

VETERINARY CAPACITY BUILDING AND FOOD SECURITY CHALLENGES IN DEVELOPING COUNTRIES

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Presentation Overview

- Introduction
 - Veterinary Capacity building
 - Field Experience Overview
- Challenges
 - Low-resource settings
 - Meat Safety
- Capacity opportunities
 - Market Chain interventions
- Conclusions

Veterinary Capacity Building

Veterinary capacity building is the transfer of technical knowledge and skills to individuals in an effort to create sustainable change for the improvement of livestock production practices and food security in regions with limited resources.

Food Security

Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. (FAO, 2017)



Four Pillars of Food Security



(WFP.ORG)

Introduction

- Veterinary capacity building involves
 - Transfer of technical skills and knowledge to individuals so they can develop long-term capabilities



Approach

- Goal based: re-establish basic services or create sustainable change
- Direct services
 - Includes delivering veterinary services
 - Valuable in crisis times



Approach

- Capacity building concepts
 - “Livestock are Lifestock”
 - Work within the National Animal Health System
 - Recognize cultural awareness
 - Approach in an integrated manner



Guyana F2F Project

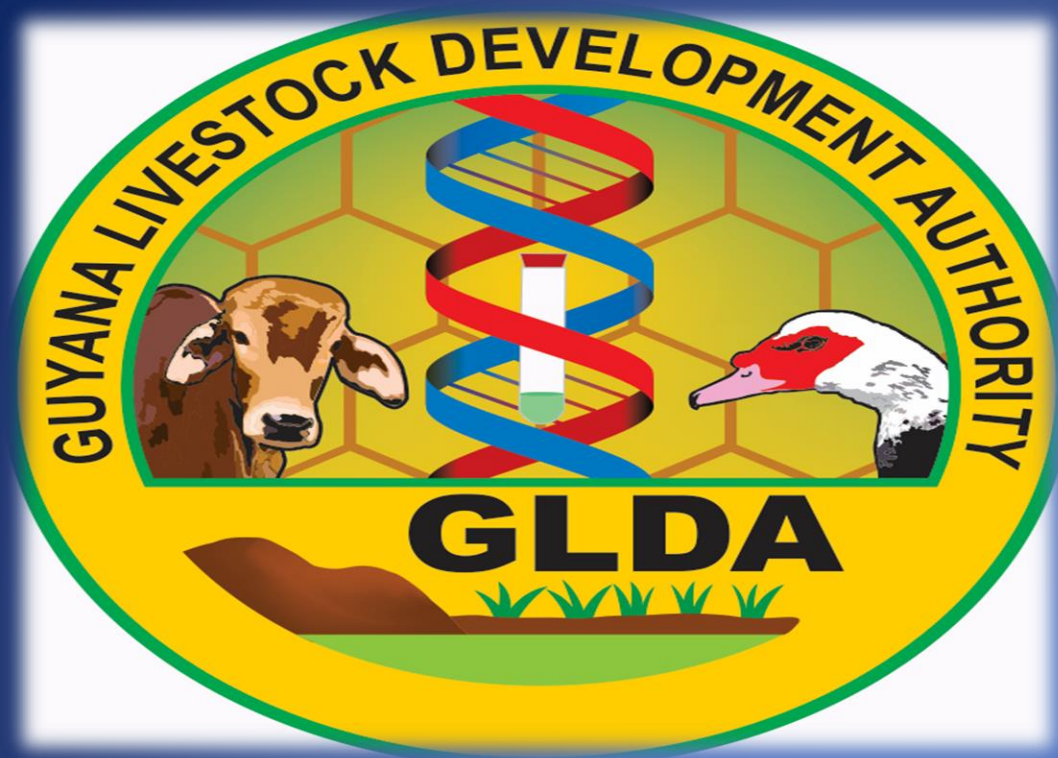
- Mission: evaluate livestock production systems and veterinary capabilities.
- Activities: assessments, training workshops, and technical presentations.



Guyana, South America



(CIA, 2017)



A semi-autonomous agency of the Ministry of Agriculture mandated to provide services that will contribute to the enhancement of livestock production and productivity.

Aim

To provide and promote greater efficiency in the livestock and livestock product industry and to provide enhanced services in livestock husbandry, livestock health and research and to make provisions for effective administration with the view of improving commerce, trade and the export of the livestock and livestock products

(GLDA, 2016)

Field Experience Objectives

- Develop familiarity with capacity building in developing countries.
- Conduct vet assessments to determine livestock gaps and needs.
- Conduct vet assessments to evaluate public health concerns with infectious/zoonotic dz.
- Develop/utilize frameworks to conduct assessments.

Challenges of Veterinary Capacity building in Developing Countries



- Resource-poor country challenges
 - Nutrition is a limiting factor
 - Trained Vets, Markets, Transportation
 - Animal rustling

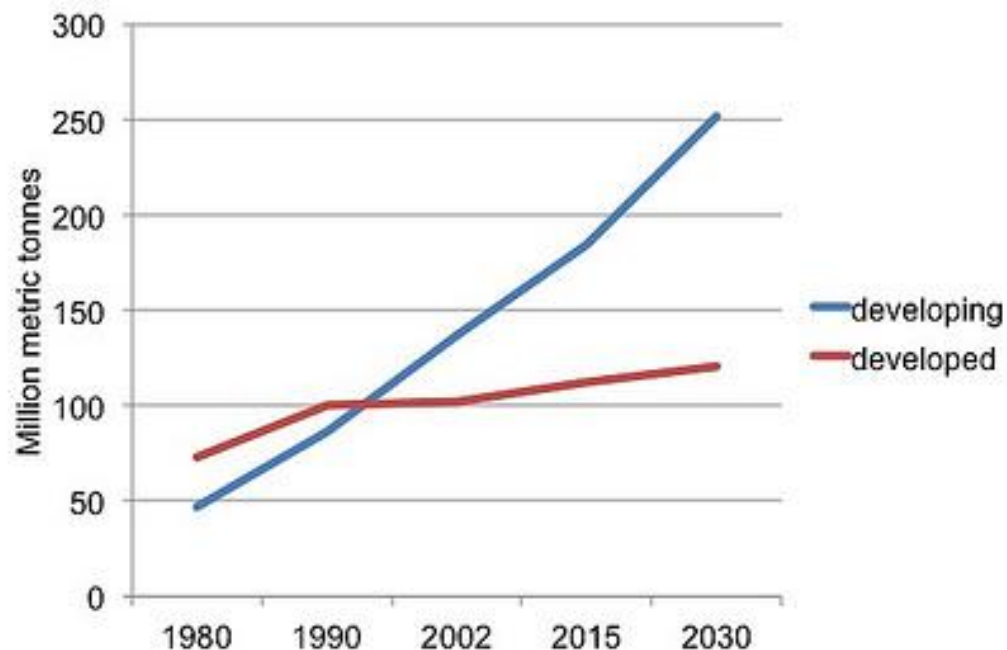


Why worry about meat safety?



Meat consumption in developing countries

Gains in meat consumption in developing countries outpace that of developed countries



Meat hygiene challenges



- Farm to slaughter biosecurity issues
- Inadequate slaughter facilities
- Lack of proper meat inspection
- Diagnostic testing and lab limitations

Local Slaughter Practices



Occupational and Foodborne Risks

Abattoir workers, butchers, vets, and farmers

- Biological agents (TB, Brucellosis, Parasites)
- Unsanitary meat processing procedures
- Undetected chemical residues (antibiotics, pesticides, toxins- lead)

Capacity opportunities

Market Chain Interventions

- Pre-slaughter farm interventions
- Meat inspection procedures training
- Improve sanitation and slaughter facilities
- Improve lab testing and surveillance

Pre-slaughter farm interventions



- Improving farm management practices can reduce (pre-harvest) biologic and chemical residues presented at slaughter.
- Capacity building approaches can be thru farmer associations and “train the trainer” methods with government field veterinarians.

Slaughter Sanitation concerns



Slaughter Sanitation concerns

- Limited veterinary food inspection; often Ministry of Health inspectors with limited training
- Limited disease testing capability
- Animal/pathogen traceability
- Lack of farmer reimbursement for condemnation
- Consumer expectation for fresh processed meat
- Waste due to mishandling carcasses; Lack of cold storage facilities, inadequate sanitation

Meat Inspection Procedures



Veterinary Services Laboratory






Measures of success

- Market chain is enhanced
 - Farm to Fork value chain
 - Internal sustainment
 - Safe food products
- Animal disease surveillance is active
 - Samples collected, tested, and diagnosed
 - Biosecurity enhanced





DO NOT:

- 
Bring uncooked meat from abroad - especially South American and European countries
Não trazer carne crua do exterior - especialmente dos países Sul Americanos e Europeus
No traer carne cruda del extranjero especialmente de los países Sudamericanos y Europeos
- 
Bring live animals (cows, goats, sheep, pigs etc.) from abroad without permission from the Guyana Livestock Development Authority
Não trazer animais vivos (gado, cabras, ovelhas, porcos, etc) do exterior sem permissão da Autoridade Responsável pelo Desenvolvimento de Pecuária na Guiana
No traer animales vivos del extranjero sin permiso de las autoridades de Desarrollo de la Ganadería de Guyana
- 
Bring hides, skins or any animal parts without permission
Não trazer couros, peles ou quaisquer partes de animais sem permissão
No traer pieles o partes de los animales sin permiso

SIGNS IN ANIMALS SUFFERING FROM FMD



TONGUE OF BOVINE WITH FMD LESIONS

SNOUT OF PIG WITH FMD LESIONS

EXCESSIVE SALIVATION IN A BOVINE

VESICLES IN INTERDENTAL SPACE OF PIG

CONTAMINATED MEAT

For more information consult the
Guyana Livestock Development Authority



Tract GLDA, Plantation Mon Repos,
 East Coast Demerara, Guyana, South America
 Tel: 220 2864, 220 6556 Email: glda@agriculture.gov.gy



Conclusions

- Veterinary capacity-building can be driven from within with guidance from external players.
- Enforcing minimum standards for hygiene, sanitation, and meat inspection procedures with veterinary participation through government supported legislative actions.

Conclusions

- Improving meat inspection procedures and simple laboratory testing capabilities.
- Construction of basic slaughter facilities adapted to local capabilities and resources.
- Approaching capacity building in an integrated manner to synchronize efforts with animal health officials.

MPH Core Competencies

- **Pathogens/Pathogenic Mechanisms**
 - Infectious organisms causing foodborne disease
- **Immunology/Host response**
 - Undernourished people/animals have weak immunity
 - Increases susceptibility to disease
- **Environmental influences**
 - Drought and flooding affect disease/toxin exposure
- **Disease surveillance**
 - Critical within the National Animal Health System
- **Effective communication**
 - Veterinary capacity assessments support host nation public health sectors

MPH Courses

•	MPH 754	Introduction to Epidemiology	3	F2015
•	MPH 802	Environmental Health	3	F2015
•	MPH 701	Fund Methods of Biostatistics	3	S2016
•	MPH 818	Social/Behavioral Bases of Public Health	3	S2016
•	MPH 720	Admin of Health Care Organization	3	Su2016
•	DMP 710	Introduction to One Health	2	F2016
•	DMP 888	Globalization/Coop & Food Trade	1	F2016
•	DMP 815	Multidisciplinary Thought/Presentation	3	F2016
•	DMP 854	Intermediate Epidemiology	3	S2017
•	DMP 840	Field Experience	<u>6</u>	S2017
•	Total	KSU CREDITS		30
•	Transfer	Credits (KSU CVM)	<u>12</u>	
•	Total	MPH Program Credits		42

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QUESTIONS?

