

# Anthrax Outbreak in Hippos in Zimbabwe: Impact on Wildlife, Livestock and Humans

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# Zimbabwe

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- ◆ Zimbabwe is a land locked country in southern Africa
- ◆ Total land area about 390000 sq km
- ◆ Human Population about 16 million
- ◆ Agro-based economy
- ◆ Mining and ecotourism also major contributors to the economy



# Zimbabwe Land use Map



**LEGEND**

-  Hunting Area
-  National Park or Game Reserve
-  Campfire Area

# Anthrax Disease in Zimbabwe

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- ❑ Anthrax is a bacterial disease that affects all warm blooded animals which include livestock, wildlife and human beings.
  - ❑ The disease occurs world wide and is endemic in Zimbabwe and other countries in the region
  - ❑ It occurs as sporadic outbreaks.
  - ❑ Outbreaks are common in grazing animals and are usually associated with major climatic changes eg heavy rain after prolonged drought.
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# Anthrax Disease in Zimbabwe cont'd

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- ❑ Carnivores and human beings usually get the disease from consuming carcasses that would have died from the disease.
  - ❑ Humans can also get the disease from handling meat from animals that would have died from the disease.
  - ❑ Animals that die from the disease are the major source of contamination of the soil and pastures where the disease can survive as spores for as long as 40 years or more.
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# Anthrax Disease in Zimbabwe cont'd

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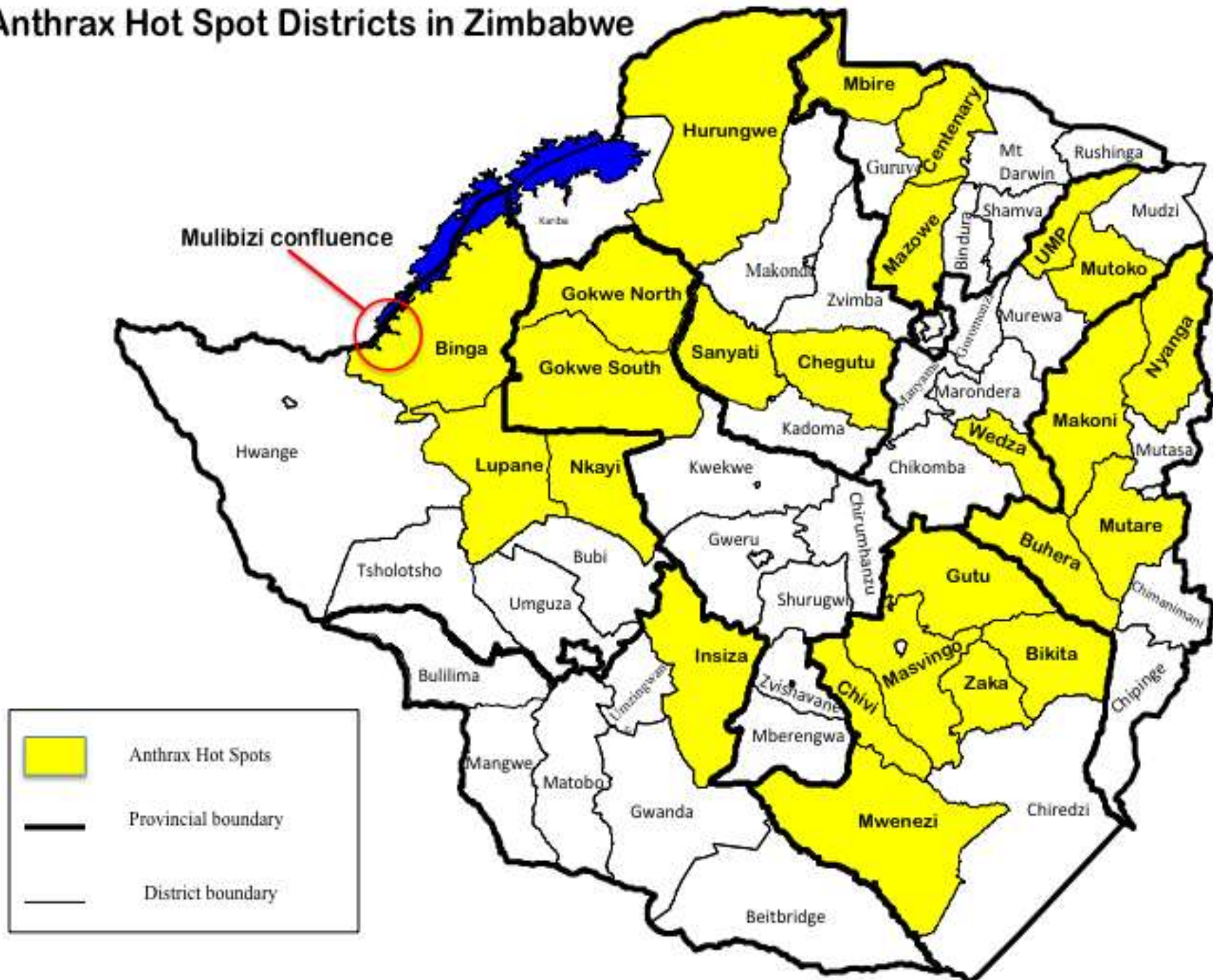
- ❑ There are reports that during the Zimbabwe liberation war anthrax spores were used as a biological weapon in most communal areas.
  - ❑ This resulted in widespread contamination of soils throughout the country causing a major anthrax epidemic towards the end of the liberation war.
  - ❑ Soon after independence in 1980, Government carried out routine annual mass vaccinations of livestock in all farming sectors for a period of more than ten years to bring the disease under control.
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# Current Anthrax Disease Situation

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- Although the anthrax situation in Zimbabwe is now considered to be endemically stable, the disease is still occurring in isolated pockets being referred to as anthrax hot spot areas.
  - These identified hot spots are the target areas for the on-going Government funded national anthrax vaccination programme in livestock.
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# Anthrax Hot Spot Districts in Zimbabwe



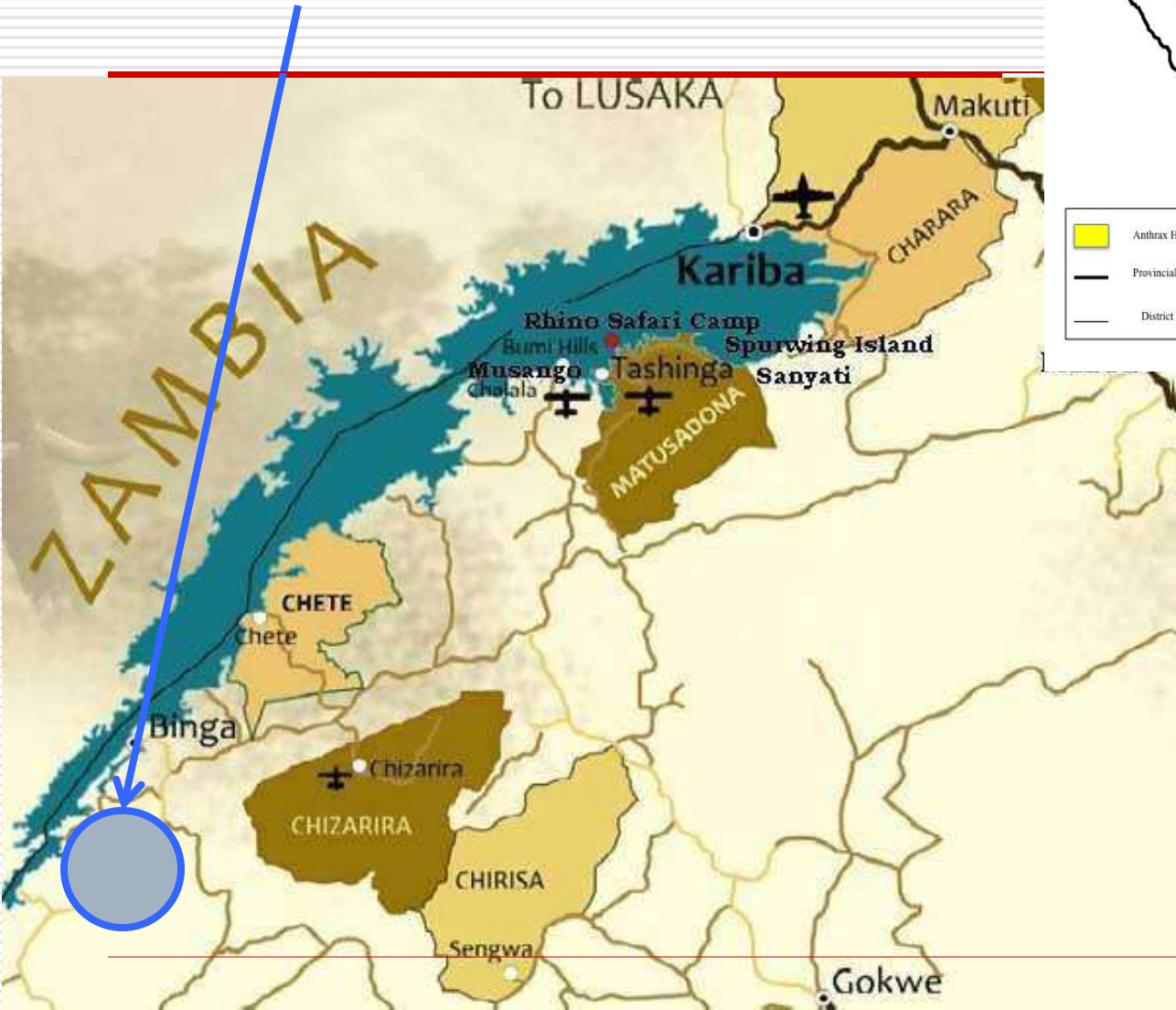


# Current Anthrax Disease Situation

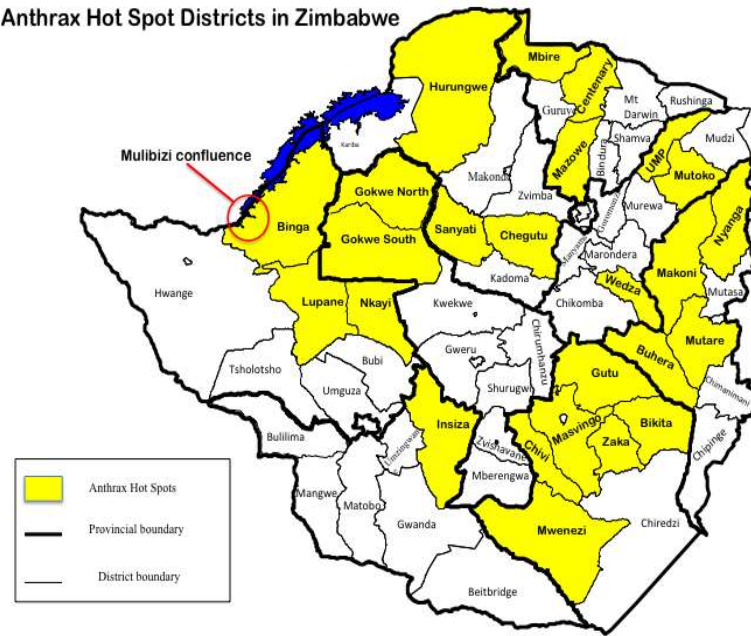
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- During the first half of 2017, anthrax outbreaks have been reported in 3 districts.
  - In 2 of the two districts outbreaks only affected livestock, while the Binga outbreak was first reported in hippopotamus and later spilled over to Human beings
  - Affected people contracted the disease through handling and consuming meat from the dead Hippopotamus.
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# Mlibizi Area, Binga



Anthrax Hot Spot Districts in Zimbabwe



# Binga Communal Area, Zimbabwe



Agriculture



Fishery



Ecotourism Campfire area



Cattle Ranching

## **CAMPFIRE - raising awareness and raising money**

The **CAMPFIRE** movement, designed and **managed entirely by Africans**, began in the mid 1980's.

It encourages local communities to make their own decisions about wildlife management and control.

It aims to help people **manage natural resources** so that plants, animals and people - the whole ecosystem - all benefit. It helps provide legal ways for such communities to raise money by using local, natural resources in a sustainable way. As a result, many communities now actively protect local wildlife, seeing it as a valuable asset. In some areas locals have even provided them with emergency food and water in times of shortage.

# April 2017 Anthrax Disease Outbreak in Binga

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- ❑ Abnormal deaths of hippos was detected in the Mlibizi area of Binga district, along the shores of Kariba dam in the first week of April 2017.
- ❑ Initially, poisoning was suspected because local irrigated crops had apparently been treated with pesticides (including Carbaryl).
- ❑ Organs were delivered to the Victoria Falls Wildlife Trust by Parks & Wildlife Management Authority personnel for pesticide analysis and chemical poisoning was ruled out.
- ❑ Reports were made to the Department of Veterinary services after a total of 13 hippopotamus had died within a period of two weeks.

# Hippo Deaths



# April 2017 Anthrax Disease Outbreak in Binga

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- ❑ Preliminary diagnosis of the disease was made from gross pathology and laboratory examination of impression smears
  - ❑ Anthrax was confirmed through PCR on the 11th of April 2017
  - ❑ Investigations in Livestock did not reveal evidence of occurrence the disease in the recent past in the area
  - ❑ A total of 21 hippopotamus deaths were recorded
  - ❑ Villagers were reported to eating meat from the dead hippos
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# April 2017 Anthrax Disease Outbreak in Binga

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- ❑ Some of the villagers were collecting large amounts of the meat and selling it in local butcheries as goat meat
- ❑ As a result a total of 13 human cases with 1 death were recorded.
- ❑ Most of those affected were men involved in the collecting of the meat from the Mlibizi river banks as well women and children who prepared the meat before cooking
- ❑ The majority of the human cases manifested as the cutaneous form
- ❑ On the other side of the Zambezi river in neighbouring Zambia, anthrax was also reported in 2016 also affecting hippos and humans.





# Response to the outbreak

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- A national level a working party of officials from relevant Ministries was established to coordinate investigations and resolution of the problem.
    1. **Environmental Management Agency** responsible for environmental management
    1. **Parks and Wildlife Authority** responsible for wildlife conservation and welfare,
    1. **Ministry of Health and Child Care** responsible for public health
    2. **Department of Veterinary Services** responsible for domestic and wildlife animal health.
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# Response to the outbreak

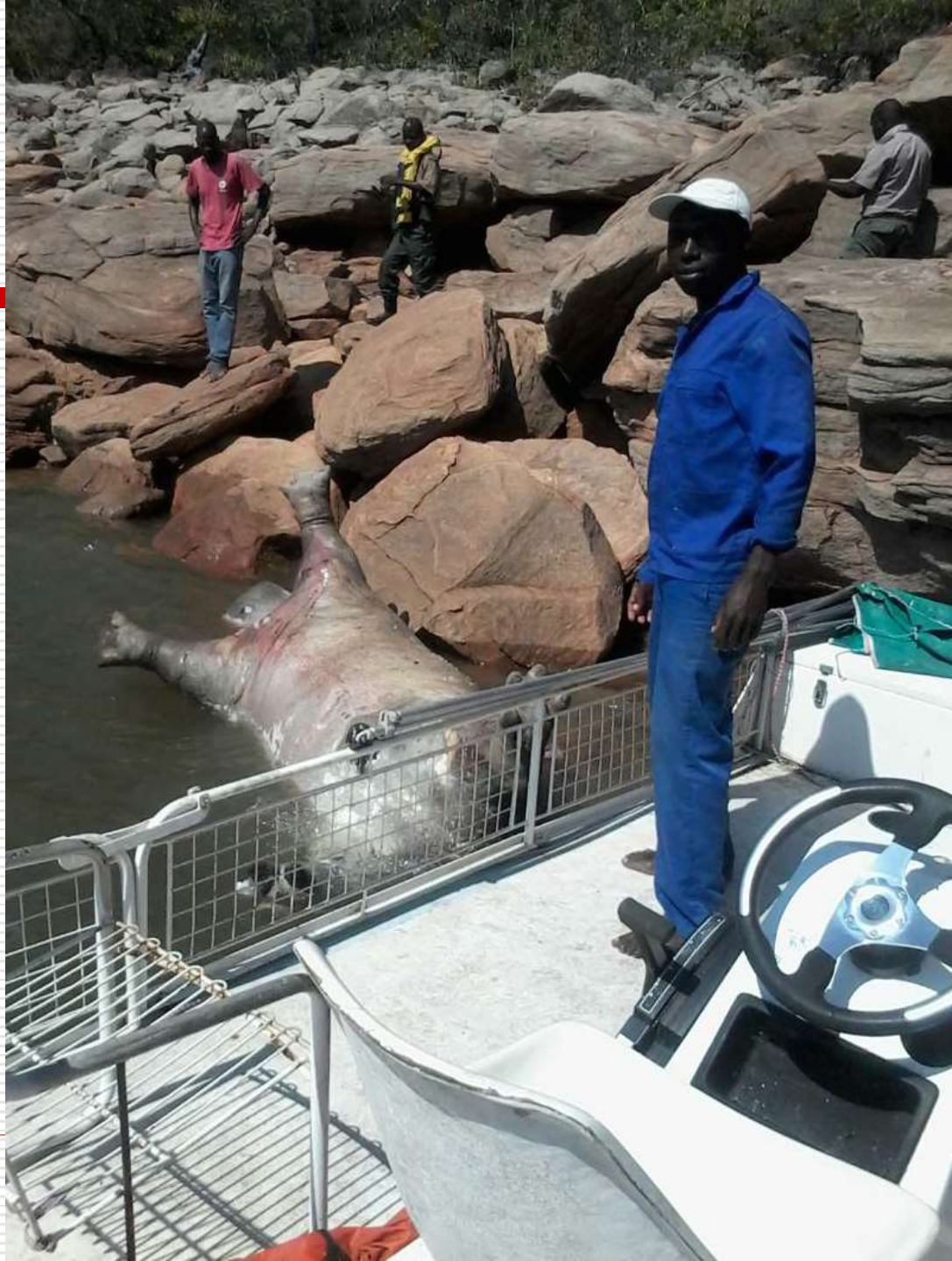
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- At local Level the following measures were taken
    - Affected area placed under quarantine
    - Stakeholder were engaged: Police, EMA, Local Government (DA's Office), Forestry Commission, Veterinary Services, Ministry of Health, Binga Rural District Council, Private Vet doctors; Local Leadership, and Councillors,
    - Vaccination of livestock by Veterinary Services officials (7995 vaccinated at 6 dip tanks)
    - Road blocks mounted at strategic points to ensure infected meat is not taken out of the area,
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# Challenges Faced

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- ❑ Minimizing environmental contamination.
  - ❑ Carcasses had to be left unopened for at least 4 days, when the vegetative anthrax bacilli will have mostly died without forming the resistant spores.
  - ❑ Disposal of carcasses (burning or deep burial as recommended)
  - ❑ Keep humans and scavengers away.
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Thank  
You