Animal health and nuclear techniques: lessons learnt from Botswana's experience in fighting diseases to boost food security

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Livestock industry in Botswana

Contribution to GDP:
o diamond 38%
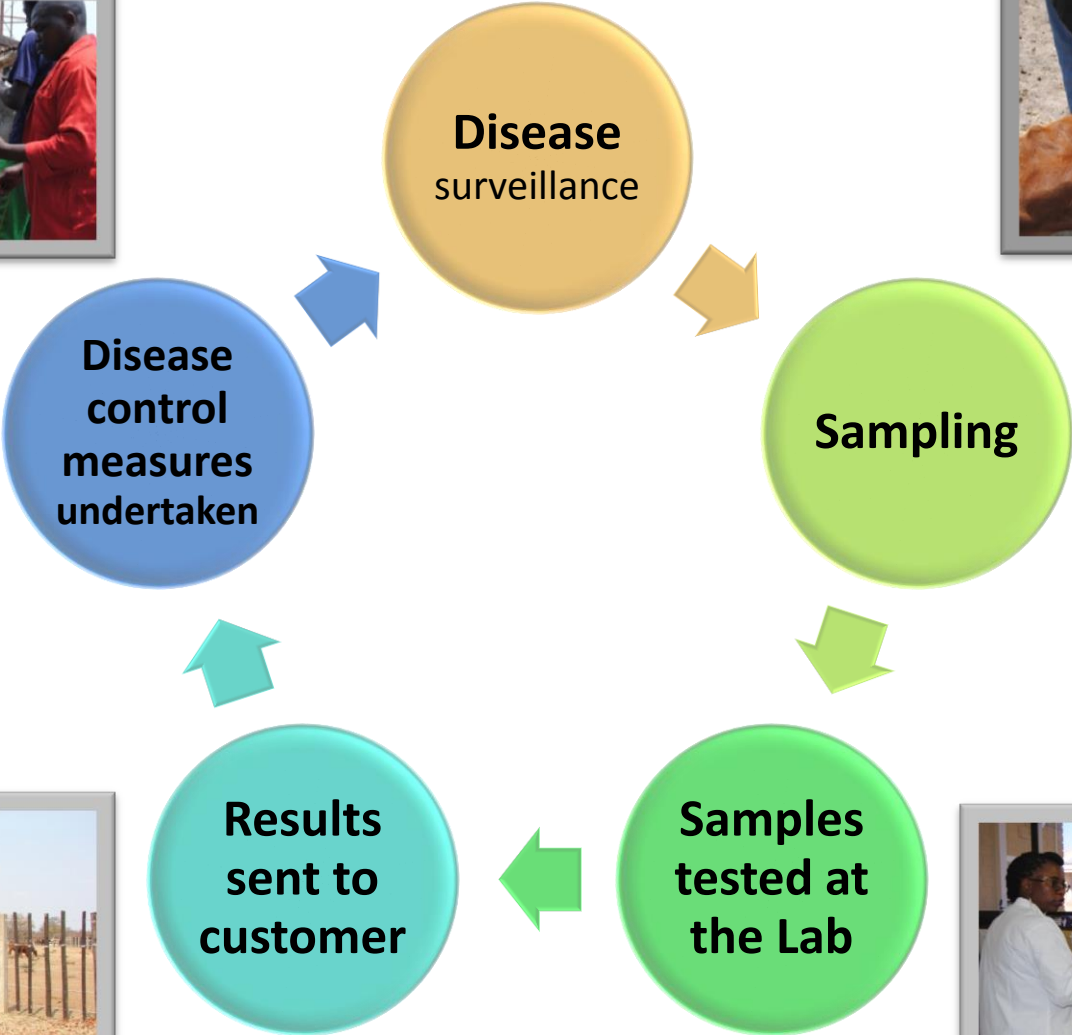
o tourism 12%

o agriculture:3%
o beef export: 2.6%

Beginning with Cattle

- ❑ Food (protein)
- ❑ Income from animal sales
- ❑ Employment creation
- ❑ Foreign exchange

Improving animal productivity through disease control

Disease surveillance

Sampling

Samples tested at the Lab

Results sent to customer

Disease control measures undertaken

Capacity building

- Cattle lung disease outbreak in1995
- Lab had no capacity for the disease

- Samples sent to Italy, Namibia, South Africa
- Delays in disease diagnosis

- Spread of disease
- 320 000 cattle (10% of population) killed to arrest the disease, meat disposed off by burning

- Government took a decision to build capacity for transboundary animal diseases diagnosis
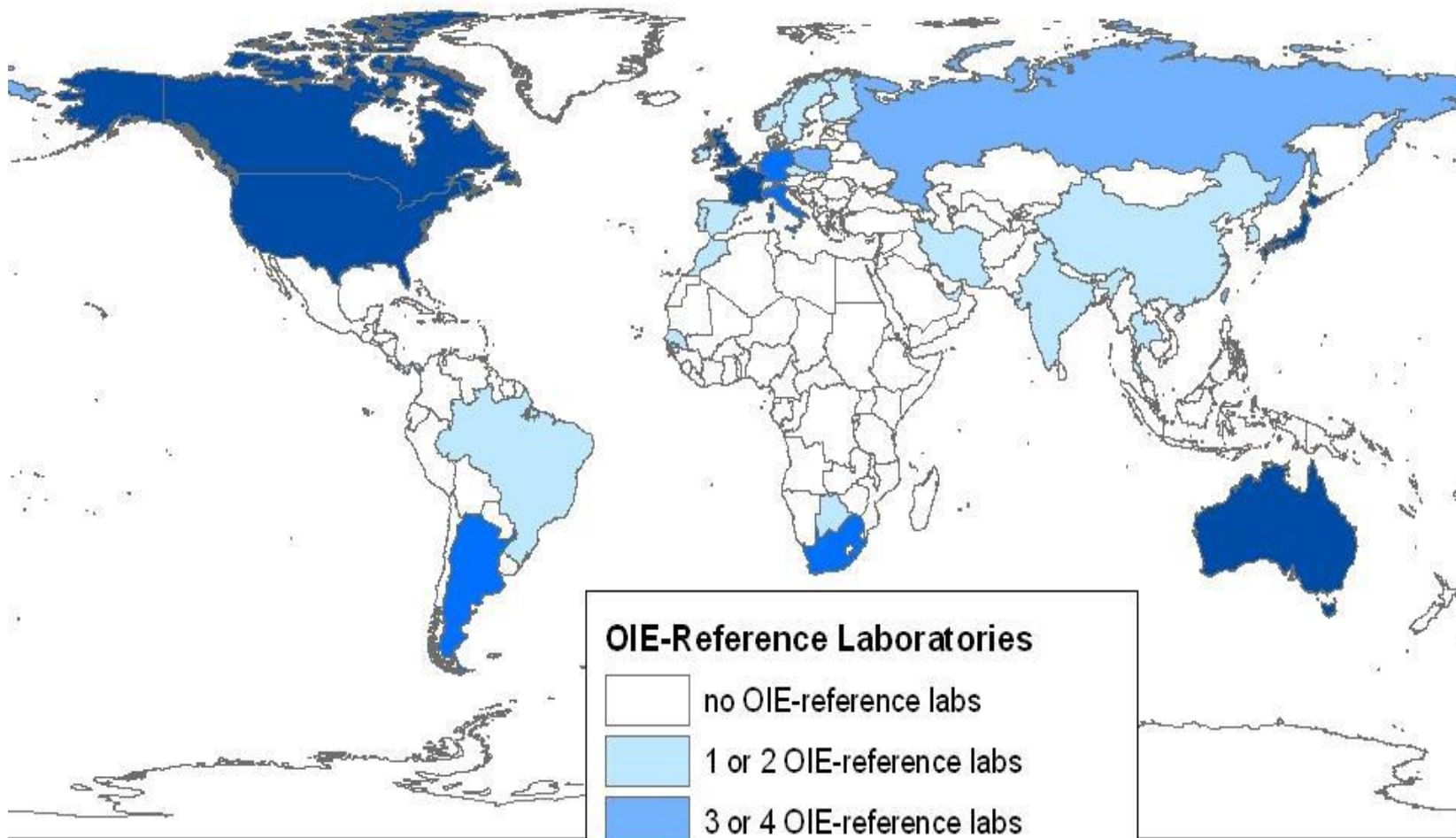
Provision of equipment and reagents

Training

IAEA technical assistance

From zero capacity to Reference lab for

OiE

❑ Introduced nuclear and molecular techniques (serological, PCR based: multipathogen typing, Real time and conventional PCR
❑ More Rapid and sensitive than conventional methods
❑ Early and accurate disease diagnosis, early intervention, millions of animals saved, contributing to ZERO HUNGER

OIE-Reference Laboratories

- no OIE-reference labs
- 1 or 2 OIE-reference labs
- 3 or 4 OIE-reference labs
- 5 to 10 OIE-reference labs
- more than 11 OIE-reference labs

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Regional assistance

- World Animal Health Organisation (OIE) reference lab for cattle lung disease

- Coordinating a regional Scientific network for cattle lung disease : Botswana, Namibia, Zambia, Angola

- Sponsored by African Union –Inter-African Bureau for Animal Resources for one year