

**IAEA/FAO/OIE Workshop on PPR in the SADC Region
(Dar es Salaam): 10-12/06/2013**

**GLOBAL DISTRIBUTION AND
EVOLUTION OF PPR:
UNDERSTANDING THE LINEAGE EVOLUTION,
THE GAPS, THE CHALLENGES AND THE
RESEARCH PRIORITIES**

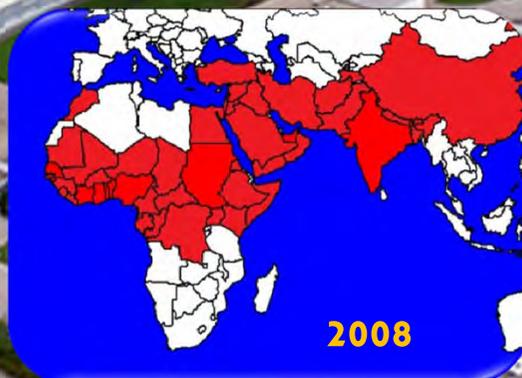
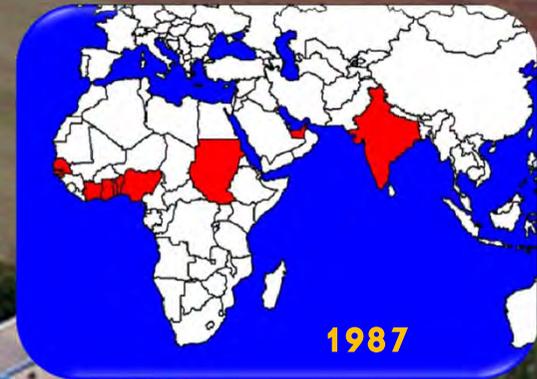
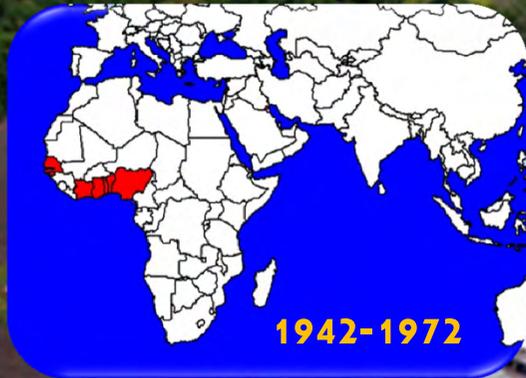
Adama DIALLO: e-mail: adama.diallo@iaea.org



IAEA

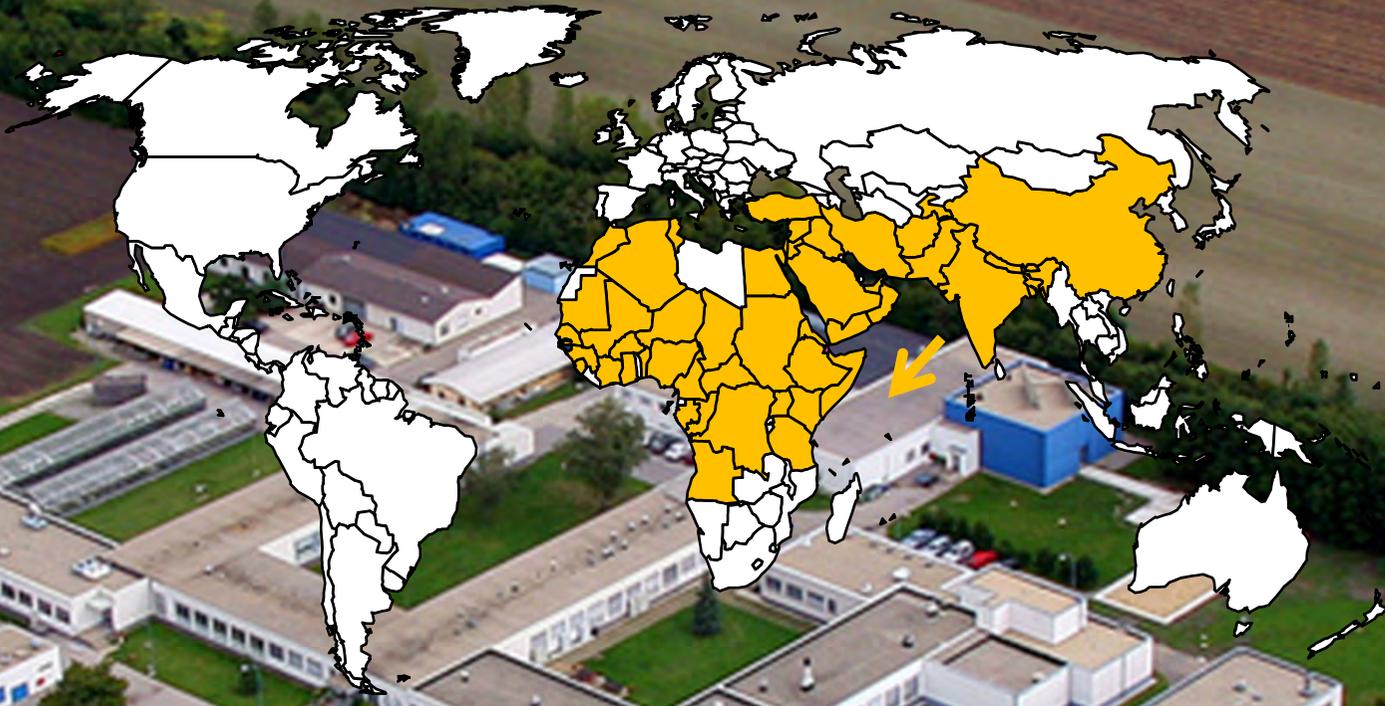
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EVOLUTION OF PPR DISTRIBUTION IN THE WORLD



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PPR GLOBAL WORLDWIDE DISTRIBUTION



DRAMATIC EXPANSION OF P

BECAUSE OF INCREASE OF ANIMAL TRADE

Certainly BECAUSE of the AVAILABILITY of New Diagnostic Tests Highly Specific

More than one billion of sheep and goats at risk and threatening food security, livelihoods of small holders

MOLECULAR EPIDEMIOLOGY OF PPR



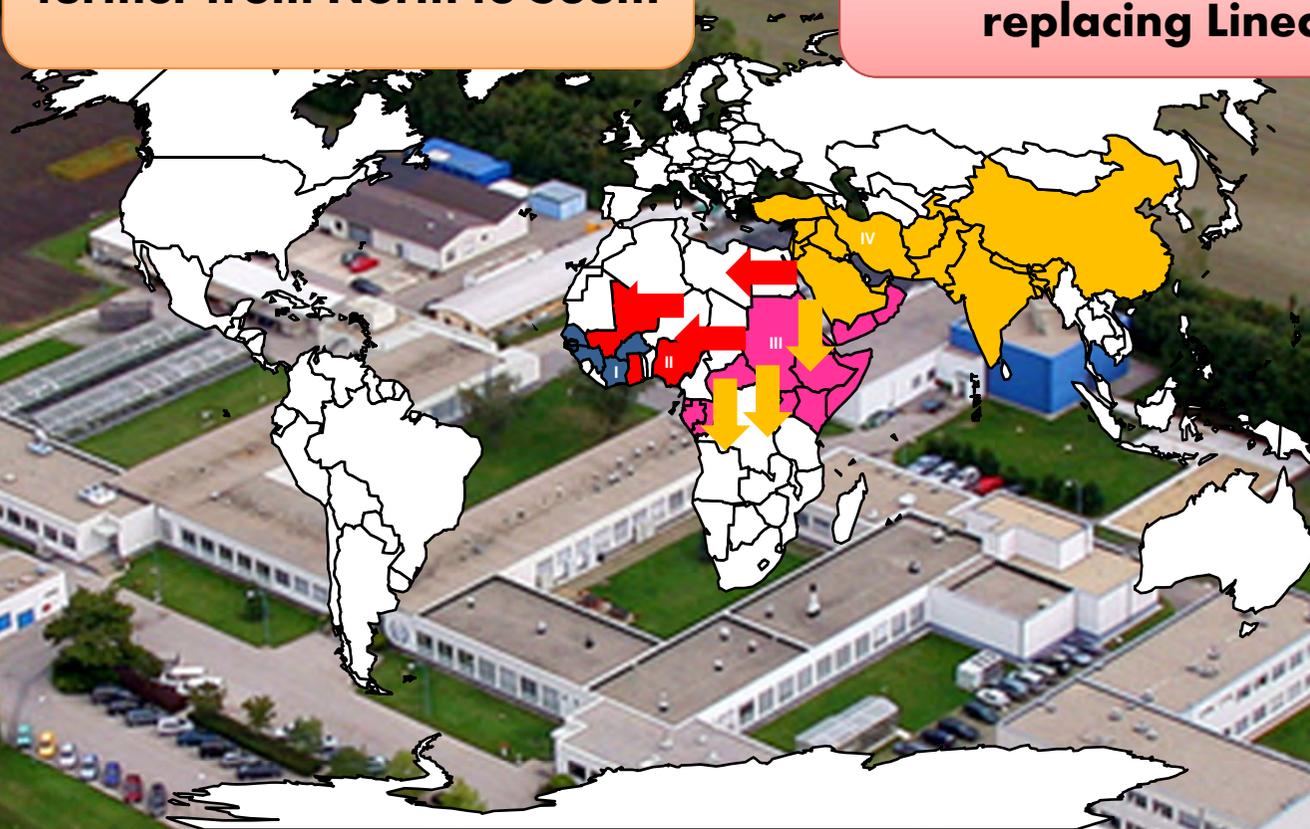
Partial N-gene



DISTRIBUTION OF PPRV LINEAGES

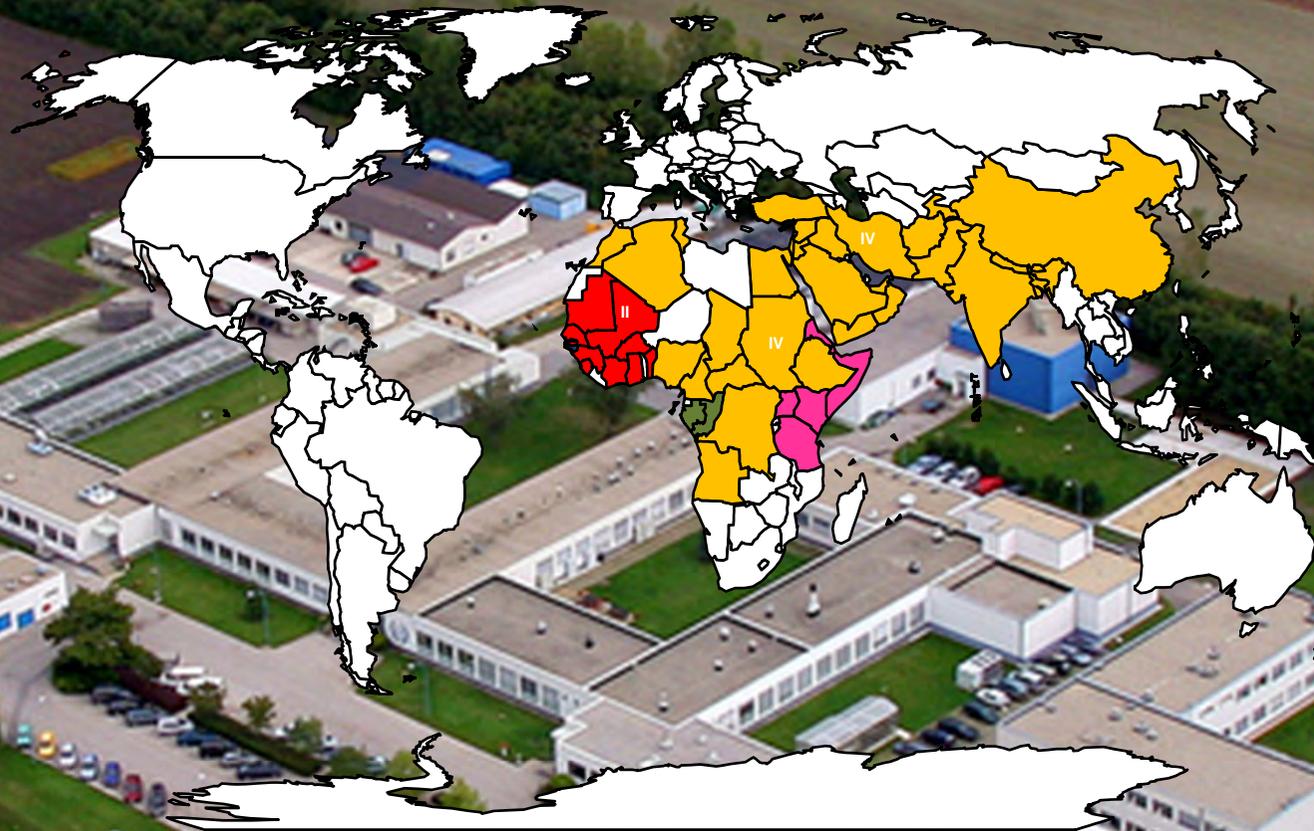
Lineage IV has spread further from North to South

Lineage II has evolved further in Western Africa, replacing Lineage I



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DISTRIBUTION OF PPRV LINEAGES



CURRENT PICTURE OF PPR DISTRIBUTION



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EVOLUTION OF THE DISEASE DISTRIBUTION AND VIRUS LINEAGES



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EVOLUTION VIRUS LINEAGES DISTRIBUTION

SENEGAL

1969 - 1970



LINEAGE I

2010



LINEAGE II

NIGERIA

1975 - 1995



LINEAGE II

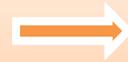
2008



LINEAGE IV

BENIN

1969



LINEAGE II

2011



LINEAGE II

GAPS AND CHALLENGES: RESEARCH PRIORITIES

DIAGNOSIS

AVAILABLE:

Specific and Highly Sensitive tests for Use in lab (RT-PCR, QRT-PCR, Ag Immunocapture ELISA, C-ELISA)

NEED:

VALIDATED PENSIDE TEST

VACCINE

AVAILABLE:

Efficient Attenuated Live Vaccine (at least 3 years protection)

NEED

THERMOSTABLE EFFICIENT LIVE VACCINE

EPIDEMIOLOGY

KNOWN:

Sheep and Goats are Natural Hosts

UNKNOWN:

A LOT !!!

GAPS AND CHALLENGES: EPIDEMIOLOGY

WHAT ARE THE NATURAL HOSTS FOR PPRV?

✓ SHEEP, GOATS

✓ WILD SMALL RUMINANTS

✓ CAMELS (?)

✓ BUFFALOES (?)

✓ CATTLE (?)



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GAPS AND CHALLENGES: EPIDEMIOLOGY

Factors involved in the Pathogenicity in Sheep and Goats

✓ THE VIRUS

FOR RPV: Classification possible in to:
Highly virulent, virulent and less virulent

FOR PPRV: Classification not yet clear

✓ MORBIDITY/MORTALITY Rates:

0 to 100%

✓ Animal Species:

Goats re sensitive? Not always the case

✓ Virus Excretion:

Duration unknown

✓ Survival of Virus in environment:

Duration unknown



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PPR CONTROL: DREAM OR REALITY?

DESPITE MANY GAPS IN THE EPIDEMIOLOGY

WITH TOOLS CURRENTLY AVAILABLE:

GOOD DIAGNOSTIC TESTS

GOOD VACCINE

**PPR CONTROL SHOULD START NOW IN
INFECTED COUNTRIES
FOR PROGRESSIVE ERADICATION**

And FOR PREVENTION ITS EXTENSION



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THANKS



Protection Against PPR: PART of the Fight for Poverty Alleviation



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