The Transportation/Aviation Sector Whole-of-Society Pandemic Preparedness: Ensuring Sector-wide Continuity of Essential Operations
The Pandemic Threat

Relative impact vs. Relative likelihood

- Pandemic influenza
- Coastal flooding
- Inland flooding
- Attacks on crowded places
- Attacks on transport
- Severe weather
- Electronic attacks
- Non-conventional attacks
- Major industrial accidents
- Major transport accidents
- Animal disease

Source: The Cabinet Office
Unique characteristics of pandemics/ other crises

- Epidemics and pandemics do not occur suddenly as a widespread event (*Creeping*).
- Epidemics could *explode* into a nationwide epidemic within weeks from the occurrence of its index case.
- Successive illnesses and deaths lead to various *indirect impacts*, including inciting societal panic.
- Massive *absenteeism* (up to 40%).
- *Restrictions* on peoples’ movement and gathering
- *Long lasting impacts*
SEVERE PANDEMIC (Worst-case) SCENARIO
-extremely high morbidity and case fatality rate

- All Sectors (organizations, companies, service providers) will experience **high absenteeism rates (as high as 40%)**
  - workers are sick, have died, fear of exposure, need to take care of family members, or cannot access workplaces
- **Travel and social contact** will be restricted
  - Close down or restrict services, schools and establishments
- **Essential services break down**
  - health care, food deliveries, transport and air travel, electric and water supplies, telecommunications, banking, etc.
- **Severe social disruptions** (hunger, sickness/deaths, lawlessness, riots)
Anticipated Societal Disruption

1st Order
- Sick
- Quarantined
- Overloaded health services
- Deaths

2nd Order
- Overload of services
- Absenteeism
- Stress on Security and Government

3rd Order
- Disruption of Critical Services
- e.g. food, transport network, energy (amongst others)
- Social unrest

All large scale outbreaks can have cascading effects
Outcomes of Wide-scale Absenteeism

- Operations continue at conservativa levels:
  1) compromised people’s health and welfare
  2) compromised public and logistics transport
  3) food/water shortages
  4) power outages
  5) limited communication services
  6) limited access to money
  7) some level of unrest in various underserved areas
Extreme breakdown in operations and delivery of essential services

- closure of establishments including hospitals and banks
- lack of food and water
- nationwide blackouts
- stoppage of transportation and telecommunications
- lack of information
- sanitary breakdown
- widespread looting and rioting.
Potential Impacts on Sectors

Pandemic could infect > 35% of World’s Population

Decreased Supply
- Reduced production
- Disrupted transportation
- International trade of commodities
- Cross-sectoral interdependencies

Absenteism
- Death or illness
- Quarantine
- Care
- Fear

Decreased Demand
- Retail Trade
- Transportation
- Leisure Travel
- Gastronomy

Increased Demand
- Military (support for logistics, etc.)
- Mortuary & burial services
- Water & Sanitation
- Telecommunication (Phone and Internet)
- ATM, online banking
- Health & life insurance
- Protection against insecurity
- Electricity/Power supply
- Health care

Break down of services
Economic and Social Disruption
- Changed demands
- Lack of BCP
# Limits of Operational Capacity

<table>
<thead>
<tr>
<th>Essential Workforce</th>
<th>24 hours production capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Full functional capacity</td>
</tr>
<tr>
<td>10</td>
<td>Limited Operation possible</td>
</tr>
<tr>
<td>8</td>
<td>Critical Point (Minimum workforce to run 24 - hour operation)</td>
</tr>
<tr>
<td>&lt; 8</td>
<td>Complete disruption of the operation</td>
</tr>
</tbody>
</table>
Health-centered multi-sectoral response

Minimizing morbidity and mortality

- Health (vaccination, treatments, surveillance)
- Animal industry (vaccination, surveillance)
- Environment/wildlife
- Education
- Tourism
- Trade
- Business
- Hospitals

Mitigating the impact of human infections at Pandemic Alert Phases 4-6
Essential services-centered multi-sectoral response

Maintaining socio-economic order in a severe Pandemic Alert Phases 5-6+ centered on continuity of essential services through a central government coordinating mechanism
Multisectoral Pandemic Preparedness Planning

Direct and indirect impacts of Pandemics

Direct

- Sickness, death
- Massive demands on health system

Indirect

- Absenteeism
- Reduced/increased demand for certain services
- Reduced supplies
- Disruption of services

Support to Government & MOH to contain and respond

Mitigate impacts on sectors—maintain Continuity of Operations

Two main Objectives of Multi-sectoral PPP
Figure 2 - Command system augmentation in a severe pandemic

Higher Central Authority/Committee

PUBLIC HEALTH

NDMO?

Health Management Sectors

Mitigating the risk and development of pandemic severity

Non-Health Essential Service Sectors

Ensuring continuity of essential services

A-H Interface
Education
Tourism
Trade of food
Others
Food
Energy
Water
Security
Other Essential sectors

WHOLE-OF-SOCIETY = SOCIO-ECONOMIC ORDER

Reducing the direct and indirect burden on human health
## Progressive Pandemic Emergency Response Continuum

<table>
<thead>
<tr>
<th>Stage 1 Oversight-Primarily through the Health Organization</th>
<th>Stage 2 Oversight-Through the Disaster Coordination &amp; Response Organization</th>
<th>Stage 3 Oversight-Through the National Security Organization</th>
</tr>
</thead>
</table>
| **Response:**  
  • Outbreak investigation and response  
  • Containment  
  • Control | **Response:**  
  • Continuity of essential operations management *(sustaining the coping mechanism in a severe pandemic)* | **Response:**  
  • Continuity of essential operations emergency management *(maximum coping ability- complete activation of the whole-of-society emergency system involving communities)* |
| **Trigger:**  
  Disease Outbreak and spread/WHO declaration | **Trigger:**  
  40% absenteeism/supply disruptions | **Trigger:**  
  Breakdown in services/impact on functions of society |
Command and Control/Coordination Structure
(During Disaster Emergencies)

President

NDRRMC
Inter-departmental Steering Committee

NDRRMC-OCD
Executive body (coordination and operations)

Incident-specific Command and Control Centers (National to Regional)

Local DRRMCs- Offices
Command and Control Centers

On-scene Incident Command Systems-
Incident Commanders
Planning/ Operations/ Logistics/ Finance

Crisis Management Sectors
Government line departments and agencies, AFP, NSC Secretariat

Crisis Management Groups
Local government line offices

Support Groups
UN, RC, INGOs, IGOs, Private Sector Groups

Support Groups
CSOs, RC, Private Sector
Whole-of-Society Response
Coordination and Interdependencies
Continuity of Essential Operations Levels

National

National Security Agency/
National & Regional DRRM
Bodies

National/Regional
Sectoral Teams
(through line
Departments)

National/Regional
Public/Private
Essential Services
Providers

Local

Provincial/ City/ Municipal/
District
-- DRRM bodies and
-- Line Departments-
Offices/Agencies
(sector leads and
committees)

Local Public/Private
Essential Services
Providers

Functional Response
Essential Services Provision

National and
International
Supply chain
(Goods and
Services Provisions)
CONTINUITY PLAN LEVELS:
Sustaining Societal functions through continuity plans

- **Central Continuity** Preparedness/Response Plan (NDRRMC)
- **National- Local Essential Service Sectors’ Continuity** Preparedness/Response Plans
- **Service Providers’ (Business) Continuity** Preparedness/Response Plan
- **Whole-of-society Community Continuity** Preparedness/Response Plan

**Whole-of-society**= Families, civil society groups, military, private business groups and government
What should a Sectoral Plan cover?

Specific support of sectors to Gov/health sector to address the pandemic

Needs of Sectors (information, specific assistance) from Gov in order to maintain operations

Sector Cooperation Mechanism to maintain operations

Sectoral
- Crisis Response Management Structure
- Communication and Cooperation Mechanisms
- Government Liaison

Sector measures to maintain operations of individual actors/service providers

Sector Linkages and interdependencies
Scope of the Sectoral Plan

Ø Essential services/functions are provided by several Actors

Ø What are these essential functions/services (for the government and a functioning society)?

Ø What impacts would a disruption of the functions/services have on the ability of government to respond to the outbreak, on society, the economy and on peoples’ health and welfare?
Scope of the Sectoral Plan

- **Delivery of** essential/critical functions needs external support/resources (from other Sectors (actors); Suppliers; CSOs/NGOs; Military; **Central Government-National/Local**)
  - What specific information and support might the sectors require in order to maintain the essential services?
  - What specific support might the government/health sector require from service providers within the sector?
Scope of the Sectoral Plan

- There are measures to ensure **Continuity** of the critical functions–
  - Roadmap/Action Plan to operationalize and effectively implement the plan-- What?-- How?-- When?– How much?

- Preparedness and response **structures and mechanisms** at National and Local levels are essential
  - What coordination and management system (SCMT) would enable the sector to provide effective support to the government and ensure continuity of operations?
  - What internal and external communication structure would be required to enable effective sectoral response management?
Support to Service Provider Planning (BCP)

- Advocacy
- Supply-chain management
- Tools/templates and guidelines
- Operations continuity drills
- BCP Experts roster
- Information management/sharing
- Training of workforce for staff augmentation
BCP Action Plan

- Strategic Areas and Activities (before-during-after a pandemic)
  - **Strategic Areas (Policies)**: What needs to be done
  - **Activities**: How shall action items be done to deliver results
Aviation’s Critical Activities

• Airport services
• Safety
• Cargo
• Emergency Procedures
• Others (food services, records, communications, supply inventory)
Strategic Areas (Policy Statements)

- BCP assumptions
- Measures activation and de-activation
- BCP team formation
- Critical functions and activities
- Key staff, work arrangements and protection
- Critical equipment, supplies and suppliers
- Communications (Internal and External)
- Plan implementation
## Triggers - Mitigation/Response Measures (Transportation)

<table>
<thead>
<tr>
<th>Pandemic Triggers</th>
<th>Impact Triggers</th>
<th>Primary Risk Reduction (Preparedness &amp; Mitigation)</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert Level 1</td>
<td>Noticeable cancellation of travel from other countries to the Philippines</td>
<td>Review BCP, particularly number &amp; status of essential worker groups, materials &amp; supplies for essential services</td>
<td><strong>Activate the Transportation Sector Crisis Management Team</strong></td>
</tr>
<tr>
<td></td>
<td>Foreign airlines increase awareness on flu virus in their flights</td>
<td>Review PPRP</td>
<td>Issue agency/ sector implementations for Alert Level 1</td>
</tr>
<tr>
<td></td>
<td>Neighboring countries close down borders</td>
<td>SCMT collects current assessment of number of personnel, supplies and equipment, and sanitation supplies (such as 4-wks supply of disinfectants, N20 masks, gloves, hand sanitizer, wipes for employees, work areas, transportation vehicles, ports and stations) per agency</td>
<td><strong>Purchase needed materials</strong> and supplies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCMT reviews the sector ICS composition &amp; alert those who would be assigned in ICS.</td>
<td><strong>Train</strong> additional technical / operations personnel (to augment during Alert Levels 3 &amp; 4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase virus awareness level so people can respond appropriately</td>
<td>Assign transport <strong>sector ICS PIO</strong> to closely communicate with NDRRMC &amp; keep sector updated with official virus / pandemic news</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implement social distancing &amp; intensify infection control program in all ports, stations, and public transportation vehicles, trains, vessels &amp; aircraft</td>
<td><strong>Activate contingency plan on border control.</strong> Initial batch <strong>closure of air ports</strong> w/out regular quarantine service and selected sea ports</td>
</tr>
<tr>
<td>Pandemic Triggers</td>
<td>Impact Triggers</td>
<td>Primary Risk Reduction (Preparedness &amp; Mitigation)</td>
<td>Response</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Alert Level 2 (Confirmed isolated outbreaks in the Philippines)</td>
<td>A number of employees are absent (due to sickness)</td>
<td>Update BCP &amp; adjust as needed, focusing on essential worker groups, materials &amp; supplies for essential services</td>
<td><strong>Activate transport sector ICS.</strong> Maintain regular liaison with National Pandemic ICS PIO, Operations and Logistics</td>
</tr>
<tr>
<td></td>
<td>Pronouncement of travel ban to the Philippines by other countries</td>
<td>Remind employees to check and re-fill / update their home &amp; personal pandemic kits</td>
<td><strong>Ensure BCP despite reduced transport service demand</strong></td>
</tr>
<tr>
<td></td>
<td>Significant number of travel reservations are cancelled</td>
<td>Update &quot;call tree&quot; mechanics &amp; contact numbers. Conduct localized dry runs.</td>
<td><strong>Issue agency/ sector implementations for Alert Level 2</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Widen scope of social distancing &amp; further intensify infection control program</td>
<td><strong>Conduct prepositioning for last minute supplies and equipment</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensure purchase &amp; control of sanitation supplies</td>
<td><strong>Continue contingency plan on border control.</strong> Second batch closure of air ports w/out regular quarantine service and selected sea ports</td>
</tr>
</tbody>
</table>
## Triggers - Mitigation/Response Measures (Transportation)

<table>
<thead>
<tr>
<th>Pandemic Triggers</th>
<th>Impact Triggers</th>
<th>Primary Risk Reduction (Preparedness &amp; Mitigation)</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alert Level 3</strong> (Widespread outbreaks)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wider disruption to goods and services caused by staff shortages and lack of resupply</td>
<td>Update BCP &amp; adjust as needed, focusing on essential worker groups, materials &amp; supplies for essential services</td>
<td><strong>Ensure BCP</strong> despite reduced number of worker groups, supplies and materials</td>
</tr>
<tr>
<td></td>
<td>Supplies and logistics disruption occur</td>
<td>Sustain level of situation awareness of all employees who are not called for duty &amp; of the public in general to minimize fear, anxiety &amp; unrest</td>
<td>Issue agency/sector implementations for Alert Level 3</td>
</tr>
<tr>
<td></td>
<td>Shortages of essential services (health care, etc.)</td>
<td>Provide transport service only to essential passengers and cargoes (prioritize health, relief, and humanitarian transports)</td>
<td><strong>Facilitate air and land transport of medical relief (incl. medevac) &amp; food relief delivery</strong></td>
</tr>
<tr>
<td></td>
<td>Increasing absentee rate at work</td>
<td>Widen scope of social distancing and further intensify infection control program</td>
<td>Monitor health condition of all employees (use call tree); keep ICS PIO updated with statistics</td>
</tr>
</tbody>
</table>

**Only 10 International Airports would be operated;** other airports would be uncontrolled aerodromes

**Operate only select sea ports**
<table>
<thead>
<tr>
<th>Pandemic Triggers</th>
<th>Impact Triggers</th>
<th>Primary Risk Reduction (Preparedness &amp; Mitigation)</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert Level 4</td>
<td>Severe social disruption and unrest (hunger, sickness/deaths, lawlessness, riots)</td>
<td>Update BCP &amp; adjust as needed, focusing on essential worker groups, materials &amp; supplies for essential services; Sustain level of situation awareness of all employees who are not called for duty &amp; of the public in general to minimize fear, anxiety &amp; unrest; Provide transport service only to essential passengers and cargoes (prioritize health, relief, and humanitarian transports); Widen scope of social distancing and further intensify infection control program</td>
<td><strong>Ensure BCP</strong> despite reduced number of worker groups, supplies and materials; Issue agency/sector implementations for Alert Level 4; Facilitate secure air and land transport of medical relief (incl. medevac) &amp; food relief delivery; <strong>Facilitate secure sea transport of medical and food relief with longer shelf-life</strong>; <strong>Provide secure land transport in coordination w/ security sector for essential workers &amp; supplies of essential agencies e.g. electric power plants, telcos, DSWD, Central Bank, etc.</strong>; Increase safety &amp; security measures in operational work places and transportation; seek additional support from PNP &amp; AFP; Monitor <strong>health condition of all employees</strong> (use call tree); keep ICS PIO updated with statistics</td>
</tr>
<tr>
<td>(Non-health impacts; disasters from pandemics)</td>
<td>All impact triggers in Alert Level 3 continue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>Energy</td>
<td>Telecom</td>
<td>Transport</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>Risk Communications</td>
<td><strong>Ample fuel supply for essential services</strong></td>
<td>Landline services in stations and ports</td>
<td>Maritime, air, road and rail subsectors depend on each other to ensure continued transportation of essential passengers and cargoes through different modes (e.g. from air to land or from sea to land)</td>
</tr>
<tr>
<td>Medicines /vaccines /anti-virals</td>
<td>Electricity in stations and ports, esp. for radio communications</td>
<td>Cellphone services esp for ICS and call tree</td>
<td>Assist Transport Sector agencies in executing e.g. letters of credit, etc.</td>
</tr>
</tbody>
</table>
Sectoral Command and Control/Coordination Structure (During Pandemic Disaster Response)

- **President**
- **NDRRMC**
  - Inter-departmental Steering Committee
- **NDRRMC-OCD**
  - Executive body (coordination and operations)

**Sectoral Crisis Management Teams (CMTs)**
- Transportation CMT coordinating with NDRRMC-OCD and other essential service sectors for support and all key transport providers

**Support Groups**
- NGOs, UN, Red Cross, Private Sector Groups

**On-scene Sector Incident Command Systems (ICS)**
- Assigned Incident Commanders
- Planning/ Operations/ Logistics/ Finance
Questions?

Thank You