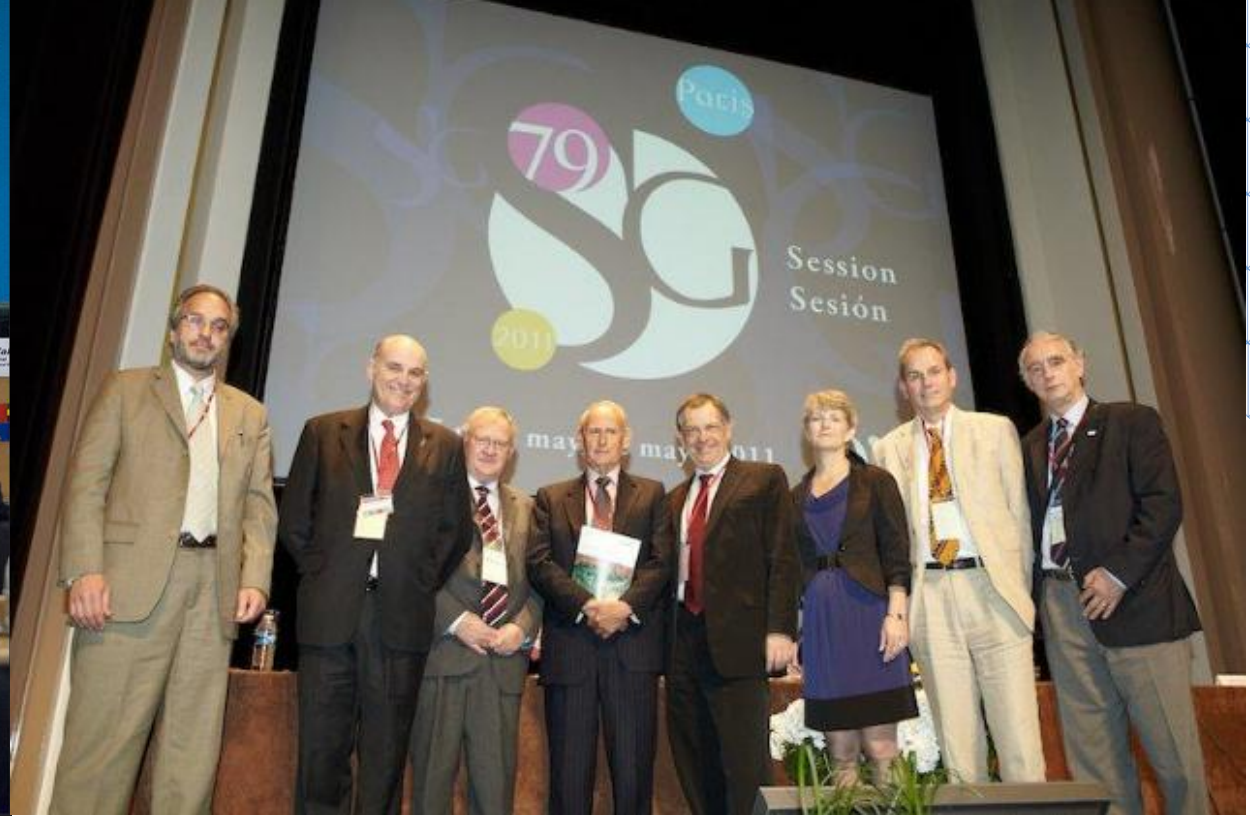
RSC 13

Reflections on achievements, lessons learned and priorities for the second phase of rinderpest post-eradication

FAO-WOAH Rinderpest Secretariat

- FAO: Muhammad Javed Arshed, Artem Metlin
- WOAH: Mariana Marrana





2011- Official Declaration of Global Freedom from Rinderpest

Mem*bers asked FAO and WOAH*

to assume their responsibilities for undertaking the measures to maintain worldwide freedom from rinderpest, as recommended by the Joint FAO/OIE Committee on Global Rinderpest Eradication

RSC 13

FAO and WOAH's mandates in the post-eradication era

- Convening a Joint Advisory Committee
- Developing a strategic plan to guide the post-eradication activities
- Ensuring the existence of reserves of RP vaccine and diagnostic tools
- Destroying or sequestering the remaining stocks of rinderpest virus containing material (RVCM)
- Inspecting, evaluating and designating a number of secure facilities to hold the remaining virus and vaccine reserves (Rinderpest Holding Facilities)
- Maintaining awareness in new generations of vets and policy makers

RSC 13

Challenges left after eradication

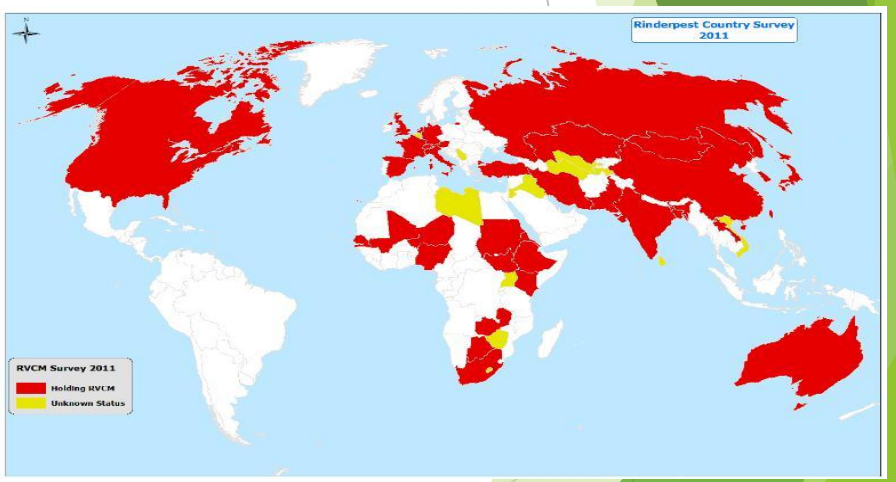
44 laboratories in 36 countries storing rinderpest virus containing material

No rinderpest vaccine reserve

No FAO-WOAH approved facility to keep RVCM securely

Absence of non-infectious diagnostic test

2012



Actions taken after eradication

- FAO-WOAH **Rinderpest Secretariat** established in 2012
- FAO-WOAH Agreement on joint actions to maintain the world free of rinderpest was signed in 2012
- **Joint Advisory Committee (JAC)** – established in 2012
  - Technical advice on application of RHFs, virus sequestration policy, research proposals, international preparedness plan, *ad hoc* issues
  - Guided by its Terms of Reference and the GF-TADs Management Committee











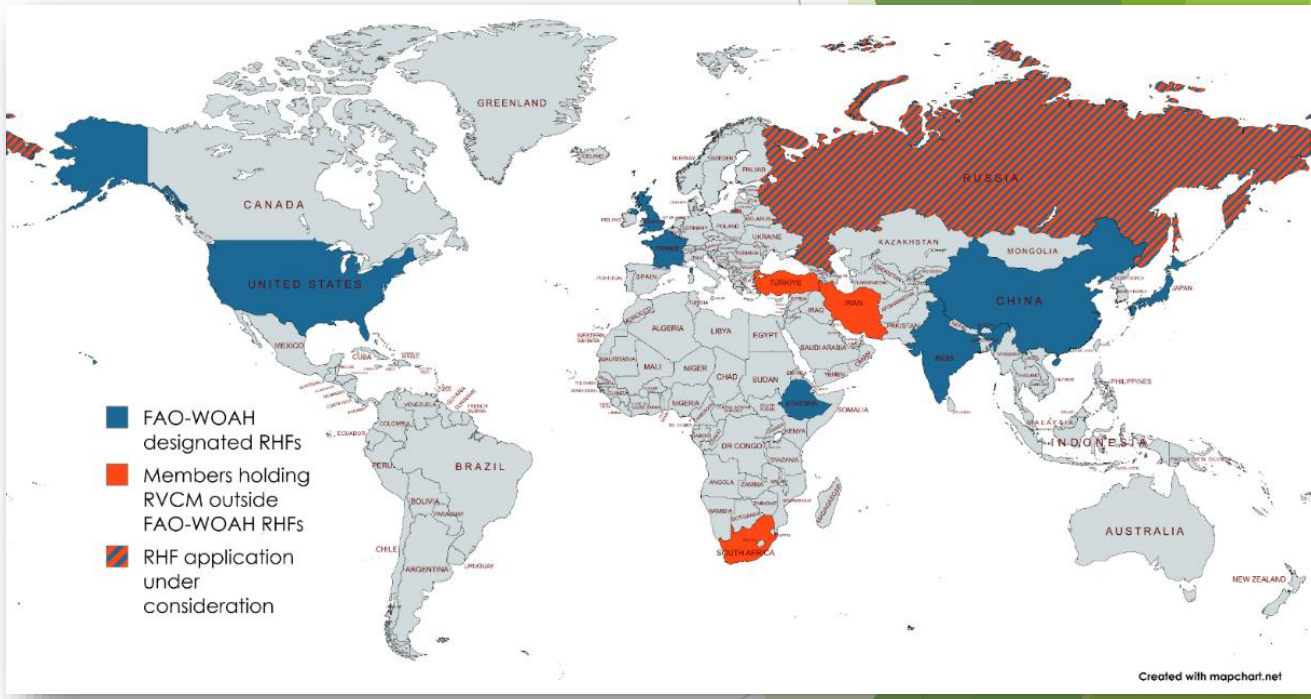


RSC 13

Current situation

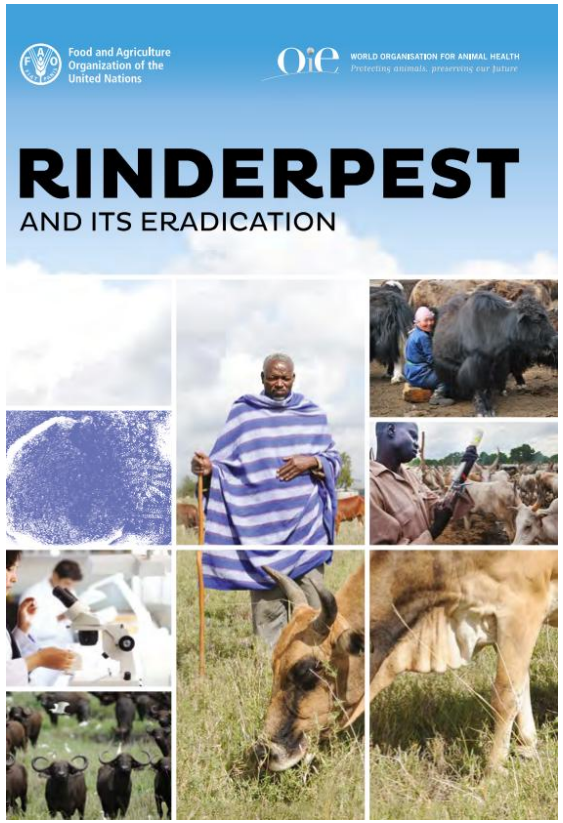
- Rinderpest Holding Facilities (RHFs) - 8 RHFs in 7 countries
  - **2015:** 5 facilities in 4 countries – Ethiopia, Japan, UK, USA
  - **2017: RHF Network established**
  - **2019:** 2 facilities – China & France
  - **2025:** 1 facility – India
  - 2 vaccine reserves (AU-PANVAC, NIAH Japan) and 1 vaccine seed bank (CIRAD)
- **4 labs in 4 countries holding RVCM outside RHFs**
  - Iran, Russian Federation, South Africa, Türkiye
  - FGBI ARRIAH (Russian Federation) is a RHF-B candidate

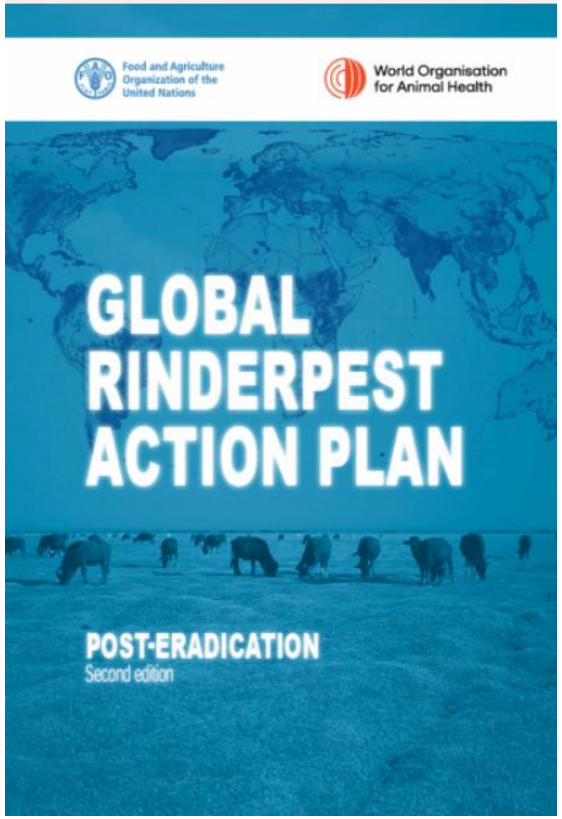
2026



RSC 13

Current situation and achievements





- Global Rinderpest Action Plan (GRAP)
- Rinderpest History book
- 3 concluded ‘sequence and destroy’ projects and 2 underway
- Non-infectious molecular diagnostic tool available
- Non-infectious serological tool under development
- Established vaccine reserves
- Risk assessment of rinderpest virus re-introduction 10-years post-eradication (2022)
- Next: outbreak modelling study

RSC 13

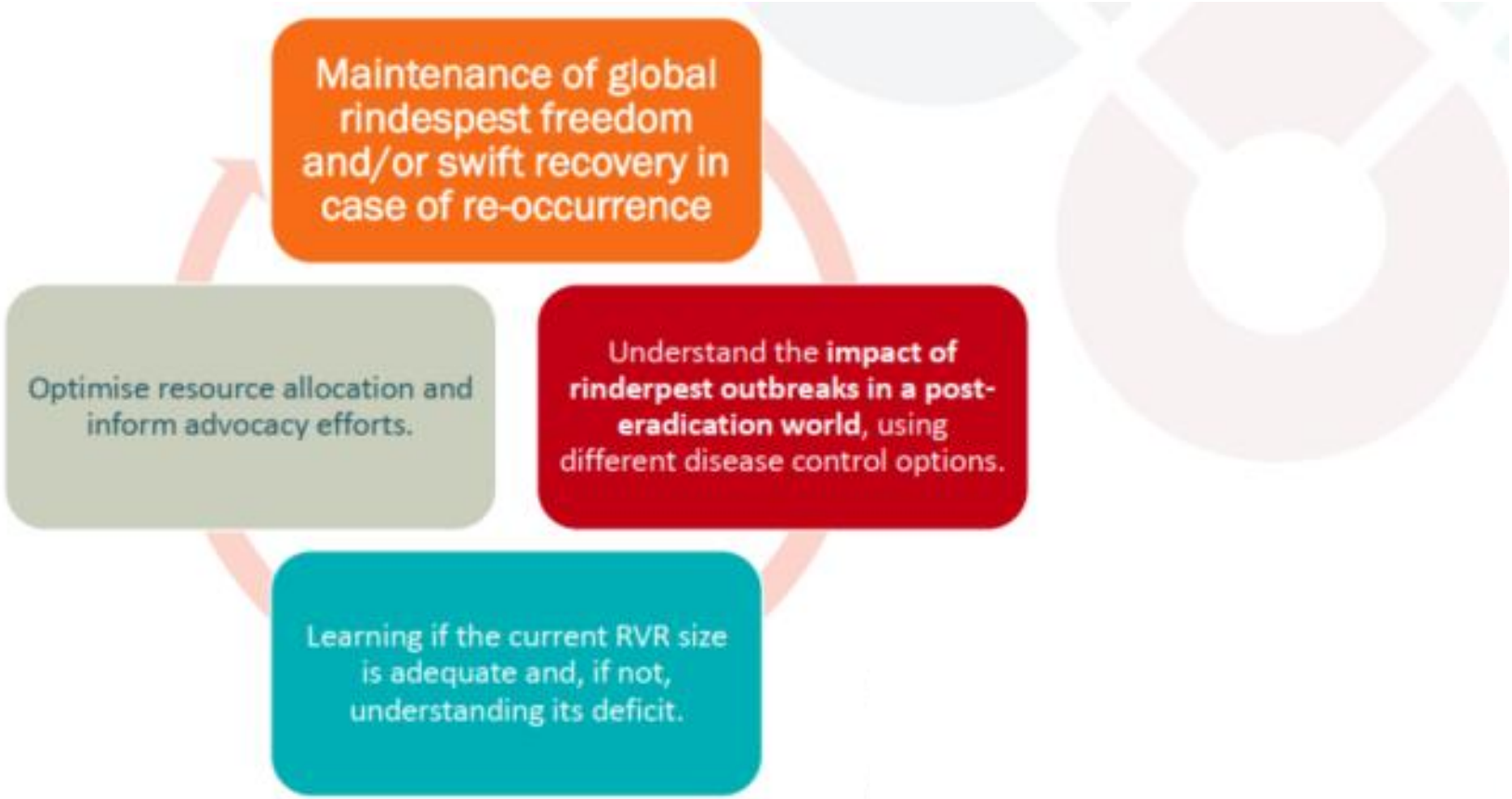
FAO-WOAH priorities in the “second phase” of the post-eradication era (2024 onwards)

- Progressive reduction of the number of RHFs - Category A can be progressively extinct (e.g. CIRAD Cat A, Pirbright…)
- Progressive destruction of RVCM while keeping the genetic information
- Explore options for additional vaccine reserves and increase the number of vaccine doses, per results of outbreaks modelling study
- Development of a non-infectious cELISA (surveillance for proof of freedom)
- Support to maintain awareness of rinderpest among veterinarians, livestock keepers, and academia
- Resource mobilization to continue biothreat reduction

RSC 13

Outbreak modelling study

EpiMundi
POPULATION HEALTH MANAGEMENT



* Build on LANL Rinderpest model

Decision Support for Mitigation of Livestock Disease: Rinderpest as a Case Study

Judith R. Mourant[1], Paul W. Fenimore[2], Carrie A. Manore[2] and Benjamin H. McMahon[2]*

[1] Bioscience Division, Los Alamos National Laboratory (DOE), Los Alamos, NM, United States, [2] Theoretical Division, Los Alamos National Laboratory (DOE), Los Alamos, NM, United States

RSC 13

Outbreak modelling study

EpiMundi
POPULATION HEALTH MANAGEMENT

1. Geographic Scenarios

- High-resolution global cattle and buffalo density datasets.
- Five scenarios (North America, Europe, Horn of Africa, Japan, India).

2. Epidemiological Model *

- Simulates localized spread and long-distance road network movements.
-Tests interventions: stamping-out, movement control and emergency vaccination.

3. Reserve Evaluation

- Calculating used doses, operational gaps and cost trade-offs.
- Applies time-delays for realistic vaccine deployments.

Open-source model (in development)

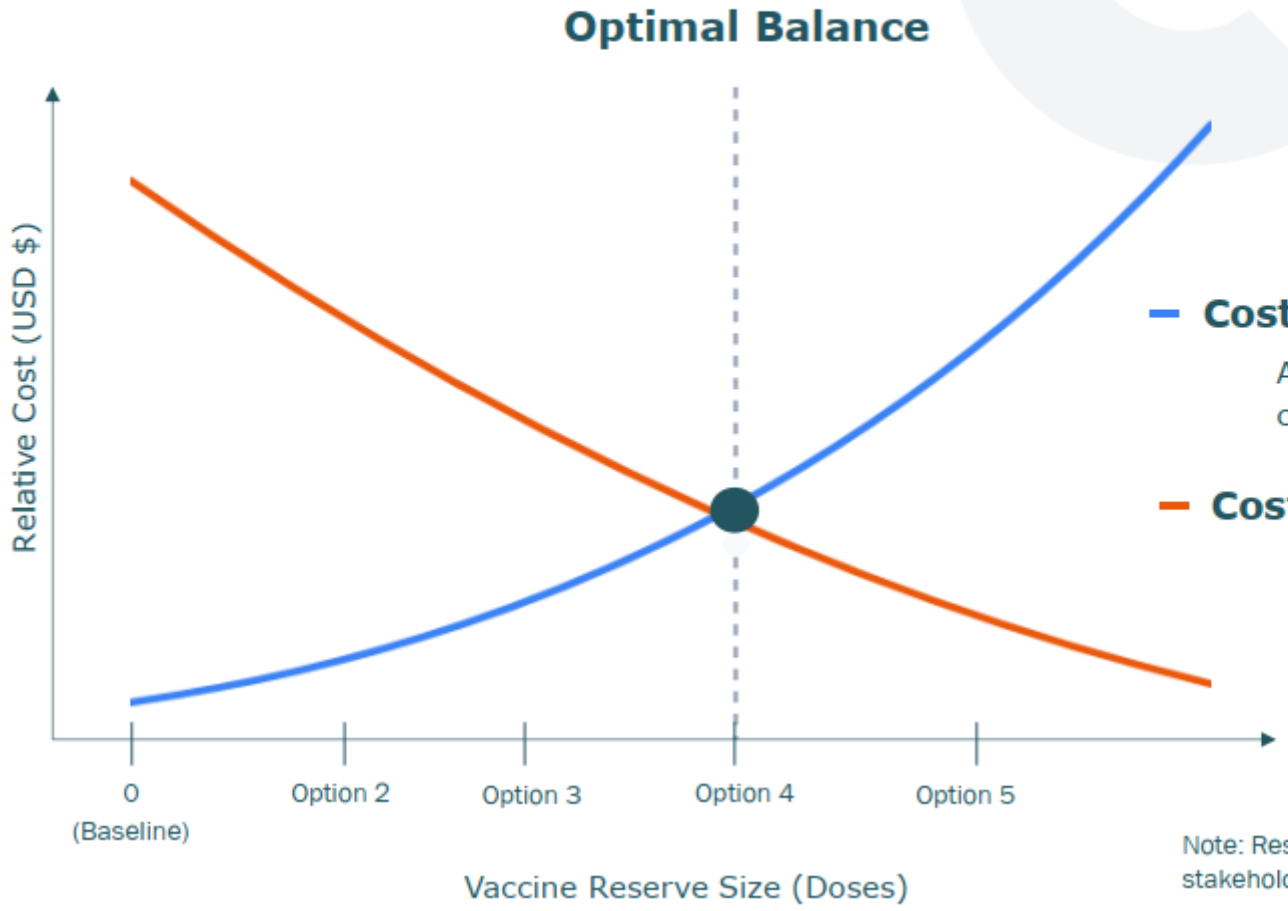
Parameterization (Consultation)

RSC 13

EpiMundi
POPULATION HEALTH MANAGEMENT

COST ANALYSIS

Optimizing the reserve target



Cost of Vaccine Bank

Amortized manufacturing, quality control, storage space and security.

Cost of Outbreak

Animal mortality value + control expenses (culling, carcass disposal, new manufacturing of vaccines, deployment)

Note: Reserve sizes tested defined through stakeholder consultation: 100k up to 5 million.

GF-TADs Africa

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

African
Union