

Input from Volunteers of the Distinguished Universities Alumni League (“DUAL”) to the Singapore International Foundation SVO Program

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An Emergency Response System (“ERS”) for Central Java Indonesia

Overview

Volunteers from DUAL are pleased to assist SIF in developing a proposal for an IT backbone for an Emergency Response system for Central Java. In the outline that follows it was our goal to identify the main areas requiring a formal audit, in order for our efforts to provide value in meeting the needs for a comprehensive local Emergency Response system. We also recognize that our audit needs to fit with, and our recommendations will have to be in-line with the Incident Command System (ICS) currently in use in Central Java. As a system for managing a wide range of public emergencies, ICS will already embody the processes used by the Central Java authorities in responding to emergencies; the command structures in use and the resources available. Our objective is to make recommendations within the context of the existing ICS so as to guarantee the appropriateness and adaptability of our IT backbone proposal.

Executive Summary

We propose that an audit be conducted to assess the feasibility of implementing an ERS for Central Java in the following 3 areas:-

- I. Political and Bureaucracy audit
- II. Medical Capability and Logistics audit
- III. Information & Communications Systems and Network audit

This executive summary will address each area in turn.

I. Political and Bureaucratic Audit

To understand the political and bureaucratic readiness in Indonesia to implement an ERS for central Java, and the corresponding ministerial and other approvals necessary from the Singapore counterpart for this exercise.

1. To understand the mandate and influence of the Indonesian Minister of Health to implement the project.
2. What are the necessary and overlapping national, provincial bodies and jurisdictions involved in implementing the ERS and the coordination mechanisms and relevant authorities involved
3. Is there an existing agency which incorporates the:-
 - a. cross boundary and jurisdictional authority necessary
 - b. cross geographic and departmental jurisdiction

The premise is to harness fully available manpower and logistical capacity, network and support including possibly from the police, army, and fire departments.

5. What approvals are necessary in terms of type and at what level.
6. What policies and restrictions exist in terms of foreign aid and delivery of supplies, resources, and permits.
7. To perform a complete audit of the bureaucratic and political entities, port and transport authorities, local laws and governors, norms, modus operandi, and approvals necessary to engage and deliver resources in terms of people, authorisations, finances and resources.
8. To identify the national body that oversees, regulates, and maintains the Information and Communications (“ICT”) system, radio spectrum, and operations.
9. What ministries and entities in Singapore need to be consulted and involved as a counterpart to this project? What authorizations need to be in place?

II. Medical Audit

1. An audit of the public and private medical facilities available in terms of Level 1, level 2, and level 3 capacity to:-
 - a. identify resource gaps
 - b. implement programs and identify means of plugging gaps, and
 - c. establish a sequence of phasing in programs.
2. Detailed survey of relevant existing medical facilities, capabilities, skills, personnel, supplies, operations, logistics, supporting mechanism, processes.
3. Survey of logistics and transport backbone, network, system in terms of:-
 - a. quality of existing roads and availability of necessary connections
 - b. implementation of emergency programs eg lane availability and switching possibilities
 - c. use of other departments' resources eg fire, police, military
4. Importance of training on the ground care providers such as paramedics for effective first line care and distributed response by:-
 - a. instituting training programs and capacity building encompassing certification, validation, audit. To assess programs and funds necessary, duration, structure, organizational training support and availability, program followup
 - b. Equipment necessary and tailored to local usage and readiness, training to use equipment and maintenance, issues of who maintains.
5. Fostering of local enterprise, solutions, involvement, ownership, empowerment and responsibility for managing, operating, and maintaining ERS by developing innovative ways to create value and deliver local solutions. Possibilities
 - a. Nurture secondary supporting industries in terms of medical supplies and maximize local sourcing eg collars, stretches, refurbished ambulances to catalyze local industry and promote local involvement.
 - b. Possibilities to recruit local institutions, students, and civil society for cross-functional, multistakeholder engagement in national ERS.
 - c. National education and preparedness training necessary for ongoing system development and sustainability.
6. Audit power reliability and backup systems.
7. Survey of existing complementary medical response agencies such as Red Cross, International SOS, Doctors Without Borders and explore possible secondary linkages to external capacity eg private hospitals.

III. Information & Communications System Audit

Part 1 Voice Communications

- 1.1 Audit prevailing communications system in terms of availability and reliability.
- 1.2 Use existing system and infrastructure in terms of landline and wireless capability and plug holes in system.
- 1.3 What is existing 118 call center capability, coverage, reliability? What is existing technology, training and what needs to be augmented? Build awareness through public awareness programs that 118 is tollfree and implement education, fine and penalty system for pranksters.
- 1.4 Dedicated radio spectrum to communicate between mobile responders and parties.
- 1.5 Once into system, as first responder, call channeled appropriately and to have all lines of communication available and reliable to up to 99.99% such that every segment of voice communication network meets that standard..
- 1.6 Critical for private walkie talkie type communications networks and other dedicated networks to supplement potentially overloaded public and wireless systems which, if at 99% capacity in daily life, will be totally inaccessible in emergency.
- 1.7 Public communications can be switched to emergency mode where there is priority to allow only calls tagged as emergency. Operators at call centers will have to be trained to discern and categorize priority of calls. Certain terminals to be dedicated to emergency priority communications.

Part 2 Data Communications

- 2.1 The basic premise of distribution of casualties, load, victims, and needs to match system capability. We propose basic medical data inter-operability and across entire system and network including field procedures and mobile service providers to level 1, 2, 3 capacity. Information from the medical capability audit and information to be made available over the network to on the ground first responders and to call centers.
- 2.2 Audit existing ER call centers capability, systems, personnel resources and protocols. During audit, to specify information fields for database across system. To consolidate all relevant data (existing and additional data built from survey and audit) and to be made available and accessible to all pertinent care providers.

- 2.3 Maintenance of central data facility requires dedicated, trained people.
- 2.4 Training and procedures, protocols critical for first responders to access relevant medical capacity, to act as autonomously as possible, and to direct to relevant facility as necessary.
- 2.5 Use data availability to automate call center scheduling as much as possible. Trained call center operators to supplement if necessary scheduling of victims to relevant facilities.
- 2.6 Additional ideas:-
 - a. Refer FEMA protocols for ICT etc
 - b. GPS location possibilities
 - c. Oracle Promise, free relevant software available?

Part 3 Telecommunications System & Software Overview

- 3.1 Audit of VSAT coverage and footprint over entire Central Java. Does coverage extend beyond key cities to remote areas?
- 3.2 VSAT can support wireless Internet Protocol (“IP”) for data and voice communication for emergency response call notification:-
 - a. from victims to service providers,
 - b. for service providers to access central database and resources available for moving victims
 - c. to level 1, 2, 3 providers to identify existing capacity and prepare to receive victims.
- 3.3 To run database and network system management for data inter-operability and network/systems management for assignment of victims to resources in level 1 to 3 providers and first level care providers. Audit of the systems management, and software applications necessary to operationalize medical response and capacity management across network.
 - a. Network and systems management (to keep system up and running)
 - b. Resource allocation and optimization software (that does the Emergency Response)
 - c. Applications for emergency response, mobilization, logistics, capacity scheduling applications.
- 3.4 To build in redundancy in network management of call centers such that if any one fails, remaining call centers can pick up volume and distribute incoming calls across remaining network as a single virtual call center.

- 3.5 In audit of existing capability, to identify specialized resources and local best practice which can be leveraged across the network by:-
- a. replication or
 - b. sharing such that the resource does not need to be built independently and duplicated across all provinces.
 - c. explore potential linking up to external international specialized resources in Singapore for example.
- 3.6 If VSAT satellite fails, the entire system fails and may then require walkie talkie response. Satellites do not usually fail completely.

Volunteers Who Contributed to the Concept Paper and SIF Project Engagement

Name	School
Priya Ghandikota	Fletcher/Tufts University
Li Lin Goh	MIT/Harvard University
Michael Morris	Brown University
Chee We Ng	MIT
Watson Ong	Stanford University
Jia Qin	MIT
Lenny Sheet	MIT
Mien Lin Tan	Penn/Chicago University
Ya Ning Tung	Chicago University
Kang Wei Woo	Cornell University