FEED SAFETY AND ITS IMPACT ON FOOD SAFETY THROUGH THE CONCEPT OF ONE HEALTH

Francisca O Eichie[1,2] and Eustace A Iyayi[1]

[1]Nigerian Institute of Animal Science (NIAS), Abuja, Nigeria
[2]Department of Animal Science, University of Ibadan, Nigeria
Email: franciaca_eichie@yahoo.com

INTRODUCTION

➢ The world population is projected to increase by 1.2 percent annually

➢ 70% increase in demand and consumption of animal products is projected in 2050 due to increased urbanization and income

➢ The increase will result in increased animal production, which will require an additional amount of feed to be produced. However, the challenge is not only to meet the growing demand for feed but to ensure its safe feeds.

➢ The role of animal feed in the production of safe food takes precedence in the global food industry, being the largest and most important component for sustainable production of safe and affordable animal proteins

➢ Achieving feed and food safety is a significant challenge to public health and economic development in both developed and developing nations with over 1.8 million deaths annually from food contamination (Gurpreet at al,. 2011).
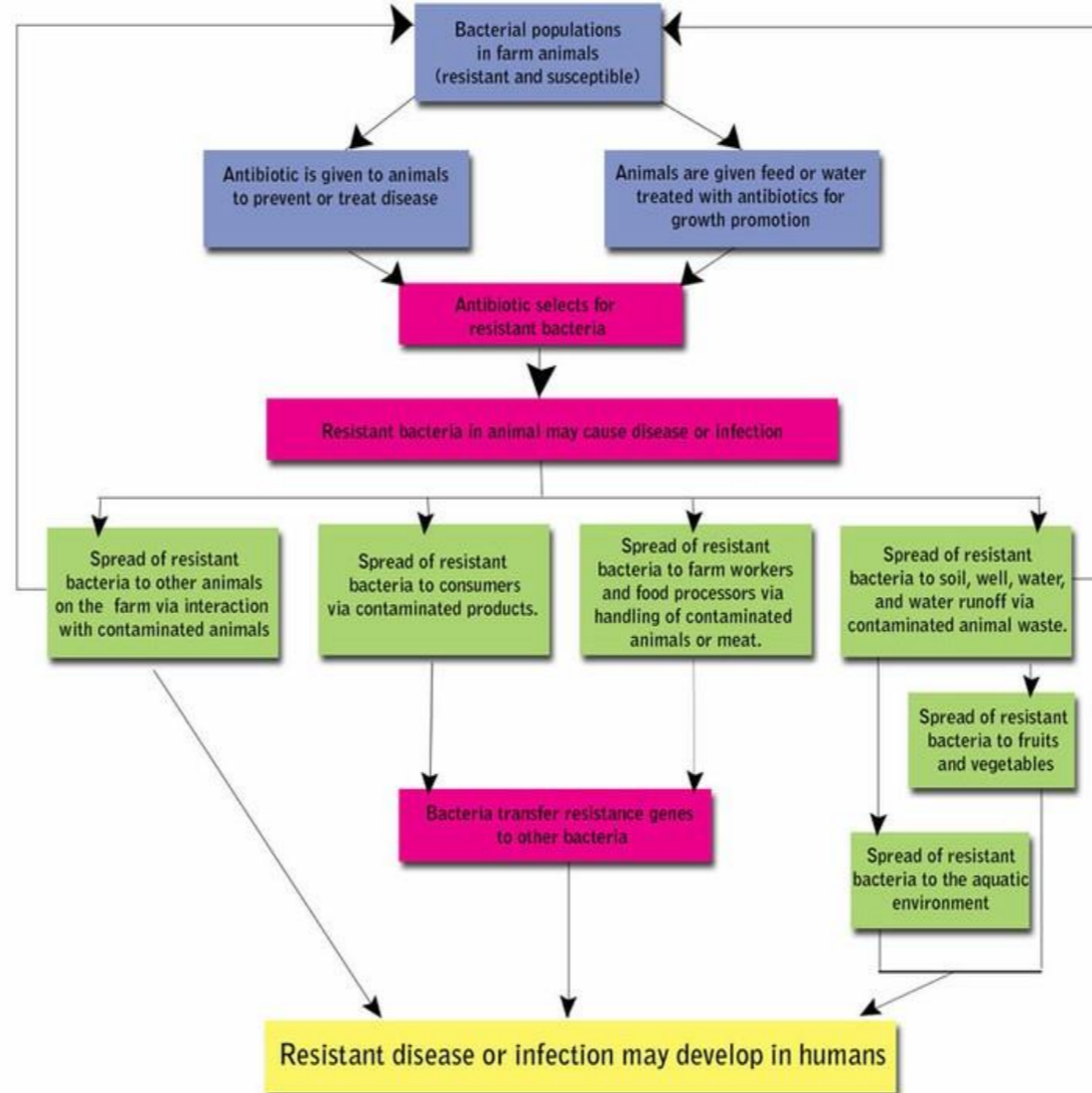

Figure 1. Cross contamination linkage; Animal, Human and Environment
Source: Antimicrobial resistant learning site © 2011 Michigan State University

OBJECTIVES

✓ To highlight the linkage between feed safety and food safety

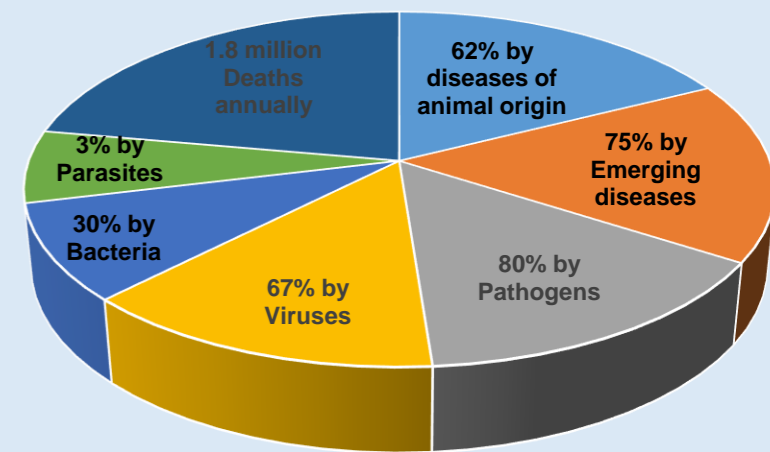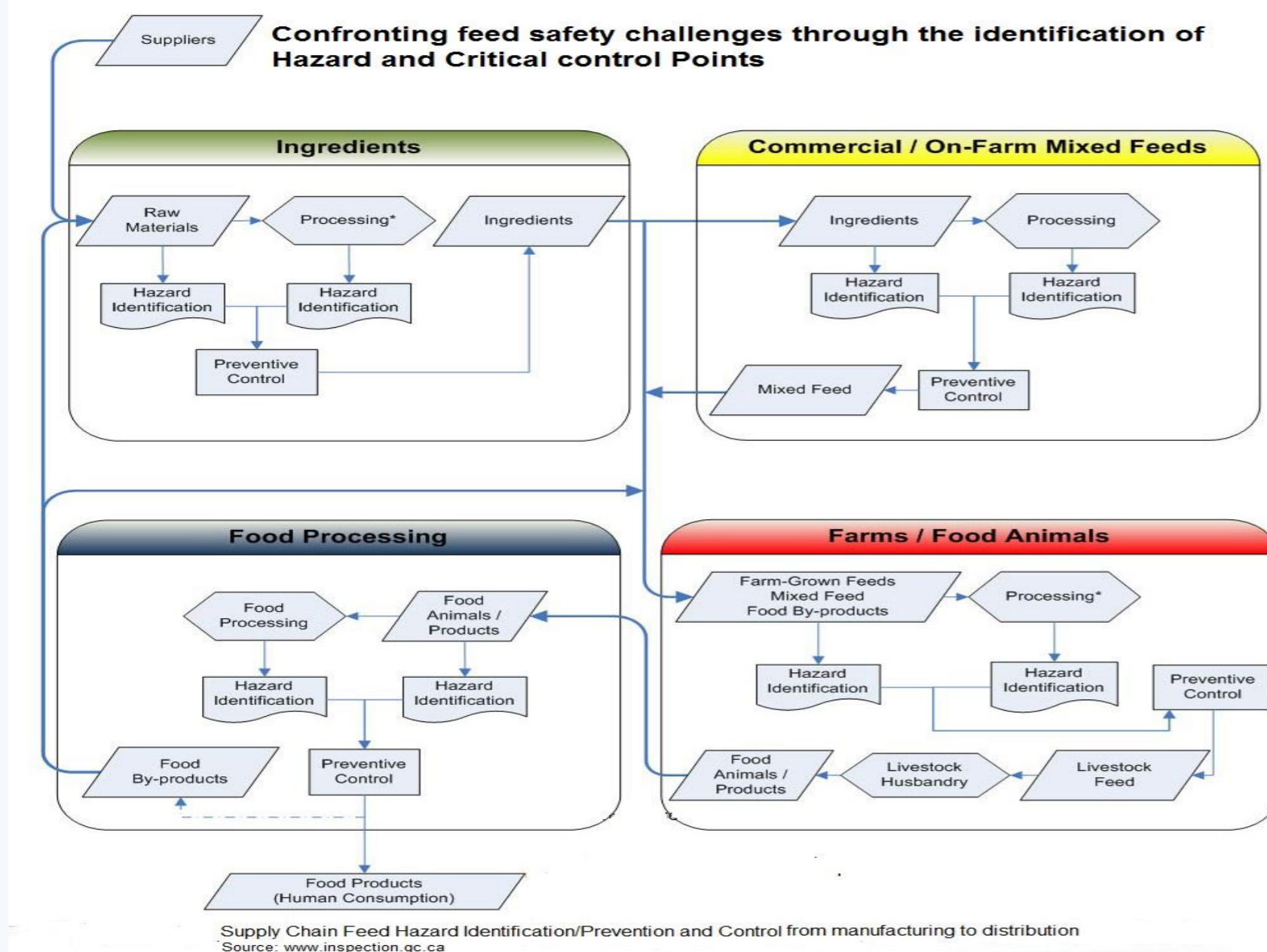✓ To Highlight the importance and linkage of feed safety and food safety to achieving One Health.

Figure 2: Distribution of 20 million cases of disease causing illness in human

CONTAMINANTS THAT POSE HEALTH RISK

◆ Microbiological, viral and parasitic in nature
◆ Chemical residues (Pesticides, fertilizers)
◆ Preservatives
◆ Antibiotics
◆ Hormonal residues (growth promoters)

CONFRONTING FEED SAFETY CHALLENGES

➢ Establishment of feed regulations framework harmonized with Codex Alimentarius and other international standards.
➢ Development of self-regulation framework with strict adherence to Good Manufacturing Practice (GMP) and Standard Operating Procedure (SOP) for all operations in the production chain (Pal, 2013).
➢ Implementation of a systematic and scientific food safety risk based management program; Hazard Analysis and Critical Control Points (HACCP) (Nguyen et al., 2004; Domenech et al., 2008).
➢ Good sanitation and Hygiene Practice (GHP)
➢ Ban the use of antimicrobial agents on food animals and replace with Pre and Probiotics

CONCLUSION

➢ Feed and food safety systems are vital to maintain consumer confidence in the food system.
➢ Implementing an effective proactive measure through the One Health approach requires a paradigm shift in developing nations with establishment of National Food and feed Safety Policies.
➢ Regulatory Councils for feed and the livestock industry such as the Nigerian Institute of Animal Science (NIAS) must be strengthened to develop regulations and guidelines in line with Codex and other international standards.
➢ Traceability, GMP, GHP, HACCP as well as effective inspection, surveillance and enforcement will help ensure feed and food safety and ultimately contribute to the One Health concept.

REFERENCES

Domenech, E., Escriche, I. and Martorell, S. (2008). Assessing the effectiveness of critical control points
Gurpreet K, G.H. Tee, N.M. Amal, R. Paramesarvathy, C. Karuthan (2011) 29(2): 103–112. Incidence and deterninantsnof acute diarrhoea in Malaysia: A.J Health popul Nutr population-based study. PMCID: PMC3126982
Nguyen, T., Wilcock A. and Aung, M. (2004). Food safety and quality systems in Canada. International Journal of Quality and Reliability Management 21:655-671.
Pal, M. (2013). Food safety is becoming a global public health concern. The Ethiopian Herald. Feburary 1, 2013. P. 8.