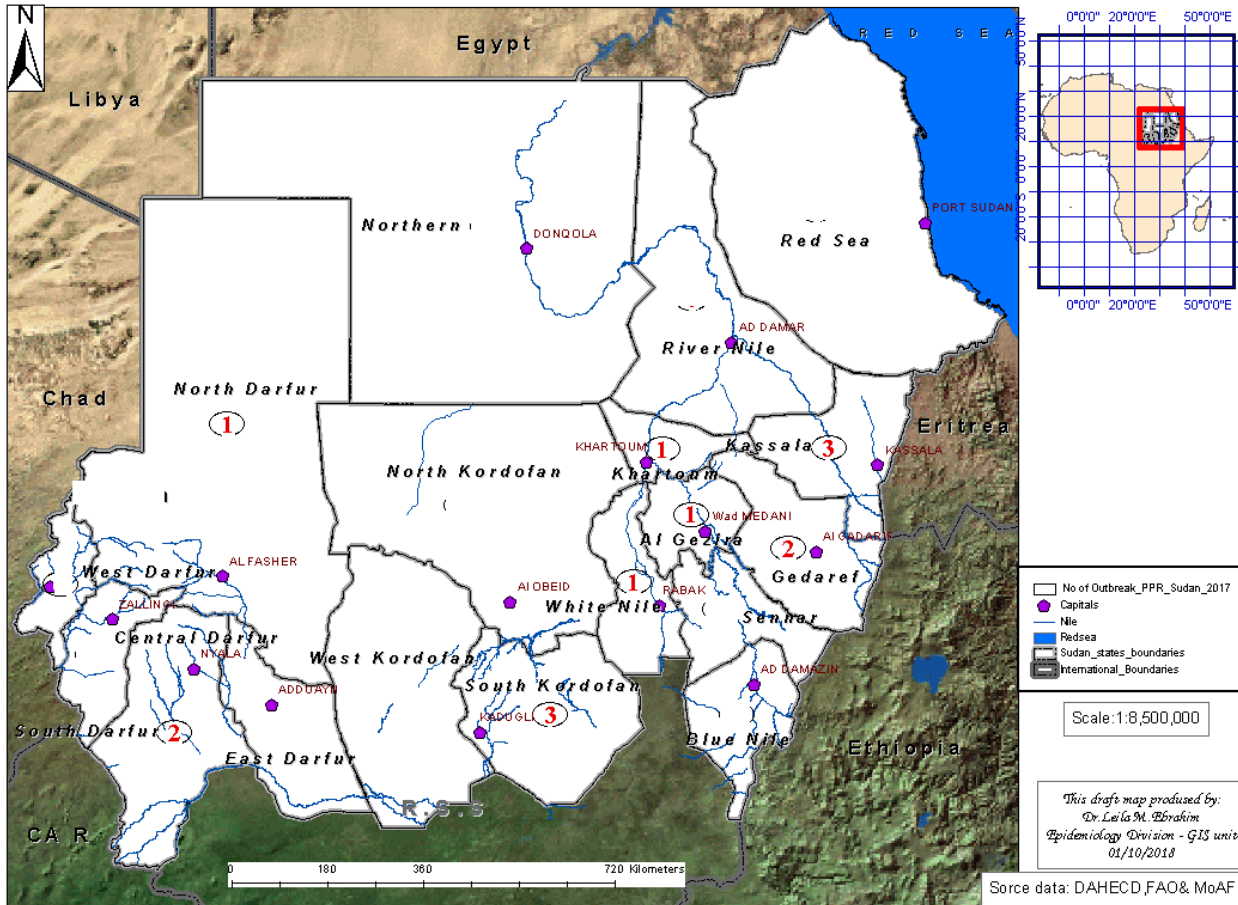
year	No. outbreaks
2016	27
2017	14
2018	26
2019	37
2020	25
2021	13
Total	142



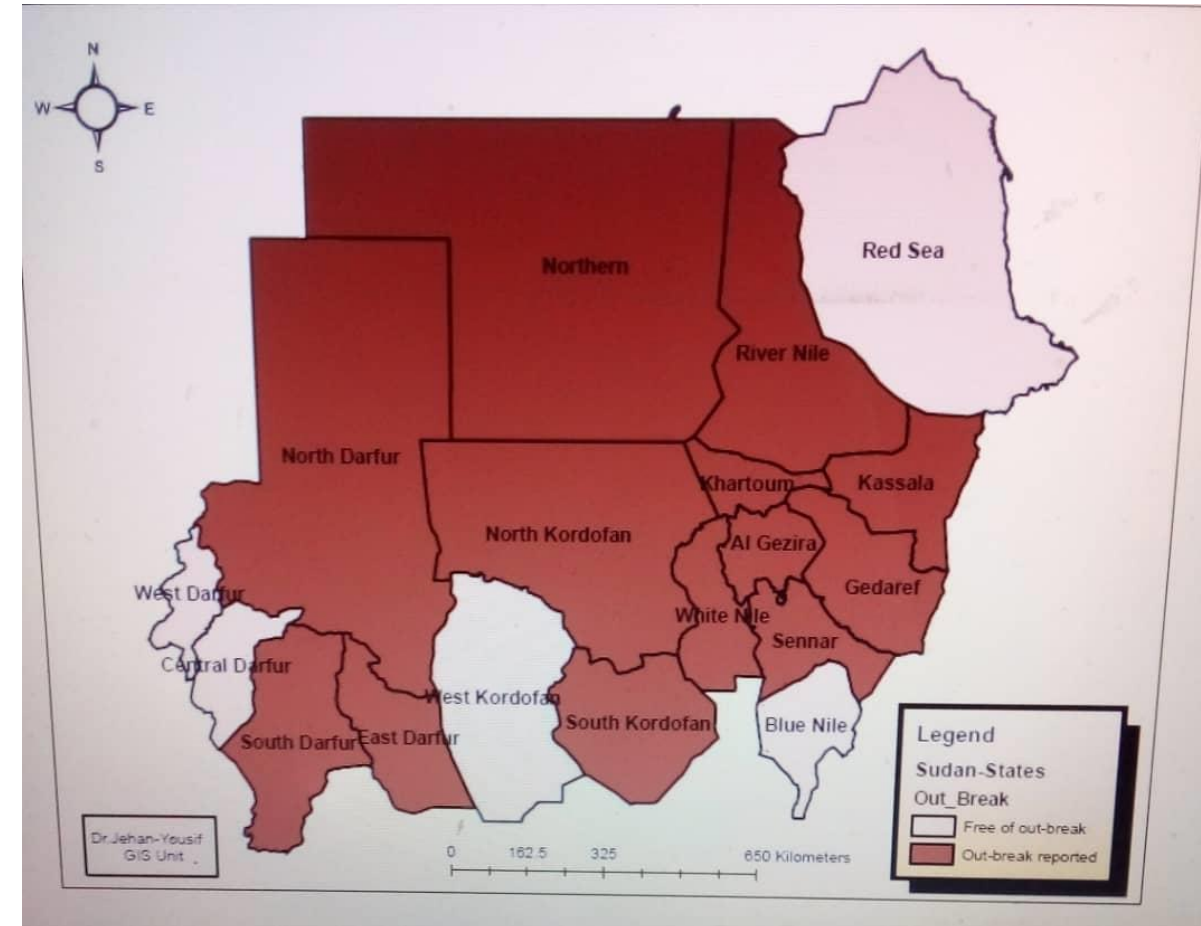
PPR Situation in Sudan

PPR outbreaks 2017& 2018

Number of Outbreak for PPR in Sudan_2017

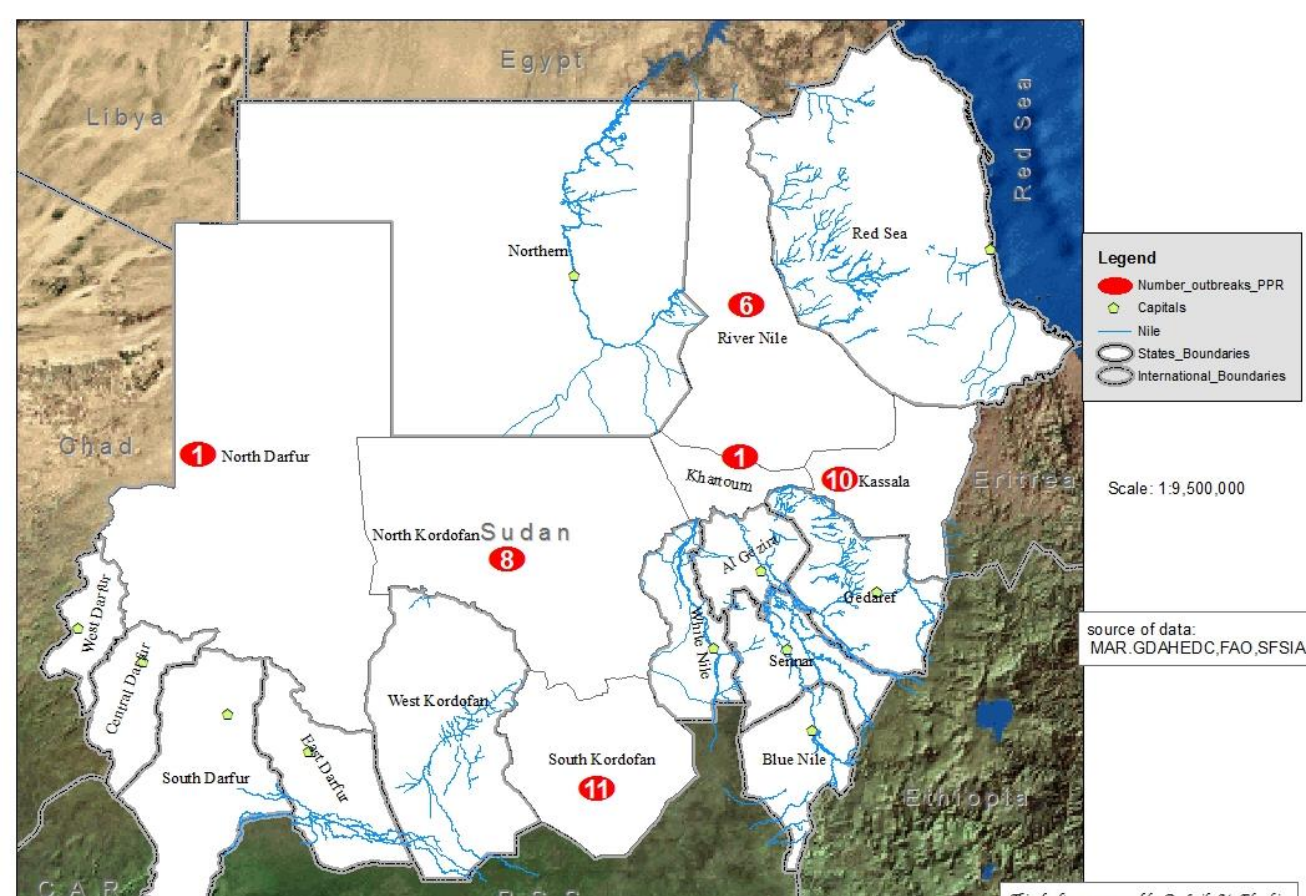


PPR outbreaks in- 2018

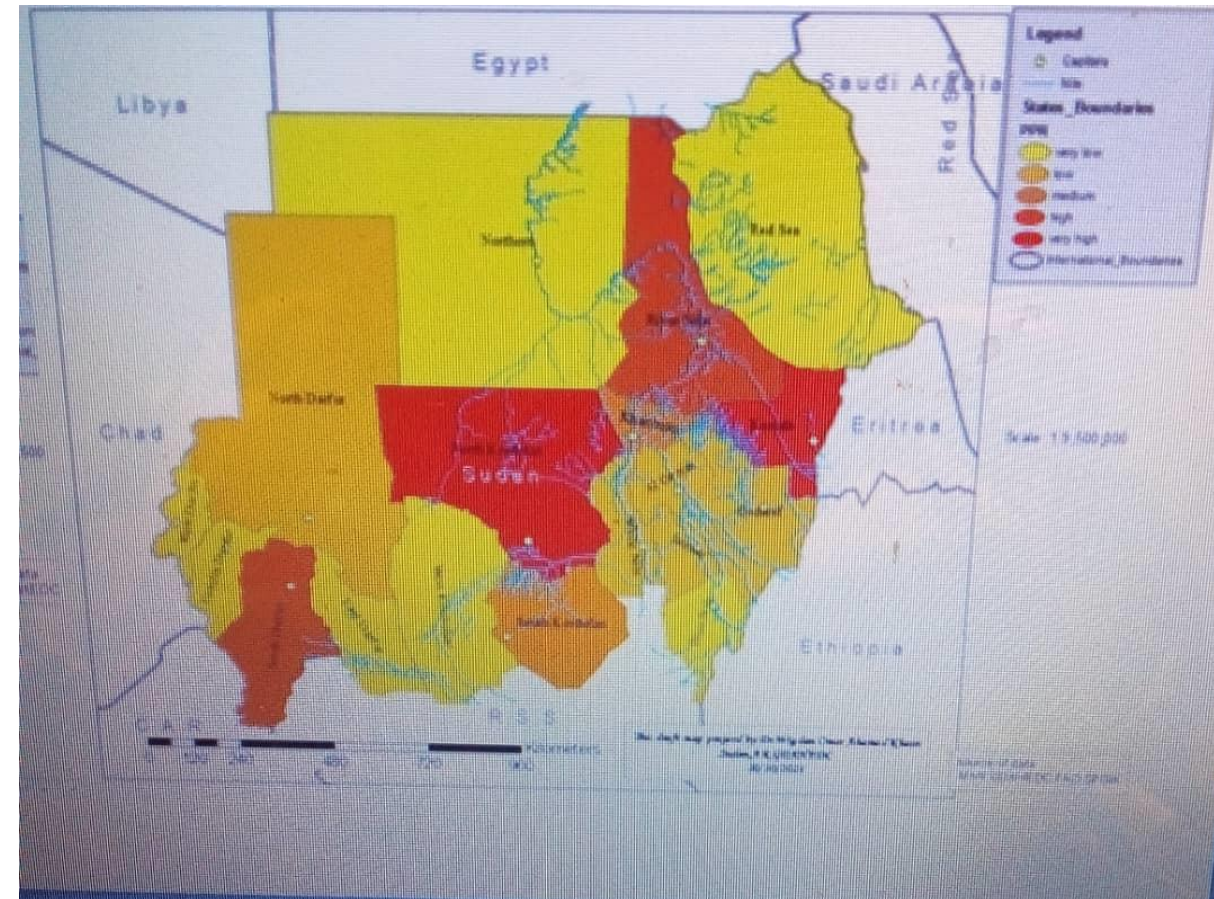


PPR Situation in Sudan

PPR outbreaks in- 2019

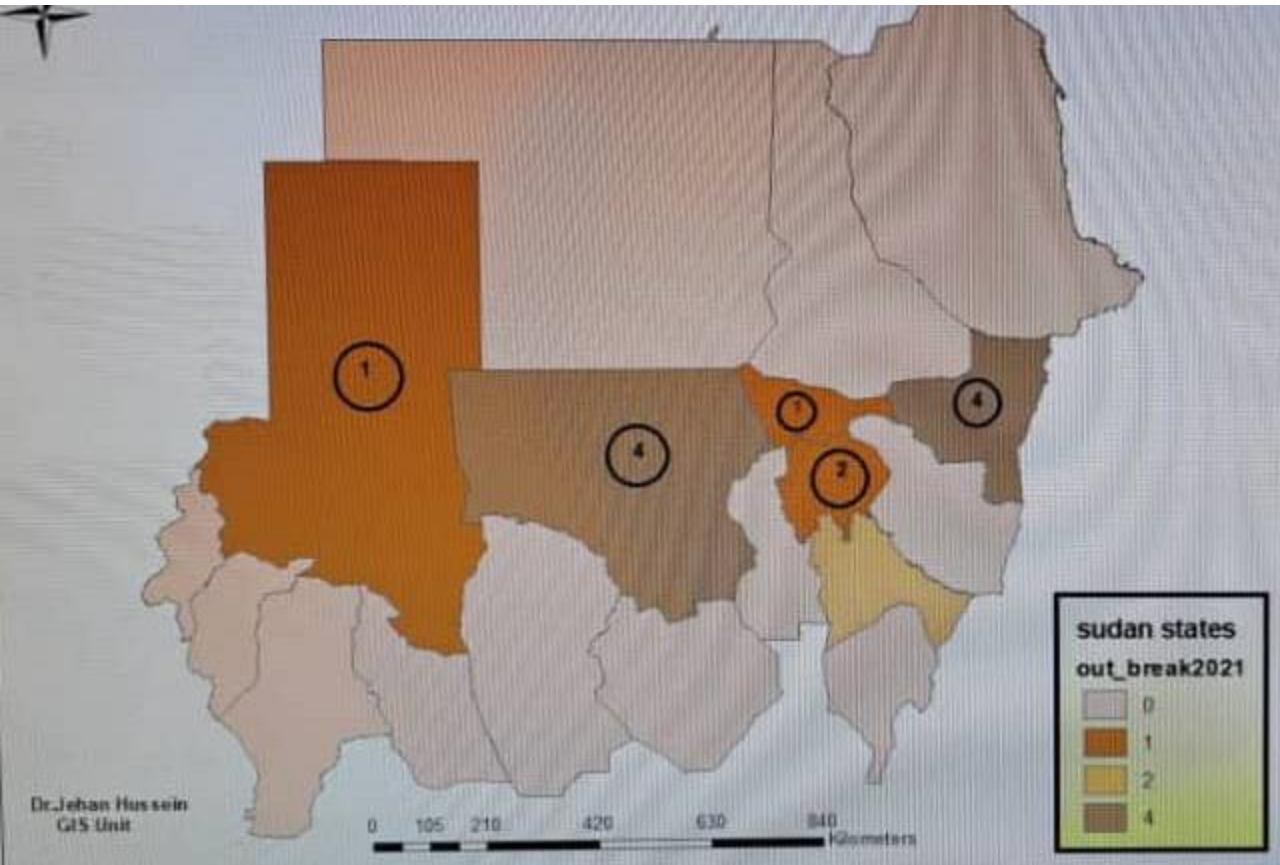


PPR outbreaks in- 2020



PPR Situation in Sudan

PPR outbreak in Sudan _2021



In response to outbreaks the following measures are conducted

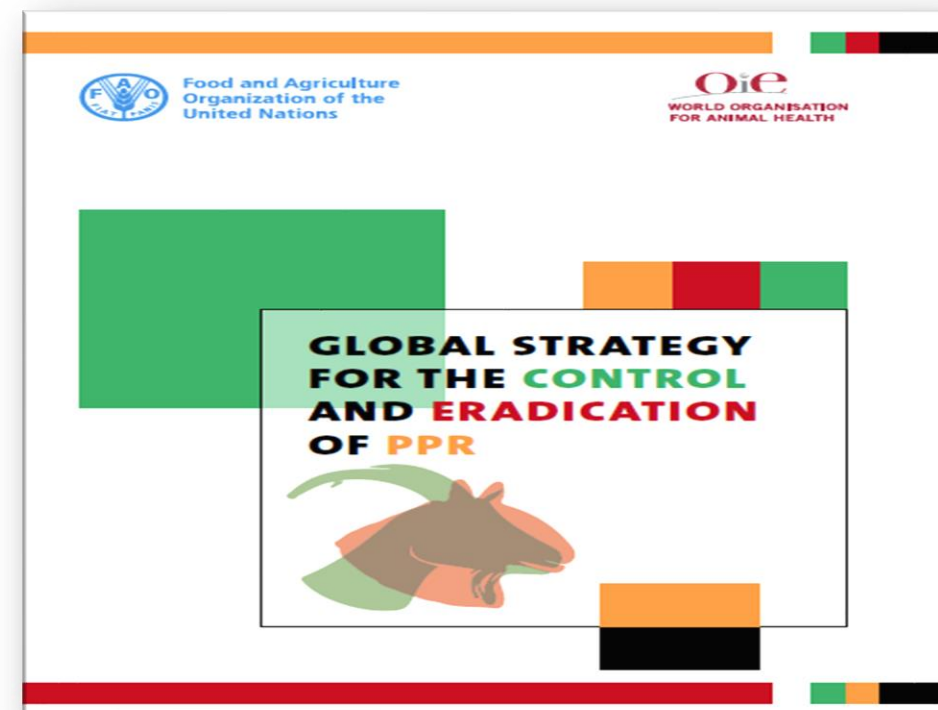
- Disease notification,
- General Surveillance,
- Movement control,
- Official vaccination,
- Precautions at the borders, and
- Zoning

PPR Situation in Sudan

A NATIONAL CONTROL STRATEGIES for PPR and SGP were developed in 2010 as an integral components of Sudan National **Veterinary Emergency Plan (SUDNAVETPLAN)**.

A HARMONIZED ACTION PLAN FOR CONTROL OF PPR & SGP formulated in Nov 2011 then Sudan **started its** actual implementation of the PPR control strategy **earlier in 2012**, and continued progressively along the control stages.

In 2017 the National PPR control strategy and the work plan is endorsed as national document, **ALIGNED TO** the **REGIONAL, CONTINENTAL** and the **GLOBAL** strategies & validated.



The progress made in the surveillance and control



Diagnostic

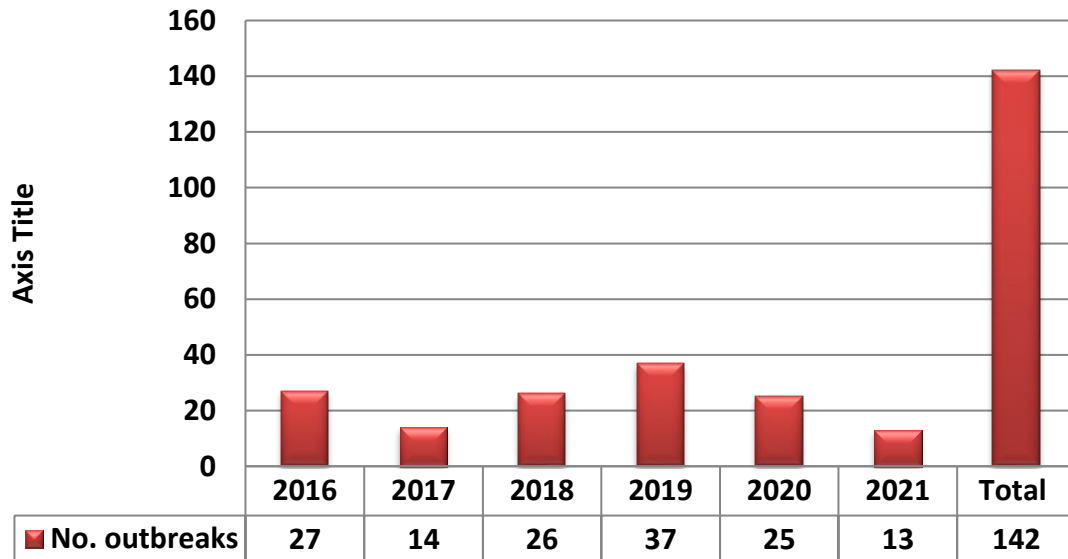
- Diagnostic tests operational in Sudan are **c-ELISA**, **ic-ELISA** and **PCR**. Establishment of the **documentation** system in Elisa lab according to **ISO/17025**
- Record system and **database** for samples established in ELISA lab
- The **CVRL** has already started the **accreditation** procedures for PPR diagnosis and is for about to have the (**ISO 17025**).
- **CVRL** participated in **PPR PT** organized by the animal production and health laboratory (APHL) of the joint **FAO/IAEA** (Veiana- Austria) in 2016 and 2017.
- **ELISA** lab participated in several **PT** including PPR organized by (CIRAD-France) & CVRL participated in recent June 2021.

The progress made in the surveillance and control

Reported outbreaks 2016-2021

Year	2016	2017	2018	2019	2020	2021	Total
No. outbreaks	27	14	26	37	25	13	142

Reported outbreaks 2016-2021



SURVEILLANCE Passive surveillance

- **Passive surveillance is routinely conducted every month by receiving reports from all Sudan states.**
- **Sudan VS maintains a network for the collection of information from all parts of the country and compiled by the Information Unit (IU) in HQ**
- **250 mobile phone were distributed for all Sudan states for the purpose of the immediate notification.**

The progress made in the surveillance and control

surveys from 2012-2015

Year	Survey	No. missions
2012	PDS	5
	Wildlife sero survey	1
	Sero monitoring	15
	sero survey	3
2013	Sero survey	3
2014	PDS	9
2015	Cross- sectional survey	18

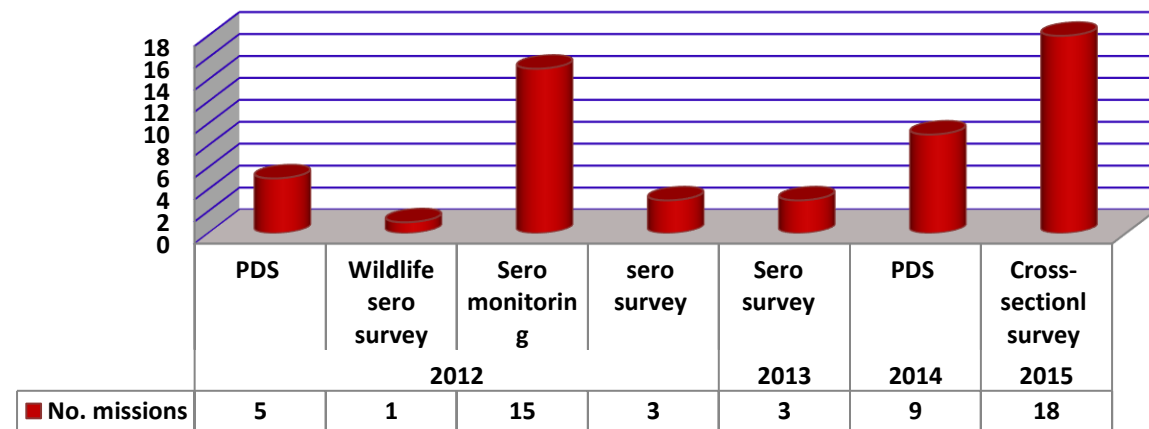
Samples collected from 2012-2015

Year	No. samples
2012	3544
2013	1959
2014	20
2015	16240
Total	21763

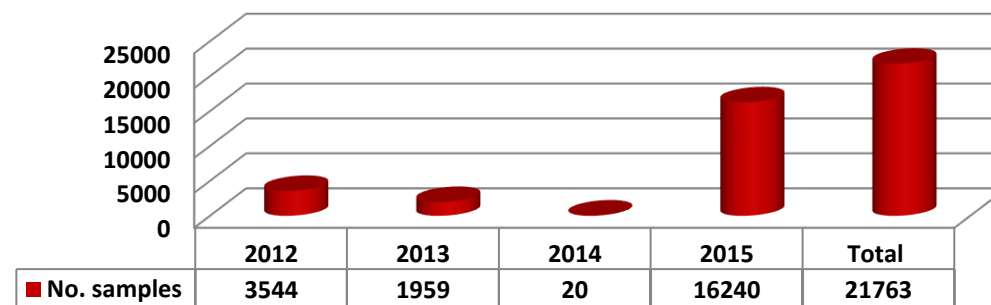


SURVEILLANCE Active surveillance

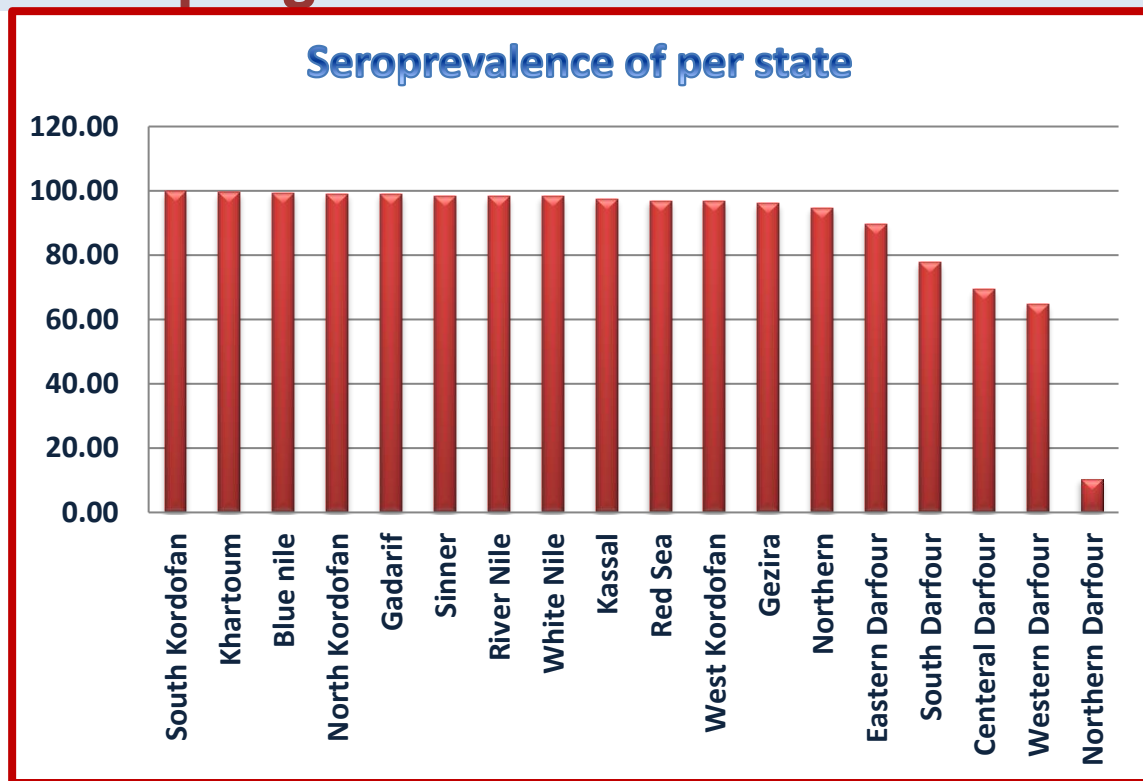
No. missions



Samples collected from 2012-2014



The progress made in the surveillance and control



SURVEILLANCE Active surveillance

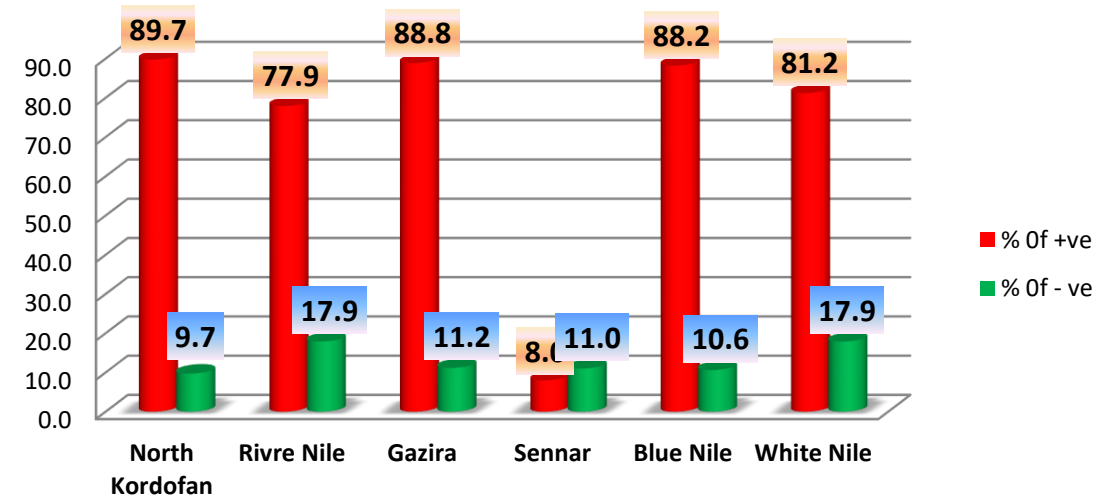
- PPR clinical & sero-surveillance conducted through the **STSD** project in 2016.
- A total of **7508** samples were collected from small ruminants.
- **7062** samples were positive

**PPR Overall Ser-Prevalence in
the country 94%**

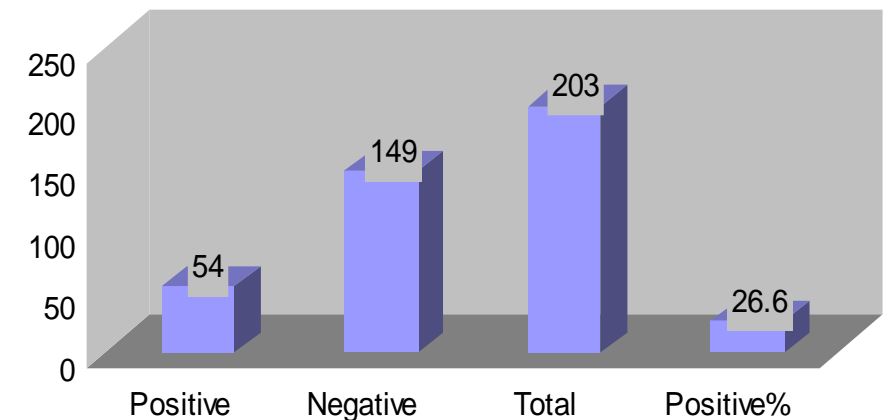
The progress made in the surveillance and control

- **PDS & PSS** surveys conducted in 2017 in 6 states targeting the high risk and remote areas to update PPR situation.
- **4038** blood samples for sera from sheep, and goats were collected in 2017 and been tested for the disease by the CVRL **3422** samples were **positive**.
- A Sero- survey targeted **camels** in kassala state (Eastern region) was conducted in April 2017, **(203)** samples were collected and tested **54** samples were **positive**

Percentage of positive samples for PPR by states in 2017



PPR Positive% in Camel



The progress made in the surveillance and control

The official vaccination 2016-2021

year	Vaccination number/h
2016	10148300
2017	31813500
2018	75348700
2019	163483100
2020	334632276
2021	672993538



PREVENTION AND CONTROL

- PPR vaccine is **produced locally** in Sudan by the Central Veterinary Research Laboratory (**CVRL**).
- **SOPs** for the response mechanism is **formulated** to be implemented in case of a suspected/ confirmed outbreaks.
- **Import restriction** is successfully regulated by a National committee under direct supervision of the CVO.
- New **check points** were established within & between Sudan states and neighbouring countries.

The progress made in the surveillance and control



LEGAL FRAMEWORK

■ An OIE Veterinary Identification Mission conducted in 2016

■ The legal framework **reviewed**, **gaps identified** and the proposal for **updates** is in place.

■ Validation of animal welfare strategy took place in May 2017.

■ The animal welfare law is already approved



Gaps in Legislation in the Veterinary Domain based on Chapter 3.4 of the Terrestrial Code
Competent Authorities (Article 3.4.5.)

- No explicit legal Instrument mandating, capacitating and organizing the Sudanese Competent Authorities
- No veterinary legislation providing for an effective chain of command, clearly defining the responsibilities and powers of the Competent Authorities
- Inadequate Internal and external Coordination and limited financial resources.

Gaps in Legislation in the Veterinary Domain - Cont'd

Health Provisions relating to Animal Production (Article 3.4.8)

No Legislation enacted.

Gaps in Legislation in the Veterinary Domain

Gaps in Legislation in the Veterinary Domain -

The progress made in the surveillance and control



STAKEHOLDERS INVOLVEMENT

- Training for the public and private professionals and para professional on different aspects (Disease investigation surveillance reporting....etc) through the VET- Gov pilot activities in 2016.
- A National Stakeholders Workshop to Validate the National PPR Control Strategy was conducted in 2017
- Sectoral awareness meetings were organized for different stakeholders (including livestock keepers, NGOs, wildlife specialistetc) in all Sudan states in 2018 and awareness materials were distributed.
- Stakeholders coordination meetings used to be held twice a year till 2019.

The progress made in the surveillance and control



Strengthening of VS/ Enabling environment

Technical capacities, at national level, is strengthened by trained personnel on:

- Risk analysis in March 2016 & April 2017
- Epidemiology of PPR Aug 2016
- PDS training Conducted for the eastern states through in May 2016 and for
- Participatory Disease search (PDS) for 18 states concerning PPR in Oct 2016.
- 3 workshops on ARIS2 in March- April 2016 and other 2 trainings in 2021
- 3 GIS workshops in Feb 2016 and 2 workshops in 2021
- Communication and Awareness in June 2016
- How to right reports in Dec 2016
- Statistics in March 2017.
- 2 vet participated in regional training on data entry in Epi- info in Nov 2017.
- 6 vets from the lab trained on PPR diagnosis of the disease in the Arab Republic of Egypt.

The progress made in the surveillance and control

Strengthening of VS/ Enabling environment

- **27 vet inspectors** from **slaughterhouses** in Khartoum state and from **import & export slaughterhouses** were trained in 25-27 September 2018 to increase their awareness of **PPR clinical & differential diagnosis** to facilitate clarity on progress to the next stages of PPR eradication.



The progress made in the surveillance and control

Strengthening of VS/ Enabling environment

- Training workshop on **PPR active surveillance** has been conducted in 17th -20th December 2018 targeting veterinarians from the 18 states and HQ. 27 vets were participated in this workshop.
- 2 members of the PPR national committee participated in training workshop on **investigation & surveillance** of PPR, **Egypt** August 2019.
- **Surveillance & Survey design** training workshop for White Nile & great Kordofan states held in 2021 (LESP-SLSP).
- **Outbreak investigation** training conducted for the central states in 2021 (LESP-SLSP).work
- FAO training workshop on PPR at the wildlife livestock interference at Dindir park using PDS tools last June 2022



The progress made in the surveillance and control

The check point



Communication & awareness

- Sectoral **awareness** on the importance of PPR disease and the control and eradication strategies (National & global strategy) targeting different stakeholders including **the private sector** were held in all Sudan states in July 2019

Cross border coordination

Two MoU were signed for the control & eradication of TADs including PPR namely:
Republic of South Sudan and Ethiopia

- **16 New check points** established within states and between ES, Ethiopia & Eretria
- Proposed MoUs with Chad, Central Africa , Egypt & Libya

The progress made in the surveillance and control

Strengthening of VS/ Enabling environment

PVS Evaluation Missions

»»» PVS Pathway

OIE PVS Evaluation mission

Sudan

Human, Physical and Financial Resources | Technical Authority and Capability | Interaction with Interested Parties | Access to Markets

September 2013

Dr Cheryl French
Dr Eric Fermet-Quinet, Dr Alberto Mancuso, Dr Maud Carron

OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, promoting our future

»»» PVS Pathway

PVS Gap Analysis Mission Report

SUDAN

Trade | Veterinary Public Health | Animal Health | Veterinary Laboratories | Management of Veterinary Services

November 2014

Dr Eric Fermet-Quinet (TL)
Dr Alberto Mancuso, Dr Patrice Gautier

OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, promoting our future

»»» PVS Pathway

PVS Laboratory Mission Report

Sudan

Laboratory function and analysis of the demand | Organising, managing and financing the laboratory function of Veterinary Services | Budgeting of the veterinary laboratory network and functions

November December 2015

Dr. Natalie Bloch (TL),
Dr Eric Fermet-Quinet, Dr. Ana Maria Nicola

OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, promoting our future

»»» PVS Pathway

Veterinary Legislation Support Programme

SUDAN

Veterinary Legislation Identification Mission Report

Code compliance | Legislation reform | Effective enforcement | Serve the public good

August 2016

Mrs Gloria Mintah (Team Leader)
Dr Raymond Briscoe, Dr Bruce Mukanda

OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, promoting our future

PVS Evaluation missions



The progress made in the surveillance and control

Resource Mobilization

2014-2016

- **FAO TCP/ SUD/ 4035** for strengthen Surveillance, Diagnoses and Control of PPR

2014-2017

- **Surveillance of Trade Sensitive Diseases (STSD) project**

2015-2017

- **Eu funded Livestock epidemio surveillance project for Eastern states - LESP-ES**

2018-2022

- **AN ONGOING** Eu-funded, Livestock Epidemio-Surveillance Project to Support Livelihoods of vulnerable rural Smallholders and Pastoralists(LESP SLSP)

Challenges

Limited Resources especially the financial resource.

In adequate vaccine amount.

Uncontrollable livestock movement.

Weak livestock identification and traceability system.

Insufficient training and capacity building .(especially in biosecurity, safety & Quality assurance) .

Wide country area& long borders.

PPR socio- economic impact need to be updated.

Lack of supplies for CVRL comparing with it is huge infrastructure,(equipment and staff) and the continuous need of maintenance



The way forward

Fund raising at national and regional level.

Establishment and activation of check points internally and externally to control animal movement

provision of adequate & timely vaccine amount

More improvement of lab diagnostic capacity and quality assurance.

Capacity building (institutional & personnel).

Development of Specific communication & awareness strategy for control of PPR

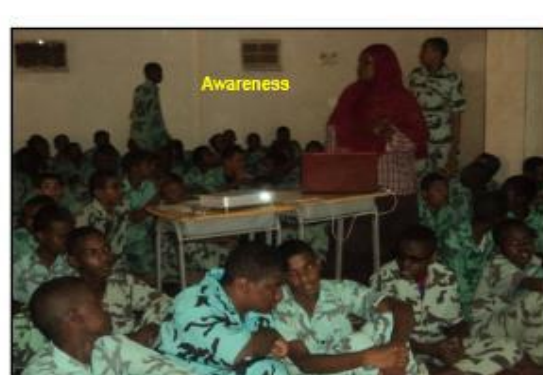
Development of well & efficient LITS

Operationalisation of MoU

Update the legal framework

Update PPR soci- economic impact

Strengthen of PPP



THANK
YOU



for your kind attention