The paradigm shift towards cross-sectoral collaboration: policy, tools and empowering factors for health systems strengthening in Kenya

Dr. P.M Ithondeka PhD, MBS
Director of Veterinary Services
Kenya

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Kenya- Geographic Attributes

- Total landmass 582,650 km².
- 80% of the landmass is ASAL that supports domestic animals and game.
- 30% of Kenyan population live in ASALs and derive virtually all their livelihood from animal resource.
Economic Indices

- GDP average annual growth in 2011 was 4.3%, 5.3% in 2010 with contribution from agriculture at 1.9%.
- Gross National Income Per Capita in 2010 $ 790 and ranked 183 globally.
Human Livestock Demographics

Human population
- 39 Million (2009 Population & Housing Census*)
- Average annual population growth rate 2.6%
- Population density 71 people per sq km

Livestock populations
- Cattle 18 million
- Sheep 18 million
- Goats 28 million
- Camels 3 million
- Poultry 30 million
- Swine 0.3 million

*Livestock data collected during household population census.
Wildlife

Rich in bio-diversity and population e.g.

- Lions (2,000)
- Elephants (37,000),
- Cheetahs (1,000),
- Wild dogs (800)
- Grevy's Zebra (2,500)
- Roan antelopes (50)
- Sable antelopes (70)
Human/Domestic/Wildlife Interaction

- Increasing human encroachment on former wildlife habitat due to population pressure.

- Some species endangered due to bush meat trade, poaching, cyclic disease outbreaks (e.g., anthrax & rabies - increasing risk of emerging infectious diseases):
  1. Black rhino - 700
  2. Hirola antelope - 400 in Kenya, the only population in the world),
  3. Rothschild giraffes
  4. Mountain Bongo
Legal Framework for One Health

- **Meat Control Act, Cap 356** administered by veterinary services for control of meat & meat products for human consumption, slaughterhouses and processing facilities, import and export control an analogue of the **Public Health Act, Cap 242** administered by Ministry of Public Health.

- **Rabies Act, Cap 365** requires Veterinary Officers to notify the Medical Officer of Health of any cases of rabies in domestic animals.

- Confirmatory rabies diagnosis in human cases has historically been carried out in the Central Veterinary Laboratories, Kabete in Nairobi.
Drive for One Health in Kenya

- The global pandemic threat caused by the H5N1;
  - 1st coordinated One Health activity: Contingency Plan for HPAI developed
- Saw the establishment of the National Avian Influenza Task force in 2005.
- Multisectoral/Multidisciplinary body comprising over 24 agencies and bodies.
- Rift Valley Fever outbreak in 2006/07;
  - Multi-sectoral collaboration derived from the National Task Force
Kenya- Uganda HPAI Cross Border Simulation
Kenya- Uganda HPAI Cross Border Simulation

- Valuable lessons on cross-sectoral collaboration between two countries involving:
  - Veterinary Personnel
  - Public Health Officials
  - Medical Health Facilities
  - Police
  - Border customs and immigration officials
  - Wildlife authorities
  - Community leaders
Kenya: Key OH Steps (2008-2012)

- Formation of Zoonotic Technical Working Group (ZTWG) - 2008
- OIE PVS “One Health” Evaluation - 2011
- Creation of One Health office: Zoonotic Disease Unit (ZDU) - 2011
- Development of Kenya’s priority zoonotic diseases list – 2011
Kenya: Key OH Steps (2006-2012)

- Revision of IDSR technical guidelines to incorporate zoonotic diseases - 2011
- Revision of national policies to incorporate One Health - ongoing
2. Formation of Zoonotic Technical Working Group (ZTWG)

- Formed in 2008
- Multi-sectoral, including MoPHS, MoLD, WHO, FAO, AU-IBAR, KEMRI, CDC, KWS, research institutions among others
- Meets quarterly
- Chaired alternately (yearly) by Director of Veterinary Services or Director of Public Health and Sanitation
3. Commissioning a One Health office: Zoonotic Disease Unit (ZDU)

**MOU:** Signed by MoPHS and MoLD in **Aug 2011**

**Housing:** Office constructed on government land and officially opened by the Minister for MoLD and Minister for MoPHS – **Oct 2012**

**Staff:** Epidemiologists deployed by government

**Support staff:** Admin Assistant and Data personnel
This One Health Building was
Inaugurated by
Hon. Dr Mohammed Abdi Kuti, EGH, MP
Minister for Livestock Development
and
Hon. Beth Mugo, EGH, MP
Minister for Public Health and Sanitation
On 3rd October, 2012
Launch of the ZDU

Hon. Minister for Livestock Development and Hon. Minister for Public Health and Sanitation officially open ZDU office on 3rd October 2012
ZDU Organogram

DPHS  DVS

Zoonotic Technical Working Group

DDSR (MoPHS)  
**Zoonotic Disease Unit**
- 1 Medical Epidemiologist (MoPHS)
- 1 Veterinary Epidemiologist (MoLD)
- 1 Data Manager
- 1 Administrative Assistant

Other experts on an as needed basis
(Epidemiologist, Ecologists, Microbiologists, Climatologists, Environmentalists, Sociologists, Economists, Geospatial experts e.t.c.)

VEEU (MoLD)

DVS- Director of Veterinary Services
DPHS- Director of Public Health and Sanitation
DDSR- Division of Disease Surveillance and Response
VEEU- Veterinary Epidemiology and Economics Unit
MoPHS- Ministry of Public Health and Sanitation
MoLD- Ministry of Livestock Development
### 4. Development of Kenya Priority Zoonotic Diseases List –2011*

<table>
<thead>
<tr>
<th>Category</th>
<th>Diseases</th>
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<tbody>
<tr>
<td><strong>1. Viral Hemorrhagic Fevers</strong></td>
<td>i. Crimean Congo Hemorrhagic Fever</td>
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<td>ii. Dengue Fever</td>
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<td>iii. Rift Valley Fever</td>
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<td>iv. Yellow fever</td>
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<td>v. Ebola</td>
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<td>vi. Marburg Virus Fever</td>
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<td><strong>2. Avian influenza &amp; influenza A H1N1</strong></td>
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<td><strong>3. Brucellosis</strong></td>
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<td><strong>4. Leishmaniasis</strong></td>
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<td><strong>5. Leptospirosis</strong></td>
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<td><strong>6. Anthrax</strong></td>
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<td><strong>7. Rabies</strong></td>
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<td><strong>8. Bovine TB</strong></td>
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<td><strong>9. Plague</strong></td>
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<td><strong>10. Tularemia (Rabbit Fever)</strong></td>
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<td><strong>11. Protozoa Infections</strong></td>
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<td><strong>12. Salmonellosis</strong></td>
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<td><strong>13. Helminths</strong></td>
<td>i. Trichinosis</td>
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<td>ii. Cysticercosis</td>
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<td>iii. Hydatidosis</td>
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<td>iv. Sarcoptic mange</td>
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<td></td>
<td>v. Diphyllobothrium</td>
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<td><strong>14. Fungal Diseases</strong></td>
<td>i. Dermatophilosis</td>
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<td></td>
<td>ii. Histoplasmosis</td>
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<td></td>
<td>iii. Cryptococcosis</td>
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<td>iv. Aspergillosis</td>
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<td><strong>15. Schistosomiasis</strong></td>
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<tr>
<td><strong>16. West Nile Virus</strong></td>
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<td><strong>17. Trypanosomiasis</strong></td>
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*Not ranked in any order
5. Revision of Integrated Disease Surveillance and Response (IDSR) Technical Guidelines

Key changes

- Addition of zoonotic diseases in the priority disease list

- Inclusion of Veterinary Officer in both the district and provincial Public Health Emergency Management Committees

- Section added about the coordination with Animal Health and other relevant Sectors
6. Strategic Plan for Implementing OH in Kenya (2012-17)-Objectives:

- Strengthen surveillance, prevention and control of zoonoses
- Establish structures and partnerships to promote OH
- Conduct and Promote Applied Research

To download visit [WWW.ZDUKenya.org](http://WWW.ZDUKenya.org)
Greater compliance with WHO/IHR and OIE guidelines on public health threats;
Established plan and capacity for early epidemic detection, diagnosis, and rapid response;
Development and implementation of disease prevention and control strategies for zoonoses.
Strategic Plan Outcomes…

- Risk maps and identification of hotspots for zoonotic diseases;
- Better understanding of socio-economic impacts of zoonotic diseases and their interventions to households and the government.
7. Revision of National Policies to Incorporate OH

- Gazettement of brucellosis as a notifiable disease;
- Draft veterinary policy (work ongoing);
- New Constitution of Kenya 2010 provisions for:
  - National and County tiers of veterinary governance,
  - Regulation of the Veterinary Profession,
  - Recognition of Veterinary Policy as a National Government Function;
8. Critical OH Steps in Kenya

- Revision of curricula in training institutions to incorporate OH – ongoing thro’ One Health Central and East Africa funded by USAID;

- Inclusion of Vet students in Field Epidemiology and Laboratory Training Program (Veterinarians, medical doctors and Laboratorians all trained under one roof for 2 yrs)-since 2008;

- Kenya hosted HPAI field simulation exercise in 2010;

- OIE PVS “One Health” Evaluation Mission in Kenya – 2011;
OH Steps in Kenya-Joint Surveillance

- Avian Influenza surveillance in wild birds – Ongoing
- RVF: Vector-borne & seasonal surveillance
- Establishment of a molecular diagnostic laboratory at KWS.
- Research projects incorporating OH approach
  - Arbo-viruses Incidence and Diversity (RVF)
  - Brucellosis study in three counties (to determine burden and develop control strategies)
  - IDRC Echo-Health Project
Other OH Steps in Kenya...

- Joint Outbreak investigations and responses

Livestock team  Entomology team  Human team

Investigating an outbreak of Human African Trypanosomiasis in Masaai Mara game reserve, 2012
Constraints

- Institutional inertia and entrenched practices,
- Compartmentalization of national public/medical and animal health services,
- Sub optimal integration of private animal health services and private medical establishments into one health framework,
- Ad hoc response to zoonoses outbreaks due to lack of integrated government funding.
Recommendations

- Development of stronger linkages between in-country sectors and neighboring countries to deal particularly with trans-boundary animal diseases,
- Streamlining of policy and legal frameworks to support OH,
- Dissemination of awareness and knowledge on the OH concept among professionals and stakeholders,
- Strengthening of surveillance and reporting of zoonoses between human, animal and environment sectors
- Allocation of separate funding to deal with zoonoses and other public health events
Conclusion

- Participating Ministries are establishing a core multidisciplinary subject matter experts on priority diseases who will participate in;
  - Development of prevention and control strategies & contingency plans
  - Outbreak response
  - Collaboration in operational research on priority diseases
“Medical is a social science, and politics is nothing else but medicine on a large scale”

Rudolf Virchow

Thank you