



# **C4ISR for HA/DR: Operation Tomodachi**

**July 18, 2019  
Noboru YAMAGUCHI**

# Noboru YAMAGUCHI

## Lieutenant General JGSDF (Ret.)

1974     NDA  
1988     Fletcher School of Law and Diplomacy  
1992     Olin Fellow, Harvard University

Army Aviator  
GSO, JSO, MOFA  
GSDF R&D Command

December 2008   Retired  
April 2009        NDA  
                 [Military History, Strategy]  
March-September 2011  
                 Special Advisor to the Cabinet  
April 2015        IUJ/SPF





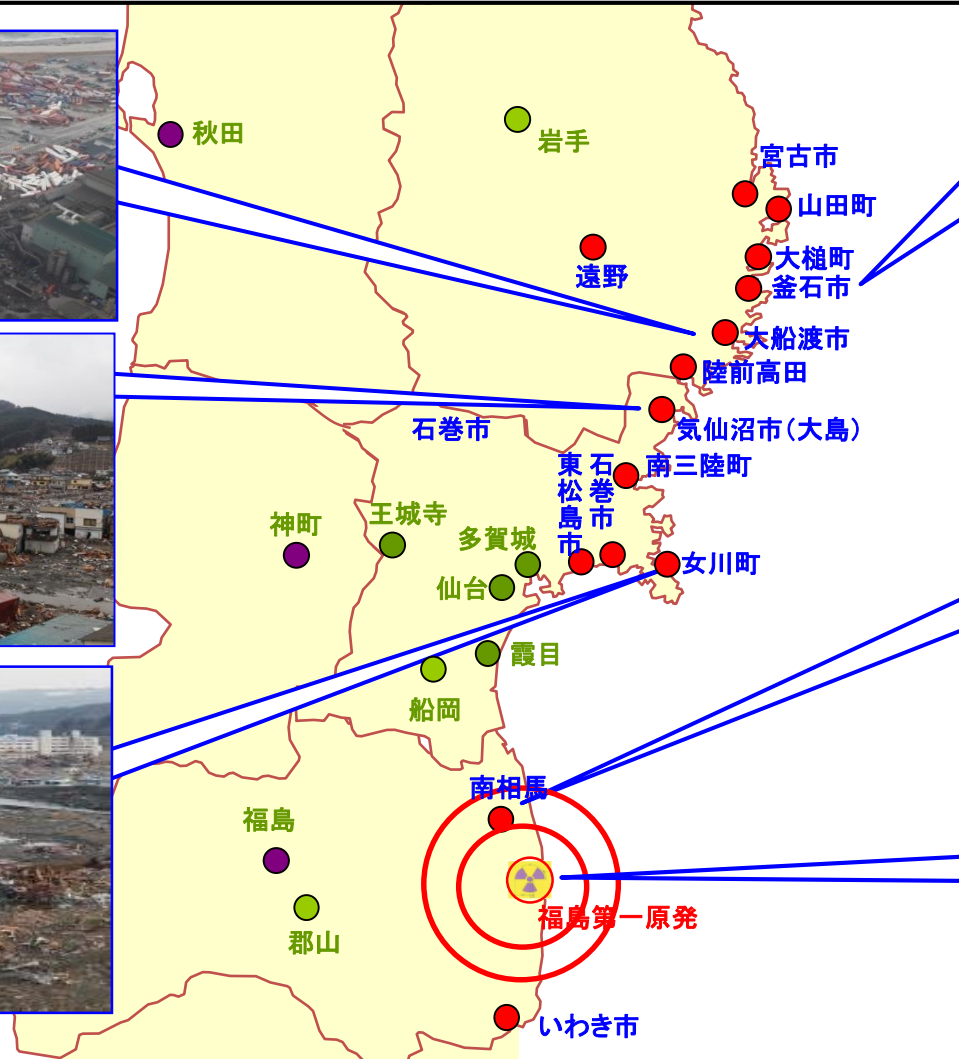
# Special Advisor to the Cabinet (Crisis Management)

## 20 March 2011



Secure fuel for engine generator (mobile stations)

# M 9.0, 38m high Tsunami on 3/11



- Extremely wide area affected
- Tsunami, Earthquake, Nuclear Reactor Accident
- Local governments (literally) lost capabilities

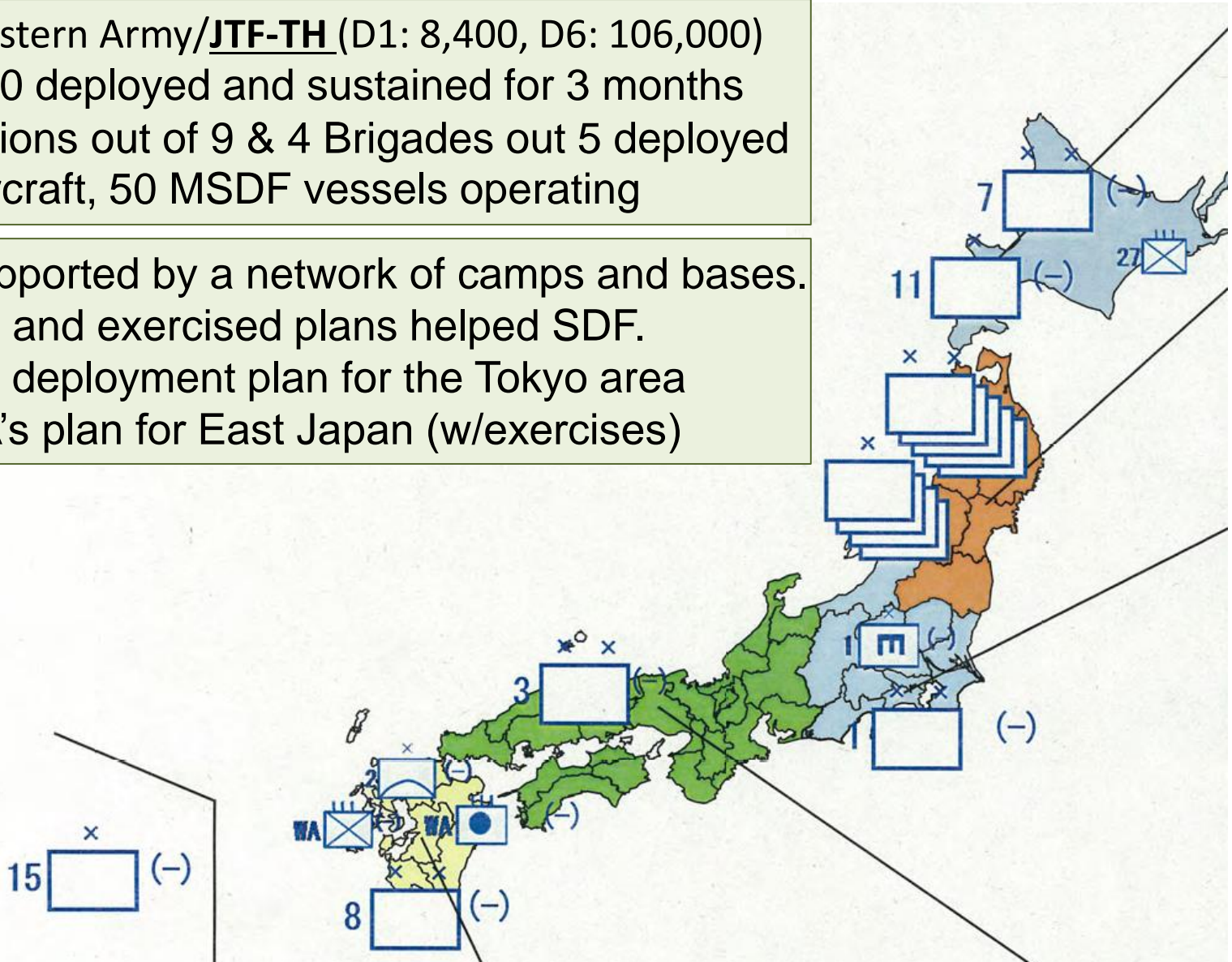


# An Overview: SDF OPS

North Eastern Army/JTF-TH (D1: 8,400, D6: 106,000)  
106,000 deployed and sustained for 3 months  
5 Divisions out of 9 & 4 Brigades out 5 deployed  
490 aircraft, 50 MSDF vessels operating

SDF supported by a network of camps and bases.  
Existing and exercised plans helped SDF.

- SDF deployment plan for the Tokyo area
- NEA's plan for East Japan (w/exercises)





# Multi-layered Bilateral Coordination for OPS Tomodachi

Joint Support Task Force (Yokota)  
commanded by ADM Walsh deployed  
16,000 US soldiers, sailors, airmen. marines  
15 vessels including USS Ronald Reagan  
130 aircraft  
Multilayered coordination mechanism works  
Information on demands focused

CO. 3 MEB  
NEA HQ

JGSDF LNO  
Sendai AP

MG Bansho  
(Yokota)

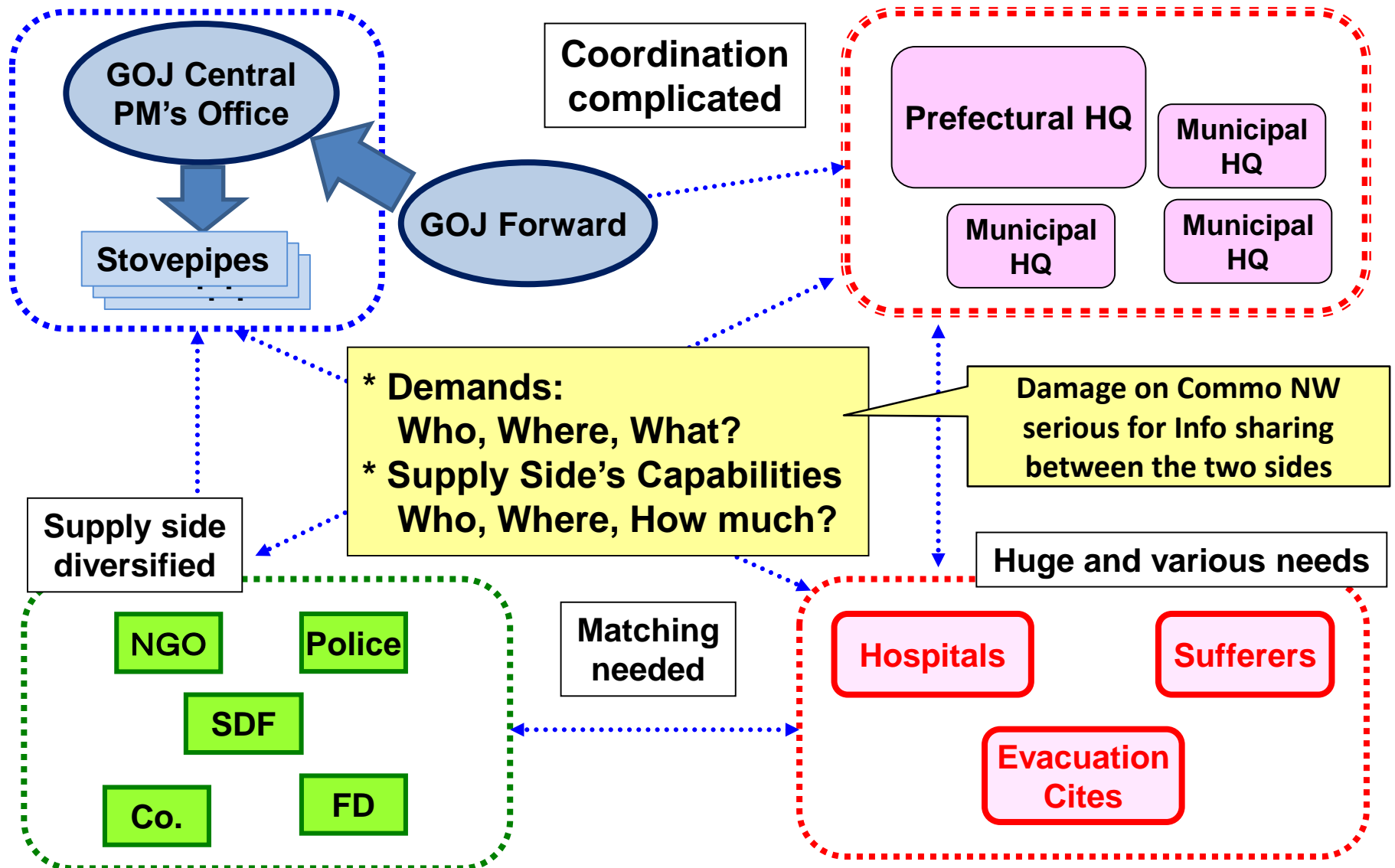
Brig G Crowe  
(Ichigaya)

LNOs (USS  
Reagan, etc.)

Bi-Conferences  
@ PM's Office

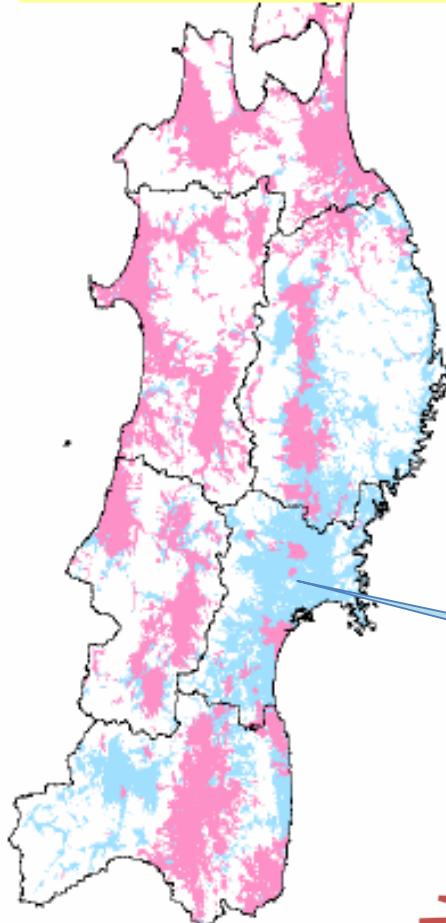


# Information Sharing for HA/DR



# Damage on Communication/Information Infrastructure

**March 12, 2011**



**4,900 stations went out of service**

**Out of service due to:**

**Physical damage on stations;**

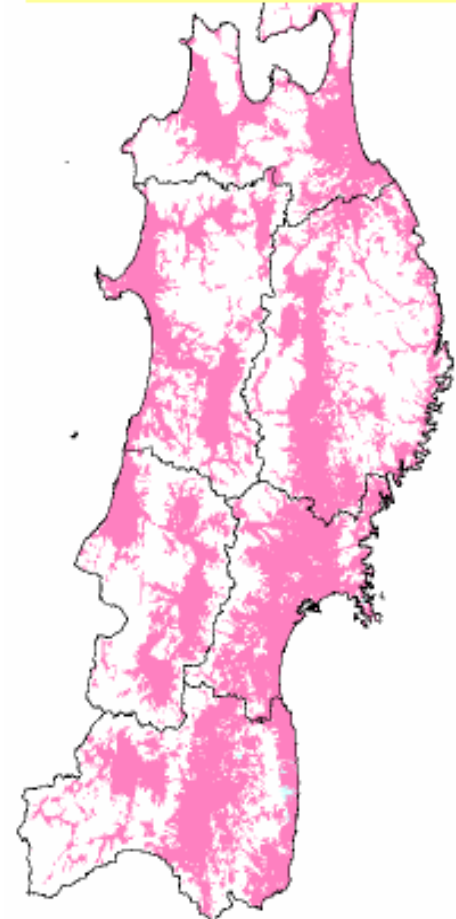
**Cut lines;**

**Lost electricity supply.**

Out of service

Mobile St. in  
Tokyo: serious  
concern

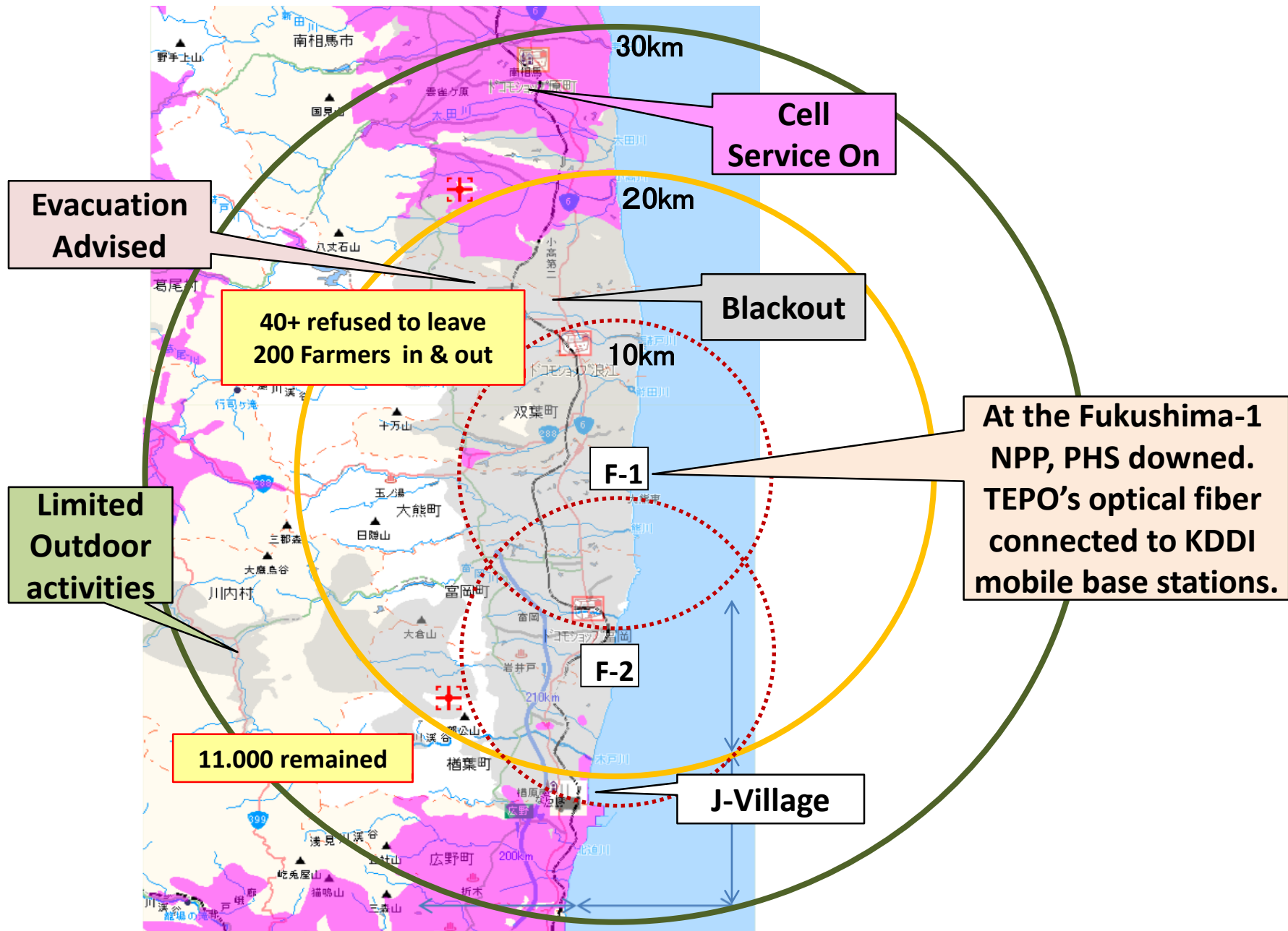
**April 26, 2011**



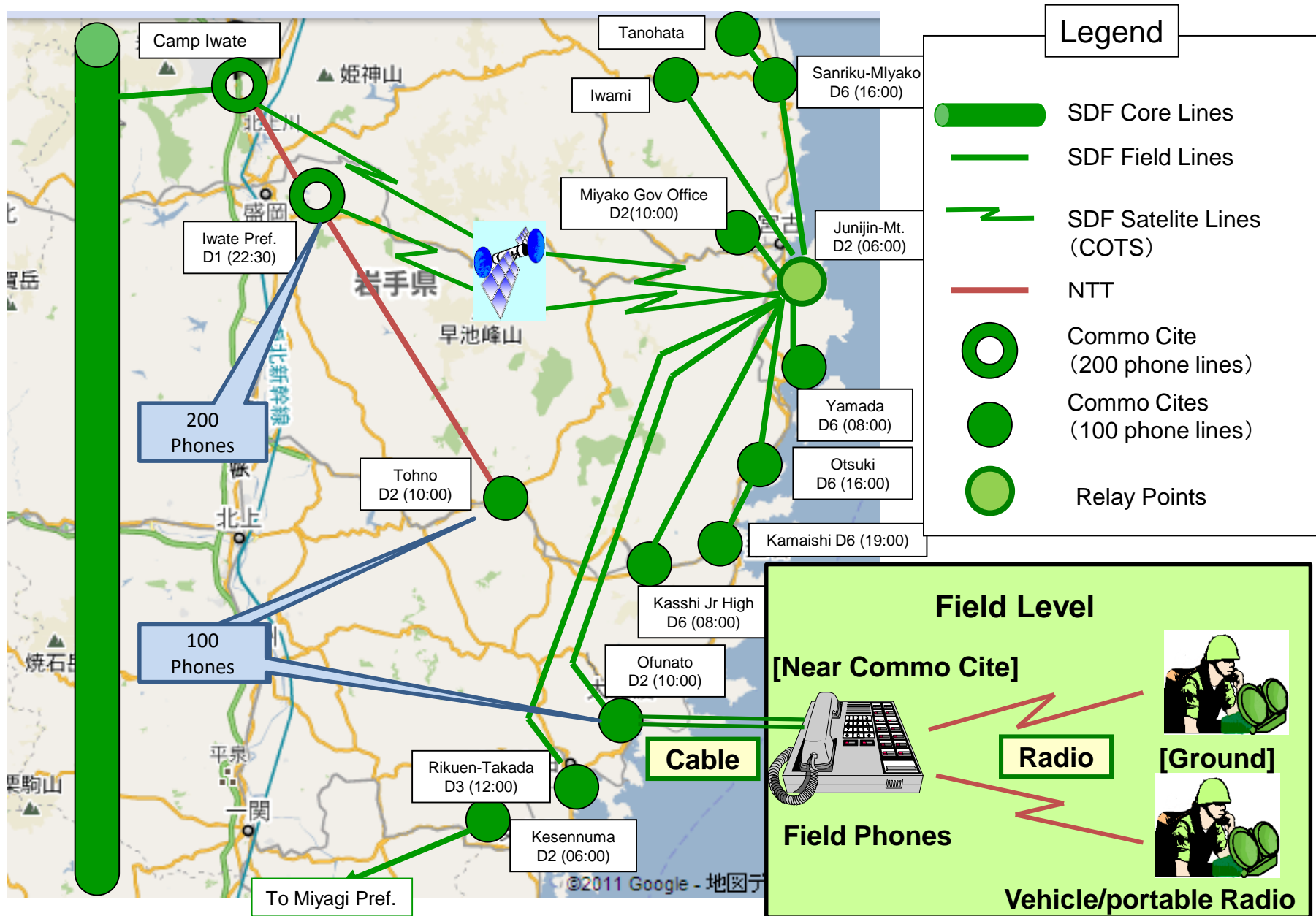
**Recovered**



# Communication Infrastructure around F-1: April 1



# SDF Field Communication Infrastructure (Utilized?)



# Command and Control at PM, DM & CSJS Levels



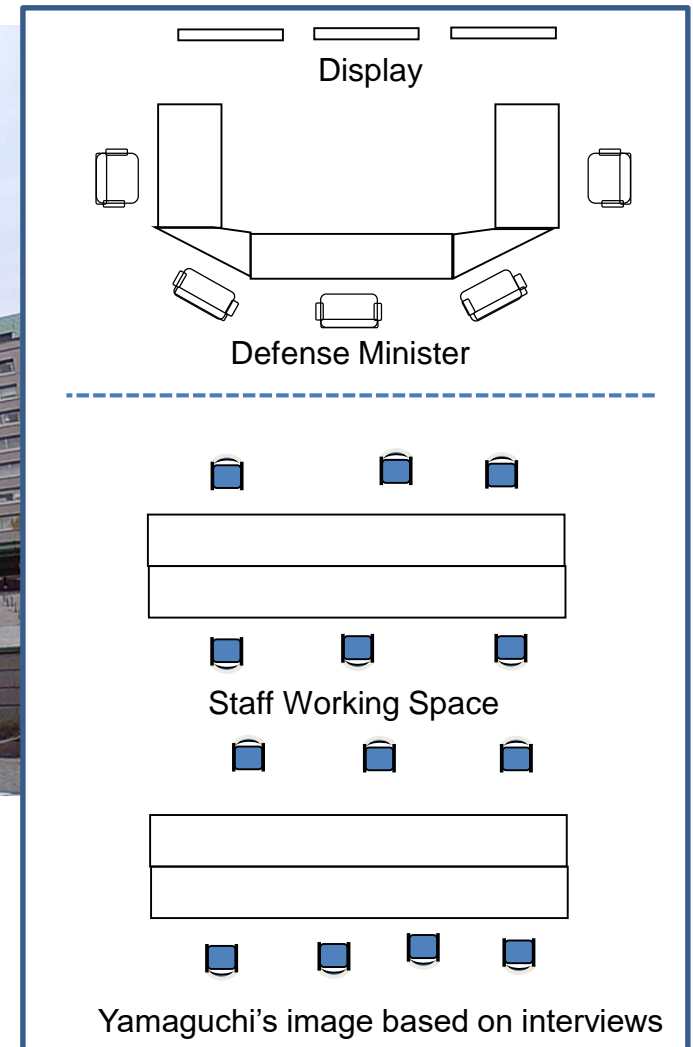
[https://upload.wikimedia.org/wikipedia/commons/8/84/Ministry\\_of\\_Defense.JPG](https://upload.wikimedia.org/wikipedia/commons/8/84/Ministry_of_Defense.JPG)

Decision makers' interests differ (time, position)

Chief of Staff, Joint Staff: Central Command Center

Defense Minister: Ad hoc Situation Room

Prime Minister: PM's Official Residence

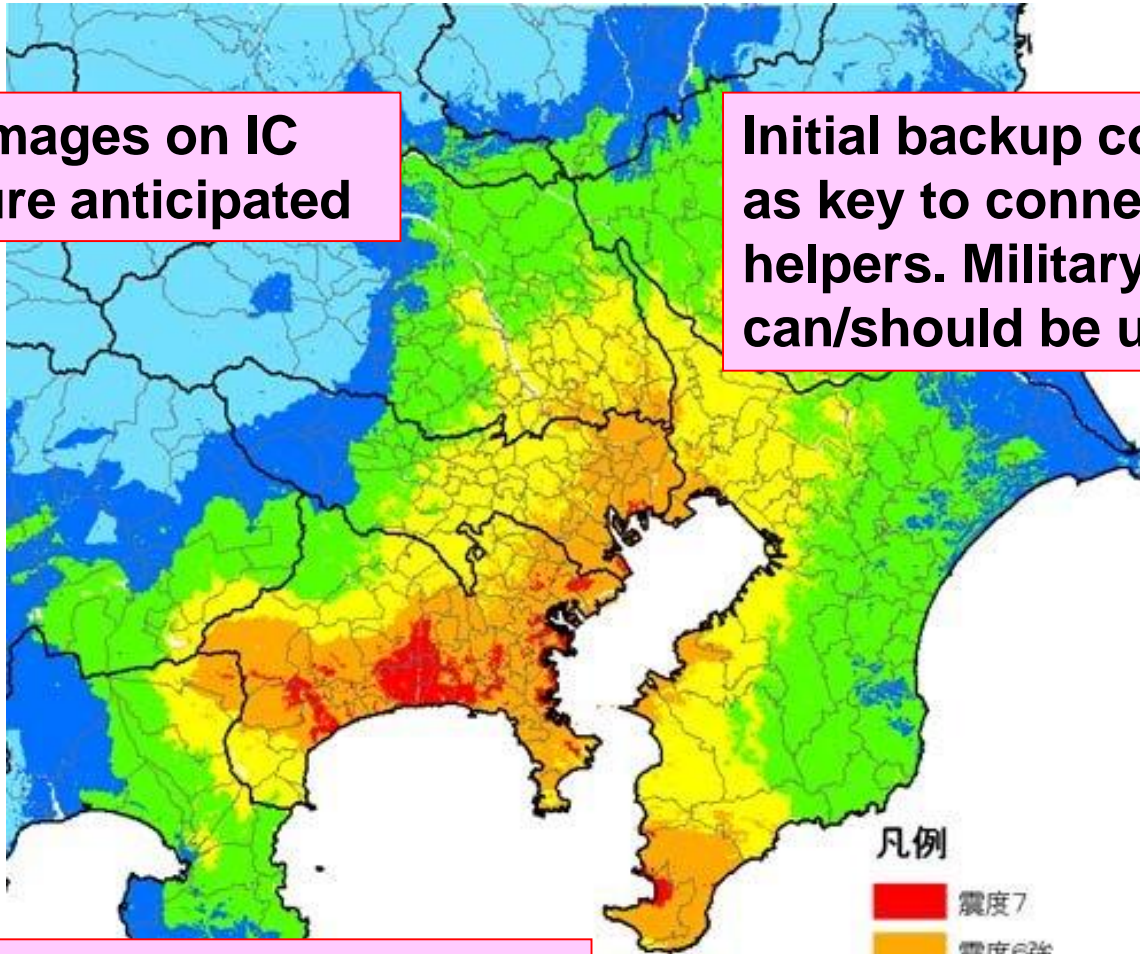




# Communication Infrastructure in the Tokyo Area: HA/DR for Earthquake in Tokyo

**Serious damages on IC infrastructure anticipated**

**Initial backup communication as key to connect sufferers and helpers. Military capability can/should be utilized.**



凡例

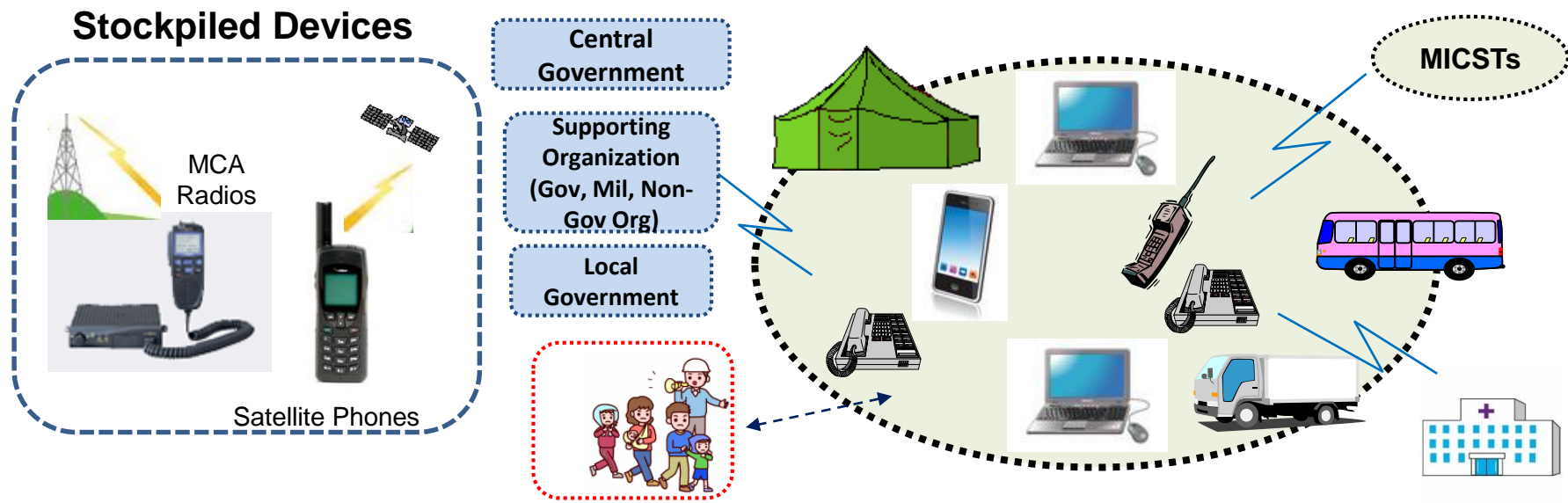
- 震度7
- 震度6強
- 震度6弱
- 震度5強
- 震度5弱
- 震度4以下

**Numerous and robust public and non-public IC infrastructure exist. Surviving NWs can be connected to others for early recovery.**

# Lessons Learned on Emergency Communication Information Service

1. Restructuring surviving networks (TEPCO-KDDI)
  - \* Utilizing resilient networks for public needs (including military commo)
2. Stockpile and distribution of communication devices
  - \* Satellite phones, soft-ware radios, MCA radios, iPad etc.
  - \* Emergency distribution (ex. HELO)
  - \* Training Government and Non-Government personnel
3. Info/Com service by Mobile Info/Com Support Teams (NGOs?)
  - \* To gather, process, distribute information
  - \* Self-reliant with transportation, shelters, food, other supplies, etc..

## Mobile Info/Com Support Team (5-10 Persons)



# Additional Concluding Thoughts

- Information service is as critical as food, water, medicine and accommodation for sufferers.
- Communication infrastructure remains key for sufferers and helpers. For this, various measures including primitive ones such as walky-talky and messengers (sneaker-net) may help.
- As every disaster is local and unique, various types of civil-military coordination mechanisms should be considered. For example, military plugged in to civil organizations after 3/11, 2011 while most of assisting organizations plugged in to III MEF's C4ISR after Tsunami in Sumatra in 2004.