RAPID RESPONSE TO RIFT VALLEY FEVER OUTBREAK

BACKGROUND OF ACTIVITY

Worldwide, health challenges are drastically increasing either in human, animal and environment health. These results into economic losses, trade implications, effects of climate change and other hindrances showing the need to counteract all those challenges before they become overwhelming.

Kayonza district is second largest district in Eastern Province **(MINALOC,2014)** bordering Tanzania, Akagera National Park as well as Akagera river this make it susceptible to many outbreaks **(RAB ,2014).**

The best way to overcome these is to apply one health concept that calls all disciplines to work in multidiscipline manner to sustain and handle health challenges in a perspective of animal, human and environment health.

From the beginning of May 2018, the Rwanda Agriculture Board (RAB) announced an outbreak of Rift Valley Fever (RVF) among ruminants in Kayonza, Kirehe and Ngoma districts located in Eastern province of Rwanda

On 3rd November, the world celebrates one of the best solutions to global health challenges namely One health. In Rwanda this activity is going increase the visibility of OHCEA –Rwanda to the University of Rwanda and community in the region through Students One Health Innovation Club (SOHIC)- Rwanda activities.

Kabare Sector is second largest of Kayonza district, while Mwili is largest sector in Kayonza district, with cattle farming system which is dominated by zero grazing, semi-intensive and seldom extensive system. In such situation it was very hard for the sector vets alone to rapidly respond to the outbreak in that remote and hilly location, hence there was an urgent need to intervene as One Health team to help KAYONZA District vets for rapid ring vaccination activity in cattle and community health education.

This joint vaccination intervention was performed on 3rd Novemberin Kayonza district, farming system of Kayonza district is dominated by zero grazing, semi-intensive and extensive system with geographically present hills, valley, lakes..

1. **Goals and Objective**

Main Objective:

- Rapid response to RVF outbreak especially to cattle in affected areas

Specific Objective:

- Support the sector vets' officer to carryout ring vaccination
- Identification of One Health challenges within the community
- To raise the awareness of the Kayonza district community about RVF and other health challenges

2. **Target audience**

KAYONZA district community One Health workforce Rwanda

3. **Activity description**

Methodology

1. **Observation:**

- On site, using qualitative observation students were able to assess potential risk factors associated with RVF.
- All of the observations were done by exploring the environment and referringon scientific documented potential risks factors of RVF and ranked according to the priority.

2. **Door to door and chosen site interviews**

- Farmers and student's conversation were held with the emphasizing on prepared RVF concept
  - Importance of RVF vaccine
  - Ask farmers what they know about RVF disease and other health challenges faced

- Public Health Education

4. **Interventions and Outcome**

RVF Vaccination

- Due to the cattle farming systems Vaccination exercise was done in two ways: door to door and Selected sites.
    - Subcutaneous route of injection, was used and the dose of 2ml per cattle
    - History of Pregnancy has to be asked before vaccination and a Pregnancy diagnosis had to be performed to the suspected cow
    - RVF virus live-attenuated vaccine RIFTVAX was injected
    - Both students and faculty participated in this activity
- A total of 361 cattle was successfully vaccinated against RVF disease

One Health challenges identified

A. **Animals Health challenges**
    - Abortion in small ruminants
    - Tsetse flies as root cause of nagana in cattle
    - Limited animal movement (traffic) control
    - Mortality of livestock due to diseases
    - Limited veterinary services delivery

B. **Human Health challenges**
    - Lack of personal protective equipment while handling RVF suspected livestock
    - Few and poor condition of mosquito nets
    - Proximity or sleeping with animals in the same house

C. Environment Health challenges

- Poor hygiene and sanitation at Home and their latrines
- Uncontrolled water ponds

5. Raising awareness

- Veterinary, environmental, nurse and medical students, faculty and farmers gathered for One Health education focusing on RVF disease. Community were exposed to RVF disease causes, mode of transmission, signs and symptoms, population at risk as well as the prevention and control in Both Animals and Humans.

- Community were also explained on what to do when suspecting RVF as follow:
    - Immediate reporting to local veterinarian in case unusual signs for the animal
    - Seeking medical attention in case of high fever and other unusual health issues
    - Handling animals with PPEs in case of abortion and giving birth
    - Use insecticides and sleep in treated mosquito net to reduce rate of mosquito's bite
    - Importance of Restrict movement of animals during RVF outbreak

6. Recommendations

To government

- Government of Rwanda should increase vaccines doses and should also target goats and sheep vaccination.
- Government should increase work force during vaccination program
- Government should avail mosquito net in the mosquito borne diseases endemic area.
- Government should re-enforce the rules and regulation regarding animal movements.

To farmers

- Farmers should improve biosecurity measures
- Farmers should stop eating meat which is not inspected and drink uncooked milk.
- Farmers should abandon to sleep with their animals

7. Reflection

Students from various displine and faculty appreciated opportunity given by UR-OHCEA and RAB in this ring vaccination and this is reflected by a big number of students who showed their emotion by quotes like

<< imagine as nurse vaccinating cattle is grate experience ever in my life>>

<<one the vet never attended vaccination campaign as is his career so that was good opportunity>>

Community, local leaders and sector vets also appreciated the rapid response against RVF done by UR-OHCEA Rwanda as well as they recognized that health of humans, animals and ecosystems are interconnected and to over those OH implications should be addressed through multidisciplinary collaboration

8. Deliverables

- Verbal agreement between SOHIC-RWANDA and KAYONZA district
- Faculty, students and community(farmers) strongly committed advocating and practicing OH approach

9. **Challenges faced by the team**

- Gender imbalance, few females came to the site
- Shortage of vaccines
- Poor communication between local leaders and community

10. Progression of activity

In September OHCEA-SOHIC-RWANDA, held meeting with KAYONZA district officers as evaluation to highlight impact of ring vaccination and public education in prevention and control of RVF. One-month later KAYONZA district office announced the ceasing of quarantine as good sign of declination of RVF.

11. Conclusion

RFV Vaccination program in Kabare and Mwili sectors was successful and a key in prevention and control of RVF outbreak.

RFV Vaccination program in Kabare and Mwili sectors would not have been successful if we do not have a strong collaboration of multi-disciplinary actors

The government of Rwanda and its stakeholders, need to jointly intervene in case of zoonotic diseases like RFV outbreaks

That ring vaccination provide a wide range of exposure for students to apply their acquired multidisciplinary knowledge.

12. Acknowledgement

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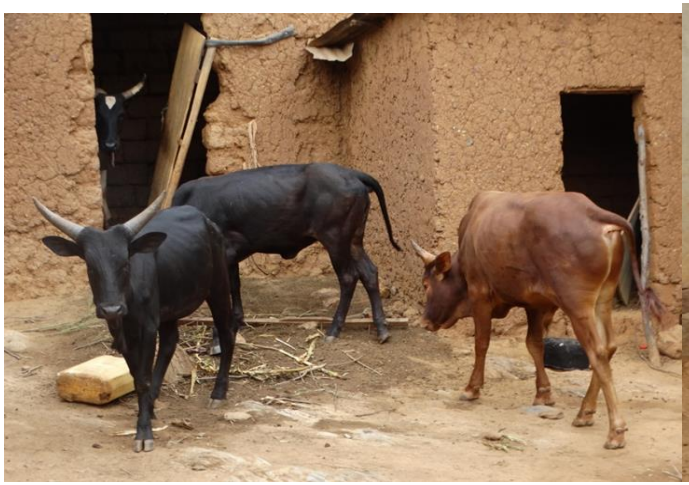


REAL INTERFACE OBSERVED


RING VACCINATION PREPARATION




VACCINATION IN ACTION

VACCINATION IN ACTION

INTERVIEW GUIDE WITH THE FARMER

Public education

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