

***C. bovis Control in Botswana: Practical Experiences
Workshop for OIE National Focal Points for Animal
Production Food Safety***

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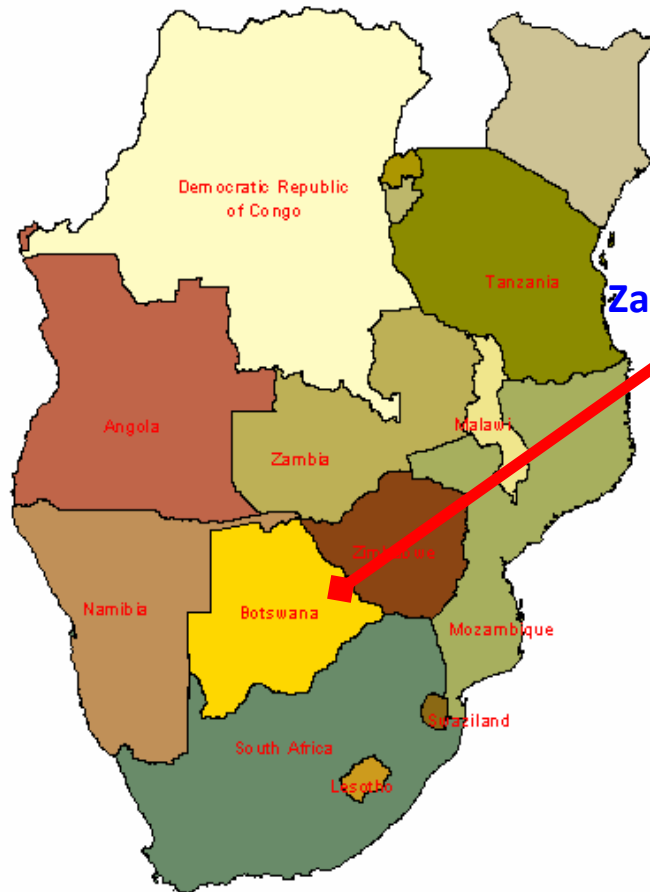
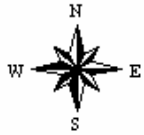


PRESENTATION LAYOUT

- × Introduction
- × Background Information on DVS
 - + Org. structure
 - + Legal basis
- × C. bovis prevalence
- × Disease surveillance
- × The importance of C. bovis
- × C. bovis controls
- × Challenges
- × Way forward
- × Conclusion



Southern Africa



700 0 700 1400 Kilometers

 Botswana

BOTSWANA

Area = 582, 000 km²

Share a border with five countries:-

RSA to the south and south east

Namibia to the west and north-west

Zambia (a point border in the northwest)

Zimbabwe to the north east

Semi-arid

Population of 1.7 m (2001 census)

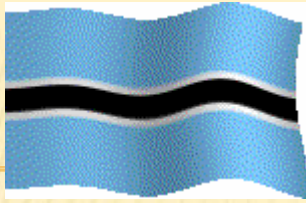
2.5 m cattle

1.0 m goats

0.5 m sheep

164 110 Donkeys

40 000 Horses



INTRODUCTION

- ✘ Rural Development is a priority
- ✘ Livestock Production Underpins The rural economy
- ✘ Agriculture contributes 3% to the GDP (of which the livestock component (beef exports) is 2.6%)
- ✘ Access to export market Underpins Livestock production
- ✘ *C. bovis* is a preventable disease

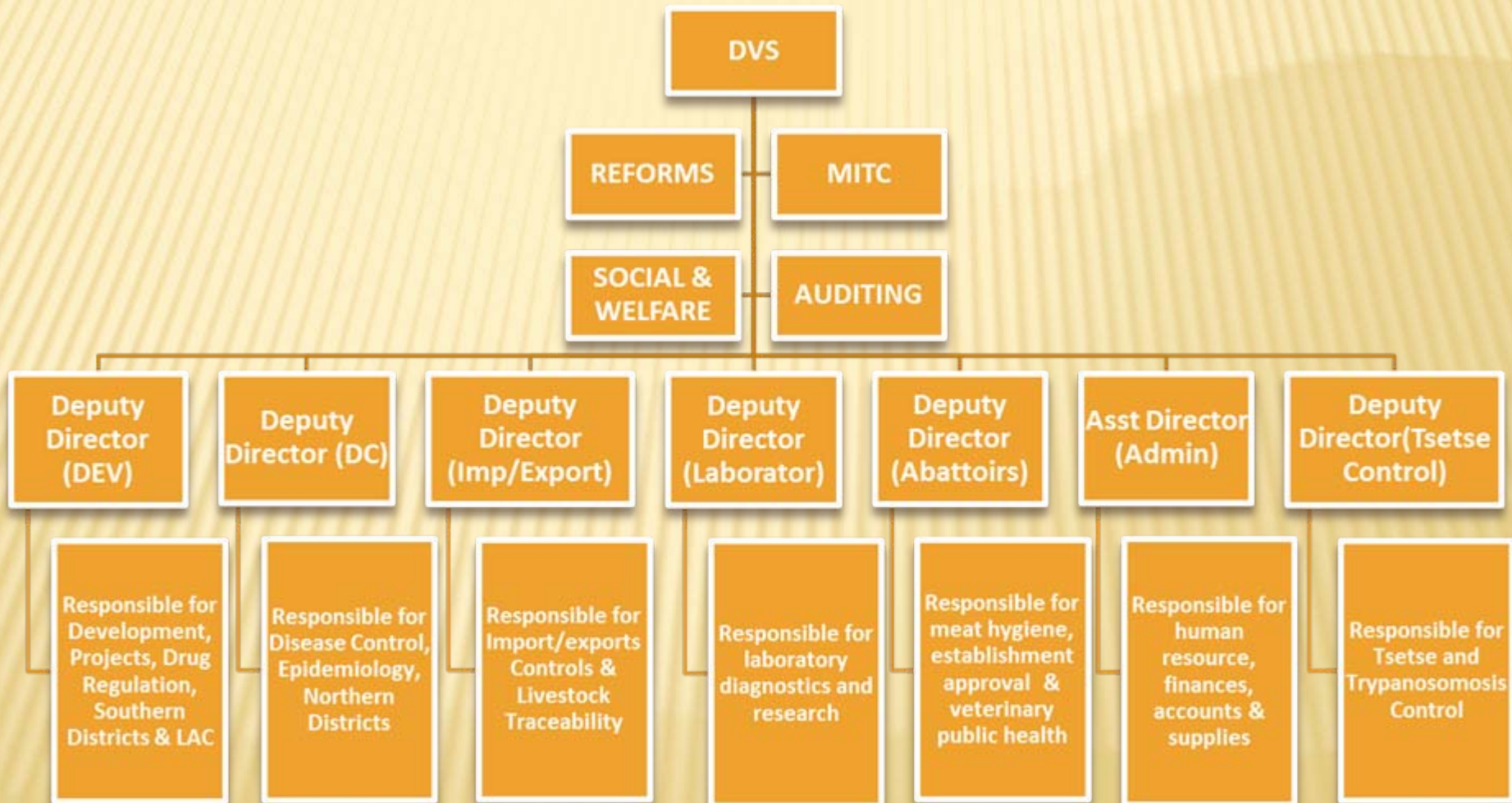
INTRODUCTION

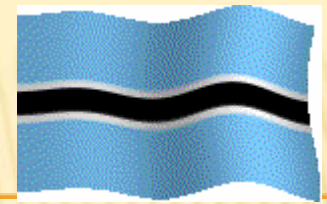


BACKGROUND ON DVS

- ✘ Largest department in the Ministry of Agriculture (47.6% staff strength to the Ministry)
- ✘ Headed by Director (Veterinarian), assisted by 6 Deputies (all veterinarians) and 1 Assist Director (Administration)
- ✘ Functions:
 - + Disease prevention and control
 - + Meat hygiene, quality assurance and veterinary public health
 - + Laboratory diagnostics and research
 - + Imports/exports and Traceability
 - + Tsetse and trypanosomiasis control
 - + Department Development
 - + Veterinary Staff Administration, development & welfare

DVS ORGANISATIONAL CHART





LEGAL BASIS

- ✘ Livestock and Meat Industries Act of 2007
- ✘ Diseases of Animals Act CAP **37:01**

***C. bovis* PREVALENCE –POST-MORTEM INSPECTION FIGURES AT AN EXPORT ABATTOIR – LOBATSE BMC ABATTOIR**

YEAR	TOTAL KILL	<i>C. bovis</i> Carcasses (No.)	<i>C. bovis</i> Incidence (%)	Percentage cold treated (%)	Percentage condemned (%)
2008	76 602	8 454	11.04	10.95	0.09
2009	91 761	9 896	10.78	10.71	0.07
2010	124 449	9 989	8.03	7.96	0.07

The prevalence ranges from 0.3% in farms/cattle posts/fenced farms with less human population to 23% in villages with high density of human population.

DISEASE SURVEILLANCE



Passive surveillance

Conducted during:-

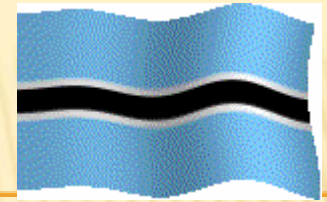
- + routine post-mortem meat inspections at licensed abattoirs and slaughter slabs.

AN INCISION ON THE TRICEPS MUSCLE FOR *C. BOVIS*



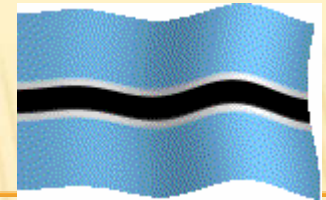
Quality Control

THE IMPORTANCE OF *C. bovis*



- Measles has two forms of importance:
 - ▶ Public health importance,
 - ▶ Economic importance.
- The adult tapeworm is a public health hazard. Most infected people however do not show any signs of disease, but others especially children will have clinical signs of diarrhea, hunger pains and some weight loss.
- Segments of the worm (proglottids) may be visible and may move around in faeces.
- *C. bovis* is primarily an economic disease. Meat derived from measly carcasses is not eligible for export to the lucrative market of EU, heavily infested carcasses are condemned and acceptably infested carcasses are cold treated at a cost, the loss in revenue is estimated to be around 20 million Pula (2.5 million EUROS) annually.

CONTROL MEASURES



- + Licensing of meat premises.
- + Routine meat inspections at licensed abattoirs and slaughter slabs.
- + Butcheries encouraged to procure fresh meat from licensed premises.
- + Consumers encouraged to buy meat from reputable butcheries (those selling inspected meat).
- + Cold treatment of *C. bovis* with acceptable number of cysts (<10 cysts).
- + Stakeholder, in particular farmers' awareness campaigns through workshops, seminars, training, pamphlets, TV, radio.
- + Adequate braai or thorough cooking of meat.
- + Deworming of herdboys and cattle keepers.
- + Fencing Policy. Discourage keeping of cattle in villages.
- + Dig and bury faeces, use toilets where available.
- + Raw sewage **discouraged from being used as fertilizer** on lands intended for grazing by cattle.
- + Penalties for measly carcasses (those with extensive cysts condemned and those destined for cold treatment are paid less than ones without *C. bovis*



POST-MORTEM INSPECTION



Quality Control



EXTENSION SERVICES DELIVERY

- + A network of extension agents deployed strategically throughout the country also help in teaching farmers on animal health and animal production

- + Farmers are taught in various ways including;-
 - × Farmer's days
 - × Training at Rural Training Centres
 - × Workshops
 - × Exhibitions
 - × Seminars, etc

EXTENSION SERVICES DELIVERY





HUMAN DEWORMING

Treatment of affected individuals is strongly recommended and this is usually through oral medications in a single dose.

The drug of choice is:

YOMESAN[®]

IT IS READILY AVAILABLE IN CHEMISTS AND PHARMACIES IN BOTSWANA. COSTS JUST ABOUT P90.00 FOR 4 TABLETS. Each tablet contains 500 mg **niclosamide**.

THE SOLUTION IS PROVIDED BY THE HABIT OF THE DOMESTIC CAT WHICH MUST BE ENCOURAGED IN ORDER TO PREVENT NEW INFECTIONS OF CATTLE.

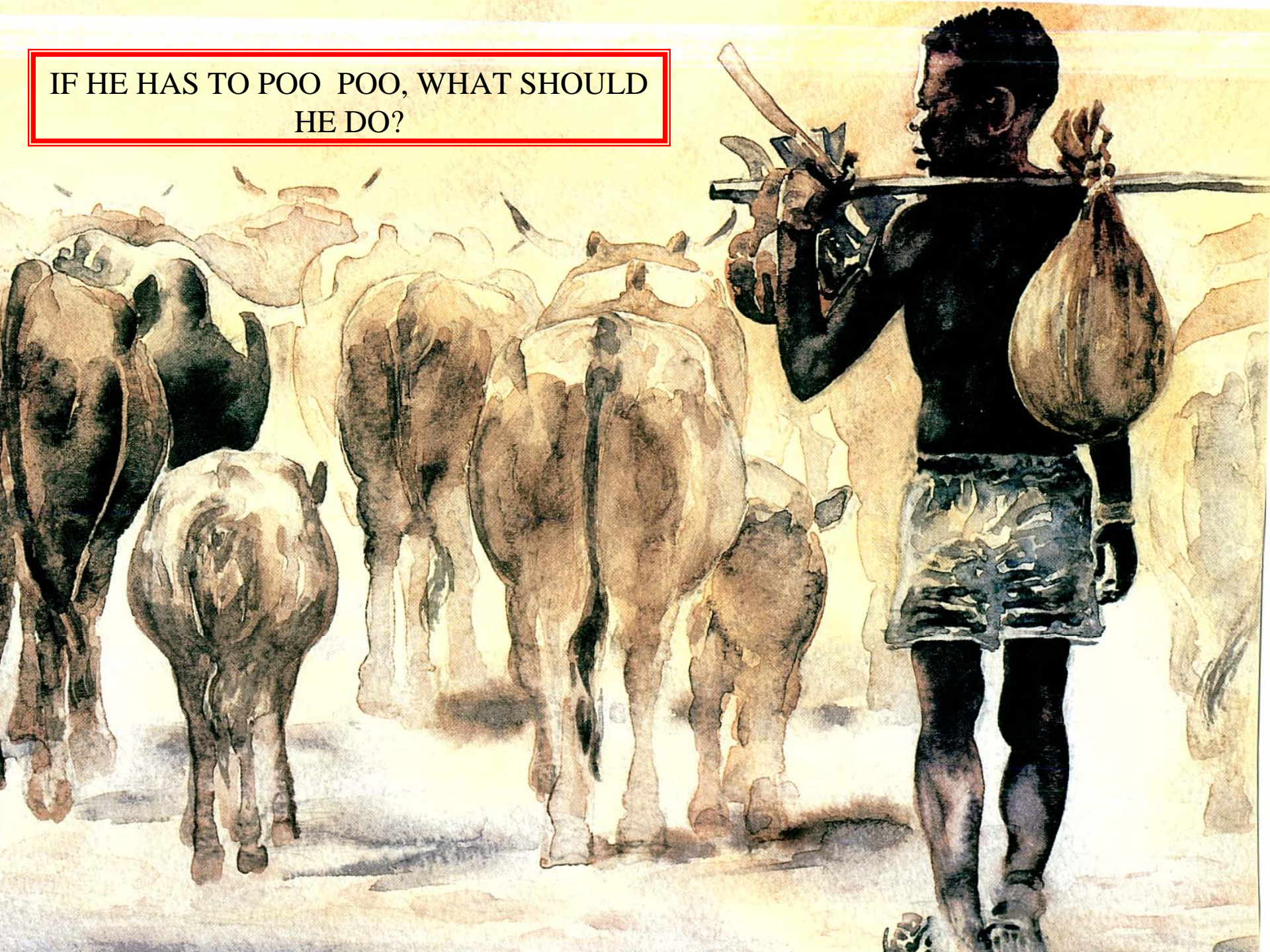


👁️ THE CAT DIGS A HOLE IN THE SAND;

👁️ POO POOs INTO IT;

👁️ AND COVERS THE POO POO UP.

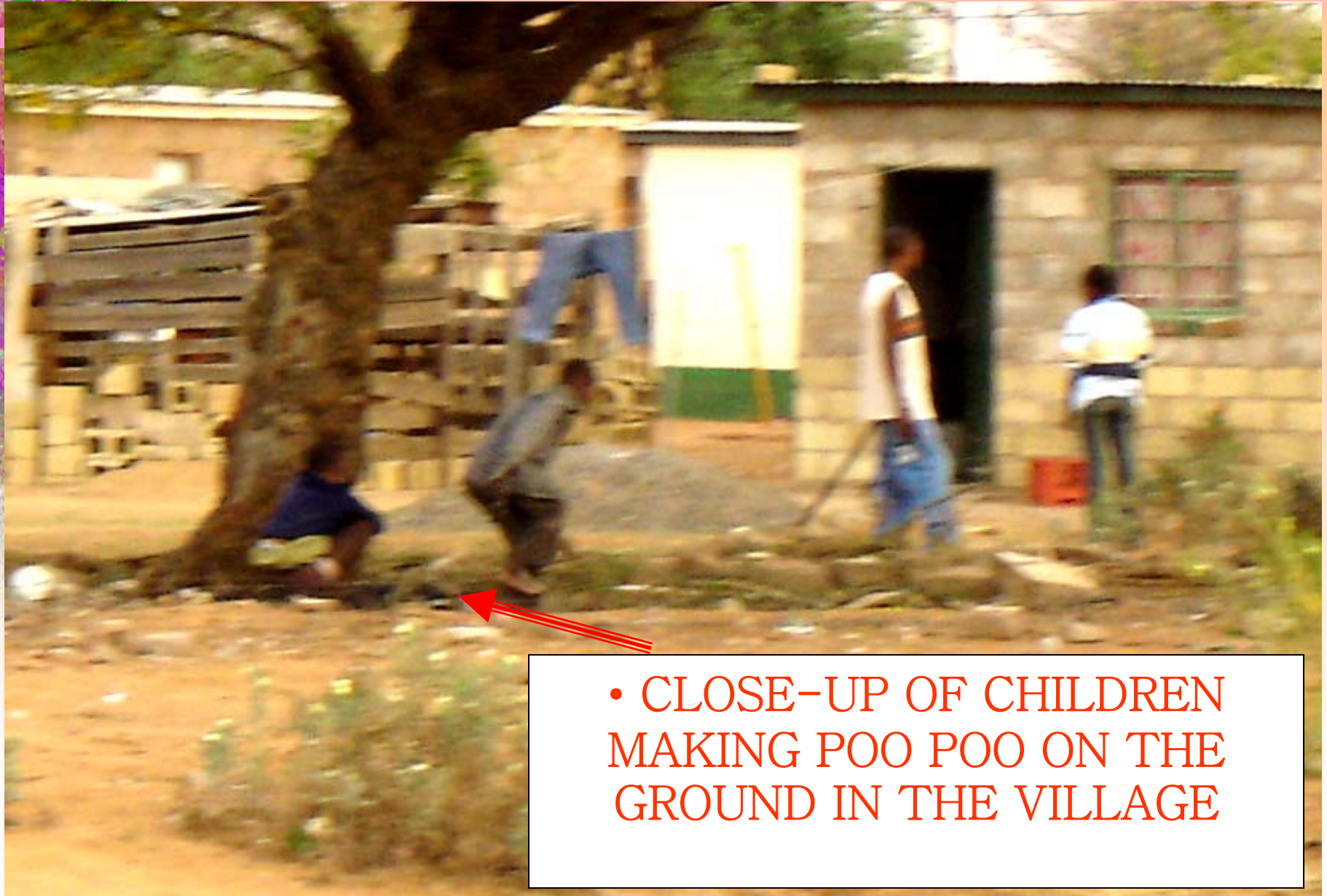
IF HE HAS TO POO POO, WHAT SHOULD
HE DO?





CHALLENGES TO CONTROL OF *C. bovis*

- + Animal production systems, some cattle raised in close proximity with humans.
- + Inadequate collaboration of stakeholders especially between animal and human health agencies.
- + Lack of coordination of control measures.
- + Inadequate number of licensed meat premises.
- + Inadequate freezer stores in pre-existing meat premises, as such cold treatment at butchereries which sometimes are not working properly.
- + Inadequate farmer awareness.
- + Inadequate resources at non-export facilities – transport and trained meat inspectors.
- + Changes in consumer life styles – more braais, increase in consumption of inadequately cooked fresh meat.



- CLOSE-UP OF CHILDREN MAKING POO POO ON THE GROUND IN THE VILLAGE

CATTLE GRAZING IN LOBATSE TOWN CENTRE:





WAY FORWARD

- ✘ A Multi-sectoral Task Force headed by the Ministry of Agriculture has been set up to come up with preventative and control strategies to reduce the prevalence of *C. bovis*.
- ✘ The task force is comprised of among others Ministries of Agriculture, Health, Local government, Trade, farmer, meat traders and consumer representatives, and researchers.
- ✘ The task force will among other things come up with implementation plan, assign tasks, organise resources, determine time lines, establish reporting structure and evaluate the progress. Thus it will ensure effective coordination of the activities meant to achieve the overall objective of the Task Force. This is a good illustration of '***One World, One Health***' concept.

CONCLUSION

- ✘ Beef measles causes a serious economic burden on the rural economy of Botswana.
- ✘ Successful reduction in the prevalence of *C. bovis* will depend on intersectoral cooperation.
- ✘ To realise the overall objective of reducing the prevalence of *C. bovis* different stakeholders will have to execute their assignments concurrently.

Thank you for your attention

Kealeboga