



*Military Environmental Health Input into  
Humanitarian Assistance & Disaster Relief During Kaikoura Earthquake  
Response – November 2016*



**FLTLT VICTOR IKINI**



## *Situation*

- 1400hrs Nov 16
- Earthquake – magnitude 7.5
- 15km Northeast of Culverden
- Followed by multiple smaller earthquakes in Seddon and Kaikoura regions
- Ministry of Civil Defence and Emergency Management(MCDEM) activated Regional Emergency Coordination Centres (ECC) and deploy assets to affected areas to ensure rapid response

## NZDF MISSION

- New Zealand Defence Force (NZDF) to provide appropriate support to MCDEM and local CDEM groups
- Provide HADR support to MCDEM – to assist in ALL of Government response to Kaikoura earthquake

# HEALTH THREAT ASSESSMENT OF AREA

## Health threats (short to medium term 48 – 72 hours)

- **People (High density displaced pers / person to person spread)**
  - Increased upper respiratory infection (Coughs colds and flu)
  - Increased cases or outbreaks of Norovirus type infection (viral Diarrhoea and vomiting)
- **Sanitation (Damaged sewerage systems private and municipal)**
  - Exposure to surface flooding containing sewage.
    - Various infections such as Hepatitis,
  - Exposure to other chemicals and pollutants suspended in water
- **Water**
  - Broken municipal supplies become contaminated.
  - Broken private and municipal Bore supplies become contaminated.
  - All water sources become chemically or physically contaminated.
  - Agricultural run off. (Biological and chemical)

## Health threats (short to medium term 48 – 72 hours) cont:

- **Physical Hazards (Inhalation)**
  - Acute effects from exposure to asbestos and other fibrous material from collapsed building material.
  - Acute effects from exposure to increased air pollutants from indiscriminate or accidental burning of hazardous materials.
- **Chemical / industrial Hazards**
  - Exposure to leaked, spilt or released chemicals, gases, fume or vapours.

## Health Threats (Long Term months / years)

- **People**
  - On going sporadic Gastro intestinal outbreaks (person to person spread)
  - Skin infections from exposure to pathogens, poor hygiene and lack of adequate sanitation.
  - Increased Upper respiratory irritation / infection from Increase suspended air particulates (Liquefaction)
- **Health Threats (Long Term months / years)**
  - Chronic (long term) effects from exposure to asbestos and other fibrous material from collapsed building material.
  - Chronic effects from exposure to increased air pollutants from indiscriminate or accidental burning of hazardous materials.
- **Chemical / industrial Hazards**
  - Chronic effects from exposure to leaked, spilt or released chemicals, gasses, fume or vapours.







# *SPECIFIC EHO TASKS FOR NZDF*

- Role: 'Prevent Harm, Protect Health and Mitigate Hazards'

## **Primary role tasks**

- **Water** - Ensure all deployed elements have access to a safe (potable) sustainable water supply.
- **Food** - Ensure all deployed elements have access to safe food. Foods are purchased, stored and prepared safely and in accordance with currently legislative requires were possible.
- **Sanitation** Ensure all deployed elements have access to suitable sanitations facilities, including toilets, showers and washing facilities to maintain personal hygiene. Implement appropriate pest control measures.
- **Infectious disease.** In conjunction with deployed health assets monitor and respond to infectious disease rates including gastrointestinal outbreaks.
- Take control of and manage, in conjunction with the deployed MO, any potential outbreak situation within NZDF deployed personnel.

- **Occ Health / EIH** Conduct tiered threat assessments to ensure that potential occupational or environmental and industrial health exposures are identified and mitigated. (In conjunction with the MO / NO ensure that the work environment and health of NZDF personnel is continually monitored).
- **Built Environment** Carry out inspections of hardstanding accommodation as appropriate and advise command on suitability for living / working environments.

### **Secondary Role Tasks**

- Collection and collation of health information to inform the health intelligence picture. This includes but is not limited to, information on local health facilities, water suppliers and public health engineering effects.



# COLLABORATION WITH CIVILIAN ENVIRONMENTAL / PUBLIC HEALTH

## Water

- Local E.H contractor - Has 'influence'
- Knowledge of local drinking water and sewage systems
- DWA assistance/advice with military water tankers / R.O systems / Water Safety Plan

## Food

- Combined approach to food safety management of Army-provided catering i.e. hand hygiene, FSP etc



## *LESSONS LEARNED*

- Liaise with local DHB/Council EHOs (if possible) prior to deployment
- Work with DWA and Army log to develop WSP if water tankers and/R.O plant is to be used (for public)
- Ensure field kitchen operators FSP is current and appropriate for the area of deployment
- Work with local EHO/DHB staff for streamlined P.H messaging/info to public







# QUESTIONS / COMMENTS?



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