ONE HEALTH EDUCATION AND TRAINING

INCORPORATING

ONE HEALTH ASPECTS INTO OCCUPATIONAL SAFETY AND HEALTH TRAINING AT A MALAYSIAN ZOO: DEVELOPMENT OF EMERGENCY RESPONSE

EMILIA ZAINAL ABIDIN, SHARIFAH NORKHADIJAH SYED ISMAIL, KARMEGAM KARUPPIAH, NOOR HASSIM ISMAIL & IRNIZA RASDI

FACULTY OF MEDICINE AND HEALTH SCIENCES, UNIVERSITI PUTRA MALAYSIA
INTRODUCTION

Emergency Response Plan (ERP) essential in organisation by national law

Hazards are unique
- Wildlife
- Significant public access

Potential health hazards of biological origins (zoonosis)
THE ZOO

- 160 workers, 110 acres
- Animal keepers, technical staffs, veterinary staffs (doctors and nurses)
- 9,880 volunteers (2017)

THE PROBLEM?

- No occupational safety & health (OSH) basics, only wildlife act
- Zoo needs ERP for serious & imminent dangers, N/A except animal escape
- Protect workers, volunteers & public (30,000 per month)
To develop & implement ERP for potential emergencies identified using OSH training methods in a Malaysian zoo.
Project details

1. Community-based training project
   - 45 Representatives of 7 departments
   - 5 UPM and UKM lecturers & 57 2nd yr and 58 3rd yr students (UPM EOH)

2. Duration
   - April 2017-April 2018

3. Training phases
   1) Hazard identification & risk assessment & risk control (HIRARC)
   2) Incident Command Structure (ICS)

4. Project outcomes
   - Emergency drill
   - 5 documented procedures for ERP
Basic Hazard Identification, Risk Assessment and Risk Control Training

Incorporate One Health Concept; risks arising from animal exposures

5 main emergencies identified
Preparedness for Emergency discussed using Incident Command Structure (ICS)

- Incident Commander
  - Safety
  - Operations
  - Planning
  - Logistics
  - Liaison
  - Information
  - Finance & Admin

Standardized approach to control, coordinate ERP; common hierarchy of positions, responsibility & terms of reference
RESULTS FROM HIRARC TRAINING

- Incorporate One Health into training, risks related to animal handling while performing work
- Biological hazards emphasised; zoonosis, such as leptospirosis, toxoplasmosis, rabies etc

Learning from training activities 11/2/17; 29/4/17; 7/5/17

Activities at the Zoo
1) Walk-through activity
2) Workshop on HIRARC
3) Workshop for representative staff of Malaysian Zoo on ICS
Emergencies Identified and Procedures Developed

1. Zoonotic-Related Outbreak
2. Natural Disaster
3. Animal Escape
4. Fire Emergency
5. Terrorist/Bomb Attack
ERP Simulation for Fire Emergency Performed - Administrative Building

- Activities performed on 27/11/17, 4/12/17, normal zoo operation
- Person-in-charge appointed according to IC Structure (Zoo staffs and students were trained)
- Established
  - Teams - triage, evacuation, fire warden etc
  - Planned scenario, minute by minute activities
  - Location plans of simulation, evacuation route, floor plan & assembly points
- Cooperated with internal & external emergency services - Ambulance with paramedics, fire brigade from local area, visitors
Examples of Evacuation Route

FIRE DRILL LAYOUT PLAN : GROUND FLOOR
Photos of Simulation
Lesson Learned

- Workers exposed to many hazards but have no significant OSH-related training
- Workers only involved in ERP related to animal escape prevention - need to learn in stages
- During simulation, authorised agency found crucial weaknesses which needs immediate attention - *communication during emergency to other workers and visitors, evacuation route for egress, confidence of staffs etc.*
- Simulation is first drill performed in 5 years. The trained workers will be able to improve ERP on continual basis.
Conclusion

• One Health needs to be incorporated into OSH training for zoo workers - done from HIRARC training
• Workers needs to realize potential zoonotic risks in addition to other potential emergencies via regular training, but management constrictions present.
• Carefully-developed ERP is needed to protect workers, visitors and all stakeholders in this field and is part and parcel of the Malaysian OSH law.
THANK YOU