



Guidelines

on

Influenza A (H1N1) Pandemic Preparedness for Business Continuity

in

Non-Health Sectors

**National Disaster Management Authority
(Government of India)**

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1. Glossary:

Pandemic

Refers to a state where an infectious disease spreads through a large population across a wide geographical region which may be a continent or even worldwide.

Outbreak

It refers to a sudden increase in health emergency in a local area, community, country or few countries yet not meets standards of pandemic laid down by WHO.

Essential Service Providers

Departments, organisations, institutes, establishments, companies, individuals involved in providing basic need for survival e.g., agriculture sector & food supply, water purification & water supply, health care, transportation, finance, power and telecommunication etc.

Security Services / Personnel

Defence, Police and other law enforcing forces, hired security personnel at various business enterprises and public sector are critical masses for maintaining of essential services.

Other Allied and Support Services

Information technology, special care services in place to take care of old, displaced and vulnerable groups and any service, the failure of which is critical to security and/ or provisions of essential service.

Workplace Resilience

It is the ability of workplace to recover quickly from critical and non critical infrastructural/organizational change during or after disaster or a pandemic.

Critical Site

The working or functionary unit of any organization, ministry / department without which its functionality will no longer be operational is called as critical site.

Personnel Resilience

It is the ability of person to recover quickly from illness, change, or disaster or pandemic.

PPE

Personal Protective Equipment (PPE) refers to protective clothing, helmets, goggles, or other garment which is designed to protect the wearer's body or clothing from injury by electrical hazards, heat, chemicals, and infection, for job-related occupational safety and health purposes.

Tamiflu and Relenza

Tamiflu (Oseltamavir) and Relenza (Zanamivir) are antiviral drugs that are used in the treatment and prophylaxis of Influenza A virus.

Business continuity/ recovery plans

Business continuity planning (BCP) is the creation and validation of a practiced logistical plan for how an organization will recover and restore partially or completely interrupted critical (urgent) functions within a predetermined time after a disaster or extended disruption. The logistical plan is called a business

continuity plan. BCP may be a part of an organizational learning effort that helps reduce operational risk associated with tax information management controls. This process may be integrated with improving information security and corporate reputation risk management practices.

2. Introduction

The world is getting affected by emergence of Influenza A (H1N1) virus that might have originated either in swine and then shifted from swine to humans or due to a super-infection in humans by an unknown variant with variable genetic mix. As on 18th May, 2009, 40 countries are affected with officially reported 8829 cases (74 deaths) with Mexico – 3103 affected (68 deaths), US 4714 affected (4 deaths), Canada 496 (1 deaths) and Costa Rica - 9 cases (1 death) respectively. Nearly 1/3rd of world population is expected to be affected. **One confirmed case has been officially reported from India.**

2.1 About Virus and its Effects:

A genetically reassorted endemic strain of human, avian flu and swine flu, with an inherent ability to mutate continuously has developed a subtype [Influenza A (H1N1) virus] and is causing present flu in humans. The generic symptoms include fever, cough, sore throat, body ache, headache, chills and fatigue. The 2009 outbreak has shown an increased percentage of patients reporting specifically diarrhoea and vomiting. Influenza viruses bind through hemagglutinin onto sialic acid sugars on the surfaces of epithelial cells; typically in the nose, throat and lungs of mammals and intestines of birds. The above mentioned symptoms are not specific only to Influenza A (H1N1) infection and therefore it is essential to do confirmation by laboratory testing of nasopharyngeal samples (nose and throat swabs).

2.2 Present Drugs of Choice:

The health agencies recommend Oseltamivir (Tamiflu ®) to both prevent and treat influenza A and B virus infection in people with one year of age and older while Zanamivir (Relenza ®) will be used to treat influenza A and B virus infection in people with 7 years and older and to prevent influenza A and B virus infection in people with 5 years and older age. All these treatment efforts will be undertaken within 48hrs of appearance of symptoms. Thus, stockpiling of these drugs is necessary.

2.3 Problem of Drug Resistance:

The mutational behavior of H1N1 is a major future challenge for pharmacotherapy. It has been observed that people use these anti viral drugs even for normal seasonal flu, which may be the reason for development of resistance with time. It is therefore important to ensure that these drugs are made available on medical prescriptions only and at selected government outlets. Government of India has also imposed a complete ban on sale of Tamiflu through retail outlets. Another approach is to develop novel vaccines against the H1N1 virus to prevent further spread of virus.

2.4 Pandemic Alert 5:

WHO is the nodal global agency for the management of a pandemic. It has defined the phases with respect to spread of the disease to different countries under different WHO zones. It has issued phase 5 pandemic alert against H1N1 viral infection on 29th April, 2009 for which detection and identification, laboratory confirmation (non-confirmed, though suspected ones, need to be traced); isolated

and then quarantined; immediate reporting to WHO and regional networks, initiate treatment; high alert at source place are necessary containment measures to be undertaken based on risk assessed.

2.5 Impending Alert 6:

The higher phase (Pandemic Alert 6) may also be issued by WHO, and accordingly all the member states will respond to that alert. Getting the experience from past flu pandemic in 1918-19, it could be anticipated that at any time, the situation may shift to phase 6. As the severity enhances, the number of affected personnel gradually decrease the working strength causing direct impact on economy. **The decrease in work functionaries is proportional to loss of essential functions which leads to a vicious cycle of social disruption. It includes both health and non health emergency functionaries.**

In view of this, necessary business continuity planning of essential service providers needs to be undertaken on priority utilising this latency period between two consecutive waves of pandemic and present gap between phase 5 and 6 of first wave. Therefore, necessary plans are prepared by the nodal ministry / department concerned on following subjects:

a) Crisis Management Health Plan.

b) Business Continuity Plan for Non-Health Sectors.

The present document deals with business continuity preparedness planning by non-health sectors. The **business continuity planning is interlinked** and is required to be build up with following assumptions in mind:

1. Expected absenteeism may go up to 70%.
2. The gap between the phase 5 and 6 needs to be utilised for business continuity planning.
3. Based on earlier experience of 1918-19 Flu pandemic, it is well understood that pandemics generally comes in different waves; the first wave (existing period of phase 5) will be taken as an opportunity to build capacities during the latency period (between two consecutive waves) so as to mitigate the impact in next wave. This period might also be used to upgrade the present plan.
4. Every service provider needs to be assured that other services in their optimal set up are available.
5. Financial institutions remain operational.
6. Decision makers will follow chain of command to ensure continuity and to avoid delays and associated panic.
7. Ensure availability of essential products.

2.6 The important non-health services identified in National Workshop on Pandemic Preparedness

Beyond Health held on 21-22 April, 2008 include:

- I. Supply of food and essential commodities
- II. Water Resources
- III. Law and order
- IV. Transportation –Surface Transport & Shipping
- V. Transportation- Civil Aviation
- VI. Transportation –Railways
- VII. Information and Communication
- VIII. Power
- IX. Commerce and Industry
- X. Rural Sector
- XI. Finance
- XII. Defence
- XIII. All the other ministries also need to develop their business continuity operational plans taking this document as underlying base.

These services are interlinked for business continuity of essential functions across the country. These departments are required to work in coordination and synergy to achieve the goal of business continuity. The present document provides the template for development of various business continuity plans at central, state and district level by nodal departments concerned.

2.7 Institutionalised Framework for Maintenance of Operations:

- I. At **Central** level, Ministry of Health and Family Welfare (MoH&FW) is the nodal ministry with their Crisis Management Group as the focal point, which in turn, reports to National Crisis Management Committee (**NCMC**) and National Disaster Management Authority (**NDMA**). The Inter Ministerial Task Force (**IMTF**) has been constituted under the chairmanship of Health Secretary which is reviewing the status at regular intervals.
- II. At **State** level, the State Crisis Management Group under their chairman ship of Chief Secretary with Principle Secretary or Secretary, Health as convenor, constituting all the departments concerned with provisions of essential services. It also includes the representatives of Central Government dealing with essential services as mentioned in the present document. The State Crisis Group will meet daily and control rooms will operate on 24 X 7 basis. The State Crisis Management Group will send daily reports to MoH&FW, which in turn will send a consolidated report to NCMC and NDMA respectively.
- III. At **District** level, the District Crisis Management Group will be focal functionary under the chairman ship of District Collector/Deputy Commissioner / District Magistrate, District Medical & Health Officer as convenor with all the district officers heading the departments dealing with essential services. It also includes the representatives of Central Government dealing with essential services as mentioned in the present document. The District Crisis Management Group will meet and send daily reports to State Crisis Management Group.

2.8 Awareness Generation Programmes at all Levels:

States will conduct sensitization programmes, workshops, table tops and mock exercise for pandemic awareness generation. The mock exercises will help in filling up of the gaps identified in the plans and better understanding of the said guidelines.

2.9 Coordination/ Reporting Mechanism

2.9.1 Central Level Operations

- a. Information from all critical sites will be received by the Nodal Officer of respective ministry / department and/or Crisis Management Group.
- b. The information will be analysed critically and checked whether it has compiled all the vital issues mentioned above and eventually a weekly status report of essential service provisions will be prepared.
- c. The report will enumerate the following:
 - i. Various limitations to both manpower and resources and recommendation to utilise optimal contingencies to meet the enhanced demands.
 - ii. Future actions which will be undertaken to meet the demands (specifying cooperation/ actions of any linked department / ministry, if required).
- d. These reports will be sent to **MoH&FW, NCMC, NDMA and all the line departments concerned.**
- e. Based on the analysis of reports from various essential service providers, NCMC will decide the future course of action by pooling in of resources to meet the identified contingencies.
- f. All the departments concerned will conduct table top exercises to test their SOPs/ plans for management of pandemic and continuity of operations.
- g. The Inter Ministerial Task Force (**IMTF**) on Avian Influenza and Pandemic Influenza has been setup for Inter-Ministerial coordination amongst Government Ministries/Departments/Agencies on matters pertaining to Avian Influenza and Pandemic Influenza.

2.9.2 State / District Level Operations

- a. Information from all critical sites will be received by the nodal officer of district Crisis Management Group followed by analysis of the factual information and an action taken report (inclusive of future requirements) will be sent to state crisis management group

b. The information will be analysed critically and checked whether it has compiled all the vital issues mentioned above along with any relevant information pertaining to local factors and eventually a weekly status report of essential service provisions will be prepared.

c. The report will enumerate the following:

- i. Various limitations to both manpower and resources and recommendation to utilise optimal contingencies to meet the enhanced demands;
- ii. Future actions which will be undertaken to meet the demands (specifying cooperation/ actions of any linked department / ministry, if required).

d. These reports will also be sent to MoH&FW, NCMC, NDMA and all the line departments concerned at central level

e. Based on the analysis of various state reports, NCMC will decide the future course of action by pooling in of resources to meet the identified contingencies at state / district level.

2.10 The present document has been developed by NDMA in consultation with MoH&FW, and

Ministry of Home Affairs based on the following documents:

- a) National Disaster Management Guidelines - Management of Biological Disasters
- b) Proceedings of National Workshop on "Pandemic Preparedness Beyond Health" conducted on 21-22 April, 2008 by NDMA, United Nations Disaster Management Team, India, Pandemic Influenza Contingency Team, Geneva and Regional Planning Officer, OCHA Regional Office for Asia
- c) Pandemic Influenza Preparedness and Response – A WHO Guidance; April 2009

3. Basic Features of Business Continuity Planning- Workplace Resilience and Personnel Resilience

3.1 Ensuring Work Place Resilience

Mechanism of monitoring any sick person and providing necessary medical attention / help by a trained team within the organisation (avoiding cross contamination) and immediately shifting to earmarked medical facility for follow up.

- I. Protocols on group distancing
 - a. Protocols on seating inside the office to ensure a distance of minimum one meter from next employee.
 - b. Closure of common areas, meeting rooms, cafeteria etc.
 - c. Instead of group meets, information needs to be exchanged through video conferencing, on-line information exchange and e-mailing etc.
- II. Protocol on wash rooms such as sensor activated or foot operated washes with "U" shaped entry / exit without doors based on need assessment.
- III. Identifying/ equipping employee quarantine room in each location.
- IV. Centralised Air-conditioning to be avoided.
- V. Protocols on "Deep" or thorough cleaning of workplace during working and non working hours.
- VI. Protocols for authorised permission to access earmarked critical locations on need basis by maintenance of essential service / personnel.
- VII. Dissemination of Dos' and Don'ts to workforce.

3.2 Ensuring Personnel Resilience

- I. Identification of critical skills followed by selection of employees with those skills.
- II. Procure supply of Personal Protective Equipment (PPE) for critical staff.
- III. Protocols on group distancing for vehicle pick and drop for employees.
- IV. Protocols on self evaluation mechanism for employees to determine infection risk, and additional screening at point of entry into office premises.
- V. Methodology for identification of Backup Resources and succession planning for critical resources with requisite training.
- VI. Work from home strategy, thereby reducing the number of workforce at office premises.

4. Supply of Food and Essential Commodities

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Agriculture Ministry of Consumer Affairs, Food and Public Distribution Ministry of Food Processing Industry	<ol style="list-style-type: none"> 1. Ministry of Shipping, Road Transportation and Highways 2. Ministry of Civil Aviation 3. Ministry of Finance 4. Ministry of Communication and Information Technology 5. Ministry of Home Affairs 6. Ministry of Defence- Strategic operations and contingency support 7. Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1. Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2. Food Supply, in principle, it will have following minimum critical components : <ol style="list-style-type: none"> a. Production-cum- storage site b. Deposition / Storage site after purchase from producer c. Transportation d. Storage / Distribution Sites e. Regional transportation vehicles / services f. Small dealers, distributors at local level g. Controlling Unit will exchange information with the Department concerned h. Other critical sites as identified by nodal ministry / department concerned 3. Mechanism to deal with hoarders and black marketing in coordination with law enforcing agencies and local administration. It has been recommended to convert all shops into fair price shops and a restricted quantity of food with respect to number of persons / family in a specific time schedule 4. Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 5. Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 6. Defining chain of command to take decisions on absenteeism

		<p>(management with selective staff).</p> <ol style="list-style-type: none"> 7. Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 8. Build required redundancy in transport mechanism to avoid complete dependence on the other sector 9. SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 10. Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 11. Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 12. Dissemination of Dos' and Don'ts <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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5. Law and Order

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Home Affairs	1) Ministry of Shipping, Road Transportation and Highways 2) Ministry of Finance 3) Ministry of Communication and Information Technology 4) Ministry of Defence- Strategic Operations and Contingency Support 5) Ministry of Law and Justice 6) Ministry of External Affairs 7) Others as identified by nodal ministry / department	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1. Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2. Law and order is maintained by police and its critical sites include police stations, various storage sites of weaponry and headquarters. The optimal number of police force personnel and logistics will be maintained. 3. Police act as a first emergency responder irrespective of the nature of emergency. Thus, adequate number of PPE will be made available to them. 4. Usage of individual transportation will be encouraged. 5. The operational functions with respect to pandemic situation include isolation and quarantine of the affected ones, failure of which leads to spread of infection. 6. Enforcing strict law and order for restricted movement across the domestic borders to prevent spread. All the check posts need to have adequate PPEs and SOPs to immediately shift the affected personnel to earmarked health care facility. 7. Police will also control hoarding and black marketing of food, milk products and other essential commodities. 8. Ministry of External affairs in liaison with counter parts in neighbouring countries develop joint groups to prevent the spread of flu. 9. Traffic police, on similar lines, will develop contingencies as well as essential kits for their survival. 10. Other paramilitary forces or civilian forces include CISF, NDRF, Civil Defence etc., These are also operated by various stationed sites connected to controlling unit (headquarter) which needs to be protected and secured from any spread of infection by adopting self contingency planning in a proactive manner. 11. At district / state level, the local administration controls the functioning of police. Thus, the

		<p>continuity of operations of district administration is of higher priority.</p> <ol style="list-style-type: none"> 12. Exercising of emergency powers will be dealt in coordination with Ministry of Law and Social Justice. 13. The villages at border areas requires active coordination between police and defence forces as absenteeism may led to security threats. 14. Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 15. Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 16. Defining chain of command to take decisions on absenteeism (management with selective staff). 17. Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 18. Build required redundancy in transport mechanism to avoid complete dependence on the other sector 19. SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 20. Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 21. Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 22. Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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6. Water Supply

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Water Resources- Department of Water Supply	<ol style="list-style-type: none"> 1) Ministry of Shipping, Road Transportation and Highways 2) Ministry of Finance 3) Ministry of Communication and Information Technology 4) Ministry of Home 5) Ministry of Defence- Strategic operations and contingency support 6) Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1) Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2) Water resources, in principle, will have following minimum critical components : <ol style="list-style-type: none"> a. Storage-cum- purification site b. Various water depots / tanks within district/ city/state or UT c. Pipeline Transportation and Maintenance Agency d. Various water tankers (in public and private sector with list of various drivers e. Dedicated pipelines to higher priority areas like hospitals f. Drinking Water Trolleys, their drivers and sites of storage g. Various companies working in water purification systems h. Others as identified by nodal ministry / department 3) Ensuring continued safe water supply to community 4) Mechanism to deal with hoarders and black marketing in coordination with law enforcing agencies and local administration. It has been recommended to convert all shops into fair price shops and a specified quantity of food with respect to number of persons / family in a specific time schedule 5) Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 6) Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 7) Defining chain of command to take decisions on absenteeism (management

		<p>with selective staff).</p> <p>8) Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce</p> <p>9) Build required redundancy in transport mechanism to avoid complete dependence on the other sector</p> <p>10) SOPs for group activity for various actions to be undertaken by any group within sites requiring effective management in limited resources.</p> <p>11) Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential.</p> <p>12) Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI.</p> <p>13) Dissemination of Dos' and Don'ts to workforce</p> <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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7. Transportation- Surface Transport / Shipping

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Shipping, Road Transportation and Highways	<ol style="list-style-type: none"> 1) Ministry of Finance 2) Ministry of Communication and Information Technology 3) Ministry of Home 4) Ministry of Defence- Strategic operations and contingency support 5) Ministry of Petroleum and Natural Gas 6) Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1) Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2) Department of transportation include civil transportation within city; across the district / state borders, public / private carriers carrying food, essential commodities etc. It is the backbone of the industry and economy. The failure of this sector is critical for a cascade of reactions leading to social disruption. Therefore, adequate number of vehicles will be pooled resources from both governmental and private sectors. 3) Special attention needs to be paid being highly vulnerable sector too. 4) Herein, the critical sites refers to various bus/ truck/ vehicle depots, drivers stationed posts, headquarters and administration building and other sites where operations need to be continued. 5) Surface transport itself act as a contingency system being in cases like non-availability of ambulances or other transportation vehicles. 6) Law and order enforcing agencies need to ensure that there will be no theft or attacks on these vehicles by the community in state of panic. 7) Shipping department is critical in terms of heavy load of material transfer across the countries. 8) Large number of foreign national are involved in the process which may act as a source and thus active surveillance is needed. 9) Physical security personnel will be rotated as the port sites are under continuous threat 10) Hospitals near the port regions needs to

		<p>be identified / earmarked to limit the outbreak</p> <ol style="list-style-type: none"> 11) Minimum number of boats and their drivers for such operations needs to be made functional at all times 12) Ports with storages of hazardous chemicals required continued vigil for safety of operations during large scaled absenteeism, 13) Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 14) Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 15) Defining chain of command to take decisions on absenteeism (management with selective staff). 16) Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 17) Build required redundancy in transport mechanism to avoid complete dependence on the other sector 18) SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 19) Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 20) Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 21) Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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8. Civil Aviation

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Civil Aviation	<ol style="list-style-type: none"> 1) Ministry of Communication and Information Technology 2) Ministry of Finance 3) Ministry of Home 4) Ministry of Defence-Strategic operations and contingency support 5) Others as identified by nodal ministry /department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1. Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2. Civil aviation controls the movement of community within the country and also across the world, thus maximally vulnerable as it is receiving end of the infection outbreak 3. Establish mechanism of active surveillance of all passengers travelling by air at all the airports to screen the possible suspects. 4. All the airports, Ministerial office, Departments at domestic locations, cargo offices, linked essential offices for continuity of air operations are referred as critical sites, 5. The active surveillance for prevention of spread across the community and also with in the office personnel is necessary 6. Protocols for detection of suspected cases 7. The civil aviation is linked to tourism also which needs to ensure the health of every personnel connected directly or indirectly to air operations 8. The operational continuity will also be maintained by all private airlines 9. It is an integrated sector required adequate medical support during the active surveillance. 10. Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 11. Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 12. Defining chain of command to take

		<p>decisions on absenteeism (management with selective staff).</p> <ol style="list-style-type: none"> 13. Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 14. Build required redundancy in transport mechanism to avoid complete dependence on the other sector 15. SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 16. Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 17. Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 18. Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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9. Railways

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Railways	<ol style="list-style-type: none"> 1. Ministry of Communication and Information Technology 2. Ministry of Finance 3. Ministry of Home 4. Ministry of Defence- Strategic operations and contingency support 5. Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1. Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2. It is one of the biggest network of resources and highly vulnerable for spread of the disease across the country. Railway staff constitutes a major part of the population engaged in public sector and there are number of agencies like food & water supply, power and others are interlinked which are likely to be affected due to absenteeism during such situation. 3. Railways work with least dependence on other sectors to perform their functioning. It has offices all across the country. The minimal number of offices and functional units required for optimal functioning are called as critical sites 4. Railways are able to provide medical assistance in remote regions and also during evacuation of affected community to earmarked health care facility 5. The active surveillance for prevention of spread across the community and also with in the office personnel is necessary 6. Protocols for detection of suspected cases 7. Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 8. Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 9. Defining chain of command to take

		<p>decisions on absenteeism (management with selective staff).</p> <ol style="list-style-type: none"> 10. Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 11. Build required redundancy in transport mechanism to avoid complete dependence on the other sector 12. SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 13. Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 14. Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 15. Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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10. Information and Communication

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Information and communication technology	1) Ministry of Finance 2) Ministry of Home 3) Ministry of Defence- Strategic operations and contingency support 4) Others as identified by nodal ministry / department	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1) Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2) It is a sector which has a number of service providers, which themselves act as full fledged organizations and also huge infrastructure to support the connectivity and remains operational 24 X 7. 3) The failure of this critical sector will eventually halt the complete economic process. 4) All the service providers need to work in harmony such that a fair price system will be developed across the networks to provide sustained connectivity by pooling their resources. 5) The business continuity planning for all the interconnected organization needs to be developed for maintenance of all critical operations 6) Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 7) Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 8) Defining chain of command to take decisions on absenteeism (management with selective staff). 9) Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 10) Build required redundancy in

		<p>transport mechanism to avoid complete dependence on the other sector</p> <p>11) SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources.</p> <p>12) Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential.</p> <p>13) Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI.</p> <p>14) Dissemination of Dos' and Don'ts to workforce</p> <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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11. Power Sector

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Power	<ol style="list-style-type: none"> 1. Ministry of Finance 2. Ministry of Home 3. Ministry of Defence- Strategic operations and contingency support 4. Department of Atomic Energy 5. Ministry of Petroleum and Natural Gas 6. Ministry of Coal 7. Others as identified by nodal ministry / departments 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1. Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2. The critical sites in Power sector includes: production sites i.e. hydroelectric, thermal / nuclear power plants; grid maintenance units; local stations for flaw less functioning, administrative headquarter; ministerial / departmental offices at different locations etc. 3. The critical staff include personnel that operates plants, headquarter(s) and all the critical sites required for optimal functioning. 4. The identified sites like hospitals, life-line buildings etc that needs complete power backup needs to be prioritized by the department itself. 5. The grid network needs to operationalise on 24 X 7 basis by all possible means to provide power back to all the essential service providers. 6. Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 7. Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 8. Defining chain of command to take decisions on absenteeism (management with selective staff). 9. Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 10. Build required redundancy in transport

		<p>mechanism to avoid complete dependence on the other sector</p> <ol style="list-style-type: none">11. SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources.12. Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential.13. Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI.14. Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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12. Commerce and Industry

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Commerce and Industry	<ol style="list-style-type: none"> 1) Ministry of Finance 2) Ministry of Home 3) Ministry of Defence- Strategic operations and contingency support 4) Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1) Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2) The critical sites in this sector include all the industrial operations per se and production houses, distribution cells, stock exchanges and other relevant institutions linked to economic growth. 3) The industries which can lower its production or growth without harming the overall economy of the country will be identified and encouraged to do that. On the other hand, the industries which are required to maintain the production - like food processing industries, to maintain the basic level of availability of essential commodities at fair prices, will be prioritized. 4) Commerce or business linkages within national boundaries or across the globe has significant commitments to meet for e.g. IBM provides numerous IT solutions world-wide and fall in its operation has a direct negative impact. 5) Encouragement of e-commerce and maintenance of essential connectivity / functioning plays an important role to minimize economic losses which provides necessary cash flow in the market. It helps in arranging the various contingencies required for early recovery from such situations. 6) Industrial operations required maintenance of regulations by ministry / departments concerned. It includes the necessary guidance for import of toxic chemicals / materials and other concerns related to any negative impact on the community

		<p>on account of negligence or human error. Thus, the ministerial / departments concerned needs to be operationalized by maintaining the business continuity.</p> <ol style="list-style-type: none"> 7) Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 8) Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 9) Defining chain of command to take decisions on absenteeism (management with selective staff). 10) Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 11) Build required redundancy in transport mechanism to avoid complete dependence on the other sector 12) SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 13) Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 14) Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 15) Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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13. Rural Sector

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Rural Development	<ol style="list-style-type: none"> 1. Ministry of Finance 2. Ministry of Home – 3. Ministry of Defence- Strategic operations and contingency support 4. Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1. Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2. Rural sector has been already underprivileged to that of many facilities like primary health care, education, awareness about normal disease conditions etc. The various administrative operations need to be operational to prevent the spread of infection in the rural areas. 3. Maintenance of proper hygienic conditions with optimal supply of required medication i.e. antiviral drugs is necessary which requires activation of local Crisis Management Group to work in coordination with IDSP for immediate reporting and prompt responsive actions. 4. Rural sector infrastructural development, awareness campaigns and vaccination program (if necessary) are some of the mitigation approaches. These activities will reduce the possibility of occurrence of flu cases and eventually the food grains production will not be affected significantly. 5. Local house hold based interventions needs to be built up by the rural development sector on priority basis as a part of local action plan. 6. The nodal ministry / department needs to work out their action plans with their local stations and work personnel as well as training schedules to enhance local resilience in rural sector. 7. Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department

		<ol style="list-style-type: none">8. Shutting down of non critical sites and surplus manpower will be diverted as per requirement.9. Defining chain of command to take decisions on absenteeism (management with selective staff).10. Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce11. Build required redundancy in transport mechanism to avoid complete dependence on the other sector12. SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources.13. Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential.14. Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI.15. Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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14. Finance Sector

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Finance	<ol style="list-style-type: none"> 1. Ministry of Home 2. Ministry of Shipping, Road Transport and Highways 3. Ministry of Defence- Strategic Operations and Contingency Support 4. Planning Commission 5. Others as identified by nodal ministry / department 	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1) Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2) Financial sector include ministry/ department concerned at central, state and district level. It also includes banking institutions, stock markets, financial exchange forums, World Bank in the national capital and other financial bodies. 3) This sector is critical for functioning of all the essential service providers, failure of which leads to complete social and economic disruption. It is interlinked with industrial growth. Thus, it has been suggested to have multi-layered contingency planning to safeguard the functioning of the sector. However, during such situations, some of financial procedures could be cut down to avoid delays and also by utilizing less manpower in rotational manner. 4) In banks, the non-critical outlets could be closed. The manpower in each functional unit could also be restricted. In addition, the pooling of resources of ATM, foreign exchange and other services among different banks reduces the number of persons engaged in the sector in a stipulated period of time. 5) Internet based financial exchange, online payments for purchases and other fewer people – to- person contact options will be practiced to prevent spread of flu. 6) Management of panic among the community requires confidence building measures by continued operations of stock exchange, information about shares and other facilities required to be augmented. 7) Emergency response funding needs to be diverted as per immediate requirement, thus necessary protocols and critical functionaries will be in place to continue such operations. 8) The sector is widely dependant on law and

		<p>order enforcement, transportation and health sector to maintain its vital operations. All these line agencies need to be recommended for operationalising of financial sector on very higher priority.</p> <ol style="list-style-type: none"> 9) Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 10) Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 11) Defining chain of command to take decisions on absenteeism (management with selective staff). 12) Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce 13) Build required redundancy in transport mechanism to avoid complete dependence on the other sector 14) SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources. 15) Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential. 16) Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI. 17) Dissemination of Dos' and Don'ts to workforce <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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15. Defence

Nodal Ministry/ Department	Line Ministries/ Departments/ Linked Ministries /Departments	Action points to develop plans and SOPs for ensuring continuity of operations and to maintain the essential services in place
Ministry of Defence	1) Ministry of Finance 2) Ministry of Home 3) Others as identified by nodal ministry / departments	<p>(A) Ensuring continuity of operations</p> <ol style="list-style-type: none"> 1) Identification of the critical sites and maintenance of optimal connectivity using ICT (Information, Communication and Telephony) tools from controlling unit. 2) Defence sector is the first as well as last available contingency or emergency functionary to meet any national challenge depending upon the need / threat assessment 3) The continued operations of this sector are vital for national integrity and security. It has developed a number of layers of resistance to meet such challenges. The disciplined and continued training to provide adequate capabilities to hold their operationability during such situations. 4) The main factor is to provide necessary assistance like food supplies, water resources management and other facilities from civilian sector to have fail- safe operations. 5) Large scale absenteeism needs to be avoided in this sector, thus, proactive measures needs to be undertaken in all the wings of armed forces. 6) MoD shall provide necessary directions to DRDO to develop various novel technologies in prevention, detection and decontamination, awareness / IEC materials, Dos' and existing Don'ts and adequate initiatives to be taken to develop a vaccine against the existing evolving virus in liaison with MoH&FW. 7) Each critical site has a defined number of personnel doing assigned roles. It is pertinent to identify critical functions to operate the functions of nodal ministry / department 8) Shutting down of non critical sites and surplus manpower will be diverted as per requirement. 9) Defining chain of command to take decisions on absenteeism (management

		<p>with selective staff).</p> <p>10) Identification of work areas and personnel concerned with essential activities and develop a mechanism of replacement / rotation to maintain the morale of total workforce</p> <p>11) Build required redundancy in transport mechanism to avoid complete dependence on the other sector</p> <p>12) SOPs for group activity for various actions to be undertaken by any group within critical sites requiring effective management in limited resources.</p> <p>13) Necessary directions will be given to maintain the buffer stocks and all procurement of essential commodities will follow the principle of Very essential for survival, less essential but usable for long term storage followed by least essential.</p> <p>14) Standards of PPE will be laid down and proactive measures will be taken for mass distribution in highly affected areas in impending Phase VI.</p> <p>15) Dissemination of Dos' and Don'ts to workforce</p> <p><i>(B) The above guidelines must be read in conjunction with guidelines on Ensuring Work Place Resilience and Personnel Resilience- Please see section 3; page no 7.</i></p>
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