



**Government of Haryana**  
**Department of Revenue & Disaster Management**

**DISTRICT DISASTER MANAGEMENT PLAN**  
**PALWAL**  
**2013**

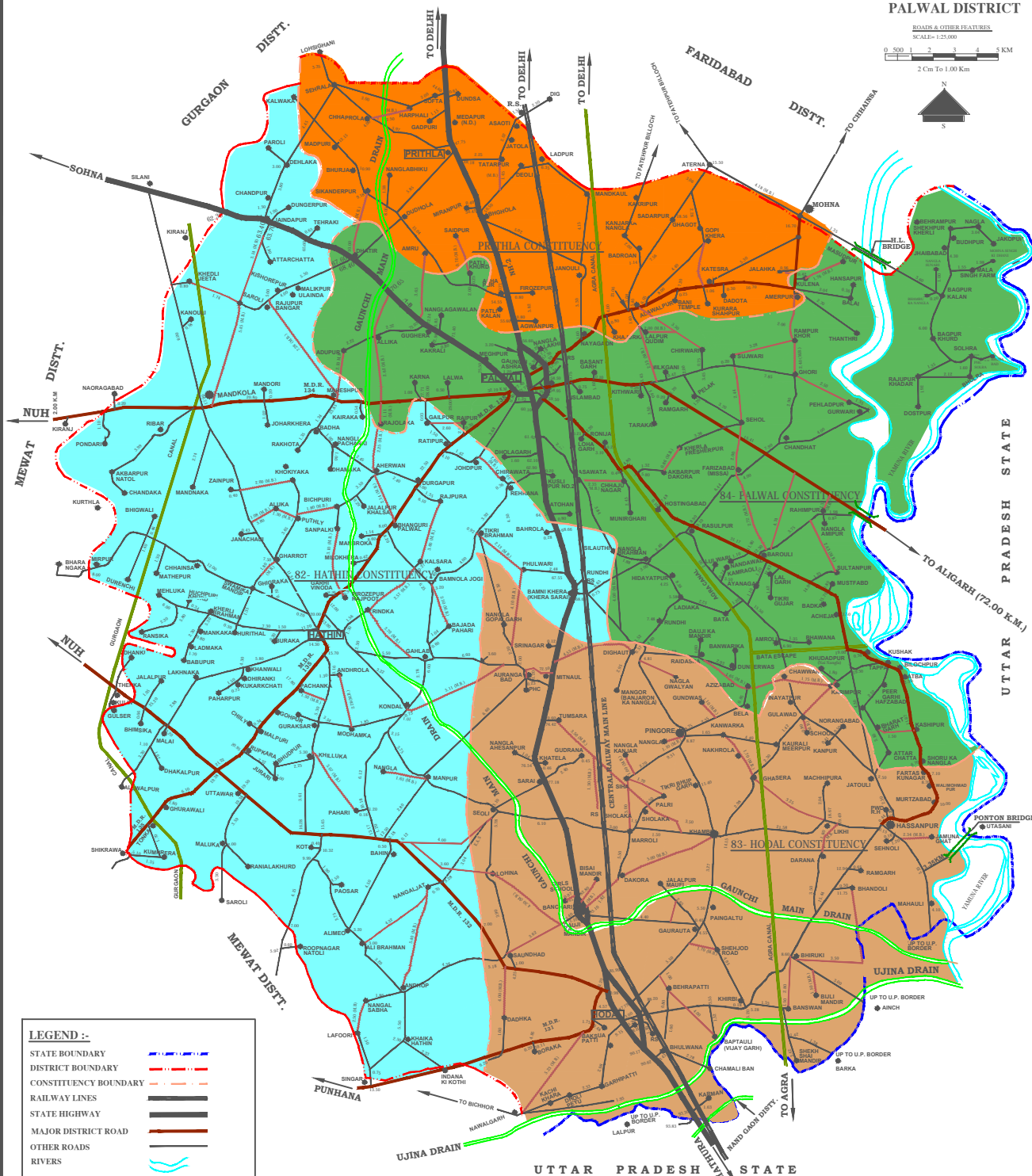
Prepared By



**HARYANA INSTITUTE OF PUBLIC ADMINISTRATION,**  
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# INDEX PLAN OF PALWAL DISTRICT

ROADS & OTHER FEATURES  
SCALE: 1:25,000  
0 500 1 2 3 4 5 KM  
2 Cm To 1.00 Km



**LEGEND :-**

- STATE BOUNDARY
- DISTRICT BOUNDARY
- CONSTITUENCY BOUNDARY
- RAILWAY LINES
- STATE HIGHWAY
- MAJOR DISTRICT ROAD
- OTHER ROADS
- RIVERS
- CANALS
- MAJOR BRIDGES
- DRAIN
- HARYANA STATE BOARD
- AGRI MAK. BOARD (HSAMB)

**CONSTITUENCY**

**LEGEND :-**

- 85-PRITHALA CONSTITUENCY
- 84-PALWAL CONSTITUENCY
- 83-HODAL CONSTITUENCY
- 82-HATHIN CONSTITUENCY

EXECUTIVE ENGINEER  
PROVINCIAL DIVISION  
PWD B&R BR. PALWAL

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## **Abbreviations**

AAR	After Action Report
AC	Area Commander
ACA	Additional Central Assistance
ADC	Additional Deputy Commissioner
ADO	Agriculture Development Officers
AFSO	Assistant Food and Supplies Officer/ Assistant Fire Station Officer
ARWSP	Accelerated Rural Water Supply Programme
ASHA	Accredited Social Health Activist
ASI	Assistant Sub-Inspectors
BAO	Block Agriculture Officer
BCP	Business Continuity Planning
BDO	Block Development Officer
BIS	Bureau of Indian Standards
BPCL	Bharat Petroleum Corporation Limited
BPL	Below Poverty Line
BSNL	Bharat Sanchar Nigam Ltd
CBDM	Community Based Disaster Management
CBDRR	Community-based Disaster Risk Reduction
CBO	Community Based Organisation
CBRN	Chemical, Biological, Radiological and Nuclear
CCMNC	Cabinet Committee on Management of Natural Calamities
CCS	Cabinet Committee on Security
CD	Civil Defence
CDHG	Civil Defence & Home Guards
CDI	Civil Defence Instructor
CDM	Center for Disaster Management
CDRN	Corporate Disaster Resource Network
CEO	Chief Executive Officer
CHC	Community Health Center
CM	Chief Minister
CMG	Crisis Management Group
CMO	Chief Medical Officer
CO	Circle Officer
Com./CUL	Compensation/ Claims Unit Leader
Com.UL	Communication Unit Leader
CONFED	The Haryana State Federation of Consumers' Cooperative Wholesale Stores Ltd



CPMFs	Central Para Military Forces
CRF	Calamity Relief Fund
CS	Chief Secretary
CS	Civil Surgeon
CSR	Corporate Social Responsibility
CTM	City Magistrate
CUL	Cost Unit Leader
CWC	Central Water Commission
DAE	Department of Atomic Energy
DC	Deputy Commissioner
DCCW	District Council for Child Welfare
DCG	District Crisis Group
DCG	District Crisis Group
DCR	District Control Room
DD	Deputy Director
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plan
DDMRI	District Disaster Management Resource Inventory
DDPO	District Development and Panchayat Officer
Demob-UL	Demobilisation Unit Leader
DEO	District Education Officer
DFO	District Forest Officer/ District Fire officer
DFSC	District Food and Supplies Controller
DFSO	District Food and Supplies Officer
DHBVN	Dakshin Haryana Bijli Vitran Nigam
DIC	District Industrial Centre
DIO	District Informatics Officer
DIPRO	District Information and Public Relations Officer
DM	Disaster Management
DMD	Disaster Management Division
DMF	Disaster Mitigation Fund
DP	Display Processor
DRDA	District Rural Development Agency
DRF	Disaster Relief Fund
DRO	District Revenue Officer
DRR	Disaster Risk Reduction
DS	Divisional Supervisor
DSS	Decision Support System
DSW	Department of Social Welfare
DSWO	District Social Welfare Officer
DTO	District Treasury Officer
DUL	Documentation Unit Leader
Dy.	Deputy
EOC	Emergency Operations Centre
EOMC	Executive Officer Municipal Committee
ESF	Emergency Support Function

ETA	Expected Time of Arrival
FB	Finance Branch
FBD	Finance Branch Director
FC	Finance Commission
FCI	Food Corporation of India
FCO	Flood Control Order
FO	Field Observer
FRA	Flood Relief Assistant
FSO	Fire Station Officer/ Food Safety Officer
FUL	Food Unit Leader
GBF	Great Boundary Fault
GH	General Hospital
GIS	Geographic Information System
GMDIC	General Manager District Industrial Centre
GoI	Government of India
GPS	Global Positioning System
GSU	Ground Support Unit
GSUL	Ground Support Unit Leader
GVH	Government Veterinary Hospital
HAFED	Haryana State Cooperative Supply and Marketing Federation Limited
HAZMAT	Hazardous Material
HDN	High Density Network
HEPA	High Efficiency Particulate Air
HEPP	Hospital Emergency Preparedness Programme
HIPA	Haryana Institute of Public Administration
HIRD	Haryana Institute of Rural Development
HLC	High Level Committee
HOD	Head of Department
HPCL	Hindustan Petroleum Corporation Limited
HQ	Headquarter
HSDMA	Haryana State Disaster Management Authority
HSIIDC	Haryana State Industrial and Infrastructure Development Corporation Ltd
HUDA	Haryana Urban Development Authority
HVPNL	Haryana Vidyut Prasaran Nigam Limited
IAP	Incident Action Plan
IAY	Indira Awas Yojna
IC	Incident Commander
ICDS	Integrated Child Development Scheme
ICP	Incident Command Post
IDKN	India Disaster Knowledge Network
IDP	Incident Demobilisation Plan
IDRN	India Disaster Resource Network
IDSP	Integrated Disease Surveillance Program
IEC	Information Education and Communication
IHS	Industrial Health and Safety
IMA	Indian Medical Association

IMD	India Meteorological Department
IMG	Inter Ministerial Group
IMO	Information and Media Officer
INGOs	International Non Government Organisations
IOCL	Indian Oil Corporation Limited
IRS	Incident Response System
IRTs	Incident Response Teams
ISDR	International Strategy for Disaster Reduction
ISS	Incident Status Summary
IT	Information Technology
JE	Junior Engineer
L0	Level 0
L1	Level 1
L2	Level 2
L3	Level 3
LEP	Leprosy Eradication Programme
LO	Liaison Officer
LPG	Liquefied Petroleum Gas
LS	Logistics Section
LSC	Logistics Section Chief
MAH	Major Accident Hazard
MBO	Management by Objectives
MBT	Main Boundary Thrust
MC	Municipal Corporation/ Council/ Committee
MCT	Main Central Thrust
MDF	Mahendragarh-Deharadun Fault
MDM	Mid Day Meal
MFRs	Medical First Responders
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Schem
MHA	Ministry of Home Affairs
MO	Medical Officer
MPLADS	Member of Parliament Local Area Development Scheme
MSSP	Mini-Secretariat Safety Programme
NAC	Notified Area Committee
NAT	North Almora Thrust
NBC	National Building Code
NCC	National Cadet Corps
NCCF	National Calamity Contingency Fund
NCMC	National Crisis Management Committee
NCR	National Capital Region
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force/ National Disaster Relief Fund
NEC	National Executive Committee
NFSC	National Fire Service College
NGO	Non Governmental Organisation
NGP	National Goiter Programme

NH	National Highway
NHAI	National Highways Authority of India
NIC	National Informatics Center
NIDM	National Institute of Disaster Management
NO	Nodal Officer
NRHM	National Rural Health Mission
NSS	National Service Scheme
NT	Naib Tahsildar
NTCP	National Tobacco Control Programme
NTPC	National Thermal Power Corporation
NVBDCP	National Vector-Borne Disease Control Programme
NYKS	Nehru Yuva Kendra Sangathan
OS	Operations Section
OSC	Operations Section Chief
PCR	Police Control Room
PD	Project Director
PDA	Preliminary Damage Assessment
PHC	Primary Health Center
PHED	Public Health Engineering Department
PMEGP	Prime Minister's Employment Generation Programme
PMGSY	Pradhan Mantri Gram Sadak Yojana
PO-ICDS	Programme Officer- Integrated Child Development Scheme
POL	Petrol, Oil and Lubricants
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PRIs	Panchayati Raj Institutions
PS	Planning Section
PS	Police Station
PSC	Planning Section Chief
PUL	Procurement Unit Leader
PWD	Public Works Department
Pwl	Palwal
QRMTs	Quick Response Medical Teams
R&D	Research and Development
RB	Response Branch
RBD	Response Branch Director
RDA	Rapid Damage Assessment
RO	Responsible Officer
RPUL	Resource Provisioning Unit Leader
RTA	Regional Transport Authority
RUL	Resource Unit Leader
SA	Staging Area
SAC	State Advisory Committee
SAM	Staging Area Manager
SAT	South Almora Thrust
SBD	Service Branch Director

SC	Schedule Caste
SDAO	Sub Divisional Agriculture Officer
SDM	Sub Divisional Magistrate
SDMA	State Disaster Management Authority
SDO	Sub-Divisional Officer
SDRF	State Disaster Response Force/ State Disaster Relief Fund
SE	Superintending Engineer
SEC	State Executive Committee
SEPO	Social Education Programme Officer
SHGs	Self Help Groups
SHO	Station House Officer
SI	Sub-Inspectors
SK	Sadar Kanungo
SMO	Senior Medical Officer
SO	Safety Officer
SOPs	Standard Operating Procedures
SP	Superintendent of Police
SRU	Single Resource Unit
SRUL	Single Resource Unit Leader
SSP	School Safety Programme
SUL	Situation Unit Leader
Sup.BD	Support Branch Director
TB	Transportation Branch
TBD	Transportation Branch Director
TCP	Tuberculosis Control Program/ Town & Country Planning (Department)
ToT	Training of Trainer
TS	Technical Specialist
TUL	Time Unit Leader
UC	Unified Command
UHBVN	Uttar Haryana Bijli Vitran Nigam
ULBs	Urban Local Bodies
UMS	Urban Malaria Scheme
UN	United Nations
UNDRO	United Nations Disaster Relief Organization
UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United States Agency for International Development
USFS	United States Forest Service
VCP	Village Contingency Planning
VH	Veterinary Hospital
VLDA	Veterinary Livestock Development Assistant
VS	Veterinary Surgeon
WASH	Water, Sanitation and Hygiene
XEN	Executive Engineer
ZSB	Zila Sainik Board

# 1

## Introduction

### 1.1 General Information:

Palwal is the 21<sup>st</sup> District of Haryana state in northern India which is formed from District Faridabad & District Nuh (Mewat) on 13<sup>th</sup> August 2008. Palwal Town is the headquarter of this District. The town is situated 60 km from Delhi on the Delhi Mathura National High Way No.2. Palwal is spread around 1368.03sq.kms area. It is a place of great antiquity. In ancient time it was the place of vikramaditya and the region of pandava. In the Mahabharata the place of Palwal is mentioned Panchvati temple is famous in the Palwal town. There are many Hospitals, schools and engineering colleges.

### 1.2 Topography

Palwal is situated at the bottom of south Haryana. The district is located at a Longitude of 76° 59' east and the Latitude is 28° 40' north. It is situated at a height of 199.49 meters from the Sea level. Palwal is surrounded by Mewat(Nuh) from west, Gurgaon from North-West, Faridabad from North, Aligarh from East and Mathura from South

### 1.3 Demography

The district occupies a total area of 1368.04sq.kms. Having approx. 77% of the population living in rural areas, the district hosts a total population of 10, 40,493. The district has a population density of 761 inhabitants per square kilometre (1,970 /sq m). Its population growth rate over the decade 2001-2011 is 25.49%. Palwal has a sex ratio of 879 females for every 1000 males and a literacy rate of 70.3%.

### 1.4 Climate & Rain Fall

The climate of the District is mostly sub-tropical and has an annual normal rainfall of 503 mm (2008-2012). Minimum temperature during the winter season goes down up to 3-4 degree celsius and the maximum temperature during the summer exceeds even 45- degree celsius. The climate remains generally dry throughout the year. Palwal faces extreme weather as it remains extreme cold during winter and extreme hot during summer.

Table no. 1.1 Rain Fall Data

Month	2008	2009	2010	2011	2012
Jan					19
Feb			72	52	
Mar			6		
Apl	46			25	23
May	257	34	35	136	14
Jun	436	40	32	213	11
Jul	543	107	441	522	434
Aug	449	461	1007	731	824
Sep	386	555	1184	646	241
Oct		28			
Nov		56			
Dec		3			
Total	2117	1284	2777	2326	1566

Source: Sadar Kanungo Department, Palwal

### 1.5 Physiography

District has monotonous physiography and has alluvium deposits. The alluvial plains have been divided into two units. Khadar that is the low lying flood plain of newer alluvium and Banger, an upland plain made of older alluvial and is spread towards west. The general slope in the district is towards east. The leveled surface, fertile alluvial soil and facilities for

irrigation make the district best suited for intensive cultivation. The district enjoys with perennial river Yamuna, bordering it on the east. The river forms narrow but consistent flood plains

### 1.6 Land Use Pattern

Palwal is also developed district in the sub-region in terms of urbanization. It has around 90% area under agriculture. It has least area under forest cover either in terms of per unit area or in terms total area under forest. Only 1.54% area is under forest cover which is almost null for the region

Table no 1.2 Land Use Pattern.

Land Use	Area	Percentage
<b>Build Up</b>	7436	5.2
<b>Agriculture</b>	130056	90.9
<b>Forest</b>	2197	1.54
<b>Watseland</b>	1344	0.94
<b>Waterbodies</b>	1673	1.17
<b>Others</b>	369	0.26
<b>Total</b>	<b>143075</b>	<b>100</b>

Source: Department of Town & Country Planning (Scott Wilson Resport of SubRegion)

### 1.7 Agriculture

There is 114329 ha area under cultivation of different crops. The percentage of net area cultivated to total cultivable area is 94 percent. Wheat, rice, jowar, barley, bajra are the major crops grown in the district. The area under different agricultural crops is given in Table:

Table no. 1.3 Crop Production

Sr No	Crop	Area (00' ha)	Production (00' ton)	Productivity (kg/ha)
1	Rice	324	891	2991
2	Jowar	351	40	1000
3	Bajara	79	148	1888
4	Wheat	976	4515	4631
5	Barley	9	30	3281

6	Total Cereales	1468	5624	3831
7	Total Oil Seeds	33	66	2010

Source: District Statistical Abstract 2012, Palwal

### 1.8 Geology and Soil Type

The major part of the district is occupied by vase alluvial plains of recent to sub-recent age, which include older (Banger) and newer (Khadar) alluvial and kankar. The kankar occurs mainly in the northern part and is poor in calcareous matter.

The district comprises of recent Yamuna flood plains, low lying plains, depressions, sand dunes and hills. The texture of the soil is sand to loamy sand in recent Yamuna flood plains, sandy loam in plains, sandy load to clay loam in alluvial plains, sandy loam to loam (surface), clay loam/silty clay (sub-surface) in low lying plains/depressions

### 1.9 Transport

Palwal is well connected to other cities and states through Road and Rail Network. It has good road network within the district as well. All blocks are well connected to district headquarter.

Table no. 1.4 Major Highways

Type	National Highway	Major District Roads
<b>Total No</b>	2	4
<b>Route</b>	NH No.2 Delhi- Agra  NH 71-B Palwal- Sohna- Rewari	1.Pawal-Nuh 2.Pwl-Htn-Uttwar 3.Hodal-Nuh 4.Hodal-Punhana

Source: PWD B&R, palwal

Palwal is situated on NH-2. Buses are available on any time from local Bus Stand. Delhi Western Peripheral Expressway, or Kundli-Manesar-Palwal Expressway (KMP Expressway), is 135.6 km long Expressway being constructed in Haryana. The expressway will act as a Delhi bypass for traffic coming from north of Delhi on NH1 and going to south of Delhi on NH2.

Palwal has Railway Station. It lies on Delhi – Agra Track. This station is considered as boon for local people and traders. It has local railway service available for Delhi, H Nizamuddin, Agra, Mathura etc. Due to which frequent trains travel to these destinations.

### 1.10 Major Industries

Table no. 1.5 Major Industries

Sr No	Type of Industry	No. of Unit	Employment
1	Agro based	6	66
2	Cotton Textile	4	72
3	Ready- made garments & Embroidery	3	242
4	ooden based furniture	2	113
5	Paper & paper products	3	93
6	Chemical based	7	63
7	Mineral based	7	91
8	Metal based (Steel Fab)	5	342
9	Engineering Units	28	909
10	Electrical machineries & Transport equipments	6	355
11	Repairing & Servicing	1	5
12	Others	1	29

Source: District Industrial Centre, Palwal

### 1.11 District Administration

Table no 1.6 District Administrations

Sr No	Municipal Council	Municipal Committee	Sub Divisions	Tehsils	Blocks	Gram Panchayat	Villages
1	Palawal	Hathin	Palwal	Palwal	Palwal	101	148
2		Hodal	Hathin	Hathin	Hathin	68	86
3			Hodal	Hodal	Hodal	35	48
4					Hassanpur	33	
5					Prithla		
<b>Total</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>237</b>	<b>282</b>



## 1.12 Palwal at a Glance

Table no. 1.7 Palwal at a Glance

Sr no		Figure
1	Total Area	1368.03 sq.kms
2	Total Population	10,40,493
3	Male Population	5, 53,704 (53.22%)
4	Female Population	4, 86,789 (46.78%)
5	Rural Population	8, 04,830 (77.35%)
6	Urban Population	2, 35,663 (22.65%)
7	Child Population (0-6 years)	1, 71,699 (16.50%)
8	Total No. of Households	101175 (2001 census)
9	Total No. of BPL Holders	30064 (2011 survey)
10	SC Total Population	127588 (2001 census)
11	SC Male Population	68403 (2001 census)
12	SC Female Population	59185 (2001 census)
13	Density of Population	761/ sq.km
14	Sex Ratio (female per 1000 male)	879
15	Sex Ratio (0-6 Population)	862
16	Literacy	70.30%
17	Male Literacy	82.60%
18	Female Literacy	56.40%
19	No. of Villages	282
20	No. of Panchayat	237
21	No. of Municipal Council	1 (Palwal)
22	No. of Municipal Committee	2 (Hathin, Hodal)
23	No. of Sub-Division	3 (Palwal, Hathin, Hodal)
24	No. of Tehsil	3 (Palwal, Hathin, Hodal)
25	No. of Blocks	5 (Palwal, Hathin, Hodal, Hasanpur, Prithla)
26	No. of Market Committee	4 (Palwal, Hathin, Hodal, Hasanpur)

Source: Statistical &amp; Planning Department, Palwal

# 2

## Hazard Vulnerability & Capacity Analysis

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*Hazard Assessment is the process of estimating, for defined areas, the probabilities of the occurrence of potentially damaging phenomenon of given magnitude within a specified period of time.( UNDRO)*

Disasters result from the impact of a hazard on a vulnerable community or group. The purpose of a hazard assessment is to specify the nature and behaviour of the potential hazards and threats that the people in the community face.

Palwal has been traditionally vulnerable to different natural and manmade disasters on account of its unique geo-climatic and physical conditions. Palwal being close to NCR, is developing rapidly which is leading to rapid urbanization resulting into degradation of environment. 'Prithila' the new Industrial Hub is getting into shape due which probability of industrial disasters cannot be denied. Due to the presence of Yamuna river, Palwal is vulnerable to flood. Every year due to the heavy rain numbers of incidents of building collapsed have been occurred. Fault lines which are around the Palwal increase the chances of seismic activities in the district. Road accidents are frequent on National Highway no 2 which passes from Palwal. Agricultural and Residential fires are also frequent in number. So due to above mention factors Palwal is prone to various Hazards and probable list of hazards is given below:

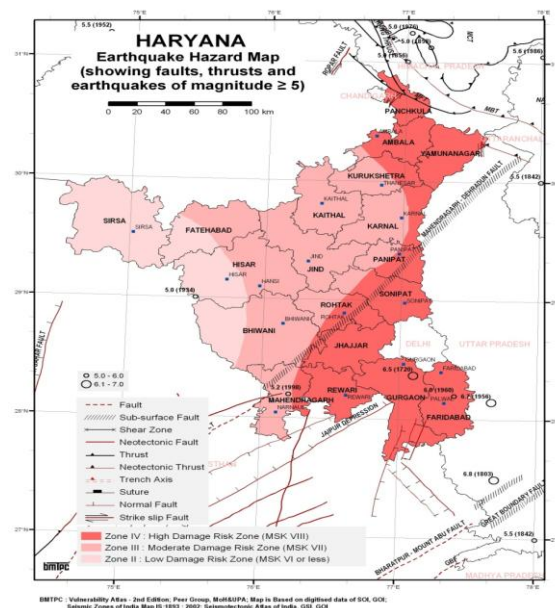
### 2.1 Hazards in Palwal

- Earthquake
- Flood
- Fire
- Drought
- Heat Wave
- Cold Wave
- Hail Storms
- Road Accidents
- Rail Accidents
- Industrial Disasters
- Epidemics

### 2.1.1 Earthquake

Palwal is highly vulnerable to Earthquake as it falls under Seismic Zone IV which is considered as fairly high in seismic activities. Also there are number of fault lines which go nearby Palwal, making it susceptible to strong earthquakes having magnitude up to 6 - 7. Such earthquakes could cause moderate damage in well-designed/built structures/buildings, while poorly built structures suffer great damages. Earthquake prone area of Palwal is mapped in figure.

Figure no. 2.1 Earthquake Zonation



### Fault Lines around Palwal

Table no. 2.1 Fault Lines

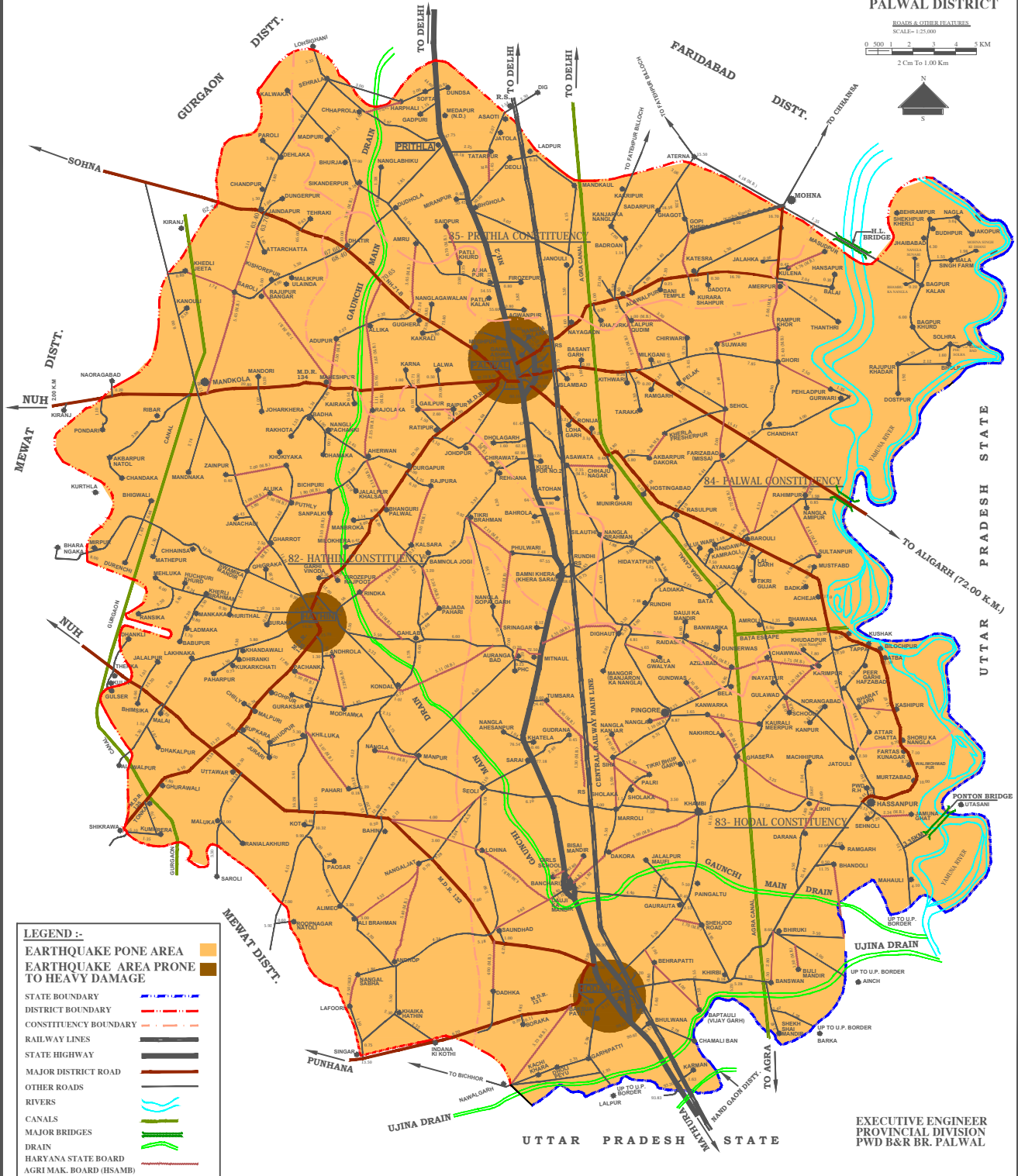
Sr No	Fault Name	Mu	Fault Length (in Kms)
1	Great Boundary Fault (GBF)	7	320
2	Mahendragarh-Deharadun Fault (M-D)	7	300
3	Moradabad	6.5	165
4	Chahapoli	5.5	215
5	Sabi Fracture	5.5	195
6	Near Mathura	5	84
7	Fault Parallel to no. 06	5.5	115
8	Fault Left of Alwar	5	130
9	Fault Near Alwar	5	55
10	Fault Near Jaipur	5	117
11	Mathura	6	100
12	Sohna	6	105
13	Delhi	4.5	7
14	Main Central Thrust (MCT)	8	350
15	North Almora Thrust (NAT)	6.9	280
16	Main Boundary Thrust (MBT)	8	450
17	Alaknanda	5.5	51
18	Ropar	5	35
19	Near Ramgarh	5	37
20	South Almora Thrust (SAT)	6.5	130

(Source: Iyengar and Ghosh 2004)

# EARTHQUAKE PRONE AREA

INDEX PLAN  
OF  
PALWAL DISTRICT

ROADS & OTHER FEATURES  
SCALE: 1:25,000  
0 500 1 2 3 4 5 KM  
2 CM To 1.00 KM



### **2.1.2 Flood**

The floods in the district are mainly due to heavy rains and over flow of Yamuna River. This district consist of hillocks valleys and undulated terrain. The topography of the district is such that no perennial river flows through it except River Yamuna which touches the eastern boundary of palwal and Hodal. However there are number of Barsati Nallahs/ Hill torrents which cross the whole of the district. Over flowing of some local streams also increases the quantum of floods. The floods in Yamuna River are caused due the excessive discharge of water from Tajewala head. Flooding in certain villages near Ballabgarh tehsil used to pose serious problems but all such villages have been provided with ring bunds.

Since the birth of this District i.e. from 2008, it does not face any severe flood like situation. Still in 2010 due to the heavy fluctuating discharge passes for considerable long period in River Yamuna, there was threat to villages which are situated at the bank of the river. In the same year few villages faced agriculture loss as the river water destroyed their crops. 13924 Acres was the total crop area damaged due the flood in 2010.

The whole district can be divided into two catchment areas from the point view of causes of floods which are as follows:

- i) The area catered by Gaunchi Main Drain falling on right side of the Agra Canal bounded by Hodal Uttawar Road and Uttawar Disty of Gurgaon. This area falls under Palwal and Hathin tehsil.
- ii) The area of the District created by Ujjina Diversion drainage System. This area mainly falls in Hathin and Hodal tehsil.

Drainage System for protection of Floods:

The drainage system has been divided into following drains:

- 1) Gaunchi Main Drain
- 2) Ujjina Diversion Drainage System
- 3) Palwal City Eastern and Western Zone (along area) Gurgaon Canal.

#### **A. Gauchi Main Drain**

Gaunchi Main Drain starts just upstream of R.D.NO. 9844 of Guragon Canal and traverses a length of 70 km. It caters for catchment of 259 sq miles before out falling in river Yamuna in tehsil Palwal. There are number of link drains which out fall into Gauchi Main Drain but very few of such link drain can function when main drain runs with full capacity. The remaining link drains start functioning only when there is a reduction in the full supply level in Gauchi Main Drain. In addition to these link drains, there are about 31 direct inlets draining inti Gaunchi Main Drain catering for local pockets and these inlets too do not function till the level Gaunchi Main Drain starts falling. The problem is further aggravated by excessive silting and sloughing in Gaunchi Main Drain. During the periods of rains, inlets of these link drains and direct inlets give a back flow and upstream start getting flooded and certain villages abide are also get badly affected. It takes about one to two months to clear the water so collected after the inlets are opened. A number of villages abide falling in its catchment areas have been provided with ring bunds and it is hoped that the flooding problem in this area will ease to a great extent. However there is still need to keep a close watch in this area during the rainy season.

#### **B. Ujjina Diversion Drainage System**

Ujjina Diversion Drain has been completed which will take major portion of water from Ujjina Drain and link drains in the area and after passing through parts of Ferojpur Jhirka and Palwal tehsil will ultimately outfall into

Gaunchi Main Drain and then in River Yamuna. This will save number of villages from Hodal Tehsil in the district from inundation and the areas enclosed by the Agra Canal on one side and Yamuna river on other side. The affected areas under this head will fall in Palwal tehsil. The main cause of floods in the area is river Yamuna which flows on eastern side of Palwal tehsil. Almost every year the villagers of Palwal tehsil situated near Yamuna river and Zahar Nallah (which is an off shoot of Yamuna) are affected by floods. The area is sparingly populated and there are only hamlets here and there.

During the floods focus would be on the timely and effective response which would further depend on flood preparedness measures.

#### 2.1.2.1 Flood Vulnerable Areas

The Vulnerable areas are classified into two categories according to exposure to River & Drains and also the probability of Flood is as follows: (Flood prone area of Palwal is shown in figure)

#### 1. Highly Exposed Area

#### 2. Moderately Exposed Area

Table no. 2.2 Flood Vulnerable Areas

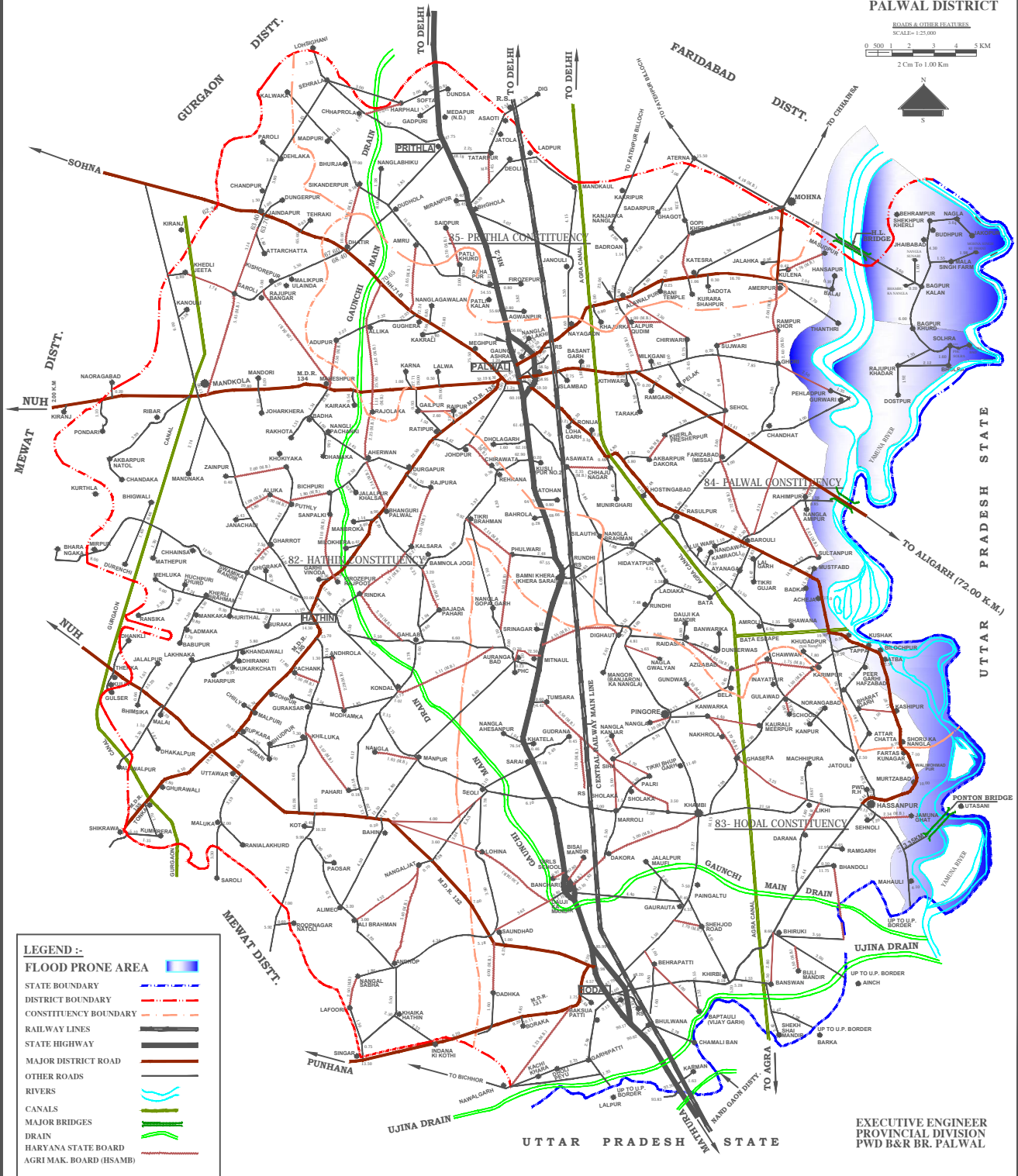
Highly Exposed Area	Moderately Exposed Area	
Palwal Tehsil	Hathin Tehsil	Hodal Tehsil
1. Shekhpur	1. Durainchi (Hathin)	1. Hassanpur (Hodal)
2. Bhud	2. Rainsika	2. Deeghot
3. Zababad Kherli	3. Hoonchpur	3. Aurangabad
4. Baghpur Khurd	4. Mathepur	4. Mitrol
5. Nangli Panchnaki	5. Chhainsa	5. Seoli
6. Rajpur	6. Madnaka	6. Banchari

<b>Khadar</b>		
<b>7. Baghpur kalan</b>	7. Kondal	7. Marroli
<b>8. Bholra</b>	8. Dhiranki	8. Sattikanangda
<b>9. Dostpur</b>	9. Kukarchanti	9. Satwagarhi
<b>10. Jhuppa</b>	10. Mahulka	
<b>11. Bohrapur</b>	11. Paharpur	
<b>12. Nanglia</b>	12. Swamika	
<b>13. Nangla Peruka</b>	13. Bhimsika	
<b>14. Bilojpur</b>	14. Badupura	
<b>15. Raidaska</b>	15. Hathin	
<b>16. Leharpur</b>	16. Sapanki	
<b>17. Mewlipur</b>		
<b>18. Indranagar</b>		

Source: Irrigation Department, Palwal



# INDEX PLAN OF PALWAL DISTRICT



### 2.1.3 Fire

Fire can occur in any part of the District. Fires invariably occur due to manmade causes. In Palwal there are three areas have been identified where Fire can be expected. These areas with their causes are discussed as below:

#### A. Agriculture

In rural areas of Palwal Agricultural Fire is very common. Every year number of agricultural fire occurs. Accidental burning of harvested crops causes Agricultural Fire in Rural part of Palwal. This kind of fire normally occur in hot dry summer months by accidentally sparking of harvesting and threshing equipments or careless throwing of lightning bides or cigarette butts on agriculture threshed crops or the highly inflammable chat (Bhoosa)

#### B. Residential

The second cause of fire is likely in urban as well as rural residential areas. These fires are again man made due to the careless sparking of electricity wires and faulty equipments. Fire is also likely to be caused by gas cylinders explosions. The vulnerable area in Palwal includes slum areas like Jhuggi Jhopri settlements and highly densed settlements and commercial buildings.

#### C. Industrial

The third area where fire is like to take place will be factories and industries especially those who deal with chemical or processing industries.

There are number factory/Industry units in District Palwal where fire can take place and Fire in these units may result into leak of toxic gases and explosions. It is important to mention here that a new industrial Hub namely 'Prithila' taking shape due which probability of Industrial fire cannot be denied.

#### 2.1.3.1 Residential and Agricultural fire incidents in Palwal

In Palwal District it has been observed that Agricultural Fire and Residential Fire are more in number. Following is the statistics showing numbers of fire incidents take place in Agricultural fields and Residential fields in Palwal. As we discussed earlier, in following cases the causes for the fires are accidental burning of harvested crops and cut down of electric wires. Following are the cases which are filed for the compensation at DC office, Palwal, so we consider it as fire with high Magnitude

Table no. 2.3 Fire Incidents

Year	Palwal Tehsil	Hathin Tehsil	Hodal Tehsil	Total no of Incidents
2004	1	14	----	15
2005	----	18	----	18
2006	----	5	----	5
2007	1	1	----	2
2008	9	8	1	18
2009	15	9	3	27
2010	31	13	----	44
2011	16	10	1	27
2012	8	----	1	9

Source: Revenue Department, DC Office Palwal

These are the fire with high magnitude where more than 60% of fire is Agricultural Fire and residential fire is more than 30%. Even though there are many industries in Palwal, there are not much incidents of Industrial Fire. Most of the incidents are occurred in the summer months i.e. from March to June.

#### 2.1.3.2 Vulnerable Areas:

1. Rural Area of Palwal for agriculture fire
2. Highly densed Residential areas in Palwal, Hathin & Hodal for urban fire.
3. Industrial Area (Prithila & Dhudhola) for industrial fire.



#### 2.1.4 Road Accidents

There is an alarming increase in road accidents on Indian roads, at a rate of 8% per year while the population of the country has increased by only 2.1 percent. In fact, out of one lakh accidental deaths in India, road accidents, alone account for as many as 60,000 lives. The statistics for the country indicate that there is an alarming increase both in the number of deaths and those injured. The problem of Road Traffic Accident has assumed alarming proportion with ever increasing number of motor vehicles competing for the limit paved space. The resultant congestion in traffic is inevitable and the consequences are road accidents.

Palwal also is no exception to above statistics. Due the presence of National Highway No.2 Palwal bears heavy traffic during day time. Also the numbers of vehicles in Palwal on road are increasing speedily which makes congestion in road network. Road users in Palwal are heterogeneous in nature, ranging from pedestrians, animal-driven carts, bi-cycles, rickshaws, and tractor trolleys, to various categories of two/three wheelers, motor cars, buses, trucks, and multi-axle commercial vehicles etc. Following table clearly indicates the severity of road accidents. Every year more than 200 people die in road accidents.

Table no. 2.4 Road Accidents

Sr No	Year	No of Accidents	No of Injured Victims	No of Death
1	2011	436	365	215
2	2012	477	321	225

Source: Traffic Department, Palwal

There are various factors which are responsible to road accidents, the factors in Palwal which are contributing to road crashes

are driver errors, defective vehicles, defective designing of roads, poor climatic conditions and road user behavior. The climatic conditions play vital part in above figure of accidents. Throughout the year road accidents remain major concerns for Palwal. During winter season Palwal faces dense Fog due to which the visibility reduces which results in road accidents. Therefore maximum accidents take place in the month of January and December. Above figure clearly demands the need of Road Safety. Road Safety incorporates the development and management of road infrastructure, provision of safer vehicles, legislation and law enforcement, mobility planning, provision of health and hospital services, child safety, urban land use planning etc.

#### 2.1.5 Rail Accidents

Palwal Railway route is part of the western corridor (Delhi – Mumbai via Kota, Ratlam) of Indian Railway's Golden Quadrilateral and is highly saturated. It is dominated by passenger movements. This is a major artery, which carries heavy mixed traffic from Central and Western India. 65 passenger carrying trains and over 50 freight trains each way are operated daily on this vital sub section of Indian Railway with 150% line capacity utilization, introduction of any new passenger/freight train on this sub section becomes a major issue. Palwal, Faridabad, Ballabgarh, Kosi Kalan and Tuglakabad are the major contributors of commuter traffic. Freight traffic moving on the route comprises Containers, Food grains, Fertilizers, Coal, Iron & Steel and Petroleum products. This is one of Indian Railway's high density (HDN) routes. So this route is highly vulnerable to rail accidents and also in the past there were incidents of derailling of bogies. During rail crossing there are numbers of people die every year in Palwal.

### 2.1.6 Industrial Hazards

Palwal is the upcoming Industrial Hub in the State. “Prithila” and “Dhudhola” are the places in the Palwal Tehsil where number of major Industrial Units are setting up. There are numbers of chemical and chemical based industries in Palwal District. ‘Gill International Ltd’ is the only Hazardous Unit situated in Palwal. It is situated at village Gharrot, Hathin-Mandkola Road, District Palwal. The Factory is surrounded by Agriculture land and thinly populated area. Industrial area and Location of MAH Unit is mapped.

#### 2.1.6.1 Major Accident Hazard (MAH) Unit in Palwal

Table no. 2.5 MAH Unit

Name & Address of MAH Unit	Hazardous Material being Manufactured, Handled, Stored & Imported
<b>Gill International Ltd</b> <b>Village: Gharrot, Hathin-Mandkola Road, Tehsil: Hathin, Palwal</b>	Propane= 15.292 MT Butane= 15.205 MT LPG= 58.638 MT

Source: Industrial Safety Department

#### 2.1.6.2 Vulnerable Population to MAH Unit

Table no. 2.6 Vulnerable Population to MAH Unit

Distance from MAH Unit	Direction	Name of the Village	Population (2001 census)
1 km	South	Gharrot	2973
1 km	West	Janachauli	1438
1.5 km	North-East	Aluka	463
2 km	East	Puthly	1590

#### 2.1.6.3 Hazard Identification & Analysis at Major Accident Hazard (MAH) Unit

MAH Unit M/s Gill International Ltd uses propane and butane to make LPG. Raw material and final Product stored in plant are highly inflammable. The accident scenarios having potential of offsite emergency from storage at this Major Accident Hazard (MAH) Unit is given:

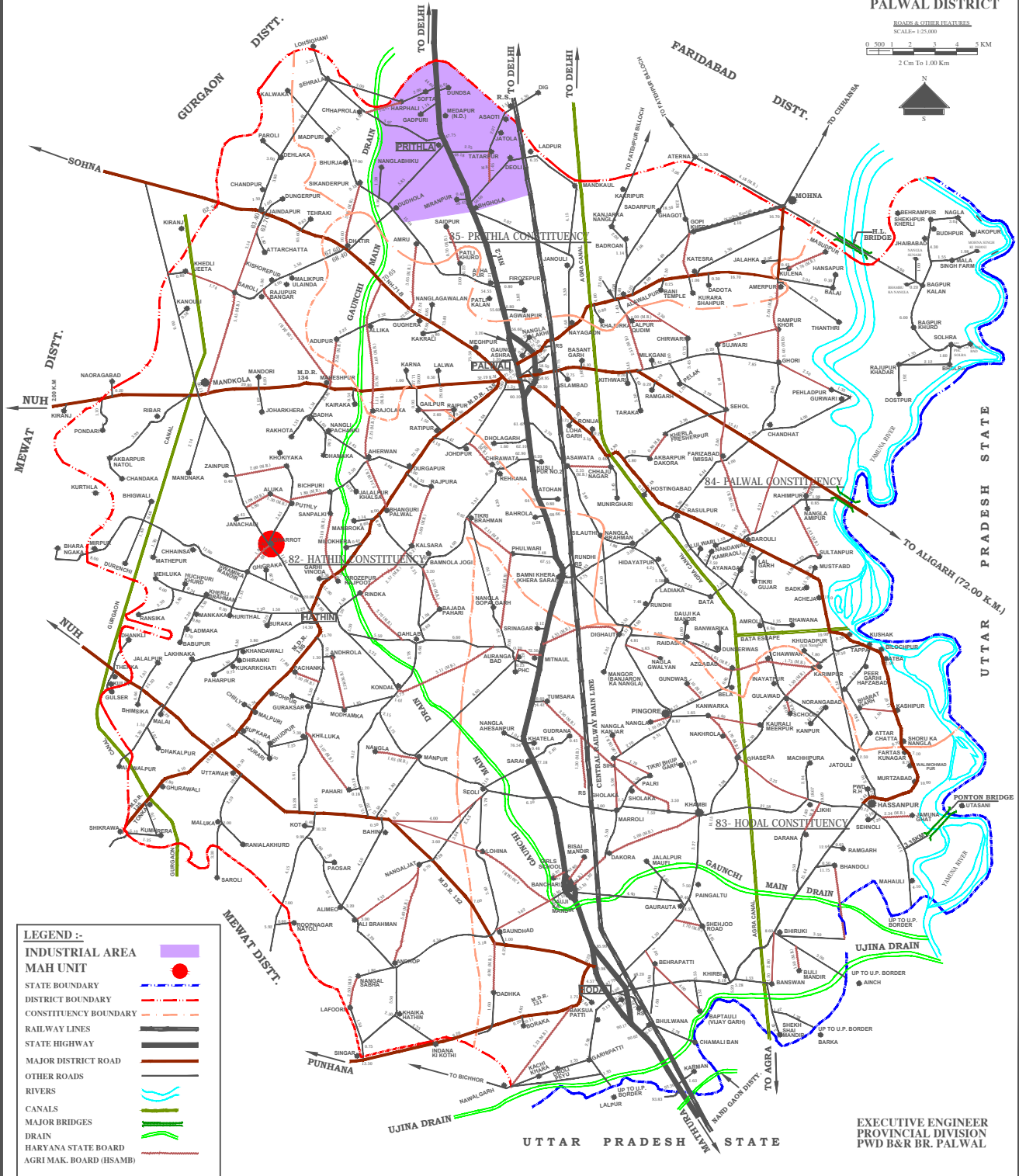
Based on the information given in this table, it can be observed that the maximum hazard distance for all the accident scenarios of Major Accident Hazard (MAH) units is within 2 km from the accident site. Following points emerge from the analysis of data given in the table and observations made during the field visit

- The nearest population centers are the villages residing near the Major Accident Hazard Unit
- Under all the scenario, all most all the employees of the Unit will be affected, as the case may be
- As the LPG bullets/spheres are located adjacent to one another, cascading may also happen within the unit
- Several LPG tank trucks are always parked near the gates of LPG Plant and at the Parking bay. This increases the hazard potential of the area.
- Refer Annexure VIII for Remedial Antidotes

# INDUSTRIAL AREA

## INDEX PLAN OF PALWAL DISTRICT

ROADS & OTHER FEATURES  
SCALE: 1:25,000  
0 500 1 2 3 4 5 KM  
2 CM TO 1.00 KM



### **2.1.7 Drought**

The climate in the district varies from arid to semi arid. Eastern part of the district gets more rainfall and it starts decreasing towards west i.e. towards Hathin block. The summer months are very hot with maximum temperature ranging from 410 C to 460 C in May and June. June is the period of highest incidence of dust storm. Sometimes, the temperature may rise to 480 C. Further due to high water depletion many parts in Palwal are prone to droughts. Due to the presence of canals, drainage and River major part of Palwal comes under irrigated land. But number of villages in Hathin block don't have source for irrigation, hence these villages face water scarcity and hence are vulnerable to drought. This vulnerable portion is shown in figure.

### **2.1.8 Extreme Temperatures**

Owing to the geographical location and climatic conditions district faces extreme temperatures in months of December, January, May and June.

#### **a) Cold Wave**

During December and January, the average minimum temperature is recorded around 5-6°C which, at times, reaches as low as 2-3°C. The cold wave is generally associated with Frost which is one of the reasons for huge crop losses in the District.

#### **b) Heat Wave**

Heat Wave is very complex phenomenon resulting from a certain combination of the temperature, humidity air movement and duration. Heat wave is experienced as highest maximum temperature recorded in 24 hours was 47.6°C in 1998. Heat waves generally observed in month of April, May and June.

### **2.2.9 Epidemics**

Numbers of people die in Palwal due to communicable diseases, but there is no widespread disease that affects many individuals in a population. People in Palwal are vulnerable to many health issues due to increase in density of population, unhygienic living conditions, water contamination and economical conditions. In monsoon season occurrence of epidemics cannot be denied due to above said facts. The main epidemics can be in the form of cerebral malaria, dengue fever, cholera and other water borne deceases, new situations like plague, AIDS etc cannot be ruled out.

### **2.2.10 Other Hazards**

There are few other threatening hazards in Palwal which need to be addressed. Building collapse due to heavy rain is major concern both in urban and rural part of Palwal. Many cases of building collapse have been filed at DC office for the compensation. There is need to ensure that National Building Codes (NBC) are followed for construction. As Palwal falls under seismic zone IV, small trimmer can cause major damage to buildings. Construction of new buildings by laws and retrofitting of old buildings is necessary.

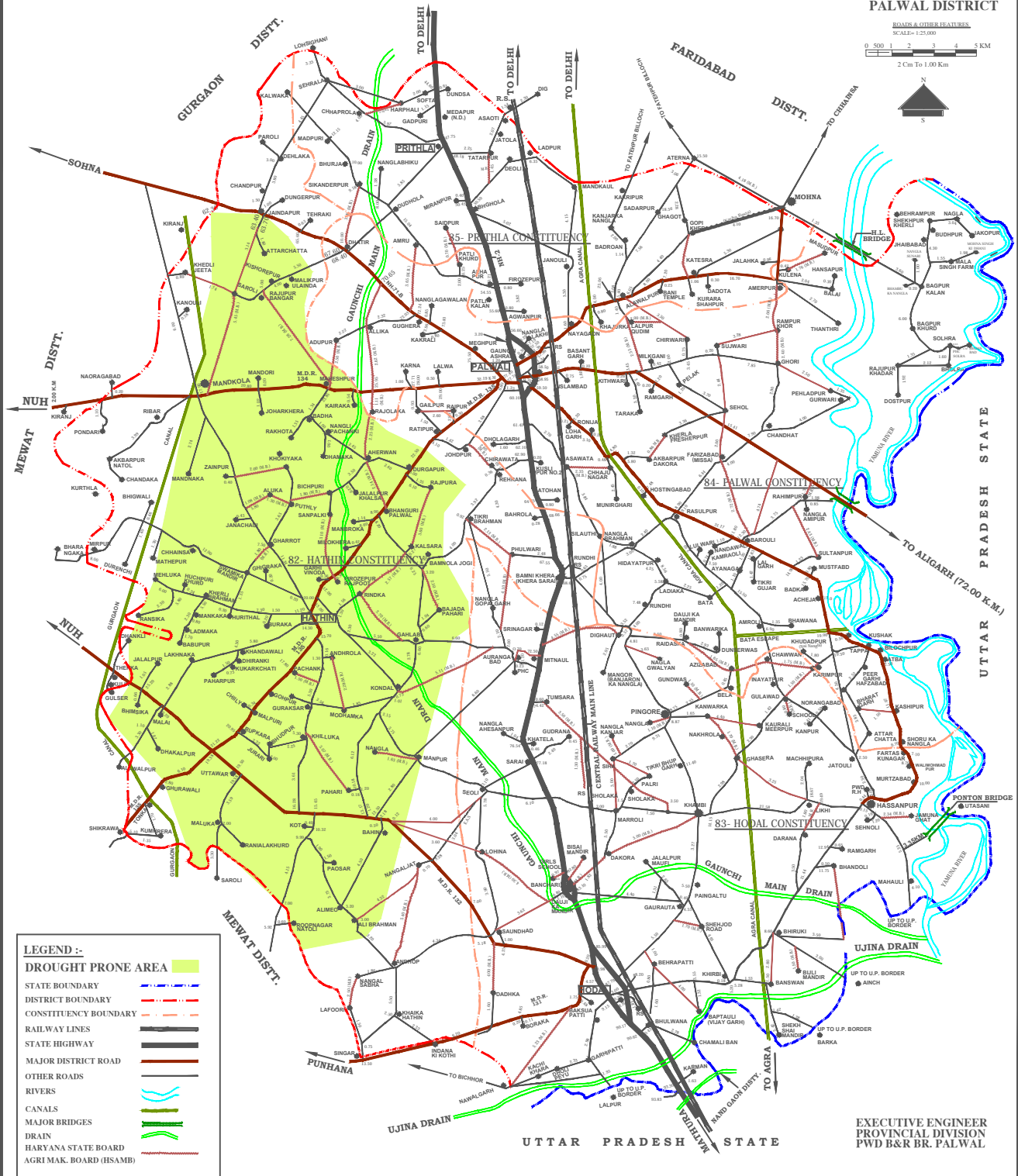
The incidence of thunder storm also occurs during August and September. These are sometimes accompanied by heavy shower and occasional hail.

Palwal district is also prone to Bore Well related accidents. Falling of children in bore well, gutter is common phenomenon in Palwal.

# DROUGHT PRONE AREA

## INDEX PLAN OF PALWAL DISTRICT

ROADS & OTHER FEATURES  
SCALE: 1:25,000  
0 500 1 2 3 4 5 KM  
2 CM TO 1.00 KM



**LEGEND :-**

- DROUGHT PRONE AREA
- STATE BOUNDARY
- DISTRICT BOUNDARY
- CONSTITUENCY BOUNDARY
- RAILWAY LINES
- STATE HIGHWAY
- MAJOR DISTRICT ROAD
- OTHER ROADS
- RIVERS
- CANALS
- MAJOR BRIDGES
- DRAIN
- HARYANA STATE BOARD
- AGRI MAK. BOARD (HSAMB)

EXECUTIVE ENGINEER  
PROVINCIAL DIVISION  
PWD & R. BR. PALWAL



## 2.2 Vulnerability Analysis

The UNISDR defines vulnerability as “the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard”. In simple words, the exposure to a hazard makes someone vulnerable and the ability to cope with it depends upon various physical, social, economic and environmental factors. These factors only categorise the vulnerability on the same lines.

The vulnerability of the district is defined by the ability to anticipate, cope with, resist and capacity to recover from any probable disaster. The factors like limited livelihood opportunities, low per capita income, under developed infrastructure, unplanned development, rapid urbanization, prevalent social structures, demographic expansion and environmental degradation make Palwal a district highly vulnerable to disaster.

The types of vulnerability in Palwal district

### 2.2.1 Physical Vulnerability

Physically being present close to the hazard is the most common form of getting exposed to a hazard, i.e. of being ‘vulnerable’. People’s occupancy of geographical areas where they could be affected from a specific type of hazard and lives or property damage can be caused, refers to being physically vulnerable. Entire Palwal district is vulnerable to Earthquake as it falls under seismic zone IV. There are total 17 villages which are at high risk and 24 villages which are at moderate risk for Flood (see table no.2.2). Population residing around the industrial area Prithila and Dhudhola and population around MAH unit (see table no 2.6) are physically vulnerable to the chemical/industrial hazards.

#### a. Structural Vulnerability

According to Census household survey out of total 1, 67,810; 47.48% are just liveable in

normal condition and 5.63% are dilapidated which make a more than 50% household are physically exposed to many hazards like earthquake, heavy rain fall, heat wave, cold wave etc. This exposure makes people’s infrastructural vulnerable.

In case of rural household more than 57% household are under just liveable and dilapidated whereas in case of urban household it is around 40%. It indicates that structurally rural population is more vulnerable compare to urban population.

Table no. 2.7 HH Condition

	Total	Good	Livable	Dilapidated
<b>Total</b>	167810	78680 (46.88%)	79675 (47.48%)	9455 (5.63%)
<b>Rural</b>	127165	54209 (42.63%)	64966 (51.09%)	7990 (6.28%)
<b>Urban</b>	40645	24471 (60.20%)	14709 (36.18%)	1465 (3.60%)

Source: Census 2011

### 2.2.2 Social Vulnerability:

Every society has its own dynamics that are generally implemented across the society. The groups within the community who are not at par with other members, in terms of power, finance, and accessibility to resources, age, and sex etc. become socially vulnerable. The divide between these socially vulnerable groups and rest of the community is more visible especially during an emergency when there are chances of such groups being neglected. Age, sex, economic status, caste are some factors on which the socially vulnerable people are identified in the society.

In Palwal, the sex ratio is just 879 females per 1000. In literacy, even today the females have not been able to come at par with the males. Female Literacy rate shows the condition of women in Palwal district. It is just 56.40% which is very as compared to male literacy rate which is 82.60%. Following table shows the vulnerable section of Palwal:

Table no. 2.8 Socially Vulnerable Population

<b>Socially Vulnerable Section</b>	<b>Total No</b>	<b>% to total Population</b>
<b>Old age</b>	53000	5.1
<b>Widows</b>	19942	1.92
<b>Disabled</b>	4405	0.42
<b>Destitute Children</b>	1806	0.17
<b>SC (2001 C)</b>	127588	19.04
<b>BPL (2001C)</b>	30064	4.49

Source: Social Welfare Department

Old age people need special attention during disaster. It constitutes 5.1% of total population. Old age people are vulnerable because of their limited physical strength, possible dependence on their families. Old age people also have their special needs like that of special medicines, spectacles and other aids, special diet. The dependence on others for these needs make this age group vulnerable during normal and particularly disaster situation.

There are 1.92% of Widows which are also considered as socially vulnerable section of society.

Though the differently-abled population and destitute children constitutes less than 1% of total population but these are yet another socially vulnerable sections that need to be given proper attention too. Disability adds to vulnerability of a person as it reduces or limits the physical ability of the person to certain extent. Sometimes they also face social stigma and non-acceptance in the society. During a disaster situation, their conditions become worse if their aids (hearing, visual, etc) get lost or damaged. They also have special needs in order to access public utilities and other facilities.

## SC House Hold Conditions

The Scheduled Caste community in Palwal have social and lifestyle variations that put them on a varying scale of social vulnerability. When the houses in which they live in are dilapidated, it makes them physically vulnerable. In a caste-based society, where casteism is a sensitive issue, the SC population gets more exposed to the hazard, being socially vulnerable. It constitutes about 19.04 % of total population. The following table shows the condition of houses where the SC community is living in Palwal:

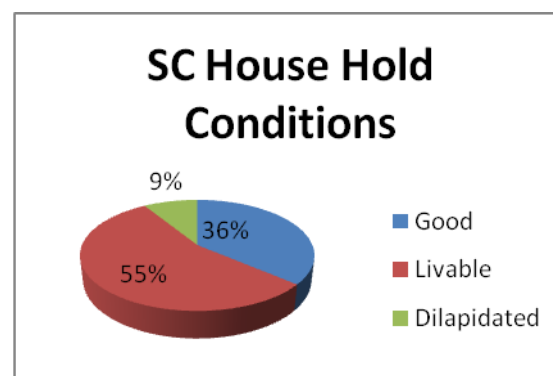
Table no. 2.9 SC HH Condition

	<b>Total</b>	<b>Good</b>	<b>Livable</b>	<b>Dilaptd</b>
<b>Total</b>	36,074	13,065 (36%)	19,807 (55%)	3,202 (9%)
<b>Rural</b>	26,147	8,266	15,279	2,602
<b>Urban</b>	9,927	4,799	4,528	600

Source: Census 2011

Above figure clearly indicates the condition of SC population in Palwal. According to 2001 Census, near about 64% of SC population reside in livable and dilapidated households which are considered as structurally vulnerable to various hazards.

Figure no. 2.2 SC HH Conditions



Source: Census 2011

Below Poverty Line (BPL) families are yet other socially vulnerable groups in the society since they get unequal distribution and access to the resources of the community, or district at large. The root to this vulnerability is the economic vulnerability of such

families/individuals that are not financially sound to live with basic survival needs. Government provides subsidised ration and other basic items through Public Distribution Centres. There are 30064 families which are below poverty line.

### 2.2.3 Environment Vulnerability:

Due to rapid urbanization, deforestation, unplanned development etc the environment is degrading rapidly which further aggravate the natural hazards and increase the risk of manmade disasters like accidents, chemical and industrial disasters etc in the district. Industrialisation at Prithila and Dhudhola can lead to the degradation of environment in Palwal.

## 2.5 Hazard Seasonality Mapping

Hazards like flood, drought and extreme temperatures mainly have a seasonal occurrence while hazards like earthquake along with various man-made hazards can occur at any point of time of a year. Though hazards like road and railways accidents can occur at any time of year, they become more common during month of December and January due to low visibility during fog period.

Thus hazard seasonality map of Palwal district is made based on the history of occurrence of various disasters in district and also on the possibility of occurrence of hazards in future. Table 2.11 displays possibility of occurrence of these hazards.

Table No. 2.11 Hazard Seasonality Mapping

Sr No	Hazard	Probable Months											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Flood												
2	Earthquake												
3	Drought												
4	Fire												
5	Storm												
6	Heat Wave												
7	Cold Wave												
8	Hail Storm												
9	Epidemics												
10	Animal Epidemics												
11	Road, RailAccidents												
12	Industrial Accidents												
Legends		High Probability				Moderate/Low Probability							



## 2.4 Risk Analysis

Table no. 2.10 Risk Analysis

Sr No	Hazards	Vulnerable objects	Remark	Hazard Risk
1	Earthquake	<ul style="list-style-type: none"> <li>Human Life,</li> <li>Cattle Life,</li> <li>Kutchha and Pucca Houses,</li> <li>Community Infrastructures,</li> <li>Livelihood</li> </ul>	Palwal falls under seismic zone IV, which is fairly high seismicity, where the general occurrence of earthquakes is of 5- 6 magnitude, few of 6-7 magnitude and occasional occurrences of 7-8 magnitude on a Richter scale.	High
2	Flood	<ul style="list-style-type: none"> <li>Agricultural Crops,</li> <li>Transport,</li> <li>Houses,</li> <li>Constructions,</li> <li>Drinking Water,</li> <li>Cattle,</li> <li>Irrigation equipments,</li> <li>Educational institutes,</li> <li>Vulnerable groups</li> </ul>	In rainy season due the heavy rain fall Yamuna river and two Main Drains viz: Gaunchi and Ujjina Drains over flow which cause flood like situation in the nearby villages.	High
3	Fire	<ul style="list-style-type: none"> <li>Human life,</li> <li>Cattle life,</li> <li>Houses and property,</li> <li>Agricultural crops</li> </ul>	Fire incidents are more frequent in the rural settlements and generally occur during summer season. Most of the fire incidents have been identified to occur from the <i>Chulha</i> during cooking of the meals and due the electrical wires. Careless smoking habits is also responsible for the	Medium
4	Road Accidents	<ul style="list-style-type: none"> <li>Human Life</li> <li>Vehicles</li> <li>Street Cattle</li> </ul>	Palwal is situated at NH2, due which Palwal faces heavy traffic. There are more than 200 people die in road accidents in Palwal. Winter season due to heavy Fog and low visibility gives invitation to Road accidents.	Medium
5	Rail Accidents	<ul style="list-style-type: none"> <li>Human life</li> <li>Railway Infrastructure</li> </ul>	Palwal Railway Station lies on Delhi-Agra-Mumbai route which is highly saturated. Freight traffic moving on the route comprises Containers, Food grains, Fertilizers, Coal, Iron & Steel and	Medium

			Petroleum products which can be hazardous in any mishap. Incidents like derailling of train bogies have been occurred in the past.	
6	<b>Drought</b>	<ul style="list-style-type: none"> <li>• Crops</li> <li>• Drinking water</li> <li>• Livelihood options</li> </ul>	In Hathin Tehsil, few villages having no river systems sometime face drought and problems of water scarcity. This happens due to the low rain fall in the area.	Medium
7	<b>Cold Wave</b>	<ul style="list-style-type: none"> <li>• Human life</li> <li>• Cattle life</li> <li>• Crops</li> </ul>	Cold waves (during winter) are seasonal and affect largely to the poor population.	Low
8	<b>Heat Wave</b>	<ul style="list-style-type: none"> <li>• Human Life,</li> <li>• Cattle Life,</li> <li>• Crops</li> <li>• Crops &amp; Trees</li> <li>• Transport &amp; Roads</li> <li>• Kutcha &amp; Pucca</li> <li>• Houses</li> <li>• School &amp; Colleges</li> <li>• Electric Supply</li> </ul>	Heat wave is an extended period of very high summer temperatures with the potential to adversely affected communities. Heat waves generally observed in month of April, May and June.  Heat waves (during summer) are seasonal and affect largely to the poor population.	Low
9	<b>Hail Storms</b>	<ul style="list-style-type: none"> <li>• Crops,</li> <li>• Thatched Houses,</li> <li>• Small Animals, Cattle</li> </ul>	The impact of storm is generally seen on thatched houses and crops which get damaged in high-winds and storms.	Low
10	<b>Industrial Disaster</b>	<ul style="list-style-type: none"> <li>• Human life,</li> <li>• Properties,</li> <li>• Environment</li> </ul>	Presence of one Major Hazards (MAH) Unit and Newly Shaping 'Prithila Industrial Hub' make Palwal District Vulnerable to Industrial Disasters, but the probability of such incidents is very low.	Low
11	<b>Epidemics (Human)</b>	<ul style="list-style-type: none"> <li>• Human life</li> </ul>	Numbers of people die in Palwal due to communicable diseases, but there is no widespread disease that affects many individuals in a population.	Low

## 2.5 Capacity Analysis

A combination of all the strengths and resources available within district can reduce the level of risk, or the effects of a disaster. Capacity includes physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management. Capacity may also be described as capability. Capacity defines the preparedness of district towards emergencies. Following are the capacities of Palwal District:

Table no. 2.12 Capacity Analysis

Sr no	Capacity/ Resource	Number and Details
1	Canals & Drains	2 Major Canals - Agra & Gurgaon Canals
		2 Major Drains - Gaunchi & Ujjina Main Drains
		28 Link Drains
2	Power Stations	220 kv sub stations – 2
		66 kv sub stations – 14
3	Telecommunication Office	Telephone Exchange-4 Public telephone Exchange- 6
4	Road Connectivity	1 NH (NH No.2)
		1 State Highway
		7 Major District Roads
5	Railway Nework	Broad gaze Railway Network which connects Palwal to Delhi, Mathura, Agra
6	Internet	District collectorate is connected to internet.
7	Radio Station	
11	Academic Institutions	High Schools- 270
		Middle Schools- 171
		Primary Schools- 698
12	State Food Corporation Godowns	8
13	PDS shops	180
14	Post offices	49
16	Health Facilities	Civil Hospital- 1
		CHC- 3
		PHC- 8
		Sub centers – 55
		Private Hospitals & Nursing Home- more than 300
	Veterinary	Veterinary Hospitals – 19
		Veterinary Dispensaries – 90
17	Fuel supplies	Petrol Pumps- 147 Kerosene Depo- 13 Gas Agencies – 6
18	Police Stations	9
19	Fire Stations	2
20	Ambulance	15 (At Civil Hospital, CHCs and PHCs)
21	Co-operative Societies	112

<b>22</b>	Working Factories (Rgstrd)	190
<b>23</b>	Workers in working factories	4511
<b>24</b>	Scheduled Banks	92

## 3

## Institutional Mechanism

### 3.1 Institutional Mechanisms at National Level

#### 3.1.1 Disaster Management Act, 2005

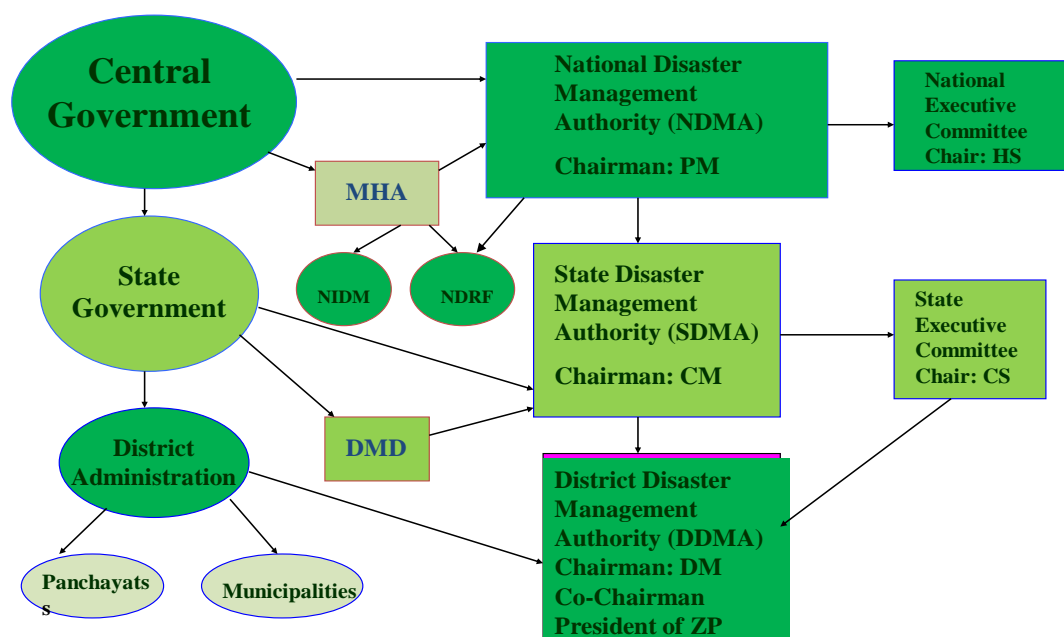
The DM Act 2005 and the National Policy on Disaster Management lays down institutional mechanisms at the National, State, District and Local levels. These mechanisms are expected to facilitate a paradigm shift in DM from relief-centric approach to a proactive regime

that lays greater emphasis on preparedness, prevention and mitigation. These institutions are formed for installation of legal, financial and coordination mechanisms at the National, State, District and Local levels.

Fig 3.1: Legal Institutional Framework for Disaster Management, DM Act 2005

### Legal Institutional Framework

#### DM Act 2005



#### 3.1.2 Central Government

In accordance with the provisions of the DM Act 2005, the Central Government will take all such measures, as it deems necessary or expedient, for Disaster Management and will coordinate actions of all agencies. The Central

Ministries and Departments take into consideration the recommendations of the State Governments while deciding upon the various pre-disaster requirements and for deciding upon the measures for the prevention

and mitigation of disasters. It ensures that the Central Ministries and departments integrate measures for the prevention and mitigation of disasters into their developmental plans and projects, make appropriate allocation of funds for pre-disaster requirements and take necessary measures for preparedness and to effectively respond to any disaster situation or disaster. It has the power to issue directions to NEC, State Governments/SDMAs, SECs or any of their officers or employees, to facilitate or assist in DM, and these bodies and officials will be bound to comply with such directions. The Central Government also extends cooperation and assistance to the State Governments as required by them or otherwise

deemed appropriate by it. It takes measures for the deployment of the Armed Forces for Disaster Management if required. The role of the Armed Forces is governed by the instructions laid out in Instructions on Aid to Civil Authorities 1970. The Central Government also facilitates coordination with the UN Agencies, other International organisations and Governments of foreign countries in the field of DM. Ministry of External Affairs, in co-ordination with MHA, will facilitate external co-ordination and cooperation. The Secretaries of the Nodal Ministries and Departments of GoI function for specific disasters based on their core competencies or as assigned to them.

S. No.	Disaster	Nodal Ministries
1	Earthquake	Ministry of Home Affairs
2	Flood	Ministry of Home Affairs
3	Drought, Hailstorm and Pest Attack	Agriculture and Cooperation
4	Landslide	Ministry of Home Affairs
5	Avalanche	Ministry of Home Affairs
6	Cyclone/Tornado/Hurricane	Ministry of Home Affairs
7	Tsunami	Ministry of Home Affairs
8	Forest Fire	Environment and Forest
9	Nuclear Accident inside or outside the country which poses health or other hazards to people in India	Ministry of Home Affairs/ Dept of Atomic Energy
10	Chemical Disasters including Industrial accidents	Environment and Forest
11	Biological Disasters	Health & Family Welfare
12	Disasters in mine	Ministry of Coal/Ministry of Mines/ Concerned Ministry
13	Rail Accidents	Ministry of Railways
14	Road Accident	Ministry of Road Transport, Highways and Shipping
15	Civil Aviation Accidents	Civil Aviation
16	Oil Spill	Coast Guard in coordination with concerned ministry and department

Table no 3.1 Nodal Ministries for Disaster Management

### 3.1.3 Cabinet Committee on Management of Natural Calamities (CCMNC) and the Cabinet Committee on Security (CCS)

CCMNC oversees the management of natural calamities including assessment of the

situation and identification of measures and programmes considered necessary to reduce its impact, monitor and suggest long term measures for prevention of such calamities, formulate and recommend programmes for public awareness for building up society's resilience to them. The Cabinet Committee on Security (CCS) deals with issues related to the

defence of the country, law & order and internal security, policy matters concerning foreign affairs that have internal or external security implications, and economic and political issues impinging on National security.

### **3.1.4 High Level Committee (HLC)**

The HLC comprises the Finance Minister, Home Minister, Agriculture Minister and Deputy Chairman of the Planning Commission as members. The constitution and composition of HLC may vary from time to time. The Vice Chairperson, NDMA will be a special invitee to the HLC. In the case of calamities of severe nature, Inter-Ministerial Central Teams are deputed to the affected States for assessment of damage caused by the calamity and the amount of relief assistance required. The Inter Ministerial Group (IMG), headed by the Union Home Secretary, scrutinises the assessment made by the Central teams and recommends the quantum of assistance to be provided to the States from the National Disaster Response Fund (NDRF)<sup>1</sup>. However, assessment of damages by IMG in respect of drought, hailstorms and pest attacks continue to be carried out by the Secretary, Ministry of Agriculture and Cooperation. The recommendations of the IMG are considered and approved by the High Level Committee chaired by the Union Agriculture Minister.

### **3.1.5 National Crisis Management Committee (NCMC)**

NCMC, comprising high level officials of the GoI headed by the Cabinet Secretary, deals with major crises which have serious ramifications. It is supported by the Crisis Management Groups (CMG) of the Central Nodal Ministries and assisted by NEC as may

be necessary. The Secretary, NDMA is a permanent invitee to this Committee.

### **3.1.6 National Disaster Management Authority (NDMA)**

The NDMA, as the apex body for disaster management, is headed by the Prime Minister and has the responsibility for laying down policies, plans and guidelines for DM and coordinating their enforcement and implementation for ensuring timely and effective response to disasters. It approves the National Disaster Management Plans and DM plans of the Central Ministries/Departments. It takes other measures which are considered necessary, for the prevention of disasters, or mitigation, or preparedness and capacity building, for dealing with a threatening disaster situation or disaster. Central Ministries/Departments and State Governments extend necessary cooperation and assistance to NDMA for carrying out its mandate. It oversees the provision and application of funds for mitigation and preparedness measures. NDMA has the power to authorise the Departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster. The general superintendence, direction and control of the National Disaster Response Force (NDRF) is vested in and will be exercised by the NDMA. The National Institute of Disaster Management (NIDM) works within the framework of broad policies and guidelines laid down by the NDMA.

### **3.1.7 National Executive Committee (NEC)**

The NEC is the executive committee of the NDMA, and is mandated to assist the NDMA in the discharge of its functions and also ensure compliance of the directions issued by the Central Government. It comprises the Union Home Secretary as Chairperson, and the Secretaries to the GoI in the Ministries/Departments of Agriculture,

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<sup>1</sup> Earlier this quantum of assistance was to be provided from National Calamity Contingency Fund (NCCF), but in 2010 NCCF was converted into NDRF vide Letter No. 32-3/2010-NDM-1 dated 28<sup>th</sup> September, 2010 by the Ministry of Home Affairs (Disaster Management Division) and NCCF ceased to exist since then.

Atomic Energy, Defence, Drinking Water Supply, Environment and Forests, Finance (Expenditure), Health, Power, Rural Development, Science & Technology, Space, Telecommunications, Urban Development, Water Resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport & Highways, and the Secretary, NDMA are special invitees to the meetings of the NEC.

### 3.1.8 National Institute of Disaster Management (NIDM)

The NIDM, in partnership with other research institutions has capacity development as one of its major responsibilities, along with training, research, documentation and development of a National level information base. It networks with other knowledge-based institutions and function within the broad policies and guidelines laid down by the NDMA. It organises training of trainers, DM officials and other stakeholders.

Table no.3.2 Battalions of National Disaster Response Force (NDRF)

Battalion	Location	Area of Responsibility for Natural Disaster	Area of Responsibility for CBRN Emergencies
1 <sup>st</sup> Bn NDRF	Guwahati	N.E. States	Kolkata Battalion
2 <sup>nd</sup> Bn NDRF	Kolkata	West Bengal, Sikkim, Jharkhand	
3 <sup>rd</sup> Bn NDRF	Mundali	Orissa, Chhatisgarh	Arakkonam Battalion
4 <sup>th</sup> Bn NDRF	Arakkonam	Tamil Nadu, Kerala, Puduchery, A & N Islands, Lakshadweep	
5 <sup>th</sup> Bn NDRF	Pune	Maharashtra, Karnataka, Goa	Pune Battalion
6 <sup>th</sup> Bn NDRF	Gandhi Nagar	Rajasthan, Gujarat, Madhya Pradesh, Dadra & Nagar Haveli, Daman & Diu	
7 <sup>th</sup> Bn NDRF	Bhatinda	Chandigarh, Punjab, J&K, Himachal Pradesh	Ghaziabad Battalion (Greater Noida)
8 <sup>th</sup> Bn NDRF	Ghaziabad	UP (Remaining Parts as not included under Patna Battalion), Uttarakhand, Haryana, Delhi	
9 <sup>th</sup> Bn NDRF	Patna	Bihar, Parts of UP (Allahabad, Ambedkar Nagar, Aamgarh, Baraich, Balia, Balampur, Basti, Chandoli, Devariya, Faizabad, Gazhipur, Gonda, Gorkhpur, Jaunpur, Kaushambi, Srinagar, Mahranaganj, Mao, Mirzapur, Pratapgarh, Sant Kabir Nagar, Sant Ravidas Nagar, Siddharth Nagar, Sonbhadra, Sultanpur, Varanasi)	Kolkata Battalion
10 <sup>th</sup> Bn NDRF	Vijayawada	Andhra Pradesh, Karnataka	
			Arakkonam Battalion



### 3.1.9 National Disaster Response Force (NDRF)

The NDRF is a specialised response force to tackle a threatening disaster situation or disasters/ emergencies both natural and man-made. NDRF units maintain close liaison with the designated State Governments and aim to be available to them in the event of any serious threatening disaster situation. Currently there are 10 battalions of NDRF out of which each battalion is equipped to deal with natural disasters rests and four battalions are also equipped and trained to respond to situations arising out of CBRN emergencies. Training centres are being set up by respective paramilitary forces to train personnel from NDRF battalions of respective forces to meet the training requirements of State/UT Disaster Response Forces. The NDRF units also impart basic training to all the stakeholders identified by the State Governments in their respective locations. The locations of battalions are shown above in table no 3.2.

### 3.2 Institutional Mechanisms at State Level

#### 3.2.1 Haryana State Disaster Management Authority (HSDMA)

The HSDMA is the apex body for disaster management at State level is headed by the Chief Minister. It lays down policies, plans and guidelines for Disaster Management and coordinates their enforcement and implementation for ensuring timely and effective response to disasters. It takes other measures which are considered necessary, for the prevention of disasters, or mitigation, or preparedness and capacity building, for dealing with a threatening disaster situation or disaster. It oversees the provision and application of funds for mitigation and preparedness measures. HSDMA has the power to authorise the Departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster. The members of the HSDMA are as under:

Table 3.3: Members of Haryana State Disaster Management Authority (HSDMA)

S. No.	Members	Designation in HSDMA
1	Chief Minister, Haryana	Chairperson, Ex-officio
2	Finance Minister, Haryana	Member
3	Health Minister, Haryana	Member
4	Rural Development & Panchayats Minister, Haryana	Member
5	Minister of state for Revenue	Member
6	Chief Secretary Haryana	Member and Chief Executive Officer, Ex-officio
7	Financial Commissioner, Revenue and Disaster Management, Haryana	Member
8	Home Secretary, Haryana	Member
9	Representative of National Disaster Management Authority	Member

### 3.2.2 State Executive Committee (SEC)

State Executive Committee (SEC), Haryana assists the HSDMA in the performance of its functions. The SEC will be headed by the Chief Secretary (CS) to the State Government and has four Ex-officio members (Financial Commissioner & Principal Secretary to Government, Haryana from four departments viz. Revenue & Disaster Management Department, Home Department, Finance department, Health Department, Haryana). SEC coordinates and monitors the implementation of the National Policy, the National Plan and the State Plan. The SEC coordinates and monitors management of disasters in the state. It monitors the implementation of disaster management plans prepared by the departments of the Government of the State and District Authorities.

### 3.2.3 State Advisory Committee (SAC)

The State Advisory Committee (SAC) in Haryana is under the Chairmanship of the Financial Commissioner & Principal Secretary to the Government of Haryana (Revenue and Disaster Management). It constitutes members from various departments and bodies within the Government of Haryana. It functions as an advisory committee that makes recommendations on different aspects of disaster management in the state.

### 3.2.4 Centre for Disaster Management–Haryana Institute of Public Administration (HIPA), Gurgaon

The Centre for Disaster Management, Haryana Institute of Public Administration, in partnership with NIDM and other research institutions has capacity development as one of its major responsibilities, along with training, research, documentation and development of a State level information base. It networks with other knowledge-based institutions and functions within the broad policies and guidelines laid down by the HSDMA. It organizes trainings for Disaster Management officials and other stakeholders.

## 3.3 Institutional Mechanisms at District Level

### 3.3.1 District Disaster Management Authority (DDMA), Palwal

District Disaster Management Authority, Palwal plans, coordinates and implements all measures for the purposes of Disaster Management in accordance with the Guidelines laid down by NDMA and HSDMA. It gives direction to departments at district level and local authorities to take measures for prevention or mitigation of disasters and also monitors that they implement disaster management plans at their respective level. The members of DDMA are as under:

S. No.	Members	Designation in DDMA
1	Deputy Commissioner, Palwal	Chairperson ex-officio
2	Chairman of Zila Parishad, Palwal	Co-Chairperson
3	Additional Deputy Commissioner, Palwal	Chief Executive Officer ex-officio
4	Superintendent of Police, Palwal	Member ex-officio
5	Chief Medical Officer, Palwal	Member ex-officio
6	Superintending Engineer, PWD( B&R), Palwal	Member
7	District Revenue and Disaster Management Officer	Member

Table 3.4: Members of District Disaster Management Authority (DDMA)

### 3.3.2 District Crisis Group

The district crisis group is the apex body in the district to deal with major chemical and industrial accidents and to provide expert guidance for appropriately handling them. It prepares the District Offsite Emergency Plan and reviews the Onsite Emergency plans prepared by various respective Major Accident Hazard (MAH) installations. The members of District Crisis Group are as under:

Table 3.5: Members of District Crisis Group

S. No.	Members	Designation in District Crisis Group
1	Deputy Commissioner, Palwal	Chairperson
2	Assistant Director Industrial Safety, Palwal	Member Secretary
3	General Manager, District Industrial Centre, Palwal	Member
4	Fire Officer of Municipal council, Palwal	Member
5	District Public Relation Officer, Palwal	Member
6	S.D.O. (Civil) cum Deputy Controller Civil Defense, Palwal	Member
7	Senior Superintendents of Police, Palwal	Member
8	Civil Surgeon Palwal	Member
9	Executive Engineer, Municipal Council or Executive Officer, Municipal Council, Palwal	Member
10	Executive Engineer, PWD (Public Health), Palwal	Member
11	Regional Officer, Haryana State Pollution Control Board Ballabgarh Region (Palwal)	Member
12	Deputy Director, Agriculture, Palwal	Member
13	(I) Senior Assistant Director, Industrial Safety and Health, Faridabad (II) Assistant Director, Industrial Safety and Health, Faridabad	Member
14	General Manager Haryana Roadways, Palwal	Member
15	One Representative of Trade Union to be nominated by Deputy Commissioner, Palwal	Member
16	One Representative of Industries to be nominated by Deputy Commissioner, Palwal	Member

### 3.3.3 Control Rooms

#### a. Police Control Room

Table 3.6: Police Control Room and Helpline

Control Room/ Helpline	Contact Number
<b>District Control Room (DC Camp office)</b>	01275-248901/911
<b>Police Control Room</b>	01275-246380, 246711
<b>Women Helpline</b>	1091

#### b. Flood Control Room

The flood control room, Palwal is located in the office of the District Revenue Officer at Deputy Commissioner Office, Palwal and he functions as the officer-in-charge of the same. The control room is functional at all hours during the rainy season for the purpose of receiving flood warnings and other information. It also receives all messages /instructions from the state control room and passes them on to the officer in -charge, who, if required, directs them further to sub-divisional control room and tehsil control room. The control rooms at the sub divisional, tehsil /sub-tehsil headquarters receive all information regarding flood situation in their

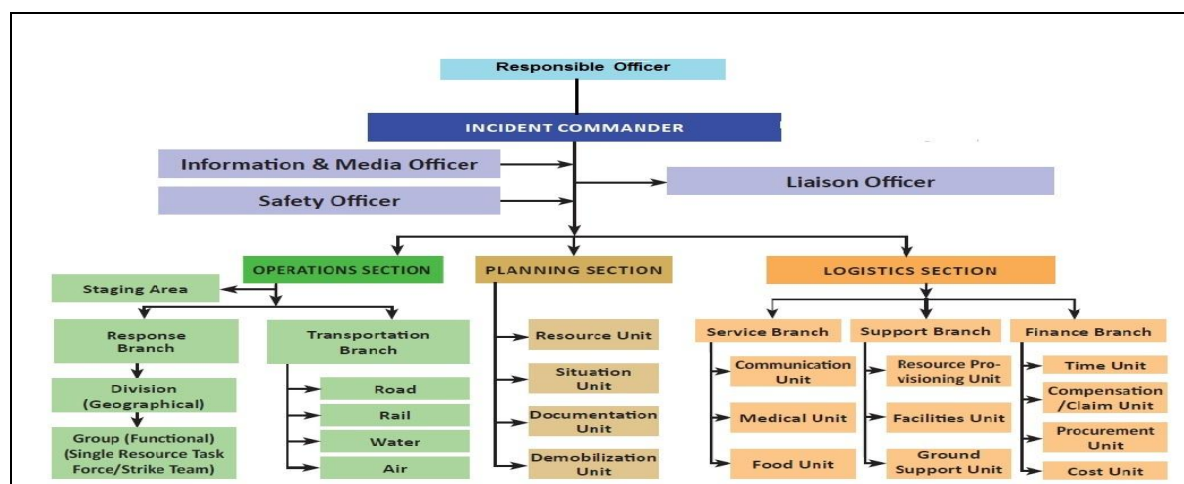
respective areas from the sector officers and also convey any information pertaining to flood relief operations from the central control room or any other source to the sector officers and other officials /non official organizations as the case may be. They also issue directions regarding evacuation and supply of relief items to human beings and cattle and all other precautionary measures according to flood situation prevailing in their respective areas. All the information so collected is transmitted by the officer-in-charge, flood relief branch to the Financial Commissioner (Revenue), Haryana, Chandigarh daily through wireless in the performa prescribed by the state government time to time.

Table 3.7: Details of Flood Control Room

Site of Control Room	Officer-in-charge	Telephone Number
<b>DRO Office(DC Office)</b>	DRO, Palwal	01275- 248900/910
<b>Palwal</b>	SDO (C), Palwal	01275- 252700
<b>Hathin</b>	SDO (C), Hathin	01275- 261480/81
<b>Hodal</b>	SDO (C),Hodal	01275- 235836

### 3.3.4 Incident Response System at District Level

Fig 3.2: The Incident Response System (IRS) at district level



The Incident Response System (IRS) at district level identifies and designates officers to perform various duties and get them trained in their respective roles; thus reducing chaos and confusion during the response phase. It is a flexible system and all the Sections, Branches and Units need not be activated at the same time. Various Sections, Branches and Units

need to be activated only as and when they are required. It also includes proper documentation of various activities for better planning, accountability and analysis which also helps new/ outside responders to immediately get a comprehensive picture of the situation and go in for immediate action.

Table 3.8: Incident Response Structure at District Level, Palwal

Designation	Roles and Responsibility
<b>Deputy Commissioner (DC), Palwal as Responsible Officer (RO)</b>	<ol style="list-style-type: none"> <li>1. Ensure formation of Incident Response Teams (IRT) at District, Sub-Division, Tehsil/Block.</li> <li>2. Ensure that a reasonable amount of imprest fund is sanctioned clearly delineating the procedure for emergency procurement.</li> <li>3. Ensure effective communication and Web based / online Decision Support System (DSS) is in place in the EOC and connected with District, Sub-Division, Tehsil/Block level.</li> <li>4. Appoint / deploy, terminate and demobilise Incident Commander (IC) and IRT(s) as and when required.</li> <li>5. Decide overall incident objectives, priorities and ensure that Incident Action Plan (IAP) is prepared by the IC and implemented.</li> <li>6. Identify, mobilise and allocate critical resources according to established priorities from with any department of the Government, Local Authority, private sector in the district.</li> </ol>

	<ol style="list-style-type: none"> <li>7. Coordinate with the State Government for mobilisation of Armed Forces, Air support etc. as and when required.</li> <li>8. Ensure overall coordination of response, relief and other activities.</li> <li>9. Ensure that NGOs carry out their activities in an equitable and non-discriminatory manner.</li> <li>10. Mobilise experts and consultants in the relevant fields for advice, if necessary.</li> <li>11. Conduct post response review on performance of IRTs and take appropriate steps to improve performance.</li> <li>12. Take such other necessary action as the situation demands.</li> </ol>
<b>A. COMMAND STAFF</b>	
<b>Additional Deputy Commissioner (ADC), Palwal as Incident Commander (IC)</b>	<ol style="list-style-type: none"> <li>1. Obtain information on: <ol style="list-style-type: none"> <li>a. Incident situation status like number of people and the area affected etc.</li> <li>b. Availability and procurement of resources</li> <li>c. Requirement of facilities like ICP, Staging Area, Incident Base, Camp, Relief Camp, etc.</li> <li>d. Availability and requirements of Communication system</li> <li>e. Future weather behavior from IMD</li> <li>f. Any other information required for response from all available sources and analyse the situation</li> </ol> </li> <li>2. Determine incident objectives and strategies based on the available information and resources and establish immediate priorities and strategies.</li> <li>3. Establish appropriate IRS with Sections, Branches, Divisions and/or Units based on the span of control and scale of the incident.</li> <li>4. Establish Incident Command Post (ICP) at a suitable place. There will be one ICP even if the incident is multijurisdictional.</li> <li>5. Prepare Incident Action Plan (IAP) which should be reviewed every 24 hours and circulated to all concerned.</li> <li>6. Hold planning meeting at regular interval.</li> <li>7. Ensure that adequate safety measures for responders and affected communities are in place.</li> <li>8. Ensure proper coordination between all sections of the IRT, agencies working in the response activities and make sure that all conflicts are resolved.</li> <li>9. Consider requirement of resources, equipment which are not available in the functional jurisdiction, discuss with Planning Section Chief (PSC) and Logistics Section Chief (LSC) and inform RO regarding their procurement.</li> <li>10. Authorise release of information to the media.</li> <li>11. Recommend demobilisation of the IRT, when appropriate.</li> <li>12. Review public complaints and recommend suitable grievance redressal measures to the RO.</li> <li>13. Perform any other duties that may be required for the management of the incident.</li> </ol>
<b>District Information and Public Relation Officer (DIPRO), Palwal as</b>	<ol style="list-style-type: none"> <li>1. Prepare and release information about the incident to the media agencies and others with the approval of IC.</li> <li>2. Record decisions taken and directions issued in case of sudden disasters when the IRT has not been fully activated and hand it over to the Planning Section (PS) on its activation for incorporation in the IAP.</li> </ol>

<b>Information and Media Officer (IMO)</b>	<ol style="list-style-type: none"> <li>3. Monitor and review various media reports regarding the incident that may be useful for incident planning.</li> <li>4. Organise IAP meetings as directed by the IC or when required.</li> <li>5. Coordinate with IMD to collect weather information and disseminate it to all concerned.</li> <li>6. Maintain record of various activities performed and perform such other duties as assigned by IC.</li> </ol>
<b>City Magistrate, Palwal as Liaison Officer (LO)</b>	<ol style="list-style-type: none"> <li>1. Maintain a list of concerned line departments, agencies (CBOs, NGOs, etc.) and their representatives at various locations.</li> <li>2. Liaison with all concerned agencies including NDRF and Armed Forces and line departments of Government.</li> <li>3. Monitor operations to identify current or potential inter-agency problems.</li> <li>4. Participate in planning meetings and provide information on response by participating agencies.</li> <li>5. Keep the IC informed about arrivals of all the Government and Non Government agencies and their resources.</li> <li>6. Organise briefing sessions of all Governmental and Non Governmental agencies with the IC.</li> <li>7. Maintain record of various activities performed and perform such other duties as assigned by IC.</li> </ol>
<b>Deputy Superintendent of Police (HQ), Palwal as Safety Officer (SO)</b>	<ol style="list-style-type: none"> <li>1. Recommend measures for assuring safety of responders and to assess or anticipate.</li> <li>2. Identify hazardous and unsafe situations and review it regularly.</li> <li>3. Participate in planning meetings for preparation of IAP and review the IAP for safety implications.</li> <li>4. Obtain details of accidents that have occurred within the incident area if required or as directed by IC and inform the appropriate authorities.</li> <li>5. Review and approve the Site Safety Plan, as and when required.</li> <li>6. Maintain record of various activities performed and perform such other duties as assigned by IC.</li> </ol>
<b>B. GENERAL STAFF</b>	
<b>Operation Section</b>	
<b>Sub-Divisional Magistrate (SDM) of affected area as Operation Section Chief (OSC)</b>	<ol style="list-style-type: none"> <li>1. Coordinate with the activated Section Chiefs.</li> <li>2. Manage all field operations for the accomplishment of the incident objectives.</li> <li>3. Ensure the overall safety of personnel involved in the OS and the affected communities.</li> <li>4. Deploy, activate, expand and supervise organisational elements (Branch, Division, Group, etc) in his Section in consultation with IC and in accordance with the IAP.</li> <li>5. Brief the personnel in OS at the beginning of each operational period and ensure resolution of all conflicts, information sharing, coordination and cooperation between the various Branches of his Section.</li> <li>6. Consult the IC from time-to-time and keep him fully briefed.</li> <li>7. Determine the need for additional resources and place demands accordingly and ensure their arrival.</li> <li>8. Ensure record of various activities performed and perform such other duties as assigned by RO / IC.</li> </ol>



<b>Tehsildar of the affected area as Staging Area Manager</b>	<ol style="list-style-type: none"> <li>1. Establish the Staging Area with proper layout.</li> <li>2. Organise storage and dispatch of resources received as per IAP.</li> <li>3. Report all receipts and dispatches to OSC and maintain their records.</li> <li>4. Manage all activities of the SA and utilise all perishable supplies expeditiously.</li> <li>5. Request maintenance and repair of equipment at SA, as needed.</li> <li>6. Ensure that communications are established with the ICP, different SAs, Incident Base, Camp, Relief Camp.</li> <li>7. Maintain and provide resource status to PS and LS.</li> <li>8. Demobilise SA in accordance with the Demobilisation Plan.</li> <li>9. Maintain record of various activities performed and perform any other duties as assigned by OSC.</li> </ol>
<b>Response Branch Director (RBD)</b> <i>There is one RBD from each of the frontline department; the details are dealt in Annexure I</i>	<ol style="list-style-type: none"> <li>1. Ensure implementation of IAP as per the assigned role.</li> <li>2. Attend planning meetings as required by the OSC and review assignment lists for Divisions or Groups under Response Branch.</li> <li>3. Report to OSC regarding modifications required if any in the IAP, need for additional resources, availability of surplus resources and when hazardous situations or significant events occur, etc.</li> <li>4. Provide Single Resource, Strike Team and Task Force support to various operational areas.</li> <li>5. Perform all tasks mentioned in (ESF Refer annexure no II)</li> </ol>
<b>Division Supervisor</b>	<ol style="list-style-type: none"> <li>1. Ensure implementation of division or group assignment list.</li> <li>2. Assign resources within the division or group under them.</li> <li>3. Report on the progress of Operations, and the status of resources within the division or group.</li> <li>4. Coordinate activities with adjacent divisions or groups, if required.</li> <li>5. Submit situation and resource status to the RBD and the OSC.</li> <li>6. Report all hazardous situations, special occurrences or significant events (e.g., accidents, sickness, deteriorating weather conditions, etc.) to the RBD and the OSC.</li> <li>7. Participate in the development of IAP for next operational period, if required.</li> <li>8. Perform all tasks mentioned in (ESF Refer annexure no II)</li> </ol>
<b>Single Resource Unit Leader (SRUL)</b>	<ol style="list-style-type: none"> <li>1. Take charge of necessary equipment and supplies.</li> <li>2. Assess local weather and environmental conditions, law and order situation etc. in the assigned area and report to division supervisor or group in charge.</li> <li>3. Perform the assigned duty and keep contact with his supervisor.</li> <li>4. Perform all tasks mentioned in (ESF Refer annexure no II)</li> </ol>
<b>BDPO (For rural area) as Task Force Leader Secretary, MC (for urban area) as Task Force Leader</b>	<ol style="list-style-type: none"> <li>1. Review assignments with members of his team;</li> <li>2. Report on work progress;</li> <li>3. Coordinate activities with adjacent Single Resource, Strike Teams and Task Forces if assigned;</li> <li>4. Establish and ensure communications;</li> <li>5. Perform any other duties assigned; and</li> <li>6. Maintain record of various activities.</li> </ol>
<b>Secretary RTA, Palwal as</b>	<ol style="list-style-type: none"> <li>1. Activate and manage different operations groups like road, rail and air.</li> <li>2. Coordinate with railways, road transport and airport authorities for support.</li> </ol>

<b>Transport Branch Director (TBD)</b>	<ol style="list-style-type: none"> <li>3. Provide ground support to the air operations and ensure appropriate security arrangements.</li> <li>4. Provide Road transport support to the Rail Operations Group as required.</li> <li>5. Ensure safety of all personnel of this Branch involved in the Incident Response activities.</li> <li>6. Ensure that all units moving in the area are familiarised with route with the help of road maps or local guides.</li> <li>7. Prepare transportation plan as per the IAP.</li> <li>8. Determine the need for additional resources, their proper and full use and place demand accordingly in advance.</li> <li>9. Ensure the maintenance of the status of hired resources, their full utilisation and timely release.</li> <li>10. Ensure that the record of various activities performed and perform any other duties assigned by the IC or OSC.</li> </ol>
<b>Assistant Secretary RTA, Palwal as Group-in-charge (Road Operations)</b>	<ol style="list-style-type: none"> <li>1. Ensure transportation of resources by road to the affected sites.</li> <li>2. Attend planning meetings on the direction of OSC and determine coordination procedures with various destinations as per IAP and update Road Operations plan as required.</li> <li>3. Ensure proper parking locations.</li> <li>4. In case of accidents, inform the TBD, the local police and provide assistance in investigation, if required.</li> <li>5. Ensure that mechanics are available for repair of vehicles and also ensure adequate availability of Petrol, Oil and Lubricants (POL).</li> <li>6. Maintain the records of all important activities relating to the number of vehicles deployed, source of vehicles (i.e. Government or private), locations where vehicles are deployed along with resource details they are carrying.</li> <li>7. Support and coordinate the road operations part of the rail and air operations.</li> </ol>
<b>Railway Superintendent , Palwal as Group-in-charge (Rail Operations)</b>	<ol style="list-style-type: none"> <li>1. Prepare and provide rail operations summary including time of departure and arrival, destinations, resource details, etc as and when required by the senior officers.</li> <li>2. Coordinate with road operations group for movement of resources.</li> <li>3. Organise crew for loading and unloading.</li> <li>4. Ensure safe storage and warehousing of the materials.</li> <li>5. Update Rail Operations Plan.</li> <li>6. Establish and maintain communications with various storage and warehousing areas, destination points and railway officers.</li> </ol>
<b>Nodal Officer (Air Operations)</b>	<ol style="list-style-type: none"> <li>1. Coordinate with concerned authorities for air operations and project the type of air support required demand at least 24 hours in advance or as early as possible.</li> <li>2. Inform the IC and OSC about the air movements and landing schedules in their respective areas.</li> <li>3. Ensure that relevant maps of the incident locations are available with all agencies involved in the air operations to give the correct coordinates of the locations where air support is required.</li> <li>4. Determine the suitability of helipads or helibases in coordination with the Air Force authorities and the State authorities.</li> <li>5. Maintain communication with Air Traffic Control and the ground support staff regarding the Air movements and other related activities.</li> </ol>

	6. Report on air operations activities to the RO and perform any other duties assigned by the RO and IC.
<b>Incharge Delhi Airport/ Head, Civil Aviation as Group-in-charge (Air Operations)</b>	<ol style="list-style-type: none"> <li>1. Provide ground support to air operations as per the IAP.</li> <li>2. Report to TBD the progress of air operations and work in close coordination with the NO, IC, OSC and TBD.</li> <li>3. Ensure resources and supplies required for the Air Operations are available at the concerned locations.</li> <li>4. Keep appropriate Maps in order to provide correct coordinates to the pilots and others involved in the Air Operations.</li> <li>5. Ensure refueling facilities are available at the landing and takeoff locations.</li> <li>6. Ensure that helibase and helipad locations are identified and approved by the appropriate authorities and ensure identification and marking of helibases and helipads.</li> <li>7. Determine the need for assignment of personnel and equipment at each helibase and helipad.</li> <li>8. Ensure that the communication systems are in place.</li> <li>9. Update landing and takeoff schedule of aircrafts and Helicopters as informed by NO.</li> <li>10. Ensure preparation of the load manifest for proper loading or unloading of relief supplies.</li> <li>11. Arrange for unloading and dispatch or storage of relief materials that arrive at the airports, helipads and helibase.</li> <li>12. Ensure clearing of unsolicited relief from the operational area.</li> <li>13. Ensure that proper packaging and weighing facilities are in place and used for loading of relief materials.</li> <li>14. Liaise with the road operations group for the road transportation needs.</li> <li>15. Ensure the functionality of aircraft rescue and firefighting service at helibases and helipads, security, proper lights, smoke candles/devices, weighing facilities, wind direction socks, etc. are in place.</li> </ol>
<b>Planning Section</b>	
<b>Additional Deputy Commissioner (ADC), Palwal as Planning Section Chief (PSC)</b>	<ol style="list-style-type: none"> <li>1. Coordinate with the activated Section Chiefs for planning and preparation of IAP in consultation with IC.</li> <li>2. Ensure that decisions taken and directions issued in case of sudden disasters when the PS had not been activated are obtained from the IMO and incorporated in the IAP.</li> <li>3. Prepare IAP by assessing the current situation, predicting probable course of the incident and preparing alternative strategies.</li> <li>4. Ensure collection, evaluation, and dissemination of information about the incidents including weather, environment toxicity, availability of resources etc. from concerned technical specialist, demobilization unit, documentation unit, situation unit, resource unit and other sources.</li> <li>5. The PS must have a databank of available resources with their locations from where it can be mobilized.</li> <li>6. Plan to activate and deactivate IRS positions as appropriate, in consultation with the IC and OSC.</li> <li>7. Utilise IT solutions for pro-active planning, GIS for decision support and modeling capabilities for assessing and estimating casualties and for comprehensive response management plan.</li> <li>8. Prepare and implement of Incident Demobilisation Plan.</li> <li>9. Ensure that record of various activities performed and perform any other duties assigned by IC.</li> </ol>

<b>District Town Planner (DTP), Palwal as Resource Unit Leader (RUL)</b>	<ol style="list-style-type: none"> <li>1. Maintain and display the status of all assigned resources at the incident site by maintaining a resource status-keeping system.</li> <li>2. Access information about availability of all required resources at other locations and prepare a plan for their mobilization.</li> <li>3. Ensure and establish check-in function at various incident locations.</li> <li>4. Update the PSC and IC about the status of resources received and dispatched from time to time.</li> <li>5. Coordinate with the various activated Branches, Divisions and Groups for checking status and utilisation of allotted resources.</li> <li>6. Ensure quick and proper utilisation of perishable resources.</li> </ol>
<b>Assistant Town Planner (ATP), Palwal as Check-in/ Status Recorder</b>	<ol style="list-style-type: none"> <li>1. Report to the RUL and ensure that all resources assigned to an incident are accounted for at each check-in point.</li> <li>2. The status of resources would be displayed through T card board or through a computerised programme on the computers.</li> <li>3. Establish communications with the EOC and Ground Support Unit (GSU) of LS.</li> <li>4. Ensure displays of check-in locations on signboard so that arriving resources can easily locate the check-in location(s).</li> <li>5. Transmit Incident Check-in and deployment information to Resource Unit on a regular and prearranged schedule or as needed.</li> </ol>
<b>District Planning Officer, Palwal as Situation Unit Leader (SUL)</b>	<ol style="list-style-type: none"> <li>1. Collect, process and organise all incident information as soon as possible for analysis.</li> <li>2. Prepare periodic future projections of the development of the incident (along with maps if required) and keep the PSC and IC informed.</li> <li>3. Prepare situation and resource status reports and disseminate as required.</li> <li>4. Provide authorised maps, photographic services to responders, if required.</li> <li>5. Attend IAP Meeting with required information, data, documents and Survey of India maps etc.</li> <li>6. Maintain record of various activities performed and send to concerned section.</li> </ol>
<b>Naib Tehsildar of the affected area as Display Observer</b>	<ol style="list-style-type: none"> <li>1. Display incident status obtained from Field Observers (FOs), Single Resource, Strike Teams, Task Forces, aerial photographs and other data received from technical Sources and report to the SUL.</li> <li>2. Ensure timely completion of display chart.</li> <li>3. Assist in analysing and evaluating field reports.</li> <li>4. Maintain record of various activities performed and send to the SUL.</li> </ol>
<b>Patwari of the affected area as Field Observer</b>	<ol style="list-style-type: none"> <li>1. Report to SUL immediately on observing any situation, including local weather conditions, posing danger or being a safety hazard to responders and affected communities.</li> <li>2. Gather intelligence that may facilitate better planning and effective response.</li> <li>3. Maintain record of various activities performed and send to the SUL.</li> </ol>
<b>District Informatics officer(DIO), Palwal as Documentation Unit Leader (DUL)</b>	<ol style="list-style-type: none"> <li>1. Ensure that all the required forms and stationery are procured and issued to all the activated sections, branches, divisions, groups and units.</li> <li>2. Compile all information and reports related to the incident.</li> <li>3. Review and scrutinise the records and various IRS forms for accuracy and completeness.</li> <li>4. Inform appropriate units of errors or omissions in their documentation, if any, and ensure that errors and omissions are rectified.</li> <li>5. Store files properly for post-incident analysis.</li> </ol>

<b>Tehsildar of the affected area as Demobilization Unit Leader (Demob. UL)</b>	<ol style="list-style-type: none"> <li>1. Prepare Incident Demobilisation Plan (IDP).</li> <li>2. Identify surplus resources and prepare a tentative IDP in consultation with the PSC and give priority to demobilisation of surplus resources.</li> <li>3. Develop incident check-out functions for sections, branches, divisions and units in consultation with all sections and send to the PS.</li> <li>4. Plan for logistics and transportation support for Incident Demobilisation in consultation with LS.</li> <li>5. Disseminate IDP at an appropriate time to various stakeholders involved ensuring that all sections, units, teams and resources understand their specific incident demobilisation responsibilities and avail demobilisation facilities.</li> <li>6. Brief the PSC on the progress of demobilization.</li> </ol>
<b>Logistic Section</b>	
<b>District Revenue Officer (DRO), Palwal as Logistics Section Chief (LSC)</b>	<ol style="list-style-type: none"> <li>1. Coordinate with the activated Section Chiefs.</li> <li>2. Provide logistic support to all incident response effort including the establishment of Staging Area, Incident Base, Camp, Relief Camp, Helipad, IDP etc.</li> <li>3. Participate in the development and implementation of the IAP.</li> <li>4. Keep RO and IC informed on related financial issues and request for sanction of Imprest Fund, if required.</li> <li>5. Ensure the safety of the personnel of his Section.</li> <li>6. Brief Branch Directors and Unit Leaders.</li> <li>7. Anticipate over all logistic requirements for relief Operations and prepare accordingly.</li> <li>8. Constantly review the Communication Plan, Medical Plan and Traffic Plan to meet the changing requirements of the situation.</li> <li>9. Assess the requirement of additional resources and take steps for their procurement in consultation with the RO and IC.</li> <li>10. Ensure that the hiring of the requisitioned resources is properly documented and paid by the Finance Branch.</li> <li>11. Ensure that cost analysis of the total response activities is prepared.</li> <li>12. Ensure that record of various activities performed and perform any other duties as assigned by RO or IC.</li> </ol>
<b>District Revenue Officer, Palwal as Service Branch Director (SBD)</b>	<ol style="list-style-type: none"> <li>1. Work under the supervision of LSC, and manage all required service support for the incident management.</li> <li>2. Discuss with activated Unit leaders for the materials and resources required and procure the same through LS.</li> <li>3. Ensure proper dispatch of personnel, teams, resources etc as per the IAP.</li> <li>4. Prepare an assignment list, if required.</li> </ol>
<b>District Radio Officer (Police Communication), Palwal as Communication Unit Leader (Com. UL)</b>	<ol style="list-style-type: none"> <li>1. Provide communications facility as and when required.</li> <li>2. Ensure that all communications equipment available is in working condition and that the network is functional.</li> <li>3. Maintain the records of all communications equipment deployed in the field and recover them after the incident is over.</li> <li>4. Ensure setting up of a message centre to receive and transmit radio, telephone and other messages from various activated sections, branches, units and higher authorities and maintain their records.</li> <li>5. Prepare an alternative communication plan for execution in case of possible</li> </ol>



	<p>failure of the normal communications network. The alternative communications network may have wireless, satellite phones, cell phones, HAM radios etc.</p> <p>6. Prepare a plan for integration of the communications set up of the central teams (NDRF, Armed Forces) with the local communications set up for the management of large scale disasters when they come to assist in the response effort.</p>
<b>Deputy Chief Medical Officer (CMO), Palwal as Medical Unit Leader (MUL)</b>	<ol style="list-style-type: none"> <li>1. Prepare the Medical Plan and procurement of required resources.</li> <li>2. Provide medical aid and ambulance for transportation of victims and maintain the records of the same.</li> <li>3. Obtain a road map of the area from the PS for the ambulance services, transportation of medical personnel and victims.</li> <li>4. Respond to requests of the OS for medical aid, transportation and medical supplies etc. under intimation to the SBD and LSC.</li> <li>5. Maintain the list of medical personnel who could be mobilised in times of need.</li> <li>6. Prepare and circulate list of referral service centres to all the medical team leaders.</li> </ol>
<b>Superintendent, Food and Supplies Department), Palwal as Food Unit Leader (FUL)</b>	<ol style="list-style-type: none"> <li>1. Supply resources to various activated sections, branches, units and groups of IRT as per direction of the SBD.</li> <li>2. Supply food to personnel of IRT(s) at ICP, camps, incident base, SA, victims at the temporary shelters, relief camps etc.</li> <li>3. FUL may request the LSC to split the unit (if the task becomes very large) into two groups—one to supply food for personnel and another for victims.</li> <li>4. Determine food and drinking water requirements and their transportation and brief the SBD and LSC.</li> <li>5. Maintain an inventory of receipt and dispatch of resources.</li> </ol>
<b>District Revenue Officer(DRO), Palwal as Support Branch Director (Sup. BD)</b>	<ol style="list-style-type: none"> <li>1. Procure and dispatch required tactical materials and resources for operations with the concurrence of the Section Chief.</li> <li>2. Participate in the planning meeting of the LS.</li> <li>3. Ensure that organisation assignment list concerning the branch is circulated to all units under Sup. BD.</li> </ol>
<b>Naib tehsildar of affected area as Resource Provisioning Unit Leader (RPUL)</b>	<ol style="list-style-type: none"> <li>1. Organise movement of personnel, equipment and supplies.</li> <li>2. Receive and store safely all supplies required for the incident response.</li> <li>3. Maintain the inventory of supplies and equipment.</li> <li>4. Organise repair and servicing of non-expendable supplies and equipment.</li> <li>5. Monitor the 'kind', 'type' and quantity of supplies available and dispatched and maintain the records of receipt and dispatch of supplies including equipment and personnel.</li> <li>6. Receive and respond to requests for personnel, supplies and equipment from the activated sections, branches, divisions, units and groups under intimation to Sup. B.D.</li> </ol>
<b>Naib tehsildar of affected area as Facilities Unit Leader (Fac. UL)</b>	<ol style="list-style-type: none"> <li>1. Prepare the layout and activation of incident facilities like Incident Base, Camp(s), Relief Camp(s), ICP, etc., and provide basic amenities to the responders.</li> <li>2. Locate the different facilities as per the IAP.</li> <li>3. Participate in the planning meeting of the Section, prepare list for each facilities and its requirements in coordination with the LSC.</li> </ol>
<b>Naib tehsildar of</b>	<ol style="list-style-type: none"> <li>1. Provide transportation services for field operations to TBD.</li> </ol>

<b><i>affected area as Ground Support Unit Leader (GSUL)</i></b>	<ol style="list-style-type: none"> <li>2. In case Air Operations are activated, organise and provide required ground support through TBD.</li> <li>3. Provide maintenance and repair services for all the vehicles and related equipment used for incident management as per proper procedures and keep the concerned line departments informed through the Sup. BD and LSC.</li> <li>4. Develop and implement the Incident Traffic Plan.</li> <li>5. Inform Resource Unit about the availability and serviceability of all vehicles and equipment.</li> <li>6. Arrange for and activate fueling requirements for all transport including Aircrafts in consultation with the Sup. BD.</li> <li>7. Maintain inventory of assigned, available and off road or out of service resources.</li> </ol>
<b><i>Treasury Officer, Palwal as Finance Branch Director (FBD)</i></b>	<ol style="list-style-type: none"> <li>1. Attend planning meetings.</li> <li>2. Prepare a list of resources to be mobilised, procured or hired in accordance with the IAP. Obtain orders of the competent authority as per financial rules and take steps for their procurement without delay.</li> <li>3. Ensure that time records of hired equipment, personnel and their services are accurately maintained as per Government norms for payment.</li> <li>4. Examine and scrutinise cost involved in the entire response activity including the demobilisation, analysis the cost effectiveness and keep the LSC informed.</li> <li>5. Ensure that all obligation documents initiated at the incident are properly prepared, completed, verified and signed by the appropriate Section Chief and BD.</li> <li>6. Brief the LSC or IC on all incident related financial issues needing attention or follow-up.</li> </ol>
<b><i>Deputy Superintendent, Revenue, Palwal as Time Unit Leader (TUL)</i></b>	<ol style="list-style-type: none"> <li>1. Maintain time recording of hired equipment and personnel and ensure that it is maintained on a daily basis and according to government norms.</li> <li>2. Examine logs of all hired equipment and personnel with regard to their optimal utilization.</li> <li>3. Ensure that all records are correct and complete prior to demobilisation of hired resources.</li> </ol>
<b><i>Naib Tehsildar (Accounts), Palwal as Compensation/ Claim Unit Leader (Com./ CUL)</i></b>	<ol style="list-style-type: none"> <li>1. Collect all cost data and provide cost estimates.</li> <li>2. Prepare and maintain a list of requisitioned premises, services, resources and vehicles, etc. with correct date and time of such requisition.</li> <li>3. Follow appropriate procedures for preparation of claims and compensation.</li> </ol>
<b><i>Secretary, Red Cross/District Nazar, Palwal as Procurement Unit Leader (PUL)</i></b>	<ol style="list-style-type: none"> <li>1. Attend to all financial matters pertaining to vendors and contracts.</li> <li>2. Review procurement needs in consultation with the FBD and prepare a list of vendors from whom procurement can be done following proper procedures.</li> <li>3. Ensure all procurements ordered are delivered on time.</li> <li>4. Coordinate with the FBD for use of imprest funds, as required.</li> <li>5. Complete final processing of all bills arising out of the response management and send documents for payment with the approval of the FBD, LSC and IC.</li> </ol>
<b><i>Deputy Suprtdnt, Revenue, Palwal as Cost Unit Leader (CUL)</i></b>	<ol style="list-style-type: none"> <li>1. Develop incident cost summaries in consultation with the FBD on the basis of Cost Analysis Report.</li> <li>2. Make cost-saving recommendations to the FBD.</li> <li>3. Complete all records relating to financial matters prior to demobilization.</li> </ol>



**a. Members of Planning Committee and Response Branch**

Table no. 3.9: Members Planning Committee and Response Branch

Sr No	Name Of Department	Members of Planning Committee under ADC	Response Branch Director	Division Supervisors	Single Resource Units Leaders
1.	Police	SP	DSPs	Inspectors at each Police Station	Sub-Inspector/ Assistant Sub-Inspector at each Police Post
2.	Health	CMO	Deputy CMO (Health)	Senior Medical Officers (SMO) at each CHC	Each Medical Officer (MO) at each PHC
3.	Fire		District Fire Officer	AFSO/ Sub Fire Officer	Leading Firemen
4.	Food and Supplies	DFSC	District Food and Supply Officer	Assistant food and Supply Officer	Inspector/ Sub Inspectors
5.	Public Health	SE	XENs	SDOs	JEs
6.	Irrigation	SE	XENs	SDOs	JEs
7.	PWD (B&R)	SE	XENs	SDOs	JEs
8.	HVPNL/ DHVBNL	SE	XENs	SDOs	JEs
9.	Agriculture	Dy. Director	SDAO	BAOs	ADOs
10.	Forest	District Forest Officer	Range officer	Foresters	Forest Guards
11.	Animal Husbandry	Dy. Director	SDOs	Veterinary Surgeon	VLDS
12.	Development and Panchayat	DDPO	BDPOs	SEPOs	Village Secretaries

(Refer ANNEXURE I for thorough Understanding of Incident Response System)

# 4 Prevention & Mitigation Measures

Prevention can be defined as an action taken to avoid an incident or stopping an incident from occurring. It basically includes deterrence operations and surveillance.

Mitigation refers to measures that prevent an emergency, reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies.

In order to know the mitigation measures already existing in the district, there are various development projects and schemes which will be seen in the following section.

As mentioned in the NDMA Guidelines, following are the measures to be taken for prevention and mitigation purposes:-

## 4.1 Structural and Non-Structural Measures

Both structural and non-structural measures shall be taken as part of mitigation plan. Structural mitigation refers to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure. Non-structural mitigation refers to policies, awareness, knowledge development, public commitment, information sharing which can reduce risk.

Table 4.1: Hazard-specific Structural & Non-Structural Measures

Hazard	Structural Measures	Non-Structural Measures
<b>Flood</b>	<ul style="list-style-type: none"> <li>i. Strengthening/ construction of embankments, flood walls and flood levees</li> <li>ii. Proper regulation of lakes, dams and other water storage reservoirs</li> <li>iii. Improvement of channels</li> <li>iv. Proper desilting/dredging of rivers in order to keep the rise of the river beds minimum</li> <li>v. Drainage improvement in order to avoid congestion</li> <li>vi. Diversion of flood water in order to lower water levels in the rivers</li> <li>vii. Catchment area treatment/afforestation, building up of check dams/detention basins in order to reduce the flood peaks and control the suddenness of the</li> </ul>	<ul style="list-style-type: none"> <li>i. Flood plain zoning to regulate land use in the flood plains</li> <li>ii. Flood proofing</li> <li>iii. Flood forecasting and warning</li> <li>iv. Integrated Water Resource Management such as water resources assessment, socio-economic assessment, water resources planning, implementation of action plans, day-today water resources management (adjustments of the plans) and water resources protection and conservation</li> <li>v. Medical preparedness in terms of after-effects of floods requiring medical attention</li> <li>vi. Creating awareness to the type of illnesses and other health problems that can result in the aftermath of floods, to</li> </ul>

	<p>runoff</p> <p>viii. Anti-erosion works such as revetment or pitching along with launching apron and spurs of earth protected by armour of stones or spurs of loose stones or stones in wire-mesh crates</p> <p>ix. Alignment, Location, Design and Provision of Waterway i.e. Vents, Culverts, Bridges and Causeways in National Highways, State Highways, District and Other Roads and Railways Embankments</p> <p>x. Inspection, rehabilitation and maintenance programme to ensure that the design capabilities are maintained</p>	<p>all the medical teams and the community at large</p> <p>vii. Creation of trained medical first responders for first aid and resuscitation measures</p> <p>viii. Preparing of medical stores and medical kits</p> <p>ix. Developing of patient evacuation plans</p>
<b>Earthquake</b>	<p>i. Seismic strengthening of existing structures</p> <p>ii. Prioritization of structures especially critical/ lifeline structures</p> <p>iii. Structural safety audit of critical lifeline structures</p> <p>iv. Retrofitting of weak buildings</p> <p>v. Earthquake-resistant construction in rural and semi-urban areas</p>	<p>i. Development of Rapid Visual Screening procedures and Detailed Vulnerability Assessment</p> <p>ii. Regular conduction of Fire Safety Audits and Electrical Safety Audits</p> <p>iii. Public Awareness Campaigns</p> <p>iv. Techno-legal regime for ensuring compliance of earthquake-resistant design and construction practices in all new constructions</p> <p>v. Licensing and certification of professionals</p> <p>vi. Compliance review by professionals of PRIs and ULBs</p> <p>vii. Medical preparedness</p> <p>viii. Earthquake engineering education</p>
<b>Drought</b>	<p>i. Water management including water harvesting and conservation</p> <p>ii. Cloud seeding in drought-prone areas</p> <p>iii. Micro-irrigation including drip and sprinkler irrigation</p> <p>iv. Afforestation with bio-diesel species through the National Afforestation Programme</p>	<p>i. Drought-prone area delineation at block level based on rainfall, cropping pattern, available supplement irrigation, satellite derived indicators, soil map, groundwater availability map, cattle population and fodder demand and socio-economic data</p> <p>ii. Gradation of drought-prone areas based on the frequency of occurrence of droughts, sensitivity to rainfall variation and vulnerability of</p>

		community iii. Monitoring of drought based on rainfall and other parameters, crop health, available ground water and migration and impact on community iv. Insuring of crops
<b>Fire</b>	i. Establishment of Fire-stations as per Fire Safety Bye-laws	i. Implementation of Fire Act ii. Updating basic infrastructure and adopting modern technologies iii. Improving outreach of fire services iv. Provincialisation and formation of state level fire services v. Making the fire services a multi-hazard response unit vi. Training of community members in fire-fighting techniques vii. Putting in place audit system viii. Compulsory fire hazard evaluation of all types of buildings old and new ix. Planning and calendar of evacuation drills/ mock drills in vital installations/ industrial plants/ government buildings / schools and critical infrastructure like hospitals, etc. x. Enforcement of fire approvals as per the provisions contained in National Building Code (NBC) 2005 for new constructions
<b>Chemical &amp; Industrial Accidents</b>	i. Creation of appropriate infrastructure as mentioned in Off-site and On-site plans including Public Address system	i. Enforcement of code of practices, procedures and standards ii. Audits of On-site & Off-site Emergency plans at regular intervals iii. Statutory inspection, safety audit and testing of emergency plans iv. Safety Auditing v. Hotline telephone connection with nearby emergency services vi. Awareness generation among community regarding HAZMAT vii. Training of specialized Medical First Aid Responders
<b>Biological Disasters</b>	i. Installing High Efficiency Particulate Air (HEPA) filters in the ventilation systems of important buildings in order to	i. Strengthening of Integrated Disease Surveillance Systems in district for issuing public health measures ii. Regular survey and proper

	prevent the entry of microbes ii. Enforcement of biosafety measures in labs	maintenance of water supply and sewage pipeline iii. Creation of awareness about personal hygiene iv. Vector control programmes v. Burial/disposal of dead bodies vi. Training of Rapid Response teams (RRTs) under IDSP vii. Provision of Personal Protective Equipment (PPE) to all health care workers prior coming in contact with the patients viii. Social distancing measures ix. Disease Containment by Isolation and Quarantine Methodologies x. Training/refresher training to Quick Response Medical Teams (QRMTs)/ MFRs to handle disasters due to natural epidemics/BT xi. Establishment of mobile hospitals/mobile teams at strategic locations xii. Preparation and promulgation of National Code of Practice for Biosecurity and Biosafety xiii. Provision of animal quarantine, providing health regulatory measures for import/export of livestock and livestock products, animal feeds, etc., and prevention of inter-state transmission of animal diseases and control of diseases of national importance through National Veterinary Services xiv. Proper disposal of carcass during and post-disasters xv. Initiation of PPP in livestock emergency management
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(Source: NDMA Guidelines)

#### 4.2 Existing Schemes/Projects

There are a number of on-going schemes and projects in the district which will help out the widowed/destitute/handicapped people in a post-disaster scenario in order to generate

livelihood options for them. There are also a few schemes which are for the health protective measures. These schemes can be used even in normal times in order to generate employment as well as development of the population.

These projects indicate the ongoing works which will help in the prevention and mitigation process.

Following is the list of the projects and the schemes which help in the prevention and the mitigation measures:-

Table 4.2: Schemes/Projects for Prevention and Mitigation Measures:

Schemes/Projects for Prevention & Mitigation Measures		
Sl. No.	Name of Scheme	Responsible Department
1	Tuberculosis Control Program	Health
2	Urban Malaria Scheme	Health
3	National Tobacco Control Programme	Health
4	National Vector-Borne Disease Control Programme	Health
5	Leprosy Eradication Programme	Health
6	National Goiter Programme	Health
7	Construction of Revetment i.e. Edge Protection to protect Temple and population of Kushak, Satawagadi villages	Irrigation
8	Construction of stone stud To protect agricultural land and population at risk of Sawawagadi, Sattika Nangla	Irrigation
9	Construction of Ring Bund to protect Mewalipur village	Irrigation
10	Foot and Mouth Control Programme	Animal Husbandry & Dairying
11	Bharat Nirman	PWD (B&R) - II
Schemes for Livelihood Generation in post-disaster scenario		
Sl. No.	Name of Scheme	Responsible Department
1	Scheme for Animal Health Care in the State	Animal Husbandry & Dairying
2	Scheme for Integrated Murrah Development	Animal Husbandry & Dairying
3	Scheme for Employment Opportunities to Scheduled Castes Families by establishing livestock units and insurance of their livestock (SCSP)	Animal Husbandry & Dairying
4	Special Employment to Educated/ Uneducated Young Men/Women of Rural Area Through Dairy Development	Animal Husbandry & Dairying
5	Self Employment Generation in Dairy Sector by establishing of Hi-Tech/Mini Dairy Units for the year 2012-13, Plan	Animal Husbandry & Dairying
6	Piggery Development Scheme in the State under Rashtriya Krishi Vikas Yojana	Animal Husbandry & Dairying
9	Training Tailoring to Scheduled Castes/ Backward Castes destitute/widowed women/girls	Welfare Department
10	Up-gradation of the Typing and Data Entry Skill of the SC/BC Unemployed Youth through Computer Training	Welfare Department

11	Financial Assistance for training to Scheduled Caste candidates in un-organized sector through private institutions	Welfare Department
12	Creation of Employment Generation Opportunities by setting up Employment Oriented Institutes/Training Programmes	Welfare Department
13	Scheme For the Pre Examination Training of Scheduled Castes Candidates For Taking Union Public Service Commission and State Public Service Commission Examination	Welfare Department
14	Indira Gandhi Priyadarshini Viwah Shagun Yojna (Rs. 31,000 for SC and Rs. 11,000 for BC/General)	Welfare Department
15	Housing scheme for Scheduled Castes and Denotified Tribes (Rs 10,000 to Rs. 50,000)	Welfare Department
16	Monetary Relief to the Victim of Atrocities	Welfare Department
17	Haryana Backward Classes and Economically Weaker Section Kalyan Nigam (HBCKN)	Welfare Department
18	Old Age Samman allowance (Rs. 550 and after 10 years Rs. 700)	Social Welfare
19	Widow & Destitute Women Pension	Social Welfare
20	Handicapped Persons Pension (Rs. 500 p.m. and Rs. 750 p.m. for 100% Disabled)	Social Welfare
21	Scholarship to Handicapped Students	Social Welfare
22	Financial Assistance to Destitute Children (Rs. 200 p.m.)	Social Welfare
23	Allowance to Dwarfs and Eunuch (Rs. 500 p.m.)	Social Welfare
24	Unemployment Allowance to Literate Handicapped Persons	Social Welfare
25	Financial Assistance to Kashmiri Migrant Family (Rs. 1000 per family p.m.)	Social Welfare
26	Financial Assistance to the Non School Going Disabled Children	Social Welfare
27	Unemployment Allowance to Literate Handicapped Persons	Social Welfare
28	Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS)	Rural Development
29	Pradhan Mantri Gram Sadak Yojana(PMGSY)	PWD (B & R) – II
30	National Rural Health Mission (NRHM)	Health
31	Accredited Social Health Activist (ASHA)	Health
32	Devi Rupak Rastriya Utthan Evam Parivar Kalyan Yojna	Health
33	Huner-Se-Rozgar Yojana	Tourism
34	Bharat Nirman	PWD (B&R) –II
35	Prime Minister's Employment Generation Programme (PMEGP)	District Industries Centre

#### 4.3 Training of Human Resources

Another important factor in the mitigation process is the adequate training of human

resources and thereby building the capacity of a district. A series of training programmes shall be organized for specialized groups like



district level officers, sub division and community level office bearers, teachers and principals, doctors and engineers, architects and masons and builders and contractors etc. Even the community could be trained on construction of buildings and other earthquake resistant structures through awareness, sensitisation, orientation and developing skills. A basic firefighting training is compulsory to all employees, consultants, contract personnel and catering staff in order to have a fundamental knowledge of first aid firefighting and to respond to the fires in the incipient stage.

At the district-level, assistance will be provided by consolidating the know-how and practical training provided by SDRF, Civil Defence and NGO, District Red Cross and Self Help Groups (SHGs) and disseminating it within the communities.

The organizations like Civil Defence, NYK, NCC, NSS etc. have thousands of volunteers from every corner of the district. The district must train their volunteers and the wardens of these bodies in the district, thus people from various corners will be trained and sensitized in disaster management and this can make a magnifying result.

The strengthening of Civil Defence in the district is yet another important prospect. The Civil Defence and Home Guards are indeed quite a helpful resource in times of emergency. They can be given awards, identity cards, honorarium, and certificates for their work so that more number of people volunteer themselves and participate in such works

#### **4.4 Retrofitting**

Retrofitting means reinforcement of structures to become more resistant and resilient to the forces of natural hazards. This involves consideration of changes in the mass, stiffness, damping, load path and ductility of materials, as well as radical changes such as the introduction of energy absorbing dampers and

base isolation systems. For example, consideration of wind loading to strengthen and minimize the wind force, or the strengthening of structures in earthquake prone areas.

For an existing building, retrofitting or seismic strengthening is the only solution to make it disaster resistant. The lifeline buildings should primarily be retrofitted within the district followed by other significant buildings. Retrofitting should be carried out along with a panel of experts for assessing the structure and to suggest the type of retrofitting required.

#### **4.5 Land use planning**

Land use planning is a newly emerging disaster reduction method. It is a powerful mitigation tool as it seeks to mitigate the risks and vulnerability from several geological and other hazards. So the logic of land use planning is compatible with disaster risk reduction because it is a systematic, future-oriented, decision-oriented and proactive approach. The planning and control of land use includes a vast spectrum of general policies about it which leave determining effects and influences on programs and plans of urban development and cover economic, environmental, social and political aspects. Responsible management of the environment and its resources, and flexible and responsive development can prevent or mitigate negative impacts.

The degree of effectiveness of land use planning and its efficiency in case of an earthquake from the time of the earthquake till the return of the city to its normalcy is significant and determines two indicators of vulnerability i.e. casualties and destruction.

The urban areas and the cities (i.e. the more densely populated areas) need to be spatially planned in order to reduce the risks of the hazards.

The most important criteria for determining appropriate locations for different urban activities and urban land use include:-

1. Compatibility
2. Comfort
3. Efficiency
4. Favorability
5. Health and
6. Safety

Considering these factors in land use planning and zoning improves efficiency of the city, welfare and comfort for the citizens and minimizing the fatalities and economic damages as a result of the hazard.

Land use planning can minimize risk in a number of ways such as:

1. Prohibiting development in high-risk areas through zoning and overlay controls;
2. Limiting the types of development in high to moderate risk areas for recreation or other forms of public use reducing the potential impacts of natural hazard events; and
3. Applying appropriate development controls in moderate and lower risk areas such as minimum elevations, setbacks and lot sizes, as well as maximum densities and site coverage.

#### **4.6 Enforcing Existing Codes and Laws**

The list of codes and laws are and must be enforced in the district in order to prevent and mitigate the effects of the hazards. Bureau of India Standards, National Building Codes of India and subsequent amendments in various acts provides sufficient legal protection to the enforcing agencies for safe construction practices. The National Building Codes must be strictly followed in lifeline structures and should be immediately implemented wherever necessary. In construction work, the civil

engineers have to follow Bureau of Indian Standards (BIS) to construct resistant structures. The byelaws for control of vector-borne diseases should be implemented and strictly followed by all the municipalities in the state of Haryana.

# 5

## Preparedness

### 5.1 General Preparedness Checklist

1. Deputy Commissioner, Palwal shall ensure that preparedness checklist is duly followed by each front line department and status of the same is discussed in monthly meetings.
2. Head of department of each frontline department shall ensure that the departments are prepared to meet the challenges of any emergency/ disaster by duly following the preparedness checklists.
3. Nodal officers of each of the frontline departments shall ensure quarterly updation of District Disaster Management Resource Inventory and submission of the same to District Revenue Officer, Palwal by:
  - a. Adding to it any changes in the human resources of their department along with their updated contact numbers, if any.
  - b. Adding to the equipment list, relevant resources for response activities from both the government and private sector.
4. DRO shall ensure that the same has been updated and uploaded on website of District Administration on quarterly basis with the help of District Information Officer (DIO).
5. Nodal officers of each of the frontline departments shall also report to Head of Department and/or Deputy Commissioner, Palwal about requisition of any relevant resource/equipment, not available with the Government and/or private sector, for disaster management activity.
6. District Disaster Management Authority (DDMA), Palwal shall ensure the establishment of Emergency Operation Centre, Palwal with the following:
  - a. Proper space for Planning and Logistics Section Chief and staff.
  - b. Proper space for control room with adequate communication equipments including landline telephones, mobile phones, satellite phones, walkie-talkie, ham radio, computer/ laptop with printer facility, email facility, fax machine, television, etc.
  - c. Ensure power backup facilities along with availability of generator set.
  - d. Ensure proper space for meeting, conference, media briefing along with LCD, computer and video conferencing facilities.
  - e. Availability of District Disaster Management Resource Inventory, Palwal and also of the neighboring districts (Gurgaon, Faridabad and Mewat), Disaster Management Resource Inventory of the state and also of critical national resources.
  - f. Availability of Hazard Seasonality Map of Palwal district.
  - g. Availability of District Disaster Management Plan, Palwal.

## **5.2 Department wise Preparedness Checklist**

### **5.2.1 District Administration**

1. Ensure enforcement of the codes, bylaws and act such as National Building Code, Bureau of Indian Standards, etc in the upcoming development projects, construction work, and commercial complexes.

### **5.2.2 Agriculture Department**

1. Prepare Agriculture Contingency Plan.
2. Constitute a Crop Weather Watch Group at district level (as per 'A Model Manual for Drought Management', GoI) with representatives from Meteorological Department and concerned officers dealing with agricultural inputs, credit extension, etc to keep a close watch on the monsoon situation, extreme temperature, hail and wind storm.
3. Identify vulnerable areas prone to pest infestation, drought, flood and other hazards.
4. Ensure awareness generation in farmers regarding various plant diseases, alternate cropping practices in disaster-prone areas, crop insurance, provision of credit facilities, proper storage of seeds, etc.
5. Provide training to farmers in alternate cropping techniques, mixed cropping and other agricultural practices which minimise crop losses during future disasters.
6. Ensure surveillance for pest infestation and crop diseases.
7. Ensure availability of stock for immediate replacement of broken/non-functioning gadgets/equipments.
8. Identify source for procurement of fodder
9. Ensure availability of adequate stock of seeds and other agro inputs particularly for areas vulnerable to hazards.

10. Prepare trained and equipped team for assessment of damage to soil & crop and impact on other agricultural activities.

### **5.2.3 Animal Husbandry**

1. Ensure fully functional mobile veterinary unit at disposal.
2. Prepare a database of veterinary hospitals/clinics and agencies working for animal care.
3. Ensure availability of stocks of mineral and feed supplements, life saving drugs, electrolytes, vaccines, etc.
4. Ensure sensitization of farmers about protection of their feed and fodder prior to the onset of monsoon.
5. Locate feed and fodder banks.
6. Ensure filling feed banks before the scarcity period.
7. Prepare for the feed of the poultry birds for drought situation.
8. Identify source for procurement of fodder in consultation with agriculture department.
9. Identify safe locations for fodder depot and cattle camps within the district.
10. Ensure availability of vehicles for fodder transportation.
11. Ensure assured source of water or canals for drinking and growing fodder along with the above locations in consultation with Irrigation/ PHED/ Development & Panchayat.
12. Prepare for necessary arrangements of *tatties*, gunny bags and tarpaulin sheets to cover the sheds during heat and cold waves.
13. Ensure availability of sprinklers/ foggers in shed/camp during heat waves period.
14. Prepare for special care for productive, lactating and pregnant animals; also supplement them with additional concentrates and fodder.
15. Ensure proper administration of deworming and vaccinations for cattle, sheep

and goats, pigs and other relevant measures for disease management during any disaster situation.

16. Prepare for arrangements for transportation of critically injured livestock.
17. Identify space, human resource and vehicles for burial of animals and ensure proper disposal of dead animals.

#### **5.2.4 Bharat Sanchar Nigam Limited**

1. Procure recovery plans from private communication service providers for their recovery time objectives.
2. Prepare for alternate communication system like satellite phone network.

#### **5.2.5 Civil Aviation**

1. Identify safe locations that can be used as helipads.

#### **5.2.6 Development and Panchayat**

1. Prepare mechanism for proper solid waste management, disposal of waste and removal of debris in shelter and relief camps, feeding centers and affected rural areas.
2. Prepare for prompt provision of temporary toilets/ trench latrines in the affected area and relief camps.
3. Prepare for sanitation operations in view of post flood situations.
4. Ensure availability of tractor trolleys and other required equipments for the same.
5. Plan to provide building/guest house/*dharamshalas* at different locations to establish control room, first aid and medical post or shelters during emergency.
6. Prepare a database of private providers of tents, tarpaulin sheets, poles, *kanats*, cooking utensils, polythene bags, shrouds and other essential items that could be

used for community kitchen and cremation and burial.

7. Prepare a database of catering services providers.

#### **5.2.7 District Red Cross Society**

1. Ensure availability of fund for relief materials/ work.
2. Train and prepare ward and village wise first aid teams.
3. Prepare database of blood donors in the district and update the same in DDMRI.
4. Prepare database of trainers & volunteers and update the same in DDMRI.
5. Prepare a database of voluntary organizations and service they offer, ensure their authenticity, and update the same in DDMRI.
6. Ensure availability of adequate stock of food items, blankets, clothing including woolens, utensils, first aid kits, stretchers, medicines, etc in view of any emergency situation.
7. Ensure availability of adequate stock of aids (hearing, visual, crutches, artificial limbs, etc) for physically challenged persons.
8. Ensure availability of old blankets/ gunny bags for animal during cold wave period.
9. Prepare a database of private providers of tents, tarpaulin sheets, poles, *kanats*, cooking utensils, polythene bags, shrouds and other essential items that could be used for community kitchen and cremation and burial.

#### **5.2.8 Education Department**

1. Organise awareness generation programs in schools and colleges for students, teachers, administrative staff and other helpers. These programs should focus on dos and don'ts for various hazards and safe evacuation in case of any emergency.

2. Conduct hygiene promotion activities as per direction issued by the Health Department on a regular basis.
3. Ensure preparation of first aid and disaster management kit in each school and college.
4. Ensure preparation of school and colleges disaster management plan.
5. Identify safe schools and colleges to serve as relief shelter in case of any emergency within that area, only for short period of time.
6. Prepare a school wise list of NCC and NSS students.

### **5.2.9 Electricity Department**

1. Ensure transmission map at disposal.
2. Prepare a database of critical and lifesaving infrastructure in the district and prepare for providing uninterrupted power supply to them.
3. Prepare for providing continuous power supply to the affected area.
4. Prepare to provide electrical connections and system at short notice in affected areas for purpose of pumping flood water and illumination of the area.
5. Prepare for prompt replacement/recommissioning of affected power supply system.
6. Ensure availability of adequate stock of important equipments like transformers, poles, conductors, cables, insulators, etc for prompt action whenever required.
7. Ensure trained construction and maintenance staff at disposal.

### **5.2.10 Fire Services**

1. Ensure proper functioning of all fire fighting equipments, appliances and respiratory equipments.

2. Make a database of existing fire fighting services and facilities provided with private agencies.
3. Be aware of MAH units and other potential hazardous installations and level of possible emergency required.
4. Prepare to deal with leakage of flammable toxic substances.
5. Ensure, at disposal, the list of adverse affects of chemicals and antidotes/ methods to deal with emergency involving each chemical. This is prepared by Department of Industrial Safety and Health.
6. Review the adequacy of existing fire prevention arrangements in each MAH and other hazardous units before and after the installations. Share the report with Department of Industrial Safety and Health.
7. Identify roads and routes of access and escape to and from MAH and other potential hazardous units.
8. Ensure all important buildings should have sketch map and their escape route with glowing signs.
9. Ensure evacuation drill as per evacuation plan periodically in all important buildings, malls, hospitals etc.

### **5.2.11 Food & Supplies Department**

1. Prepare a database of godowns and cold storage facilities in the district. This information can be procured from Labor Department/ Market Committee.
2. Prepare a database of catering services providers.
3. Prepare for safety of stored food grains in godowns against inundation and water logging, fire and other possible hazards.
4. Prepare for out-movement of food grains to a pre-decided safer location, if required.
5. Ensure availability of adequate food grains storage in godowns in view of the scarcity or emergency period.



6. Prepare a database of kerosene depots, petrol pumps, gas agencies, etc and update the same in DDMRI.
7. Ensure availability of adequate stock of gas cylinders, kerosene, petrol, diesel etc.
8. Prepare database of private retailers and wholesalers of edible food items.
9. Prepare a database of providers of refrigerated vehicles for transportation of perishable food items.
10. Prepare for large scale movement of food grains, their transportation, expeditious unloading, proper storage and prompt distribution through fair price shops, if required.
11. Prepare a database of private providers of tents, tarpaulin sheets, poles, *kanats*, cooking utensils, polythene bags, shrouds and other essential items that could be used for community kitchen and cremation and burial.

#### **5.2.12 Forest Department**

1. Ensure proper functioning of all equipments and vehicles.
2. Prepare a database of ara machine holders, carpenters.
3. Prepare team for catching wild animals to prevent infiltration in habituated areas, relief camps, etc.
4. Prepare to supply wood for cremation

#### **5.2.13 Haryana Roadways**

1. Ensure proper functioning of filling station, vehicles and equipments including fire extinguishers, first aid kits, etc.
2. Prepare for prompt deployment of vehicles at short notice for various purposes like mass evacuation, transportation of response teams, relief items, victims, etc.
3. Prepare mechanical team for prompt repair of equipment and vehicles.

4. Train drivers and conductors in first aid and basic life saving techniques.
5. Identify the vehicle for rescue operations.
6. Be well familiar with routes of potential hazardous installations and follow incident traffic plan.

#### **5.2.14 Health Department**

1. Prepare trained team of paramedics.
2. Develop dos and don'ts and IEC materials regarding health and hygiene.
3. Organise awareness camps with help of CHC/ PHCs and Development and Panchayat Department for hygiene promotion and public health issues.
4. Ensure availability of trained mobile medical teams at disposal.
5. Prepare psychological and psychosocial care teams.
6. Ensure availability of generator sets and buffer stock of fuel at disposal.
7. Ensure availability of adequate supply of life saving equipments and stock of medicines, portable supplies including portable oxygen cylinders, portable X-ray machine, portable ultrasound machines, triage tags, etc.
8. Ensure availability of adequate space with suitable facilities for storage of medicines.
9. Prepare a database of private hospitals and nursing homes with services and facilities available.
10. Prepare a database of doctors registered with Indian Medical Association (IMA).
11. Prepare a database of available ambulance services from government, private agencies and District Red Cross Society, if any.
12. Ensure, at disposal, list of MAH units and hazardous chemicals stored in them.
13. Ensure, at disposal, the list of antidotes for various hazardous chemicals. This list is prepared by Department of Industrial Safety and Health. (Refer Annexure VIII)



14. Ensure availability of adequate supply of blood units.
15. Prepare database of blood donors in the district and update the same in DDMRI.
16. Prepare a database of providers of refrigerated vehicles for transportation of vaccines, blood, blood products, etc.
17. Train drivers and attendants of ambulance and mobile medical units in first aid and basic life saving techniques.
18. Prepare a decontamination ward in view of any possible chemical or industrial hazard.
19. Prepare for prompt establishment of temporary hospital, mobile surgical unit, etc at short notice, near the affected area.
20. Ensure open water chlorination to control water borne diseases in coordination with PHED, DDPO and M.C.
21. Ensure proper and safe mechanism for medical waste disposal.
22. Prepare for proper disease surveillance system.
23. Make proper arrangement and mechanism for mass casualty management.

#### **5.2.15 Home Guards**

1. Ensure proper functioning of all equipments.
2. Prepare teams trained in search and rescue, first aid, fire fighting, etc.
3. Prepare a database of volunteers and equipments and update the same in DDMRI.

#### **5.2.16 Industrial Safety & Health**

1. Prepare offsite emergency plan.
2. Prepare a database of MAH units and their contact details.
3. Enlist methods of packaging and handling, safe transportation, disposal, containment and precautions for all the hazardous materials present in district.

4. Inspect premises and machinery in plants, industries for adequacy of safety and emergency arrangements in industries and direct for corrective measures, if necessary, with respect to statutory provisions for safety.
5. Direct the management of industries and units to prepare on-site emergency plan of their units.

#### **5.2.17 Irrigation Department**

1. Ensure proper early warning mechanism in place for flood by monitoring water level of surface water bodies.
2. Ensure proper and timely inspection of conditions of bunds, siphons, regulators, embankments, inlet and outlets of lakes and reservoirs, etc.
3. Ensure timely de-silting and dredging of drains, rivers and canals, if required.
4. Ensure prompt repair of channels, if required.
5. Ensure proper functioning of all equipments including dewatering pumps.
6. Ensure availability of bullies & gunny bags
7. Ensuring filling of water ponds/ lakes in the district with canal water/ tube wells prior to the onset of summer.
8. Prepare for the arrangements of clean drinking water for affected livestock and poultry in rural areas.

#### **5.2.18 Municipal Committee**

1. Prepare for sanitation operations in view of post flood situations within jurisdiction of the area.
2. Ensure availability of tractor trolleys and other required equipments for the same.
3. Prepare mechanism for proper solid waste management, disposal of waste and removal of debris in shelter and relief

camps, feeding centers and affected areas in their jurisdiction.

4. Ensure cleaning of drains before the monsoon season.
5. Plan to provide building/ guest house at different locations to establish control room, first aid and medical post or shelters during emergency in coordination with HUDA.
6. Prepare a database of catering services providers.
7. Prepare a database of private providers of tents, tarpaulin sheets, poles, *kanats*, cooking utensils, polythene bags, shrouds and other essential items that could be used for community kitchen and cremation and burial.

#### **5.2.19 Police Department**

1. Ensure proper functioning of all equipments.
2. Ensure proper mechanism in place for early warning of different hazards through police stations and police posts.
3. Arrange for public address system and siren.
4. Prepare for temporary installation of wireless systems between district and subdivisions in case of any damage to existing wireless system with the department.
5. Train the communication wing of police in setting up control room at short notice at a required site.
6. Prepare contingency Plan for response to bomb blast, riots, terrorist attack and other law and order emergencies.
7. Prepare deployment plan of home guards and other volunteers for protection of property of affected community.
8. Prepare for proper arrangement for custody of recovered belongings and property from dead bodies and affected sites.

9. Train police personnel and staff of PCR vans in first aid and basic life saving techniques.
10. Police personal and staff, who are in PCR vans, should keep basic first aid box and ensure equipments kept in van in proper working condition.
11. Prepare for proper protection to women, girls and children to avoid cases of human trafficking.
12. Prepare for protection of dead bodies to avoid their theft and false claims.
13. Prepare for safety and security of food and other commodities.
14. Prepare for protection against hoarding, black marketing of relief material.
15. Prepare for safety and security arrangements for evacuated area, affected area, transit camps, relief camps, hospital, medical centre, cattle camps and feeding centers.
16. Keep telephone Nos. and database of BDS and Dog Squad Team in police control room and update in three months.
17. Keep telephone Nos. and database of reserve battalion of police located in nearby for reinforcement.
18. Ensure availability of road map at disposal.
19. Ensure availability of check points at crowded places.

#### **5.2.20 Pollution Control Board**

1. Prepare a database of hazardous chemicals and pollutants in the districts and their probable adverse effects on environment.
2. Prepare for methods and techniques of decontamination of the same.

#### **5.2.21 Public Health Engineering Department.**

1. Ensure availability and well functioning of all equipments and vehicles.

2. Perform piped water chlorination, if required.
3. Prepare for arrangement of safe drinking water supply for surviving community in the affected areas and also in relief camps and shelters. Also prepare for provisioning of water for other purposes.
4. Prepare a database of suppliers and distributors of packaged drinking water.
5. Prepare for prompt repair of pipelines supplying potable water.
6. Prepare for prompt repair of sewerage systems and water works.
7. Make standby arrangements of generators for running the water pumps..
8. Ensure installations of tube wells in coordination with Development and Panchayat, if needed, before the monsoon to provide underground water to the livestock during flood period.
9. Ensure availability of adequate number of water tankers, drums, jerry cans or identify their private suppliers to prepare for supply of water, in scarcity period and in emergency.
10. Ensure availability of water supply/ filling points for fire tenders, water cannons, hospitals and other necessary life saving infrastructure.
11. Prepare mechanism for proper liquid waste management in urban areas.

#### **5.2.22 Public Relations Department**

1. Prepare for proper public address system ensuring rumour control.
2. Prepare for media management.
3. Ensure database of dos and don'ts of all possible hazards in the district.
4. Ensure distribution of IEC material to community for awareness generation about the same.
5. Publicise the information in the interest of public awareness through booklets, pamphlets, radio, television, film shows,

newspapers, documentary films, door to door campaign, meetings, etc.

#### **5.2.23 Public Works Department**

1. Ensure availability and functioning of all equipments like cranes, JCB, etc.
2. Prepare a data base of availability of heavy equipments like cranes, JCB with private agencies also.
3. Ensure, at disposal, the list of MAH units and other vulnerable buildings.
4. Prepare for prompt clearance of debris.
5. Prepare the demolishing squad for prompt demolition of unsafe buildings.
6. Prepare for prompt clearing and repairing of damaged roads, culverts, bridges and flyovers.
7. Prepare for construction of new temporary roads at short notice for diverting traffic from the affected area.
8. Prepare for construction of temporary facilities like that of medical post, temporary shelters, etc at short notice.
9. Prepare for prompt establishment of helipad near the affected site for VVIP visits.
10. Prepare for restoration of government buildings damaged during disaster.

#### **5.2.24 Regional Transport Authority**

1. Make a database of private vehicles available with schools, colleges and other private agencies.

#### **5.2.25 Revenue and Disaster Management Department**

1. Ensure regular monitoring of rain gauge and regular updation of database for distribution and variation in rainfall.
2. Ensure proper mechanism in place for early warning of different hazards to

- village level through tehsildars, patwaris, DDPO.
3. Prepare Flood Control Order by 31st May of each year.
  4. Ensure proper functioning of district Flood Control Room during monsoon period and otherwise, if required.
  5. Identify villages vulnerable to flood and drought.
  6. Prepare a database of critical and lifesaving infrastructure in the district
  7. Prepare a database of safe locations for evacuation.
  8. Identify possible safe sites for temporary shelters, relief camps and staging area.
  9. Ensure availability of fully functional boats, life jackets and oars in view of flood condition of the district.
  10. Prepare a database of voluntary organizations and service they offer. Ensure the authenticity of the same.
  11. Identify competent persons/experts from various required fields for carrying out damage and need assessment post disaster.
  12. Prepare proper mechanism for disbursement of compensation to victims or families of deceased.
  13. Prepare a database of safe locations for relief distribution site for mass care and housing.
  14. Identify site for temporary burial.

# 6

## Capacity Building and Training Measures

As per the National Disaster Management Act (2005), capacity-building includes:

- i. Identification of existing resources and resources to be acquired or created;
- ii. Acquiring or creating resources identified under sub-clause (i);
- iii. Organisation and training of personnel and coordination of such training for effective management of disasters.

The primary purpose of capacity-building in disaster management is to reduce risk and thus make communities safer. This can be done by increasing resilience and enhancing coping capacities. Effective capacity-building at the district level requires the active participation of all those tasked with it. It must therefore include maintaining a comprehensive and up-to-date Disaster Management Resource Inventory, awareness generation, education, Research and Development (R&D) and systematic and systematized training.

The Deputy Commissioner should ensure the following capacity-building activities of the entire district, and the various Heads of Departments should ensure capacity-building of their respective departments. Furthermore, the Nodal Officers should, in coordination with the HODs, procure relevant equipment for disaster management activities.

### 6.1. Institutional Capacity-building

Institutional capacity-building will be structured upon a level-system that will be designed to bring officials and professionals from multiple fields and skill-sets at the district level. The District Disaster Management Authority will utilise the abilities and expertise of representatives from following areas, structured in the form of levels on the basis of priority.

#### 6.1.1. Level-1 Capacity-Building

##### a. Centre for Disaster Management, HIPA

The Centre for Disaster Management (CDM), HIPA holds responsibility at the State level for conducting training programs on Disaster Management in all the districts of Haryana. The trainings take place over three to five days and involve district officials from various departments, as per the specificities of the training being conducted. Trainings are conducted in the Institute in Gurgaon as well as within the districts, for which officials are nominated by the District Administration. It is incumbent upon these officials to attend the trainings for which they have been nominated, and upon completion of the program, they shall receive certification from HIPA. The officials in charge of updating the DDMP, Palwal are also responsible for keeping track of all trainings conducted and at the time of updating the plan, they are to

include the names and contact details of all officials from Palwal district who have attended any Disaster Management-related training in the past six-months. This will ensure the availability of trained human resources capable of dealing with disasters at the district level.

#### **b. DDMA / HODs**

The role of District Level Officials in Palwal in terms of capacity-building and training is primarily that of the District Disaster Management Authority (DDMA), Palwal. The Authority will ensure that participants from various departments are nominated for the various disaster management-related trainings conducted by CDM, HIPA and any other body/authority that is competent to conduct/organise trainings in the field of disaster management. The role of the DDMA will, thus, be predominantly that of coordination and monitoring. Furthermore, capacity-building at the institutional level should be done by carrying out various activities under the Mini-Secretariat and Judicial Complex Safety Initiative.

The DDMA will also be responsible for ensuring that the Heads of Department (HODs) of the following departments discharge their responsibility of nominating officials from their departments for various disaster-management trainings pertaining to their specific areas of work.

#### **Agriculture Department**

The HOD must ensure:

- i. Formation and training of a Weather Watch Group for the purpose of monitoring crops in the district.

- ii. Putting in place disaster management protocols for the hazards of drought, flood, hailstorm, etc.
- iii. Provision of training to farmers in alternate cropping techniques and mixed cropping.
- iv. Formation of Rapid Damage Assessment Teams who will be capable of assessing the condition of soil, fields, irrigation systems and any other damage to crops in post-disaster situations.

#### **Animal Husbandry**

The HOD must ensure:

- i. Formation of Rapid Damage Assessment teams capable of examining and assessing damage caused to livestock, feed and fodder, and other things within the domain of animal husbandry.

#### **Civil Defence & Home Guards**

The HOD must ensure:

- i. Provision of trainings for volunteers, in Search and Rescue (SAR), First Aid, Traffic Management, Dead Body Management, Evacuation, Shelter and Camp Management, Mass Care and Crowd Management.
- ii. The purchase of SAR equipment through the appropriate channels of the District Administration.

#### **District Red Cross Society**

The HOD must ensure:

- i. Provision of training for the preparation of ward-level and village-level First Aid teams.
- ii. Ensure organisation of blood donation camps on a regular basis during normal times.

- iii. Organise drives to recruit volunteers to help with blood donation camps and other activities.

#### **Education Department**

The HOD must ensure:

- i. Formation and training of damage and need assessment teams within the department.
- ii. Provision of trainings in First Aid and basic survival skills for teachers and students in the district.
- iii. Education and awareness programs should be designed in such a way as to include the disaster management education in the school / college curriculum.
- iv. Capacity-building at the institutional level should be done by carrying out various activities under the School Safety Programme (SSP).

#### **Electricity Department**

The HOD must ensure:

- i. The timely purchase of electric equipment necessary for maintaining a state of adequate preparedness and for speedy and efficient disaster response, through the appropriate channels of the District Administration.

#### **Forest Department**

The HOD must ensure:

- i. Formation and training of teams within the department, for catching wild/escaped animals that pose a threat to human safety.

#### **Haryana Roadways**

The HOD must ensure:

- i. Provision of training to drivers, conductors and staff in First Aid and basic life saving techniques
- ii. Adequate stocking/replenishing of First Aid kits and maintenance of fire extinguishers in all vehicles and depots in the district.

#### **Health Department**

The HOD must ensure:

- i. Formation and training of damage and need assessment teams within the department.
- ii. Provision of trainings for preparing teams of paramedics, mobile medical teams, psychological first aid teams and psycho-social care teams, Quick Response Medical Teams (QRMT)
- iii. Timely procurement/ purchase of portable equipment for field and hospital diagnosis triage, etc.
- iv. Provision of trainings for health attendants and ambulance staff in First Aid and life-saving techniques.
- v. Provision of training to members of local communities in health and hygiene practices.
- vi. Capacity-building at the institutional level should be done by carrying out various activities under the Hospital Emergency Preparedness Programme

#### **Irrigation Department**

The HOD must ensure:

- i. Provision of trainings to all human resources with regard to early-warning for flood.
- ii. The timely purchase of early warning and communication equipment through appropriate channels of the District Administration.



### **Development and Panchayat Department**

The HOD must ensure:

- i. Provision of training for formation of teams to engage with the issues of hygiene and sanitation at the village-level through the Gram Panchayats.

### **Police Department**

The efforts of the police go a long way in helping avoid and/or control chaos at disaster sites. They also help prevent human trafficking which is increasingly common in the aftermath of disasters these days.

A training module on Disaster Preparedness and Response for Haryana Police has been prepared by CDM, HIPA and will need to be modified from time to time as per the requirement in Palwal district. Other training programs on disaster management that are relevant to the role of the police force are conducted by CDM, HIPA from time to time, and the Palwal District Administration should ensure that police personnel are deputed for such trainings. The trained police personnel should be placed on record within a district-level database of persons trained in disaster management. Such trainings are thus an important aspect of capacity-building in the district. District police will also receive training specific to the role of the department from the Haryana Police Academy (HPA) in Karnal District.

### **Fire Services Department**

Haryana Fire services operate at the district level through both, the Municipal Councils and Market Committees. For capacity-building, Fire Services in Palwal district should be made responsible for conducting fire-safety trainings for all district officials as well as for housing societies, shopkeeper

associations, and the suchlike, from time to time. Palwal Fire Services should also be made responsible for conducting safety audits of various government and civilian buildings in order to check whether they are compliant with fire-safety norms. Furthermore, the Fire Services should conduct mock-drills for fire-fighting and evacuation procedures from time to time, following a schedule stipulated by the District disaster Management Authority (DDMA) in Palwal. Training programs on disaster management that are relevant to the role of the Fire Services are conducted by CDM, HIPA from time to time, and the Palwal District Administration should ensure that fire personnel are deputed for such trainings. The trained Fire Services personnel should be placed on record within a district-level database of persons trained in disaster management. Such trainings are thus an important aspect of capacity-building in the district.

### **6.1.2. Level-2 Capacity Building**

#### **a. Civil Engineers (structural capacity-building)**

There is strong evidence that appropriate engineering intervention can significantly reduce the risk of disasters. Civil engineers also play an important role in post-disaster conditions – in rescue operations, damage assessment and the retrofitting of structures. Civil engineers need to keep themselves updated about the latest research and developments in construction technology, advances in construction materials and analysis or design procedures. Civil engineers should also take support from other branches of engineering for the better planning, execution and functioning of their building and infrastructure projects. Trainings to Civil Engineers will be provided by CDM, HIPA. Furthermore, at the district level, civil

engineers will conduct training of masons for construction of earthquake-resistant structures. Such trainings will be facilitated by the DDMA.

### **b. Corporates, Professionals**

The National Disaster Management Framework emphasizes on the ‘involvement of corporate sector in awareness generation and disaster preparedness and mitigation planning’. Keeping in mind the need to mainstream disaster management concerns at multiple levels of the corporate sector, the following steps should be taken into consideration:

- i. Through Corporate Social Responsibility (CSR), Corporates can assist in development projects can thus help enhance the capacity at the district-level.
- ii. Conducting mock-drills at regular intervals to determine the efficacy of the DM plans.
- iii. Large-scale association with awareness generation initiatives aimed at building the knowledge, attitude and skills of the common people for a safer habitat.
- iv. To move away from relief-centric approach to a pro-active assault on vulnerabilities through risk management measures and capacity-building of industrial personnel through Business Continuity Planning (BCP), trainings and other measures.
- v. Training of a core team of Structural Engineers for retrofitting of existing industrial infrastructure as per requirement.

## **6.2 Strengthening of District (EOC)**

As mentioned in Chapter 5, the Emergency Operations Centre (EOC) contains important

equipment and certain resources such as maps and communication equipment including landline telephones, mobile phones, satellite phones, walkie-talkie, ham radio, computer/laptop with printer facility, email facility, fax machine, television, etc. In addition, it will also contain, LCD monitors, printers, video-conferencing equipment, power sources and backups, copies of plans, etc. It is crucial to strengthen the district-level EOC. This can be done by ensuring regular training of all staff meant to be present in the EOC.

## **6.3 Capacity-building at the Community Level**

Capacity-building at the community level includes awareness, sensitisation, orientation and developing skills of communities and community leaders. At the district-level, assistance will be provided by consolidating the know-how and practical training provided by NDRF, Civil Defence and NGO, District Red Cross and Self-Help Groups (SHGs) and disseminating it within the communities. Multiple responsibilities within the arena of capacity-building and training will be delegated to local authorities, PRIs and ULBs under the overall guidance of District authorities. It is also crucial to focus on imparting training, cultivating community awareness and ensuring skill-development among members of the community. Furthermore, capacity-building at the community level should be done on the Public Private Partnership (PPP) model. This can be done by ensuring identification of local resources and developing local infrastructure through PPP. Community-based Disaster Risk Reduction (CBDRR) and Village Contingency Planning (VCP) is also critical for capacity-building at the community-level and will be managed by the concerned departments in the district.

#### **6.4 Development of IEC Material**

Addressing the specific requirements of vulnerable regions and the risk mitigation and preparedness needs of identified communities, various IEC material like list of do's and don'ts, posters, leaflets, banners, training modules and audio visual material must be produced using capacity building funds of the state. The aim is to develop a large body of advocacy and awareness materials, especially in vernacular languages, targeting vulnerable groups such as women, children, elderly, differently abled, and marginalized and excluded groups.

# 7

## Response and Relief

### 7.1 Declaration of Disaster

Deputy Commissioner as the ex officio chairperson of DDMA is responsible for declaration of disaster and activation of response and relief activities. To do so, first priority is to determine whether the resources are sufficient or not. If the situation is beyond the coping capacity of community in the affected area then a disaster shall be declared.

Declaration can be on the basis of level of disasters (L0, L1, L2 and L3) in affected area as per the NDMA guidelines.

L0 denotes normal times which are expected to be utilised for close monitoring, documentation, prevention, mitigation and preparatory activities. This is the planning stage where plans at all levels from community to the State shall be put in place. Training on search and rescue, rehearsals, evaluation and inventory updation for response activities will be carried out during this time.

L1 specifies disasters that can be managed at the district level, however, the state and centre will remain in readiness to provide assistance if needed.

L2 specifies disaster situations that may require assistance and active participation of the state, and the mobilisation of resources at the state level.

L3 disaster situations arise from large scale disasters where districts and the state may not have the capacity to respond adequately and require assistance from the central government for reinstating the state and district machinery.

Level of disaster should be based on rapid damage and need assessment reports (Refer Annexure V).

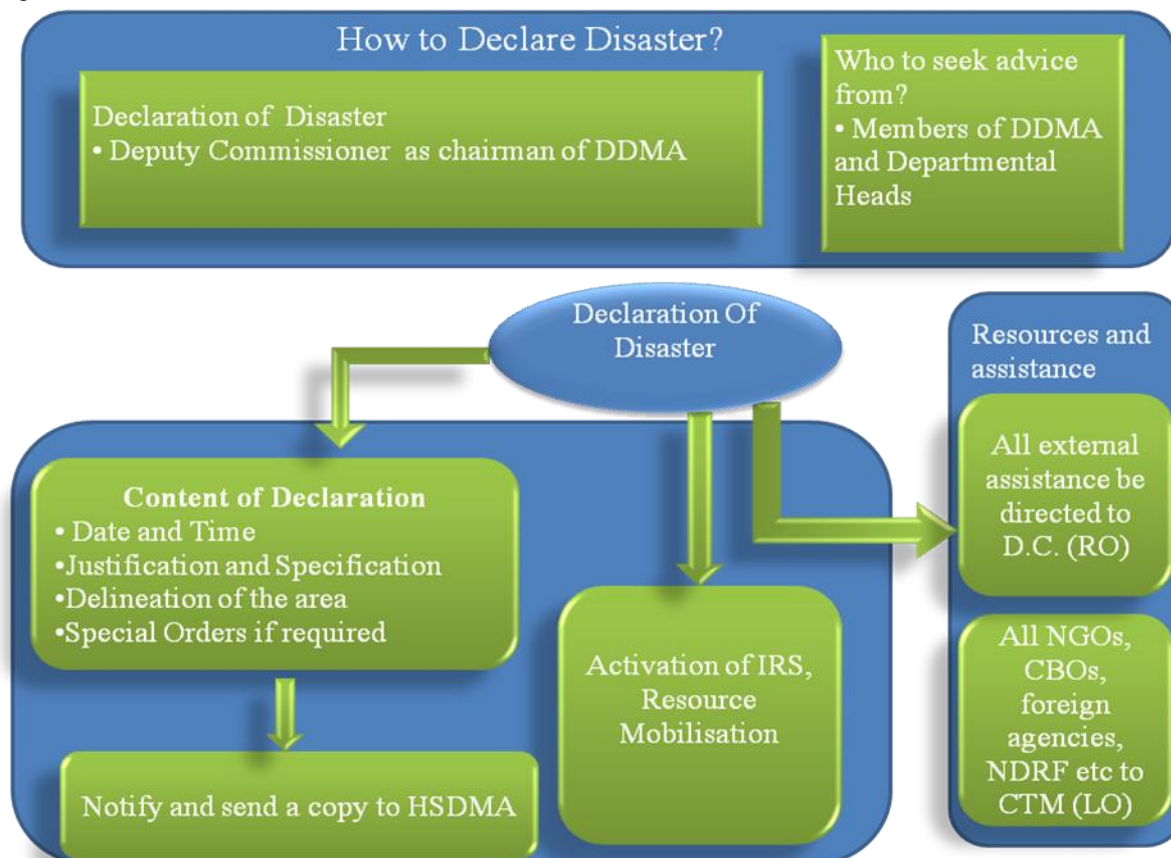
#### 7.1.1 Important elements for Declaration

1. Declaration of Disaster – D.C. (Ex officio chairman of DDMA)
2. Situation shall be discussed among DDMA and HODs of various departments.
3. DDMA has full authority to declare disaster and issue orders to carry out necessary actions like activation of IRS and resource mobilisation to protect people, environment and resources in the affected district.
4. DDMA shall notify Haryana State Disaster Management Authority when a disaster is declared and forward constant updates on the situation.

#### 7.1.2 Content of Declaration

1. Date and Time
2. Justification for declaring of disaster, specification of the event and level of disaster.
3. Delineation of the area (Representation by map)
4. Special orders associated with situation and reason justifying these orders
5. Declaration signed by Deputy Commissioner.

. Fig no 7.1: Declaration of Disaster



## 7.2 Implementation of DDMP

DDMA, Palwal shall ensure implementation of District Disaster Management Plan for activation of EOC, IRS, designate roles and responsibilities, emergency support functions and availability of updated DDMRI for resource mobilisation. This is further discussed in chapter 10. In case of disaster, Emergency Operations Centre/ Police Control Room/ DC camp office can be utilized as District Control Room whichever is best suited in the situation. Deputy Commissioner will decide the activation of DCR and further all infrastructural needs of a functional DCR shall be addressed.

### 7.2.1 Activation of IRS

On declaration of disaster, DDMA shall activate IRS at district level. D.C. as responsible officer will activate various sections, branches, divisions, units and other facilities as and when required. Various roles

and responsibilities under IRS are discussed in chapter 3.

### 7.2.2 Establish and activate Incident Command post

The ICP is the location at which primary command functions are performed. IC will be located at ICP, and there would be only one ICP. This also applies to situations with multi-agencies or multi- jurisdiction under unified command. ICP may be located at the headquarters. In case total destruction or lack of space it can be in a tent or a vehicle as well.

### 7.2.3 Establish Staging Area

Staging area is an area where mobilised resources are collected and accounted for field operations. These may include food, vehicles, equipments and other materials. It should be located at suitable site near the affected area for immediate, effective and quick deployment of resources. The overall in charge of staging

is staging area manager as discussed in chapter 3.

#### **7.2.4 Establish Incident Base**

All primary services and support activities are usually located and perform at the incident base; the logistics section is preferable located here.

#### **7.2.5 Coordination**

There should be proper liaison and coordination amongst these stakeholders involved in the comprehensive disaster management for ensuring the implementation of the components involved in the DDMP.

It is the responsibility of the CTM to liaison with concerned line departments, agencies, NGO's, INGO's, CBO's etc. and their representatives at various locations, keeping IC informed about arrivals of all the Government and Non Government agencies and their resources and organise briefing sessions of all Governmental and Non Governmental agencies with the IC. This coordination will involve facilitating response by addressing special needs of services like sign language interpreters or language translators for communication and other needs. CTM will also be responsible for management of all the VIPs and VVIPs visiting the affected area. CTM must coordinate with police to ensure their safety and security without affecting response and relief work.

### **7.3 Disaster Reporting**

Importance of disaster reporting is an important aspect to maintain clear communication between different levels of administration. This helps people responsible to understand situation precisely and respond effectively and efficiently. This involves documentation of situation and photographs as well. All reports should quote the facts and figures from credible sources.

#### **7.3.1 Rapid assessment report**

Rapid damage and need assessment team will produce a report describing the magnitude of disaster with respect to life loss, property loss and other urgent needs of the affected areas. This assessment provides a base for planning response activities. This report should further be communicated to HSDMA

#### **7.3.2 Preliminary assessment report**

This will give an account of disaster in first 24 hours. With some basic needs and damages.

#### **7.3.3 Detail assessment report**

This report highlights severity of disaster and provides detailed information on damage and needs of the affected area. It is prepared by damage and need assessment team and is based on reports from departments and specialists in health, irrigation, public health infrastructure etc. It gives a clear picture to district administration for proper resource mobilization and external help and forms the basis of relief and rehabilitation activities.

It should be prepared within 72 hours of disaster and forwarded to HSDMA.

#### **7.3.4 Interim Report**

Based on earlier reports, interim reports provide additional and more precise information, and are to be submitted every 24 hours to DDMA. This time may vary depending upon the recipient and activities involved and this should be forwarded to HSDMA.

As time goes by, the emphasis of interim reports will shift from the needs for relief to the needs for rehabilitation and reconstruction (e.g. Repairs to damaged structures, restoration of agriculture, animal husbandry, fisheries and industrial production). It is not necessary to repeat what has already been said in earlier reports unless the earlier details require updating. Interim reports should provide



forecasts (with inputs from specialists and people who have experience of previous disasters) and highlight information which may not otherwise be obvious to the recipients

e.g. potential problems, changes, patterns, trends and indicators, essential component to vulnerable group etc.

### 7.3.5 Final Report:

A summary of

- a. Disaster
- b. Management of activities
- c. Lessons learnt

management of disaster. Refer Annexure II for detailed roles and responsibility of departments.

It is to be noted that Response branch director will be responsible for task assigned for their department

### 7.4 Emergency Support function

Emergency support functions are essential services for prompt and well coordinated

Emergency Support function will support following functions:

Table No. 7.1 Emergency Support Functions

ESF No	Emergency Support Functions	Purpose
1	Early warning	Primary purpose is to alert departments and public.
2	Communication	To provide provisions for communications support before, during, and after an emergency/disaster situation. It will coordinate communications resources (equipment, services, and personnel) that may be available from a variety of sources (i.e., District/State agencies, voluntary groups, county agencies, the telecommunications industry, armed forces) before or after the activation of the State Emergency Operations Centre
3	Evacuation	To provide necessary information for administration and people to evacuate to safe places.
4	Damage and need assessment	To assess the extent of damage caused by a disaster. This assessment helps in planning and execution of relief and response activities. The needs assessment of the affected population is a vital and continuous activity. Since the situation and needs changes, the assessments should be carried out regularly and results should be updated accordingly.
5	Fire Fighting	To provide life and property saving assistance to manage fire incidences following natural or man-made disasters.
6	HAZMAT	To provide state support to local governments in response to an actual or potential discharge or release of hazardous materials resulting from a natural, manmade or technological disaster and other environment protection issues. Also, it has to establish and coordinate the basic roles and responsibilities for oil & hazardous materials
7	Search and Rescue	To provide life saving assistance from natural as well as human caused events
8	Health	To coordinate assistance in response to an all-hazards emergency or disaster event requiring a coordinated response, and/or during a developing potential health and medical emergency. Furthermore, it has to respond to medical needs associated with mental health, behavioural health, and substance abuse considerations of incident victims and response workers. And then it has to cover the medical needs of members of the “at risk” or “special needs” population (it includes a population whose members may have medical and other



		functional needs before, during, and after an incident)
<b>9</b>	<b>Dead Body Management</b>	To identify and maintain the record of the dead (Human beings) and facilitate in appropriate cremation /burial, claim of compensation and belonging to reduce the psychological impacts on the family members
<b>10</b>	<b>Food and supplies</b>	To provide food and other supplies to relief centres and affected areas.
<b>11</b>	<b>Shelter and Camp Management</b>	To provide requirements like food, clothing, shelter, water, basic amenities to the affected people in the relief camp and ensure safe, secured and healthy environment in culturally appropriate manner.
<b>12</b>	<b>Mass care and Housing</b>	This ESF facilitates various services to be provided to the affected population until the recovery is achieved. These services cater to mass care needs beyond the scope of relief camps and shelters. Human services programs help disaster survivors recover their non-housing losses including replacement of destroyed personal property, and assist with obtaining disaster loans, food supplies, crisis counselling, disaster unemployment and other Central and State benefits
<b>13</b>	<b>Water, Sanitation and Hygiene (WASH)</b>	To promote good personal and environmental hygiene in order to protect health. Effective WASH relies on identification of key hygiene problems and culturally appropriate solutions. Ensuring the optimal use of all water supply and sanitation facilities and practicing safe hygiene will result in the greatest impact on public health. Hygiene promotion is integral to WASH function and is reflected in the specific tasks relating to water supply, excreta disposal, medical waste disposal, vector control, solid waste management and drainage.
<b>14</b>	<b>Media Management</b>	To disseminate information about various hazards in the district, and the relevant dos and don'ts for before, during and after a disaster. This may be done through various media such as newspapers, television, radio, internet, media and information van, street theatre, etc. This ESF will also help in control of rumours and panic and for crowd management.
<b>15</b>	<b>Law &amp; Order</b>	To provide safety and security to citizens and their property during disaster. To establish command and control in coordination with law enforcement personnel.
<b>16</b>	<b>Public Works</b>	Provides technical assistance for damage assessment and repair and restore damaged public infrastructure
<b>17</b>	<b>Transport</b>	To coordinate the use of transportation resources to support the needs of human, technical, equipment, facility, materials and supplies etc to the emergency responding department/agencies requiring transportation capacity to perform task of emergency response, recovery and assistance during an emergency/disaster situation
<b>18</b>	<b>Livestock</b>	To establishes procedures to coordinate local government agencies, volunteer organizations, allied animal interest groups, and veterinary medical personnel to provide their services to animals affected by any disaster with emergency medical care, temporary confinement, shelter, food and water, identification and tracking for return to owners and ultimate disposal of dead and unclaimed animals as necessary

(Refer ANNEXURE II for thorough understanding of Emergency Support Functions ESF)

## 7.5 Relief

The norms of compensation for ex-gratia grant payable to persons affected by calamities like flood, drought, hailstorm, fire, lightening, and earthquake for loss of human life, for damage of crops, for loss of cattle, for loss of personal property by fire and damage to houses due to floods.

Relief in district should be cultural sensitive and appropriately distributed. It should be noted that relief distribution should include all community and all parts of society, considering this district, special attention is necessary for population from scheduled caste, women, children and old age people during the process. It is the responsibility of each responsible department with district administration to see that their rights are not violated during the process..

## 7.6 Withdrawal of Declaration of Disaster

This would be about normalization and withdrawal of special orders which were given to bring situation under control.

While withdrawal Demobilization shall consider

1. Preparation of Incident Demobilisation Plan (IDP).

2. Plan shall contain priority functions to be withdrawal.

3. Identification of surplus resources and preparation of a tentative IDP in consultation with the PSC and give priority to demobilisation of surplus resources.

4. Developing of incident check-out functions for sections, branches, divisions and units in consultation with all sections and send to the PS.

5. Planning for logistics and transportation support for Incident Demobilisation in consultation with LS.

6. Dissemination of IDP at an appropriate time to various stakeholders involved ensuring that all sections, units, teams and resources understand their specific incident demobilisation responsibilities and avail demobilisation facilities.

7. PSC shall be briefed on the progress of demobilization.

8. Demobilization unit leader has to ensure that these steps are taken.

9. Further the affected communities will be facilitated for speedy recovery by performing reconstruction and rehabilitation. Chapter 8 puts forward various aspects of post disaster recovery.

# 8

## Reconstruction, Rehabilitation & Recovery

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The International Strategy for Disaster Reduction (ISDR) defines recovery as the “*decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk*”. The process demands co-ordinated focus on multi disciplinary aspects of reconstruction and rehabilitation for recovery and is essential to understand disaster reconstruction, rehabilitation under the holistic framework of post disaster recovery.

### 8.1 Post Disaster Reconstruction

Post disaster reconstruction includes both short term and long term activities. The short term activities refer to repair, restoration and strengthening of damaged structures, whereas long term reconstruction activities refer to reconstruction of multi-hazards resilient housing, relocation, provision of basic amenities etc. along with psychological, socio-economic, environmental and agronomic rehabilitation. DDMA, Palwal should initiate the reconstruction activities based on the details of damage assessment. Further, on the basis of extent and type of damage to buildings (public, private, government, etc.), district administration should initiate reconstruction measures.

#### 8.1.1 Short Term Reconstruction Activities

##### a. Repair

The main purpose of repair is to bring back the architectural shape of buildings to resume their functioning at the earliest. The following actions can be taken for repair:

1. Patching up of defects such as cracks, fall of plaster, etc.
2. Repairing doors, windows, placement of glass panes.
3. Checking and repairing electric wiring.
4. Checking and repairing gas pipes, water pipes, sewerage and other plumbing services.
5. Repairing of broken walls, disturbed roofing tiles, cracked flooring and its redecoration with washing, painting etc.

The architectural repairs as stated above do not restore the original structural strength of cracked walls or columns and may sometimes be very illusive.

##### b. Restoration

The main purpose of restoration is to carry out structural repair to load bearing elements. It may involve cutting portions of the elements and rebuilding them or simply adding more structural material so that the original strength is restored.

1. Removal of portions of cracked masonry wall and piers and rebuilding them in

recher mortars. Use of non-shrinking mortar is preferred.

2. Addition of reinforcing mesh on both faces of the cracked walls holding it to the wall through spikes or bolts and covering it suitably. Several alternatives can be used.
3. Injecting proxy like material which is strong in tension into the crack in the walls, columns, beams etc.

Where structural repairs are considered necessary, these should be carried out prior to or simultaneously with the architectural repairs so that total planning of work could be done in a coordinated manner and wastage is avoided.

#### **c. Strengthening of Existing Buildings**

Strengthening is an improvement over the original strength where the evaluation of the building indicates that the strength available before the damage was insufficient and restoration alone will not be adequate in resisting future impacts. Strengthening procedure should aim at one or more of the following objectives:

1. Increasing the lantern strength in one or both directions, by reinforcement or by increasing wall area or the number of wall and columns.
2. Giving unity to the structure by providing a proper connection between its resisting elements in such a way that inertia forces generated by the vibration of the building can be transmitted to the members that have the ability to resist them.
3. Eliminating features that are sources of weakness or that produce concentrations of stresses in some members or cause abrupt changes of stiffness from one floor to the other concentration of the large masses. For example, large opening in wall without a proper peripheral reinforce.
4. Avoiding the possibility of brittle modes of failure by proper reinforcement and connection of resisting members.

### **8.1.2 Long Term Reconstruction Activities**

Reconstruction of housing and associated infrastructure plays most important role in betterment of psychological trauma, livelihood, health, education in entire disaster recovery process. Therefore, it should consist of a comprehensive approach involving rehabilitation of housing, infrastructure, livelihood, health, education, environment, etc to ensure sustainable development of disaster affected communities. It should be taken into consideration that below mentioned multi disciplinary activities and approaches should be incorporated in reconstruction process in consultation of the affected community in an institutionalised manner. This would ensure sustainable development of the community.

#### **a. Design & Material**

The reconstruction of housing requires appropriate design i.e. culturally acceptable, environmentally suitable and suitable to contextual needs of community. The material and technology used should also be context specific and in full consultation with the people so that they are able to maintain the housing after they occupy them. For the same, owner driven approach is preferred.

#### **b. Disaster Resilient Construction**

DDMA, Palwal shall constitute a committee to meet the technical requirements for disaster resilient housing in reconstruction. This committee shall have members from PWD (B&R) department, Development and Panchayat Department and other members best suited for ensuring disaster resilient housing. These members shall assist in multi hazard resilient design and monitor the entire process of reconstruction. The committee should ensure that disaster resilient techniques are incorporated in various schemes and

development projects. Therefore, funds under schemes can also be used for reconstruction Indira Awaas Yojana and other such as Housing Schemes for Scheduled Castes and Denotified Tribes.

#### **c. Owner-Driven Approach**

One of the significant approaches for disaster reconstruction is owner driven approach. This approach facilitates the owner to build the housing as per their own conveniences. The intervention of district administration is limited to provision of the funds and technical expertise for construction activity. This approach will facilitate the owners to design houses as per their needs, at preferable locations. This gives them a sense of ownership and helps them to maintain their social capital. The involvement of owner helps in reducing the cost and proper monitoring.

#### **d. Relocation**

When reconstruction also involves relocation of the community, the relocation site should be in close proximity to the existing sources of livelihood such as places of work, agricultural farms, livestock facilities, markets, etc. This will ensure favourable conditions for livelihood generation and other economic activities. DDMA, Palwal should plan and procure land for rehabilitation in consultation with the targeted community members to meet the above mentioned aspects.

### **8.2 Basic Amenities**

DDMA shall ensure the provision of the following basic amenities at all reconstruction and relocation sites.

#### **8.2.1 Health Facilities**

1. DDMA shall constitute a committee to ensure for provision of health facilities at all reconstructing sites in the district.
2. The committee shall co-ordinate with constructing agencies and departments (Private agencies, PWD (B&R), HUDA, Housing board, etc.) in association with

Health department and ensure functioning of health facilities along with necessary infrastructure at strategic locations at all reconstruction sites.

3. Schemes under health department such as NRHM should be used for the same.

#### **8.2.2 Educational Facilities**

1. DDMA shall constitute a committee to ensure provision of educational facilities for all the reconstructing sites in the district.
2. The committee shall co-ordinate with constructing agencies (PWD B&R, HUDA etc) in association with Education department for ensuring education for disaster affected children/ students in the district.
3. Various departmental schemes such as *balwari* programme, creche programme, children's library can be used for the same.

#### **8.2.3 Water**

1. DDMA shall constitute a committee to ensure provision of adequate water supply for all the reconstructing sites in the district.
2. The committee should ensure potable water for drinking and water for other use is provided by PHED department through proper functional pipelines and other arrangements.
3. The committee shall co-ordinate with reconstruction agencies to ensure that each household/ constructed unit is provided with adequate water storage facilities.

#### **8.2.4 Drainages and Sanitation Facilities**

1. DDMA shall constitute a committee to ensure provision of proper drainage and sanitation facilities for all reconstruction sites in the district.
2. The committee shall co-ordinate with PHED and constructing agencies (Private, PWD (B&R), HUDA, Housing Board,

etc.) to ensure proper drainage system and other hygiene and sanitation activities in rehabilitation sites.

#### **8.2.5 Electricity**

1. DDMA shall constitute a committee to ensure provision of electricity and sufficient lighting facilities for all the reconstructing sites in the district.
2. The committee shall coordinate with electricity department and MC to ensure provision of electricity and associated infrastructure in all the rehabilitated sites with permanent connections.

#### **8.2.6 Transportation and Connectivity Facilities**

1. DDMA shall constitute a committee to ensure provision of proper road connectivity and transportation facilities for all the reconstructing sites in the district.
2. The committee shall coordinate along with PWD (B&R) Department, Haryana roadways and RTA, Palwal to ensure road connectivity and transportation facilities for the reconstruction sites.

### **8.3 Rehabilitation**

Post-disaster rehabilitation is a complex process involving several dimensions such as livelihood restoration, psychological care, environmental rehabilitation, etc. This requires strong linkages between government, non-governmental organisations as well as international organisations and should be seen as opportunity to work with communities in the district.

#### **8.3.1 Socio-Economic Rehabilitation**

1. DDMA shall constitute a committee to ensure revamping of economy for affected people in the district.
2. This committee shall provide mechanisms and schemes for livelihood generation and support for livelihood.

3. The committee shall have members from Development and Panchayat department, Dist. Social Welfare department, Welfare Department, District Red Cross Society, DCCW, and Health Department etc.
4. Various measures such as seed capital, micro finance and other related schemes should be used for the same.
5. Following are some of essential activities for different target groups. The committee shall ensure the execution of the same at every reconstruction and rehabilitation sites.

#### **a. Livelihood Generation**

The socio- economic rehabilitation committee shall further co-ordinate along with Department of Employment, District welfare department and NGO's to ensure financial arrangements such as loans and assistance for self employment. Other livelihood support activities which can be provided by the schemes under Welfare Department are given below:

1. Training tailoring to SCs/BCs destitute/ widowed women/girls.
2. Up-gradation of typing and data entry skills of the SC/BC unemployed youth through computer training.
3. Financial Assistance for training to Scheduled Castes candidates in unorganised sector through private institutions
4. Creation of employment generation opportunities by setting up Employment oriented Institutions/ training programme.
5. Other schemes such as MGNREGS, PMGSY, Hunar se Rojgar Yojana (as discussed in Table 4.2) can also be used for livelihood generation.

The socio- economic rehabilitation committee shall also co-ordinate with Animal Husbandry and Dairying Department to ensure alternate livelihood generation activities by providing cows and buffaloes. Various schemes under



Animal Husbandry and Dairying Department shall be used for the same:

1. Schemes for Employment Opportunities to Scheduled Castes families by establishing livestock units and insurances of their livestock (SCSP)
2. Special Employment to educated/uneducated young men/women of rural area through Dairy Development
3. Self employment generation in dairy sector by establishing Hi-tech/ Mini dairy units
4. Schemes for salvaging and rearing of the male buffalo calves.
5. Piggery Development Scheme in the State under Rashtriya Krishi Vikas Yojana

#### **b. Children**

The socio- economic rehabilitation committee shall further co-ordinate along with DCCW department to install playschools, orphanages etc. at community level. Under the Balwadi Programme, pre-school education, routine health check-up, nutrition, play and other related activities are covered. DCCW, Palwal should ensure that each and every child from affected community is benefitted from such schemes and programmes. Financial Assistance under the Non-School Going Disabled Children and Destitute Children, ICDS, etc. could also be used.

#### **c. Women**

1. The socio- economic rehabilitation committee should co-ordinate along with Department of Social Welfare to ensure that each widow/destitute is registered under various schemes and measures to support livelihood.
2. The Widow and Destitute Women Pension Schemes and other such schemes under Welfare and Social Welfare Department can be used for the same.

#### **d. Old Age**

1. The socio- economic rehabilitation committee shall further coordinate along with Department of Social Welfare to ensure that each elderly/ old-aged people is registered under Old Ages Pension Scheme and Samman Allowance.
2. The committee shall also coordinate with various NGO's to address various needs of the old age.

#### **e. Physically Challenged**

1. The socio- economic rehabilitation committee shall coordinate with Department of Social Welfare and District Red Cross Society to ensure that each physically challenged person is provided with artificial limbs, hearing aids, wheel chairs, etc.
2. Assistance should be given by Social Welfare Department under Handicapped Person Pension Scheme, Scholarship to Handicapped Students and Unemployment Allowance to Literate Handicapped Persons, etc.

#### **f. Scheduled Castes and Backward Castes**

1. The socio-economic rehabilitation committee shall co-ordinate along with Social Welfare Department for provision of support for livelihood to SCs and BCs.
2. Various schemes such as Financial Assistance for Training, Tailoring to Scheduled Castes/ Backward Castes destitute/widowed women/girls, Indira Gandhi Priyadarshini Viwah Shagun Yojna and Housing Schemes for SCs, etc. have potential to support the targeted vulnerable sections.

### **8.3.2 Psychological Rehabilitation**

1. DDMA shall constitute a psychological rehabilitation committee to ensure provision of psychological care and



psychological first aid to the disaster affected community.

2. The committee shall co-ordinate with Health Department, Women and Child Development, DCCW to carry out activities at community level to reduce the psychological trauma of the disaster affected communities. Support and co-ordination from NGOs should also be utilized for the same.
3. Various programmes like Balbhavans, Play ground, Hobby classes under DCCW Department can be used to provide psychological care for the disaster affected children.

### **8.3.3 Agronomic Rehabilitation**

1. DDMA shall constitute an agronomic Rehabilitation committee to ensure soil reclamation in case of any changes in composition and fertility of soil in the district.
2. The committee shall co-ordinate with Department of Agriculture to ensure that Soil testing labs undertake research and formulate necessary steps required for agronomic rehabilitation.
3. The committee shall co-ordinate with NGO's working in same fields and their support should also be channelized for the same.
4. They should also suggest cropping patterns, suitable compositions of fertilizers pesticides etc. depending upon the changes in soil and develop a model of rehabilitation of the same.

### **8.3.4 Environmental Rehabilitation**

1. DDMA shall constitute an Environmental Rehabilitation committee to ensure decontamination of water bodies, soil, air and other environmental problems
2. The committee shall co-ordinate along with Haryana State Pollution Control

Board, Industrial Safety and Health, Forest, Agriculture and Health department to monitor carry out decontamination.

3. The committee shall monitor rehabilitation sites and take necessary steps to reduce pollution.

### **8.3.5 Restoration of Social Capital**

1. DDMA shall constitute a Social Capital restoration committee to ensure intact social bonding of the people during distribution of houses.
2. The committee shall co-ordinate with distributing agency to ensure that the social fabric is not weakened in the process of allocation of houses. Families with better cooperation with each other should be allocated close to each other.

### **8.4 Coordination ensuring Holistic Recovery Process**

DDMA should formulate necessary institutional mechanisms for ensuring that each above mentioned parameters/ activities of reconstruction and rehabilitation are provided at each site. DDMA should monitor and coordinate NGO/ INGO/ or any other agency depending upon their mandates and utilize their resources appropriately. It should be noted that the external agencies have a time bound approach and communities may or may not be completely rehabilitated before that time, therefore DDMA, Palwal should ensure rehabilitation of such communities. Most essentially to avoid communities getting dependent on assistance, DDMA should design achievable indicators and ensure proper and timely withdrawal.

## 9

## Financial Arrangements for Disaster Management

### 9.1 Financing Arrangements

The Disaster Management Act, 2005 provides for Disaster Response Fund (DRF) and Disaster Mitigation Fund (DMF), each at the national, state and district levels. As per Section 46(I) and section 48(I) (a) of the Act, the National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF) were constituted in 2010 vide Letter No. 32-3/2010-NDM-1 dated 28<sup>th</sup> September, 2010 by the Ministry of Home Affairs (Disaster Management Division). In the same notification, the Calamity Relief Fund (CRF) was converted into SDRF. Under the 13<sup>th</sup> Finance Commission (FC), this provision of funds was made. The National Disaster Mitigation Fund is to fund projects exclusively for the purpose of mitigation and is to be administered by the NDMA. The district level provision of the Disaster Response Fund and Disaster Mitigation Fund, however, has not been created.

Table 9.1: Allocation of Haryana State Disaster Response Fund in 13<sup>th</sup> Finance Commission (in Crores)

2010-11	2011-12	2012-13	2013-14	2014-15	Total
192.9	202.55	212.68	223.31	234.48	1065.92

Table 9.2: Allocation of Funds in Haryana under 13<sup>th</sup> Finance Commission

Sr No	Project/Service	Year	Sanctioned Amt. (in INR)
1	Capacity Building	2010-15	5 Crores per financial year
2	Revamping Fire Services	Allocated once in 13th FC	100 Crores
3	Strengthening of Fire & Emergency Services	Allocated once in 13th FC	Central Allocation: 361 Crores State Contribution: 90.25 Crores
4	Revamping Civil Defence	Allocated once in 13th FC	Central Allocation: 390.20 Lacs State-contribution : 10.00 Lacs
5	UNDP Program (externally aided funds)	Allocated once in 13th FC	For DRR: 150.00 Lacs For URR: 50.00 Lacs

(Source: 'Disaster Management in India' book, Ministry of Home Affairs, 2012)

## 9.2 Additional Central Assistance

In the context of disaster finance post-disaster reconstruction there is provision for Additional Central Assistance (ACA). Over and above the provision of the SDRF, Funding is provided from the NDR Fund in the wake of calamities of severe nature. On receipt of memorandum from the affected states, an inter Ministerial Central Team comprising of representatives of the central ministries/departments is constituted and its report after examination by the inter Ministerial Group (IMG) headed by Home Secretary is placed before High Level Committee (HLC) for their consideration and approval of funds from NDRF.

It has been given to states in recent years, particularly for the Gujarat earthquake of 2001, the Indian Ocean tsunami of 2004, the Kashmir earthquake of 2005 and the Kosi floods of 2008 in Bihar.

## 9.3 Capacity Building Fund

Effective disaster response requires trained manpower to deal with complex situations where effective and speedy handling can reduce the impact of a disaster on human life and property. It is necessary to continuously undertake measures to build capacity amongst those handling response and create awareness amongst people. 10% of SDRF received at the state level is meant for capacity building. As the district demands the state to carry out capacity building exercises at its level, the state would release the same as per the need. The activities that can be included in capacity building exercises are mentioned in Chapter 6.

## 9.4 Prime Minister Relief Fund

At the national level Prime Minister's National Relief Fund was created shortly after Independence with public contribution to provide immediate relief to people in distress for:

- a. Immediate Financial assistance to the victims and next of kin.
- b. Assisting search and rescue.
- c. Providing health care to the victims.
- d. Providing shelter, food, drinking water and sanitation.
- e. Temporary restoration of roads, bridges, communication facility and transportation.
- f. Immediate restoration of education and health facilities.

## 9.5 Chief Minister Relief Fund

At the state level, a provision has been made to provide immediate support to the distressed people affected by the natural calamities or road, air or railways accidents, under the Chief Minister Relief Fund.

## 9.6 Member of Parliament Local Area Development Scheme (MPLADS)

- a. In the context of natural & man-made calamities MPLADS works can also be implemented in the areas prone to or affected by the calamities like floods, cyclone, Tsunami, earthquake, hailstorm, avalanche, cloud burst and pest attack, landslides, tornado, drought, fire, chemical, biological and radiological hazards. Lok Sabha MPs from the non-affected areas of the State can also recommend permissible works up to a maximum of Rs.10 lakh per annum in the affected area(s) in that State. The funds would be released by the Nodal district of the MP concerned to the District Authority of the affected district. MPLADS funds may be pooled by the District Authority of the affected district for works permissible in the Guidelines. The amount so transferred from the nodal district to the natural calamity affected district may be shown in the UCs as well as MPRs as amount transferred to natural calamity affected district for rehabilitation work.

The Works Completion Report, Audit Certificate and Utilization Certificate for such works and funds will be provided by the District Authority of the affected districts directly to the Ministry of Statistics and Programme Implementation for overall reconciliation. No separate UC/AC/Completion Report in respect of the transferred amount would be required from the Nodal District authority in this regard while processing release of subsequent installment of MPLADS funds.

- b. In the event of “*Calamity of severe nature*” in any part of the country, an MP can recommend works up to a maximum of Rs.50 lakh for the affected district. Whether a calamity is of severe nature or not, will be decided by the Government of India. The funds in this regard will be released by the District Authority of Nodal district of the MP concerned to the District Authority of the affected district to get permissible works done.

### **9.7 Convergence with Central Sponsored Schemes**

- a. Various employment generation schemes, especially those such as the National Rural Employment Guarantee Scheme (NREGS) assure financial relief to needy families in drought-affected areas. They can be easily integrated with relief programmes to increase the availability of funds for relief expenditure.
- b. Another scheme that has been effectively dovetailed with calamity relief is the Indira Aawas Yojana (IAY), which has accomplished useful relief work in terms of providing housing to the affected families. Ten percent of the annual allocation under IAY is earmarked for this purpose. Similar allocation of five percent

is also made under the Accelerated Rural Water Supply Programme (ARWSP).

- c. The provision has been made for the mid day meal to remain functional in the drought hit areas.

### **9.8 Other financial sources**

District authority can take assistance from UN bodies and International organization, NGOs and private donors (depending on their mandates) for relief, rehabilitation and other disaster risk reduction activities.

Activities undertaken as corporate social responsibility (CSR) can be channelized for mitigation and capacity building purposes as well as the disaster response.

### **9.9 Risk Transfer and Insurance (A Recommendation)**

*Risk Transfer* is a tool that enables a concerned party to share/transfer a portion of the disaster risk to another party, for a certain fee. This party can be the government itself or the microfinance institutions. The absence of disaster insurance means that the government has to bear a huge cost for compensation and rehabilitation work in post-disaster situations.

The Insurance Regulatory and Development Authority of India have framed micro insurance regulations that allow distribution of micro insurance products in the state. The regulations cover insurance for personal accidents, health care for individual and family and assets like houses, livestock, tools and others.

In Haryana, various Ministries/Department have their insurance schemes related to health, crops, livestock, and other which can be utilize in case of disaster.

# 10

## Implementation, Monitoring and Updation of DDMP

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This chapter talks about the monitoring, evaluation, updation and implementation of the District Disaster Management Plan of the district Palwal. The District Disaster Management Authority (DDMA), Palwal will have to ensure the planning, coordination, monitoring and implementation of the DDMP, Palwal. The Deputy Commissioner is the overall incharge of all the activities related to disaster management.

### 10.1 Implementation

The nodal authority for the task of implementation during and after disasters will be the District Disaster Management Authority, Palwal.

For the process of implementation, the most important component of testing the DDMP is to conduct quarterly mock drill or simulation exercise in order to identify the positive elements as well as gaps.

Mock drill exercise is required in order to verify the level of preparedness and improve the coordination during emergencies. This has to be based on past experiences and lessons learnt.

Mock-drills help in evaluating response and improving coordination within the administration, with various departments, non-government agencies, other stakeholders and communities. They help in identifying the extent to which the plans are effective and also aid in revising these if required. These drills enhance the ability to respond faster, better

and in an organized manner during the response and recovery phase.

DDMA must ensure the following:-

- i. Implementation of DDMP within district, its updation and quarterly mock-drill
- ii. Implementation of all policies and plans of state govt.
- iii. Implementation of all NDMA guidelines
- iv. Implementation of all instructions of Revenue & Disaster Management department
- v. Department should ensure that all schemes based on the parameters of mitigation, relief and rehabilitation to be identified and implemented
- vi. Implementation of all guidelines/instructions related to disasters from GoI and state govt.
- vii. All officers to be trained in Disaster Management through CDM, HIPA
- viii. Implementation of National bylaws
- ix. Implementation of Fire-safety bylaws
- x. Implementation of all on-site plans of the respective industries
- xi. Establishment and functionality of Emergency operation Center (EOC)

### 10.2 Monitoring and Evaluation

The DDMA will be responsible for the proper monitoring and evaluation of the DDMP. The purpose of monitoring and evaluation of DDMP is to determine

- i. adequacy of resources

- ii. co-ordination between various departments/ agencies
- iii. community participation
- iv. partnership with NGOs
- v. partnership with insurance companies

### **10.2.1 Roles & Responsibilities of DDMA in Monitoring and Evaluation of DDMP:-**

1. Identify and ensure implementation of DRR into all developmental projects and schemes.
2. Monitor the functioning and adequacy of the resources present in the district every six months.
3. Based on the analysis, the DDMA has to procure/purchase/borrow resources from the concerned authorities and replace the dilapidated and non-functioning resources using the developmental funds.
4. Ensure that all the departmental plans are operational and checked by the respective nodal officers.
5. Monitor that all the officers of the frontline departments have to be trained as per their requirement.
6. Monitor that all prevention, mitigation, preparedness and response measures (as mentioned in chapters 4, 5 and 7 of the DDMP) are properly implemented within the district.
7. All departmental heads at the district level must ensure to identify their suitable and relevant schemes (centrally-sponsored or state-funded) which will be suitable to be used in disaster management, keeping in view of their parameters of the central-sponsored schemes.

The monitoring and evaluation could be done through various audits such as:

- i. Electrical Safety Audits of critical infrastructure

- ii. Fire-Safety Audits of critical infrastructure
- iii. Enforcement of National Building Code in construction of lifeline buildings
- iv. Audit reports of various departments such as environment, irrigation (regarding canals), labor (Industrial Safety & Health)
- v. All on-site emergency plans of the respective industries which fall within the district
- vi. Off-site emergency plan of the district

### **10.3 Review and Update**

The DDMA will be responsible for the review of the DDMP. This needs constant review and updation based on the following requirements:-

- a) Major change in the operational activities and location
- b) Valuable inputs from actual disasters
- c) Lessons learnt from training
- d) Inputs from mock drills/ simulation exercises
- e) Lessons learnt from near-miss incidents
- f) Changes in disaster profile
- g) Technological developments/ innovations in identifying potential hazards
- h) Changes in regulatory requirements
- i) Updation of databases using GIS
- j) Change in demography of surrounding population
- k) Changes in geo-political environment

Palwal DDMP is an effective document for the District and the ADC and District Revenue Officer, Palwal along with the help of the nodal officers of the frontline departments will update it on a biannual basis taking into consideration:-

- i. Inventory of equipment in the district (DDMRI),

- ii. Human Resources, their addresses and contact numbers (DDMRI),
- iii. Medicinal stock,
- iv. List of flood prone villages,
- v. Technology to be used,
- vi. Coordination issues from the lessons learnt

The District Information Officer, Palwal in coordination with DRO, Palwal will update and upload the DDMRI every three months.

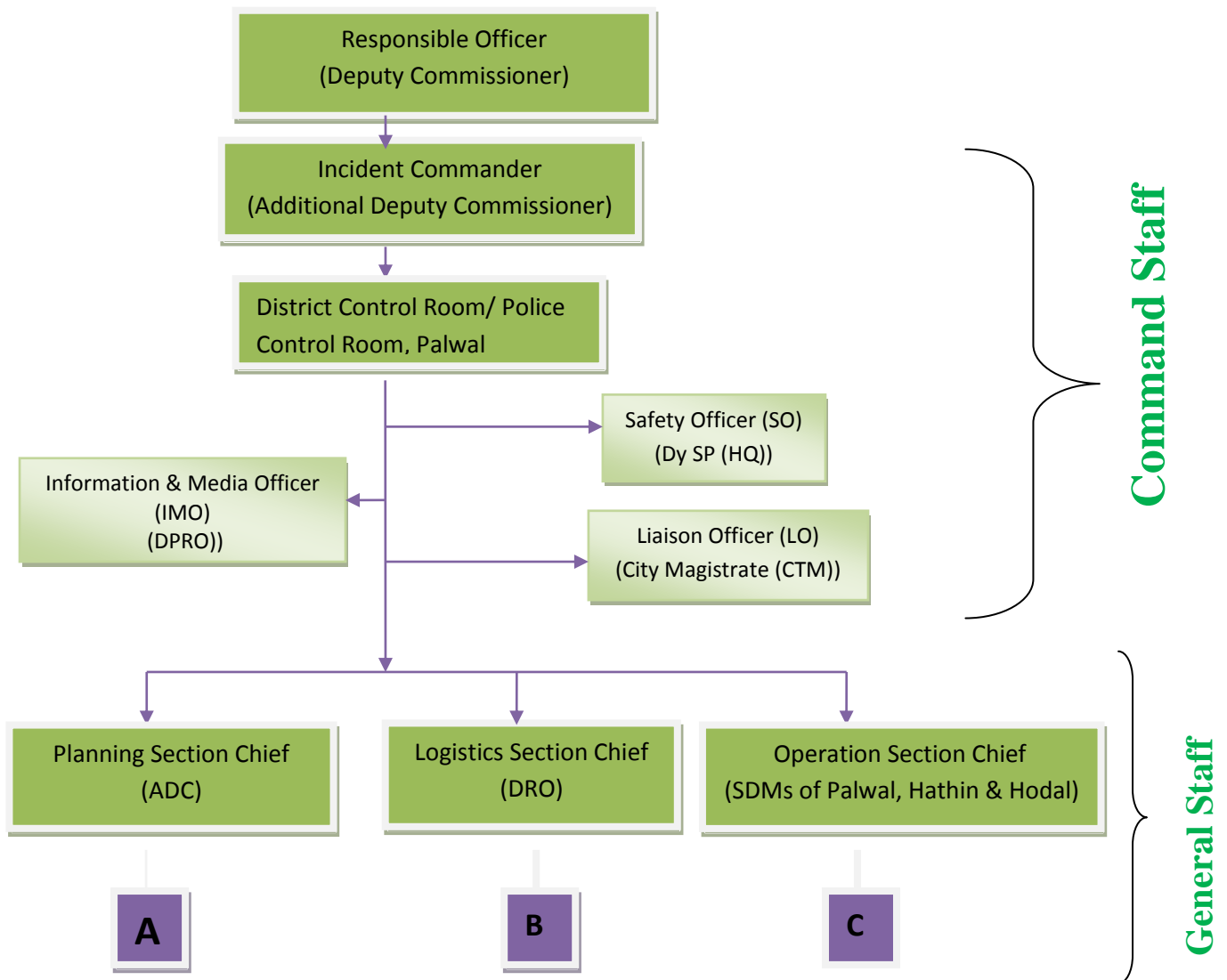
A quarterly meeting for DDMP update will be organized by the DDMA under the chairmanship of Deputy Commissioner. DC should ensure for progress and gap analysis. All concerned departments and agencies have to participate and give recommendations on specific issues and submit their updated reports on the above mentioned factors to the DRO, Palwal quarterly. The DDMA will update DDMP annually.

DC should make a report of DDMA activities/ departmental activities for capacity building and present in CM annual meeting.

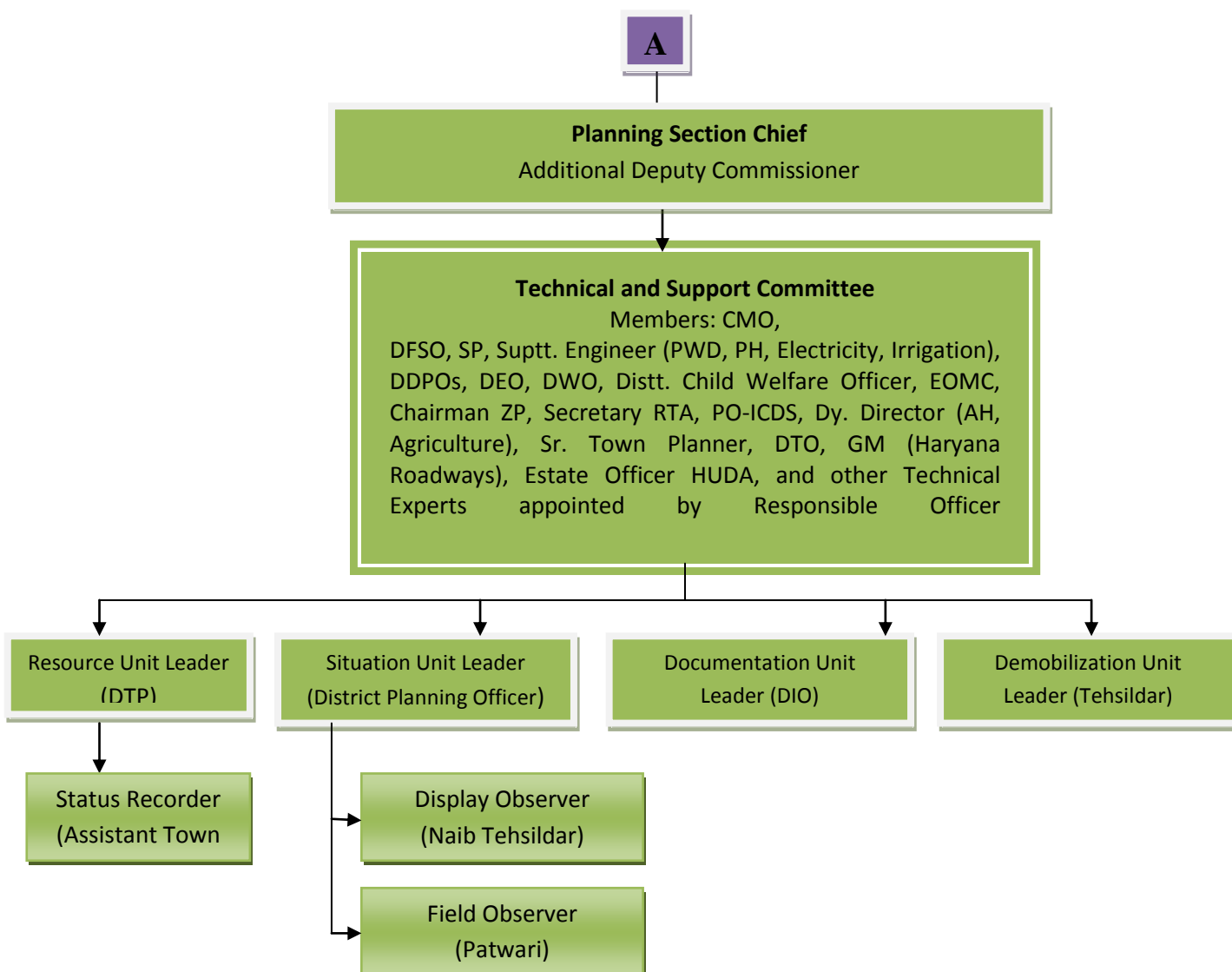


## ANNEXURE I

### Incident Response System Flow Chart



## PLANNING SECTION



## LOGISTICS SECTION

**B**

**Logistics Section Chief**  
District Revenue Officer

**Service Branch**

**Branch Director:** District  
Revenue Officer

Communication Unit Leader  
(Dist Radio officer)

Medical Unit  
(Leader: Dy. CMO)

Food Unit  
(Leader: Superintendent, F&S)

**Support Barnch**

**Branch Director:** District  
Revenue Officer

Resource Provisioning Unit  
(Leader: Naib Tehsildar)

Facilities Unit  
(Leader: Naib Tehsildar)

Ground Support Unit  
(Leader: Naib Tehsildar)

**Finance Branch**

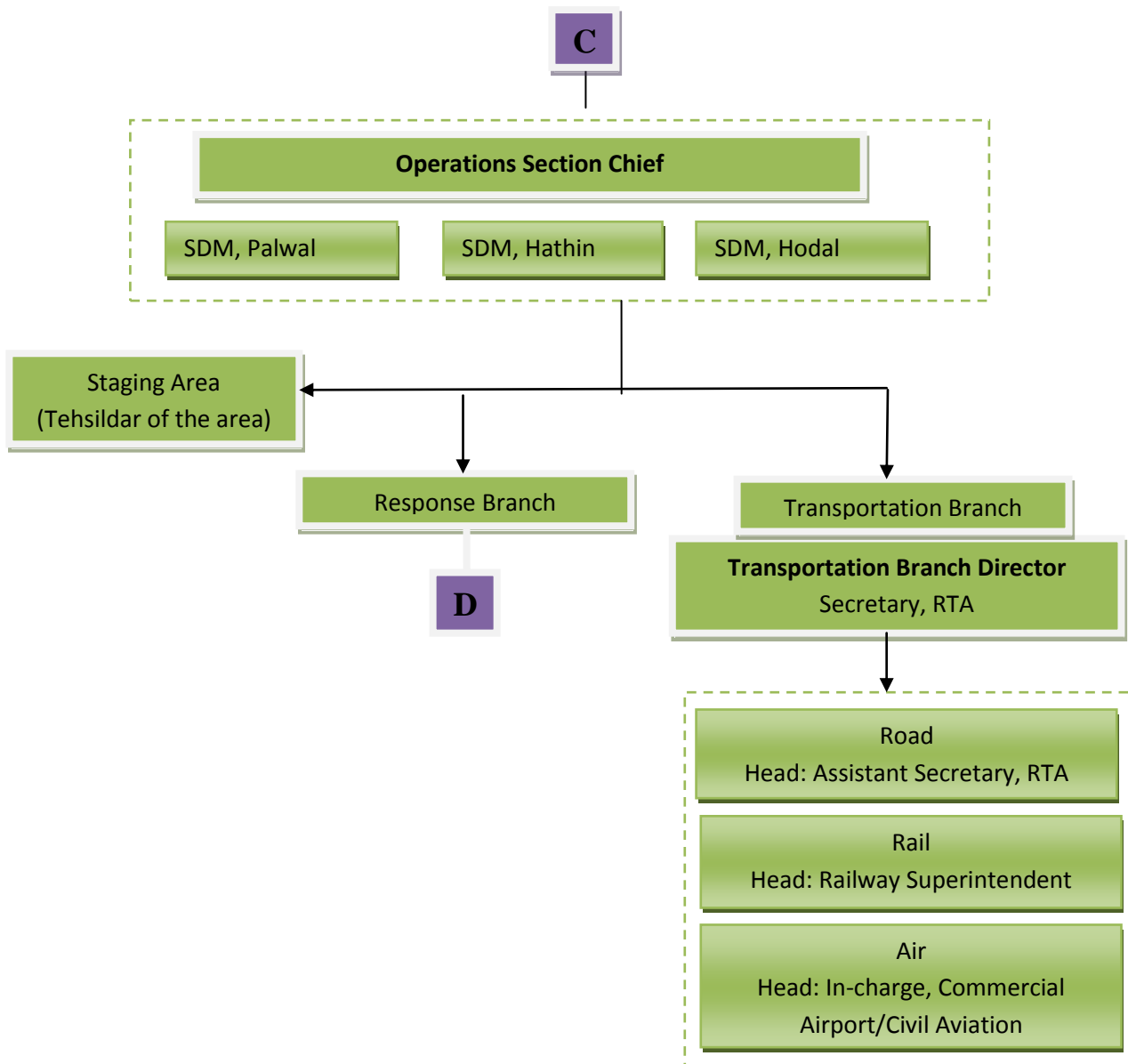
**Branch Director:** Chief  
Accounts Officer

Time & Cost Leader  
(Deputy Superintendent  
– Revenue)

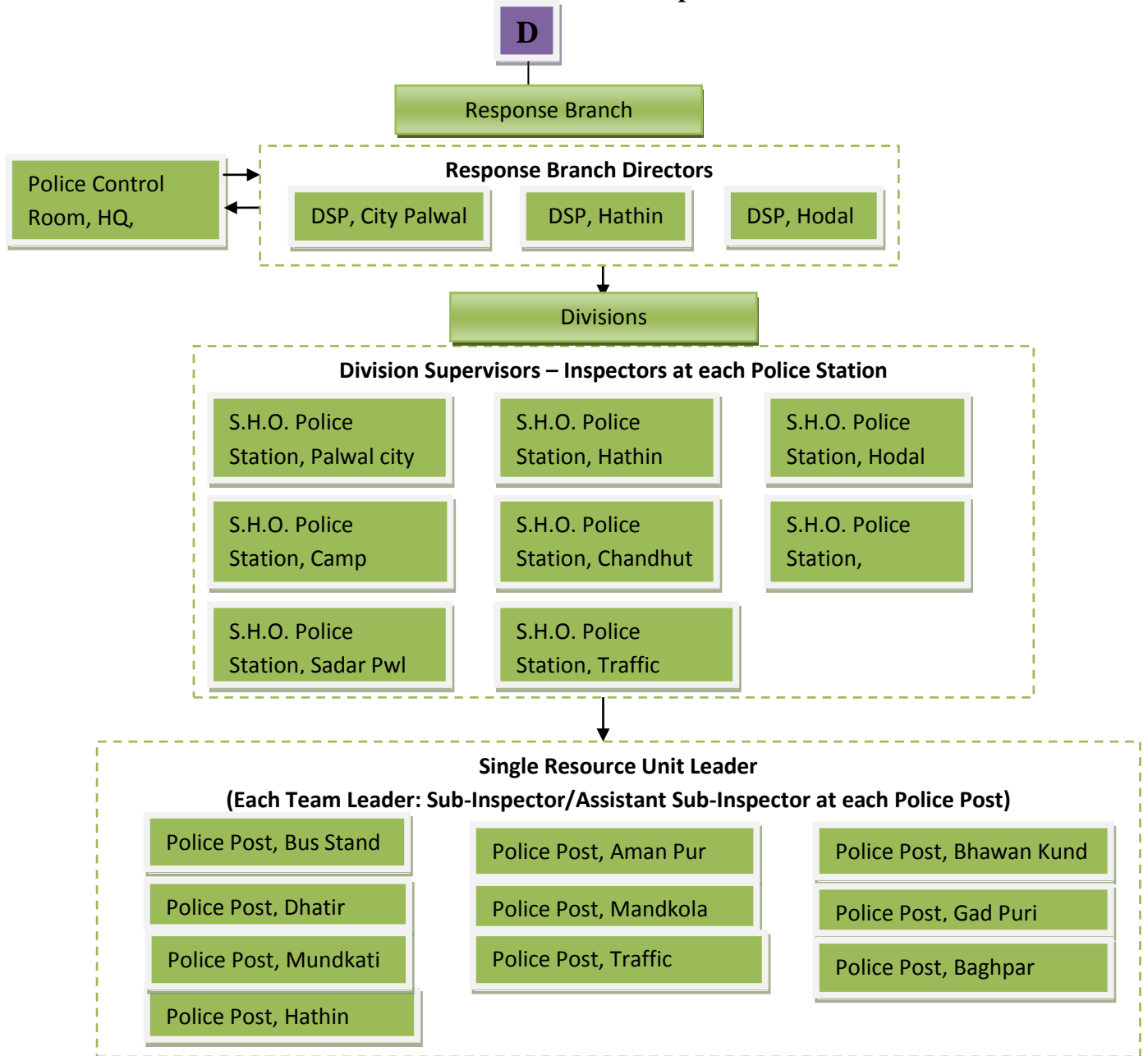
Compensation Claim Unit  
(Sadar Kanungo/Naib  
Tehsildar Accounts)

Procurement Unit  
Leader  
(Secretary, RCS)

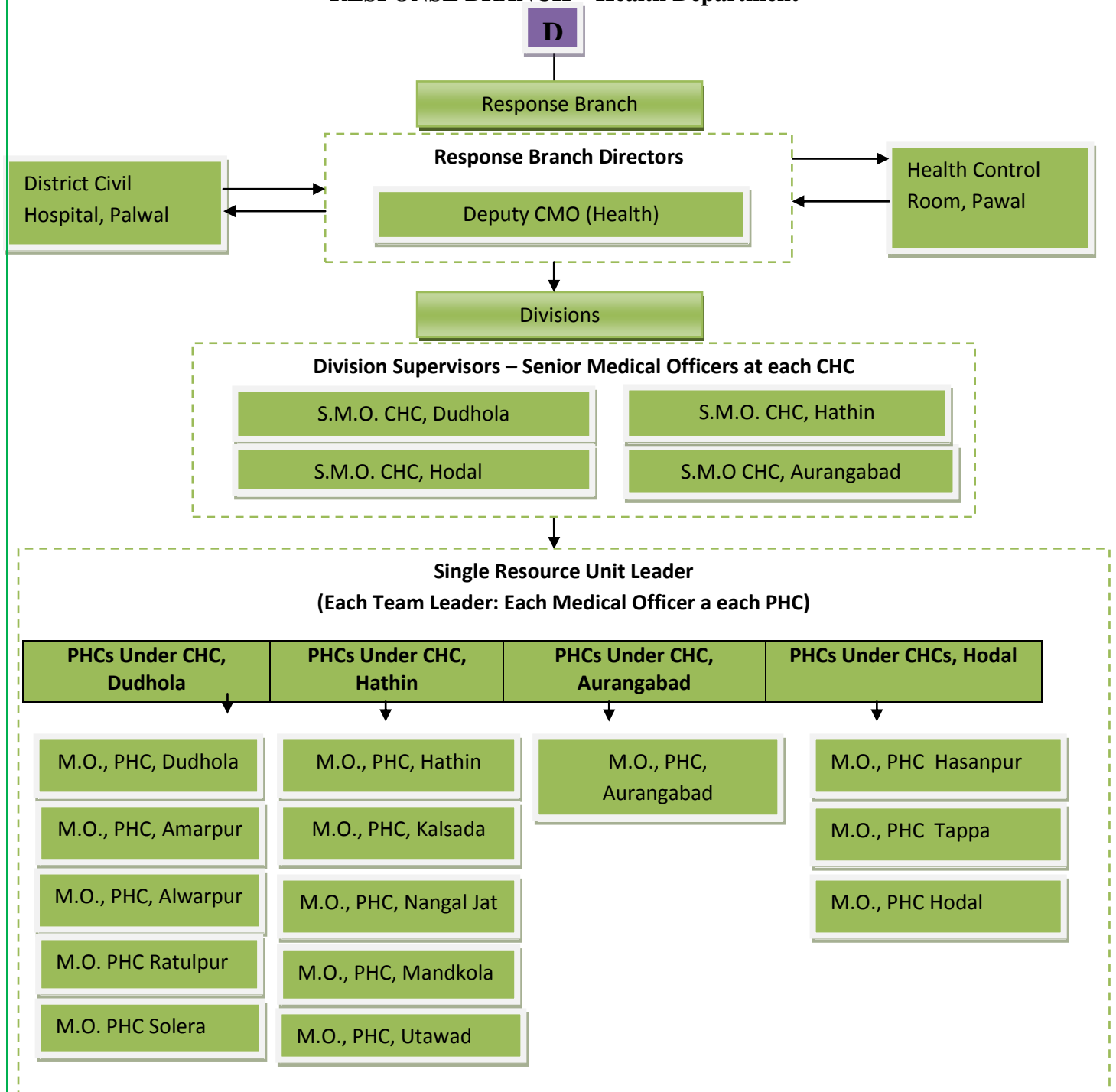
## OPERATIONS SECTION



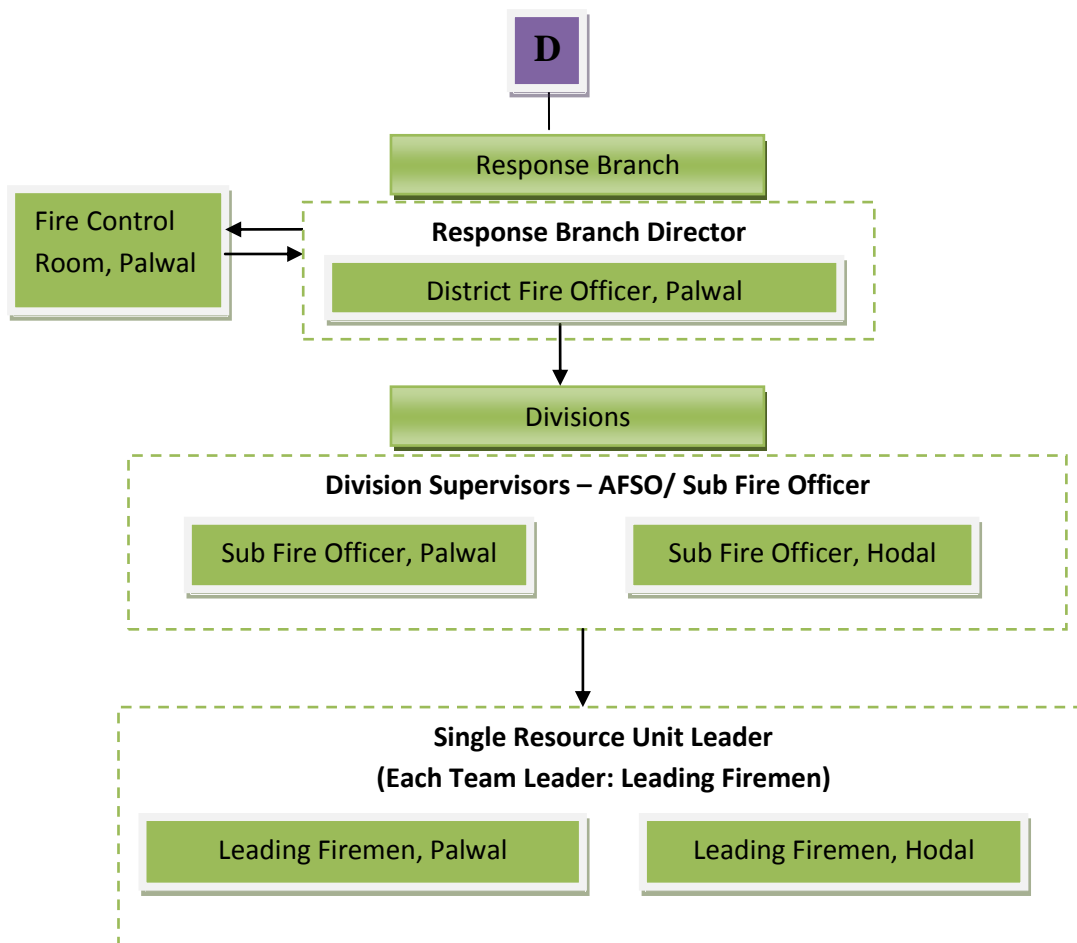
## RESPONSE BRANCH – Police Department



## RESPONSE BRANCH – Health Department

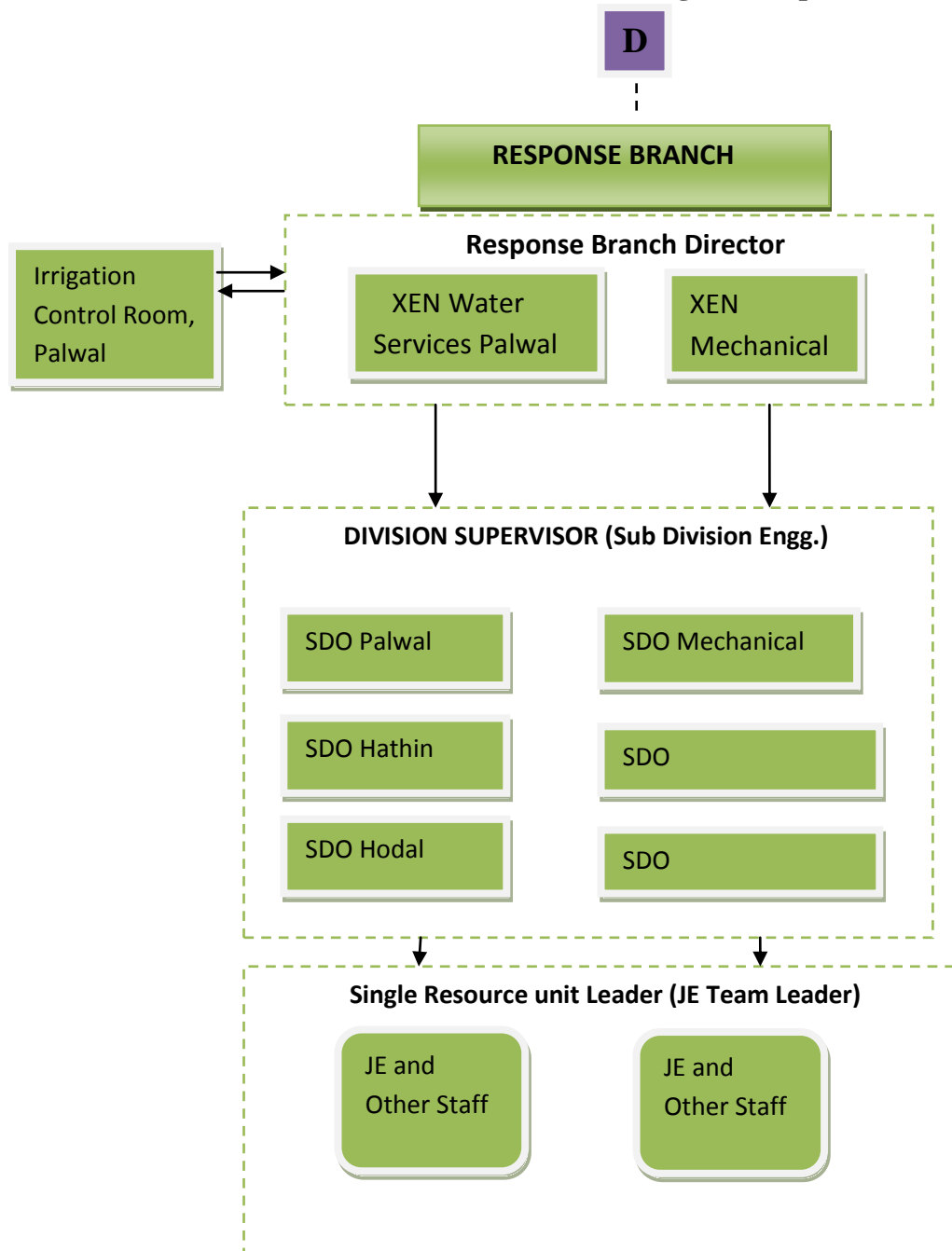


## RESPONSE BRANCH – Fire Department

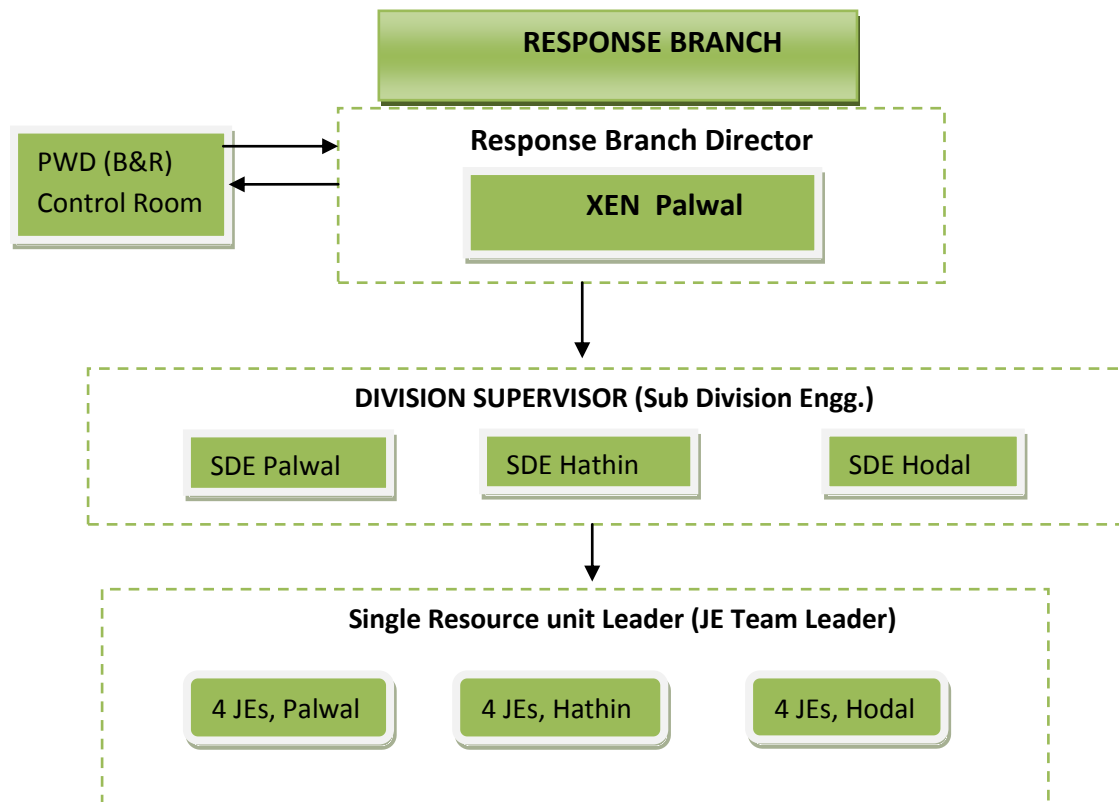




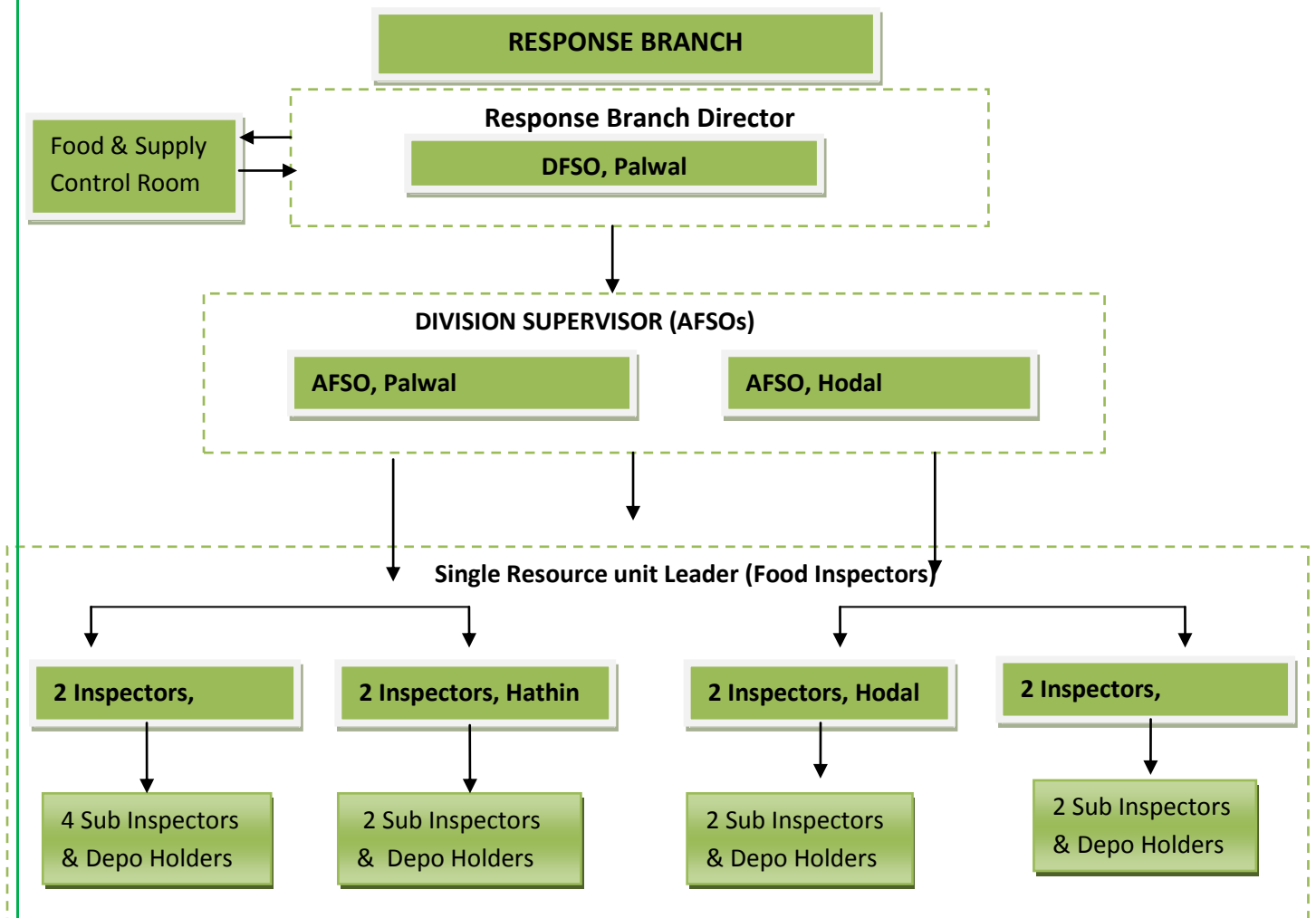
## RESPONSE BRANCH – Irrigation Department



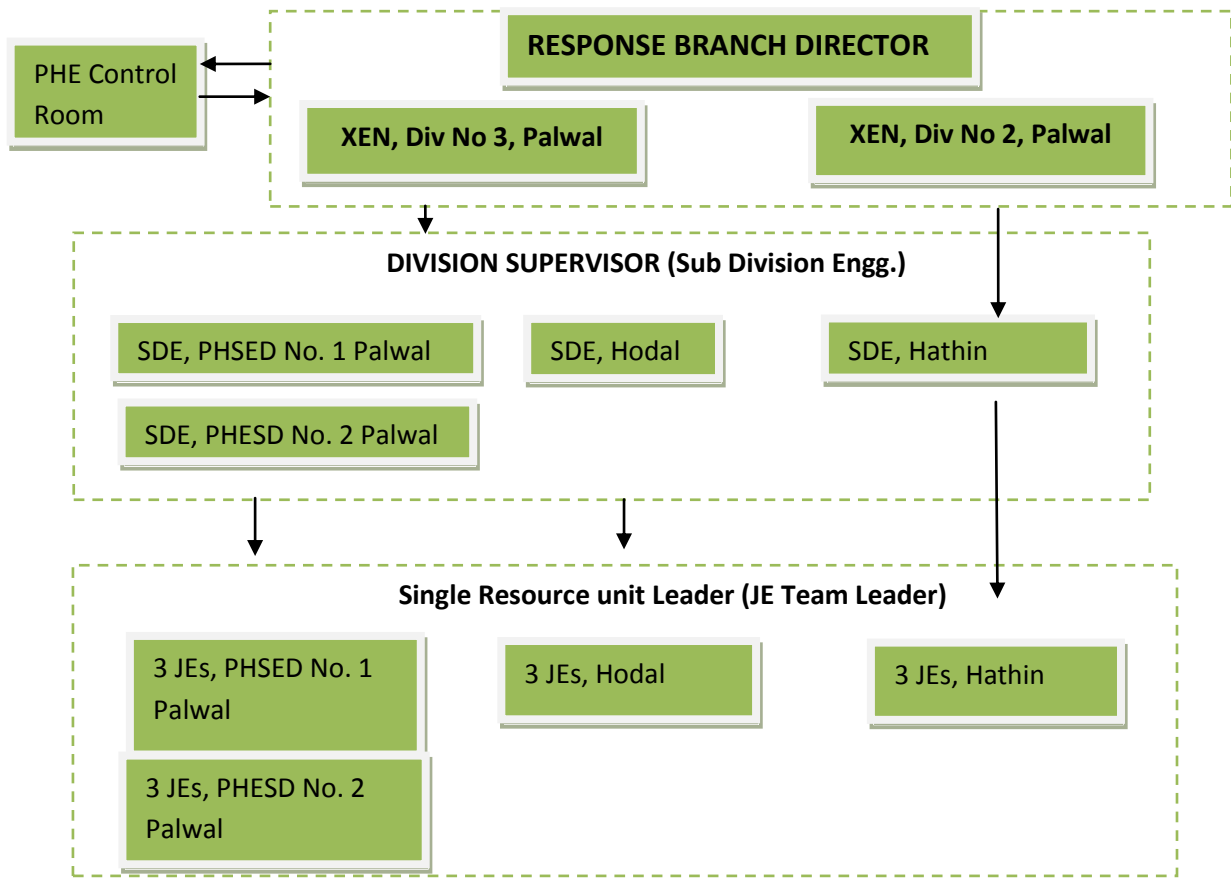
## RESPONSE BRANCH: PWD (B&R)



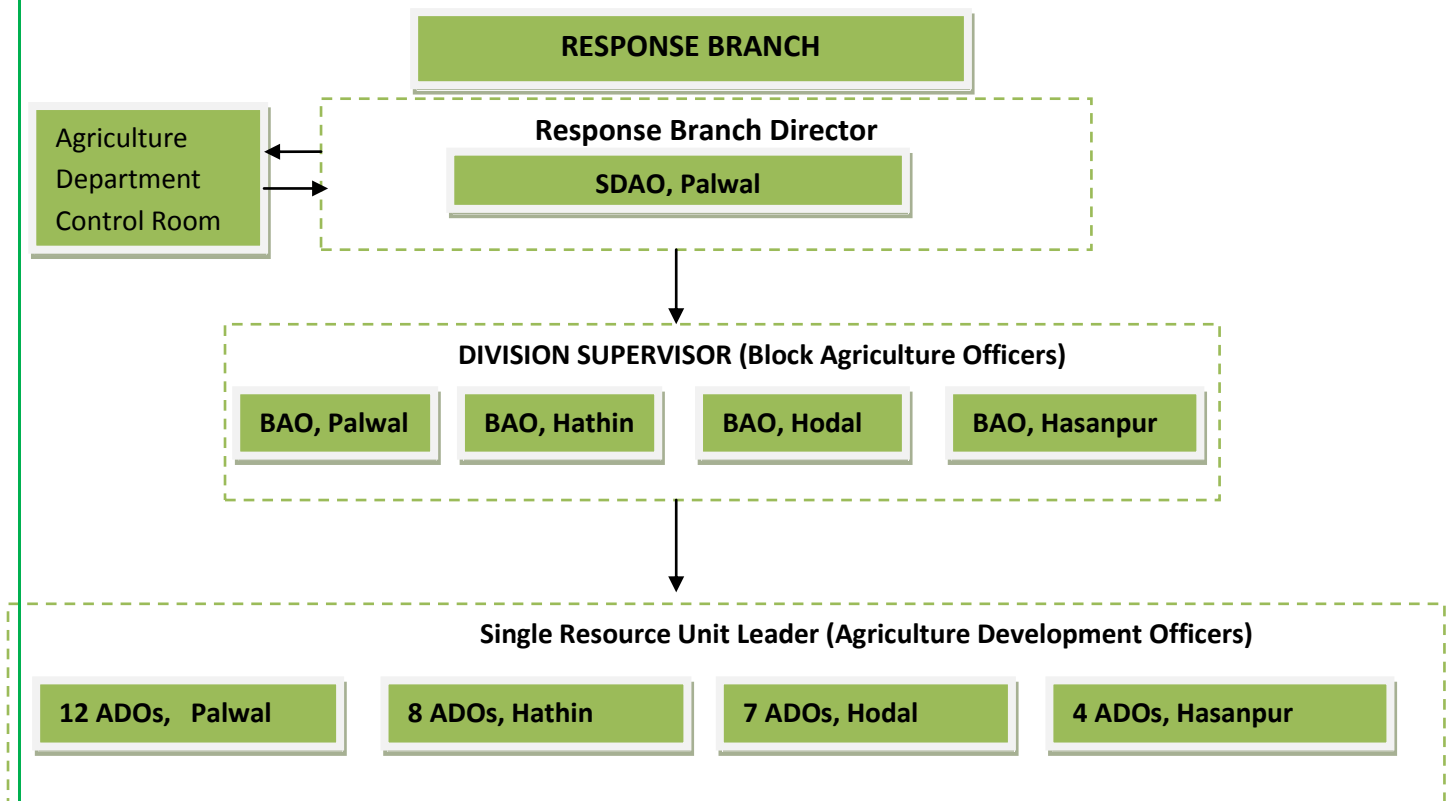
## RESPONSE BRANCH: Food & Supplies



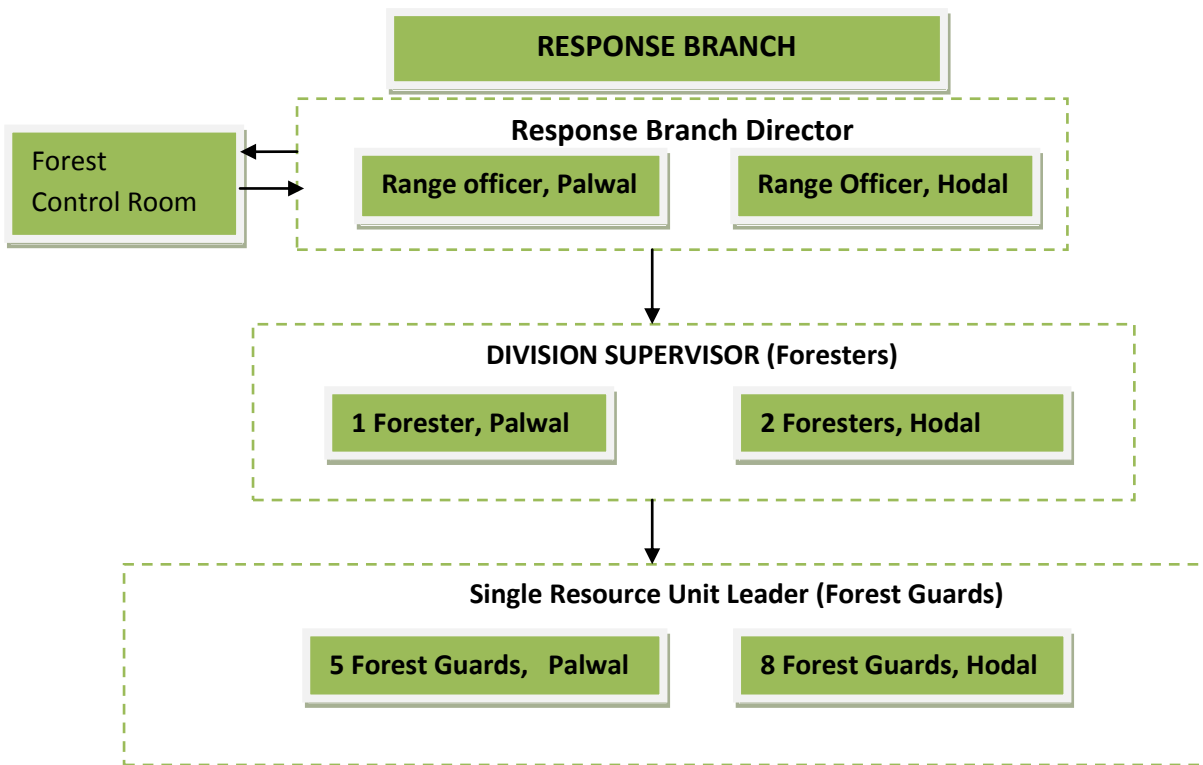
## RESPONSE BRANCH: Public Health Engineers



## RESPONSE BRANCH: Agriculture



**RESPONSE BRANCH: Forest**





## RESPONSE BRANCH: Animal Husbandry

### RESPONSE BRANCH

Animal  
Husbandry  
Department

#### Response Branch Director

SDO, Palwal

SDO, Hathin

SDO, Hodal

#### DIVISION SUPERVISOR (Veterinary Surgeon)

8 VS, Palwal

5 VS, Hathin

6 VS, Hodal

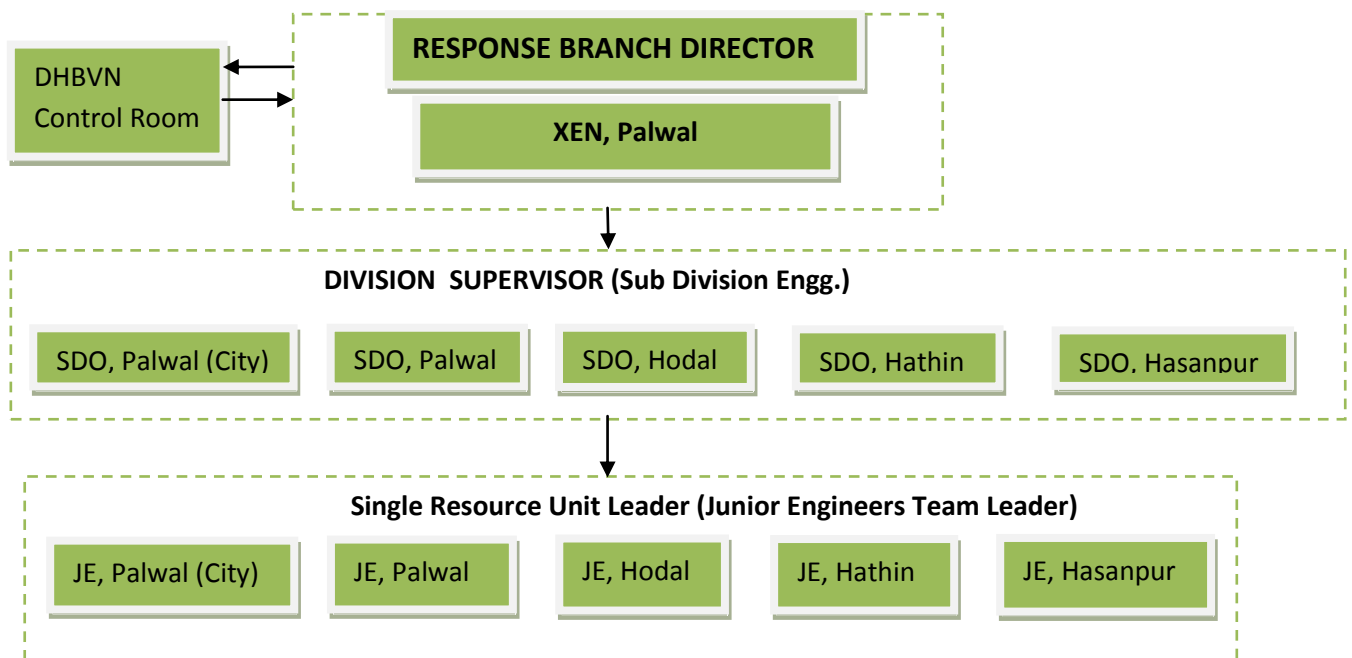
#### Single Resource unit Leader (Veterinary Livestock Development Assistant)

VLDA, Palwal

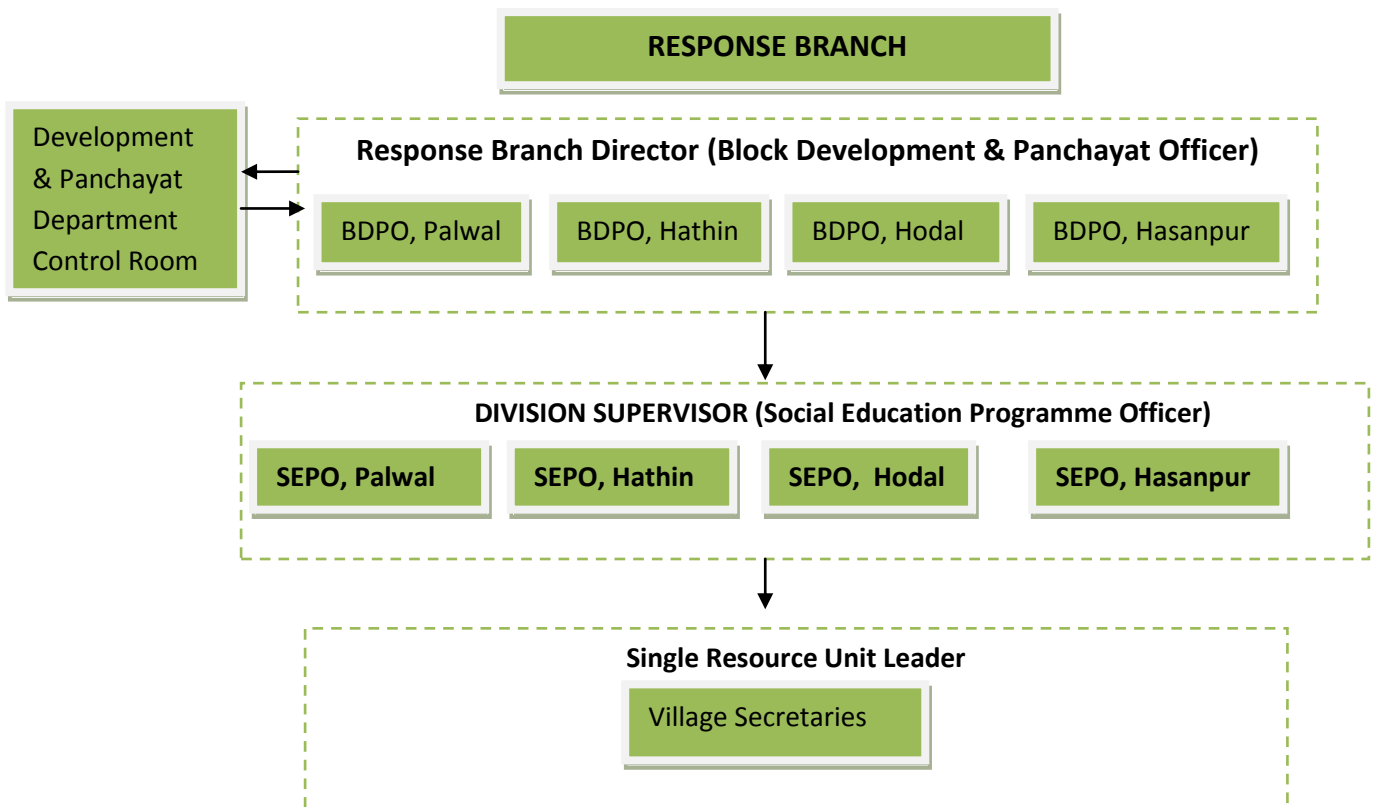
VLDA, Hathin

VLDA, Hodal

## RESPONSE BRANCH: DHBVN



## RESPONSE BRANCH: Development and Panchayat



## ANNEXURE II

### Emergency Support Function

#### ESF No. 1: Early Warning

Hazards	Nodal Department	Support Department
<b>Flood</b>	<ul style="list-style-type: none"> <li>Irrigation</li> </ul>	<ul style="list-style-type: none"> <li>Revenue</li> <li>Public Relations</li> <li>NIC</li> <li>Police</li> <li>Development and Panchayat</li> <li>IH&amp;S, HSIIDC and DIC</li> <li>Food and supplies</li> <li>Municipal Committee</li> <li>Roadways</li> </ul>
<b>Hailstorm, Extreme Temperature, Wind Storm, Heavy Rain</b>	<ul style="list-style-type: none"> <li>Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>Revenue</li> <li>Public Relations</li> <li>NIC</li> <li>Police</li> <li>Development and Panchayat</li> <li>IH&amp;S, HSIIDC and DIC</li> <li>Food and supplies</li> <li>Municipal Committee</li> <li>Roadways</li> </ul>

Department	Task	Responsible Person	Time Frame
<b>Agriculture (Hailstorm, Extreme Temperature, Wind Storm, Heavy Rain)</b>	1. Coordinate with IMD and meteorological department at HAU for weather updates	Deputy Director Agriculture, Palwal as a member of T&SC	Ongoing
	2. Notify immediately about weather updates to the D.C. Office and District Control Room, Palwal	Deputy Director Agriculture, Palwal as a member of T&SC	within 15 mins of weather update received
<b>Irrigation</b>	1. Monitor situation round the clock and constantly update directly DC office and District Control Room.	XEN Water Services, Palwal as RBD	Ongoing
	2. Monitor water level for all the surface water bodies like canal, river, drainages etc.	XEN Water Services, Palwal as RBD	Ongoing
	3. Provide information for rising water level and any breach of embankment or likely incident to DC office and District Control Room.	XEN Water Services, Palwal as RBD	Every 24 hrs at fixed time for the month of June, July, August and Immediately September

<b>District Administration</b>	1. Activate District Control Room	Deputy Commissioner, Palwal as RO	Immediately on receiving information.
	2. Issue warning as per the information received from IMD, HAU, CWC, Irrigation Department, Health Department and other authentic sources.	Deputy Commissioner, Palwal as RO	Immediately
	3. Forward these warnings to District Control Room for dissemination to all concern departments.	Deputy Commissioner, Palwal as RO	Immediately
<b>Revenue</b>	1. Share rainfall data with DC office and District Control Room.	DRO, Palwal	Ongoing
	2. Inform all Tehsildars for early warning dissemination.	DRO, Palwal	Within 15 mins of notification received
	3. Tehsildars would further inform Patwaris and report back to DRO	Tehsildar	Within 15 mins of notification received
	4. Patwari will spread the warning and report back respective tehsildar	Patwari	Within 15 mins of notification received
	5. Identify safe location for relief camps and temporary shelters	Tehsildar	Within 1 hour of notification received
<b>NIC</b>	1. Upload and update warning status on District administration website	DIO, Palwal	Ongoing
	2. Disseminate early warning through mass messaging	DIO, Palwal	Ongoing
	3. Get information from IMD and CWC website and update District Control Room.	DIO, Palwal	Ongoing after receiving weather update
<b>Police</b>	1. Ensure dissemination of the early warning received from District Administration to relevant police stations.	DSP head quarter	within 1 hour of notification from credible source
	2. Police Station will further disseminate warning to Police Post.	SHO as DS	Ongoing throughout the warning process
	3. Police Station and Police Post will be responsible for warning people with the help of public addressal system.	SHO as DS	Ongoing throughout the warning process
<b>Public Relations</b>	1. Disseminate information to Newspapers, TV channel including local Cable Channels and Radio which would involve information about current status	DIPRO as IMO	Within 24 hours or depending upon the need it can be done earlier also

	of Hazard and warning related information		
	2. Use publicity van for disseminating early warning	DIPRO as IMO	with in 1 hour of notification from credible source
<b>Development and Panchayat</b>	1. Ensure dissemination of warnings to BDPOs.	DDPO	Within 15 mins of notification received
	2. BDPOs will further inform village secretaries and report back to DDPO	BDPOs	Within 15 mins of notification received
	3. Village Secretaries shall inform village immediately and report back to BDPO, they can use public addressal system available in places like temples, mosque, gurudwara etc.	Village Secretaries	Within 15 mins of notification received
<b>IH&amp;S, HSIIDC and DIC</b>	1. Inform Hazardous Units about the situation for necessary actions.	GM DIC, Estate Manager HSIIDC, Assist Director IH&S	within 1/2 hour of notification received
<b>Food and supplies</b>	1. Inform all godowns and market committees for necessary action	DFSC	Within 1/2 hours of notification received
<b>Municipal Committee</b>	1. Use of public addressal system of various places like temple, mosque, gurudwara, church to disseminate early warning.	E.O Municipal Committee	Immediately.
<b>Roadways</b>	1. Keep buses in stand-by for evacuation and relief activities.	GM Roadways	Within 15 mins of notification



## ESF No 2: Communication

Hazards	Nodal Department	Support Departments	Others
All type of Hazard	Police	<ul style="list-style-type: none"> <li>Revenue &amp; Disaster Management</li> <li>Health</li> <li>Irrigation</li> <li>NIC</li> <li>BSNL Haryana</li> <li>DIPRO</li> <li>DHBVN/ UHBVN, HVPNL</li> </ul>	<ul style="list-style-type: none"> <li>Telecomm Companies</li> <li>Aviation</li> <li>NGOs</li> </ul>

Department	Tasks	Responsible Person	Time Line
District Administration	1. Activate District Control Room	DC as RO	Immediately on receiving information of emergency.
District Control Room	1. Maintain continuous communication at state, national and affected level.	DC as RO	Ongoing
	2. Maintain communication with various departments, Incident Base, Incident Command Post, Staging Area, Relief Centres, temp. Shelters and evacuation sites and other control rooms in the District.	DC as RO	Ongoing
Police	1. Maintain 24-hour continuous communication at local, state, and national level.	District Radio officer as Communication Unit Leader.	Ongoing
	2. Ensure that, in special cases like bomb blast, terrorist attack Police Control room acts as District Control Room and follows the crisis management plan	SP as a member of T&SC	Ongoing
	3. Establish (temporary) control room wherever required.	District Radio officer as Communication Unit Leader.	Within 1 hour of notification
	4. Provide emergency communication using TETRA, VHF Radios, Wireless Sets & Walkie Talkie sets, HAM Radios.	District Radio officer as Communication Unit Leader.	Ongoing

<b>Revenue</b>	Ensure arrangements of food, water and other necessary items to evacuated people.	Tehsildar	Ongoing.
<b>National Informatics Centre (NIC)</b>	1. Facilitate video conferencing at district level.	DIO	Immediately
<b>BSNL, Telecom Companies</b>	1. Provide communication facility as and when required	GM as a member of T&SC	Immediately
	2. Restore communication in the affected areas as early as possible.	GM as a member of T&SC	Immediately
<b>Development and Panchayat</b>	1. Establish communication centre at block level	BDPO as RBD	Immediately
	2. Establish communication centre at village level.	Village Secretary as SRUL	Immediately
<b>All other Departments</b>	1. Maintain continuous communication of departmental control room with field level and District Control room	Second in charge	Ongoing

### ESF No 3: Evacuation

	Nodal Department	Support Department
<b>All type of Hazard</b>	Revenue and DM	<ul style="list-style-type: none"> <li>• Police</li> <li>• C.D. &amp; H.G.</li> <li>• Transportation ( Roadways )</li> <li>• Health</li> <li>• Fire</li> <li>• DIPRO</li> <li>• DIO</li> <li>• Red Cross</li> <li>• DFSC</li> <li>• Department of Social welfare</li> <li>• Women and Child Development</li> <li>• Municipal Committee.</li> </ul>

Department	Task	Responsible officer	Time Frame
<b>Revenue and DM</b>	2. Ensure Information of evacuation to disseminated to all tehsildars/ NT	DRO, Palwal	Within 10 mins of notification
	3. Ensure dissemination of evacuation information to Patwaris from Tehsildar	Tehsildar	Immediately
	4. Ensure evacuation in coordination with Police.	Tehsildar	Immediately
	5. Ensure evacuation at village level in coordination with Village sec, Village level team for evacuation and police (if required).	Patwari	Immediately
	6. Ensure grievances and doubts of people to be addressed.	Tehsildar	Ongoing
	7. Ensure arrangements for safe shelter for the people being evacuated. With food, water, sanitation, electricity, safety and security	Tehsildar	Ongoing
	8. Ensure cattle are set free so that they can find safe evacuation	Patwari	Immediately
<b>Police</b>	1. Cordon off the area	SHO as DS	Immediately
	2. Maintain law and order at evacuated site.	SHO as DS	Ongoing
	3. Ensure safety of evacuating people specially old aged, disabled, girls and women (including widow), orphan children	SHO as DS	Ongoing
	4. Avoid mobbing in evacuated areas.	SHO as DS	Ongoing

	5. Protect property and provide security of evacuated areas.	SHO as DS	Ongoing
	6. Ensure that each and every person is being evacuated.	SHO as DS	Ongoing
	7. Ensure information on safe route In coordination with traffic police department	SHO as DS	Immediately
<b>C.D. &amp; H.G.</b>	1. Follow deployment plan of police and assist police, patwari and village sect if needed in the process of evacuation and crowd management.	District Commandant	Ongoing
	2. Control access to and within an affected area so as to assist rescue, medical, fire, and other essential services.	District Commandant	Ongoing
	3. Assist police in protection of property and provision of security to evacuated areas.	District Commandant	Ongoing
<b>Haryana Roadways</b>	1. Provide vehicles for evacuation of people and livestock	GM Roadways as a member T&SC	Immediately
<b>Development and Panchayat</b>	1. Inform all the BDPO about evacuation.	DDPO as a member of T&SC	Within 15 mins of notification
	2. Ensure dissemination of evacuation information to Village Secretary	BDPO as RBD	Within ½ hour of notification
	3. Disseminate information at village level	Village secretary as SURL	Within ½ hour of notification
<b>Health</b>	1. Ensure provision of ambulances for evacuation of sick, old age people and people with disability.	Dy. CMO (Medical) as Medical Unit Leader	Ongoing
<b>Fire Services</b>	1. Activate response team.	FSO as RBD	Within 15 minutes of call for evacuation
<b>Public Relation</b>	1. Provide information of evacuation and safe sites to TV channel, Radio, Newspaper.	DIPRO as IMO	within 1 hour of notification of evacuation
	2. Any information of evacuation for media has to approved by DIPRO or designated person by DIPRO(which include print media, electronic media and internet)	DIPRO as IMO	Ongoing

<b>NIC</b>	1. Provide information of evacuation process, safe sites, and shelter on on the website of District.	DIO	Ongoing
<b>Railways</b>	1. Provide railways for evacuation if needed	Railways Superintendent ,Palwal as Group in charge of Railway operations.	As required

## ESF 4 Damage and Need Assessment

Hazard	Nodal Department	Support Departments	Others
All hazards	Revenue and DM	<ul style="list-style-type: none"> <li>Police</li> <li>NIC</li> <li>Social Welfare</li> <li>DDPO</li> <li>Agriculture</li> <li>All Departments</li> </ul>	<ul style="list-style-type: none"> <li>Housing Board</li> <li>Civil Society</li> <li>Organisations</li> <li>Independent Organisations/NGOs</li> </ul>

Department	Task	Responsible Person	Time Frame
District Administration	1. Conduct aerial assessment, if devastation is very large.	Deputy Commissioner, Palwal as RO	Immediately
	2. Ensure transportation needs of Damage and Needs Assessment Team (DNAT) are met	CTM, Palwal as Liaisoning Officer	Ongoing
	3. Activate the Damage & Needs Assessment Teams* specific to hazard and ensure the team is sent at field.	ADC as IC	Immediately
	4. Ensure cultural sensitivity during needs assessment.	DNAT	Ongoing
	5. Prepare RDNA ( <i>Rapid Damage Need Assessment</i> ) Reports and submit to DCR.	DNAT	Within 1 hour
	6. Prepare PDNA ( <i>Preliminary Damage Need Assessment</i> ) <sup>+</sup> Report and submit to DCR.	DNAT	Within 24 hours
	7. Prepare DDNA ( <i>Detailed Damage Need Assessment</i> ) Report and submit to DCR.	DNAT	Within 72 hours
	8. Prepare <i>Interim Report</i> of damages caused and needs changing from time to time at the field; and submit it to District Control Room <sup>1</sup> .	BDPOs as Task Force Leaders	Every 24 hours, after the first 72 hours
	9. Compile various reports from all the teams and submit to PSC and IC for analysis and planning.	Distt. Planning Officer as SUL	Ongoing
	10. Ensure the needs of critical areas are prioritised.	ADC as PSC	Ongoing

\*(DAT = includes team from PWD (B&R), Health, PHED, MC, Irrigation, Animal Husbandry & Dairying, Industrial Health & Safety), Experts from Education Department/Universities and other experts as required.

\*\*Quote the source of the information when presenting facts and figures.

<sup>+</sup>Do not delay a report because certain information is lacking; send it next time.

<sup>1</sup> As the time elapses, prepare this report focussing restoration, rehabilitation and reconstruction



	11. Classify the needs as most urgent/urgent/normal so as to further plan the methods to meet them most effectively.	ADC as PSC	Ongoing
	12. Monitor and evaluate the efficiency, effectiveness and impact of relief operations as per the needs assessment reports; and recommend follow-up.	SDM as Operations Section Chief	Ongoing
	13. Carry out continuous needs assessment throughout the recovery process in affected areas.	ADC as IC	Within 24 hours
<b>Police</b>	1. Ensure safety & security of Assessment Teams at field.	Dy. SP (HQ) as SO	Ongoing
<b>NIC</b>	1. Provide technical assistance to develop assessment forms, questionnaires and other per-forma	DIO as DUL	Ongoing
	2. Provide appropriate Management Information System (MIS) software for data analysis (of the information received from field and other departments)	DIO	Ongoing
<b>All Departments</b>	1. Ensure that specialist reports are prepared with technical details of all impacts of disaster caused to their respective departments and send to District Control Room.	HODs of all departments	Ongoing
<b>Social Welfare</b>	1. Ensure the needs of most vulnerable groups in the affected population is assessed & prioritised.	District Social Welfare Officer, as member of T & SC	Ongoing

## ESF 5 Fire Fighting

Hazard	Nodal Department	Support Departments	Others
Fire	Fire Services	<ul style="list-style-type: none"> <li>• Municipal Council/Municipal Committee</li> <li>• Police</li> <li>• Home Guard and Civil Defence</li> <li>• Forest</li> <li>• PWD (B&amp;R)</li> <li>• Public Health Engineering</li> <li>• Health</li> <li>• Red cross</li> <li>• HVPNL/DHBVN</li> </ul>	<ul style="list-style-type: none"> <li>• Private agencies for Fire Fighting Services</li> </ul>

Department	Task	Responsible Person	Time Frame
Fire Services	1. After getting the information, quickly rush to the scene of emergency/disaster.	SFO as Division Supervisor	Immediately
	2. Assess type of fire and start fire fighting operation.	SFO as Division Supervisor	Immediately
	3. Deploy personnel, equipment and supplies during fire fighting operations as per requirement.	SFO as Division Supervisor	As required
	4. Procure personnel, equipment and supplies from private agencies as required.	FSO as RBD	As required
	5. In case of hazardous material mishap, equip the fire fighting teams with Personal Protective Equipment.	SFO as Division Supervisor	As required
	6. Carry out necessary evacuation in and around incident area.	SFO as Division Supervisor	Immediately
	7. Safe guard the adjacent property/ population from fire by confining the fire spread.	SFO as Division Supervisor	Immediately
	8. Search and rescue injured/ trapped/ buried persons and casualties.	SFO as Division Supervisor	Immediately
	9. Cut power supply of incident area as and when required.	SFO as Division Supervisor	As required
Police	1. Cordon-off affected area.	SI/ASI as SRUL	Immediately
	2. Clear traffic for emergency service vehicles.	Traffic Inspector	As required
Home Guard and Civil Defence	1. Assist in carrying out necessary evacuation, search and rescue operations in and around incident area.	District Commandant	As required
PWD (B&R)	1. Ensure debris clearance on roads for unhindered passage of emergency service vehicles.	SDO as Division Supervisor	Immediately
Health	1. Provide necessary health and ambulance services to the affected people.	SMO as a Division Supervisor	Immediately
Red Cross Society	1. Provide assistance to health department to provide necessary health services to affected people	Secretary	Immediately

<b>Electricity Department</b>	1. Cut and restore power supply of incident area as and when required.	SDO as Division Supervisor	As required
<b>PHED</b>	1. Provide water for fire tenders	SDO as Division Supervisor	As required

## ESF 6 Hazardous Material (HAZMAT) Safety Services

Hazards	Nodal Department	Support Department	Others
All Hazards	Industrial Health & Safety	<ul style="list-style-type: none"> <li>Police</li> <li>Fire Services</li> <li>Health</li> <li>Haryana Roadways</li> <li>Haryana State Pollution Control Board</li> <li>Public Relations</li> <li>Agriculture</li> <li>Animal Husbandry &amp; Dairying</li> </ul>	<ul style="list-style-type: none"> <li>IMD</li> <li>NDRF</li> <li>NFSC, Nagpur</li> <li>IOCL</li> <li>BPCL</li> <li>HPCL</li> <li>NTPC</li> <li>NHAI</li> </ul>

Department	Tasks	Responsible Person	Time Frame
Industrial Health & Safety	1. Provide information regarding precautions (handling and packaging), modes of transportation of hazardous substances, methods of containment and disposal, antidotes, etc. to the responders.	Assistant Director, IH&S as member of T & SC	Immediately
	2. Prepare a Rapid assessment report (as per Annexure 5) of the hazardous materials by detection or identification and affected site in coordination with Police, Health and Fire and communicate the same to the District Control Room.	Assistant Director, IH&S as member of T & SC	Immediately
	3. Facilitate expertise/ external assistance if needed.	Assistant Director, IH&S as member of T & SC	Within 24 hours
Police	1. Provide coordinated response to actual or potential discharges/ releases of hazardous materials in coordination with Fire, Health and Transport.	SP as member of T & SC	Immediately
	2. Cordon off the affected area.	SHO of the area as Division Supervisor	Immediately
	3. Ensure Crowd Management in coordination with Civil Defense and Home Guards.	SHO of the area as Division Supervisor	Immediately
	4. Assist in safe evacuation in coordination with Fire, Home guard, Roadways & RTA.	SHO of the area as Division Supervisor	Immediately

	5. Respond to highway blockages involving hazardous materials in coordination with Roadways, NHAI and RTA.	Traffic Inspector	Immediately
	6. Restrict traffic movement near or around affected or exposed area.	Traffic Inspector	Immediately
	7. Ensure rerouting of traffic if required.	Traffic Inspector	Immediately
	8. Participate in Search and Rescue with Civil Defense, Fire and Health.	SHO of the area as Division Supervisor	Immediately
	9. Provide communication assistance if needed.	Distt. Radio Officer as Com. UL	Ongoing
<b>Health</b>	1. Conduct Triage.	MO as SRUL	Immediately
	2. Conduct appropriate testing for symptoms due to exposure and provide necessary health care, also maintain the records of the same.	MS/SMO/MO	Ongoing
	3. Arrange for relevant emergency medicine, blood and antidote in sufficient quantity.	Dy. CS (Medical) as MUL	Ongoing
	4. Determine all possible health hazards due to exposure to hazardous material.	SMO/MO	Within 24 hours
	5. Arrange for isolation and decontamination ward for the exposed individuals if needed.	Dy. CS as RBD	Immediately
<b>Haryana Roadways</b>	1. Identify vehicle for rescue operation.	GM, Roadways as member of T & SC	Immediately
	2. Help in evacuation of the general public.	Traffic Manager	Immediately
<b>Fire Services</b>	1. Contain, clean up and dispose the released hazardous materials in coordination with Industrial Health & Safety.	FSO as RBD	Immediately
	2. Conduct Search and Rescue in coordination with Police and Home Guard.	FSO as RBD	Immediately
<b>Haryana State Pollution Control Board (HSPCB)</b>	1. Assess the effects of pollutants on environment.	RO as member of T & SC	Within 24 hours
	2. Provide expertise on environmental effects of releases of hazardous substances, pollutants, contaminants and oil discharges and environmental pollution control techniques.	RO as member of T & SC	Within 24 hours
	3. Ensure communication with DCR about the effects of the pollutants.	RO as member of T & SC	Within 24 hours

	4. Predict and monitor pollutant movement, dispersion, and characteristics (atmospheric or marine) over time.	RO as member of T & SC	Within 24 hours
<b>Agriculture</b>	1. Acquire and disseminate weather data, forecasts, and emergency information in coordination with IMD and other reliable sources.	Deputy Director Agriculture	Ongoing
<b>Animal Husbandry &amp; Dairying</b>	1. Assess health hazards of the affected livestock and take necessary measures.	Deputy Director	Within 24 hours
<b>Public Relations</b>	1. Ensure Rumour Management and provide necessary information regarding precautions and other dos and don'ts.	DIPRO as IMO	Within 24 hours
	2. Ensure use of Public Address System if needed.	DIPRO as IMO	Within 24 hours
	3. Ensure dissemination of information regarding possible health hazards to the community.	DIPRO as IMO	Ongoing

## ESF 7 Search and Rescue

Hazard	Nodal Department	Support Departments	Others
<b>For all the Hazards</b>	Police	<ul style="list-style-type: none"> <li>• Civil Aviation</li> <li>• Electricity</li> <li>• Fire Services</li> <li>• Haryana Roadways</li> <li>• Health</li> <li>• Home Guard</li> <li>• PHED</li> <li>• PWD(B&amp;R)</li> <li>• Railways</li> <li>• Red Cross Society</li> <li>• Regional Transport Authority (RTA)</li> <li>• Revenue and Disaster Management</li> </ul>	<ul style="list-style-type: none"> <li>• Defence Forces</li> <li>• NDRF</li> </ul>

Department	Task	Responsible Person	Time frame
<b>Police</b>	1. Cordon off the affected area.	SI/ASI as Single Resource Unit Leader	Immediately
	2. Mobilise specialised human resources and equipment required for the operation.	SHO as DS	Immediately
	3. Provide security to personal belongings and corpses.	SI/ASI as Single Resource Unit Leader	Ongoing
	4. Provide communication equipment for the operation.	Distt. Radio Officer	Immediately
	5. In case of hazardous material mishap, equip the search and rescue teams with person protective equipment (PPEs).	DSP (HQ) as SO	Immediately
	6. Ensure safe transportation of dead bodies.	SHO as Single Resource Unit Leader	Ongoing
<b>Electricity</b>	1. Cut/ restore power supplies to the affected area as required.	SDO as DS	Immediately
	2. Arrange power supply to facilitate search and rescue operation	JE as Single Resource Unit Leader	Immediately
<b>Fire Services</b>	1. Control fire to facilitate other operations	Leading Firemen as Single Resource Unit Leader	Immediately
	2. Conduct search and rescue operation	Leading Firemen as Single Resource Unit Leader	Immediately
	3. Coordinate with Department of Industrial Health and Safety for handling, control and disposal of hazardous materials.	AFSO as Division Supervisor	Immediately



	4. Deploy resources from private agencies if required.	FSO as RBD	Immediately
<b>PHED</b>	1. Ensure adequate water supplies for fire tenders.	SDO as DS	Immediately
<b>PWD(B&amp;R)</b>	1. Clear routes/ debris/ building structures to carry out the necessary search and rescue operation.	SDO as DS	Immediately
<b>Home Guard</b>	1. Provide volunteers required for the operation.	District Commandant	Immediately
<b>Health</b>	1. Provide ambulance at the site of operation.	Dy. CS (Medical) as MUL	Immediately
	2. Perform Triage.	MO as Single Resource Unit Leader	Immediately
	3. Provide first aid and emergency health services to the survivors.	MO as Single Resource Unit Leader	Immediately
	4. Transport victims to hospitals, if required.	MO as Single Resource Unit Leader	Immediately
<b>Red Cross Society</b>	1. Provide first aid and emergency health services to the survivors.	Secretary	Immediately
<b>Revenue and Disaster Management</b>	1. Deploy trained human resources, divers and swimmers, if required.	DRO as LSC	Immediately
	2. Provide equipment like boats, oars, OBM, etc. for search and rescue operation	DRO as LSC	Immediately
<b>Haryana Roadways</b>	1. Provide vehicles and equipment for execution of search and rescue operation.	GM, Roadways as member of T&SC	Immediately
<b>Regional Transport Authority</b>	1. Procure and provide vehicles wherever required.	Secretary, RTA as TBD	As required
<b>Indian Railways</b>	1. Provide human resources and equipment for search and rescue operation, in case of railway accident	Railway Superintendent as Rail Group incharge	As required
<b>Civil Aviation</b>	1. Provide aircraft and air support for execution of search and rescue operation, if required	HOD, Civil Aviation, Haryana	As required

## ESF 8 Health

Hazard	Nodal Department	Support Department	Others
All hazards	Health	<ul style="list-style-type: none"> <li>Police</li> <li>Red Cross Society</li> <li>Irrigation</li> <li>Industrial Health &amp; Safety</li> <li>Fire</li> <li>Haryana Roadways</li> </ul>	<ul style="list-style-type: none"> <li>IMA</li> <li>Private Health Institutions</li> <li>NRHM</li> <li>Indian Railways</li> <li>NDRF</li> <li>NGO</li> <li>Civil Aviation</li> </ul>

Department	Tasks	Responsible Person	Time frame
Health	1. Conduct Triage and provide health care as per need.	MOs of affected area as SRUL	Immediately
	2. Screen and Isolate the patients from that area if needed.	MOs of affected area as SRUL	Immediately
	3. Assess the medical needs of the affected area.	SMOs/MOs of affected area	Within 24 hours
	4. Increase patient treatment capacities and surgical capacities as per the need.	Dy. CS	Ongoing
	5. Ensure open water chlorination to control water borne diseases.	MOs of affected area as SRUL	Immediately
	6. Ensure adequate stock of regulated drugs, biologics (including blood and vaccines), medical devices (including radiation emitting and screening devices), and other medical products.	Dy. CS (Medical) as MUL	Ongoing
	7. Ensure quality check on medical supplies received during relief.	Drug Inspector	Ongoing
	8. Ensure availability of blood and blood products.	CS/ SMO Blood Bank	Ongoing
	9. Provide behavioral and mental health care wherever required and set up a separate unit for it.	SMOs of affected area as DS	Ongoing
	10. Facilitate adequate ambulance service for the affected area.	SMO as DS	Ongoing
	11. Ensure proper medical waste disposal.	MOs of affected area as SRUL	Ongoing
	12. Establish Public Information Booth.	MO as SRUL	Immediately

	13. Monitor and provide information to families of the victims through public information booth.	MOs of affected area as SRUL	Ongoing
	14. Coordinate with IMA to provide with the additional medical necessities and doctors and nurses from private hospitals in times of disaster when the local resources are inadequate/ limited.	CS as member of T & SC	Ongoing
	15. Establish medical posts at shelter and camp site.	MO of affected area as SRUL	Immediately
	16. Assess and address nutritional need of affected population.	MO of affected area as SRUL	Ongoing
	17. Issue Official Statements concerning the post-disaster health situation.	CS as member of T&SC	Immediately
	18. Conduct health surveillance within that area.	SMO of affected area as DS	Ongoing
<b>Police</b>	1. Manage crowd at hospitals and medical posts.	SI/ASI of that area as SRUL	Ongoing
	2. Ensure Traffic control.	Traffic SHO	Ongoing
	3. Ensure safety of belongings of injured and dead people at hospital.	SI/ASI as SRUL	Ongoing
	4. Ensure Dead Body Management.	SP as member of T & SC	Ongoing
<b>Irrigation</b>	1. Ensure dewatering of flood water/ rainwater in health institutions.	JE as SRUL	Immediately
<b>Fire</b>	1. Ensure fire safety at hospitals and medical posts.	FSO as RBD	Immediately
<b>Indian Railways</b>	1. In case of train accidents, provide immediate medical aid.	Railway Superintendent,	Immediately
	2. Deploy recovery van to the disaster site.	Railway Supdt.,	Immediately
<b>Red Cross Society</b>	1. Assist the Health department in providing the volunteers.	Secretary, Red Cross	ongoing
	2. Provide blood to the Health Department.	Secretary, Red Cross	ongoing
<b>PWD</b>	1. Construct temporary site of medical camp.	XEN, PWD (B&R) as RBD	Ongoing
<b>Distt. Admin.</b>	1. Provide air ambulance if needed.	CTM as LO	Ongoing

## ESF 9 Dead Body Management

	Nodal Department	Support Department	Other
<b>For all Hazards</b>	Police Department	<ul style="list-style-type: none"> <li>• Revenue and Disaster Management</li> <li>• Health</li> <li>• District Red Cross Society</li> <li>• Forest</li> <li>• Civil Defence &amp; Home Guards</li> <li>• Police</li> <li>• Food &amp; Supplies</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs</li> <li>• Panchayat and Ward Representatives.</li> <li>• Public Relations</li> <li>• M.C.</li> </ul>

Department	Task	Responsible Person	Time frame
<b>Police</b>	1. Identify dead bodies with the help of Development and panchayat, ward member, panchayat member and Resident Welfare Association(RWA)	SI/ASI, as single resource unit leader	Ongoing
	2. Maintain record of dead bodies and missing persons (Photograph/Description / ID etc.)	SI/ASI as SRUL	within 3 days
	3. Ensure collection of finger prints, dental examination, autopsies for forensic identification.	SP, Palwal as member of T & SC	within 24 hours
	4. Protect dead bodies.	SHO of affected area as DS	Ongoing
	5. Protect belongings of dead bodies.	SHO of affected area as DS	Ongoing
	6. Maintain record of temporary disposal of unidentified dead bodies.	SHO of affected area as DS	Ongoing
<b>Health</b>	1. Ensure post mortem of the dead bodies.	CS as member of T & SC	Ongoing
	2. Take DNA sample of unidentified body	MO as SRUL	Ongoing
	3. Arrange Temporary Mortuary.	CS as member of T & SC	Ongoing
<b>Red Cross</b>	1. Arrange shroud/coffin/polythene Bags.	Secretary Red Cross as PUL	Ongoing
<b>Food &amp; Supplies</b>	1. Arrange fuel for cremation and burial.	AFSO as DS	Ongoing

<b>Revenue and Disaster Management</b>	1. Identify land for temporary burial in coordination with M.C and District Town and Country Planning.	Tehsildar	Ongoing
	2. Ensure temporary disposal of unidentified dead bodies in coordination with MC, NGOs, Panchayat, Police, representative of local media and DIPRO.	Tehsildar	Ongoing
<b>Forest</b>	1. Arrange wood for cremation.	Forester as DS	Ongoing
<b>Home Guards</b>	1. Provide human resource for disposal and other activities.	District Commandant	As required

## ESF 10 Food and Supplies

Hazard	Nodal Department	Support Department	Others
<b>For all the Hazards</b>	Food and Supplies Department	<ul style="list-style-type: none"> <li>• Revenue</li> <li>• Warehousing Corporation</li> <li>• HAFED, CONFED</li> <li>• HSAMB</li> <li>• RTA</li> <li>• Health</li> <li>• Police</li> <li>• Home Guard</li> <li>• Women and Child Development</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs</li> <li>• Religious institutions</li> <li>• Paramilitary forces</li> <li>• NDRF</li> <li>• Defence forces</li> <li>• Donor agencies</li> <li>• Federation of cooperative Sugar Mills ltd.</li> <li>• Youth clubs, NYK etc</li> </ul>

Departments	Task	Responsible Person	Time Frame
<b>Food and Supplies</b>	1. Based on 'Need Assessment' and availability of stock, procure essential food items.	DFSC as member of T & SC	Within 24 hours after Need Assessment
	2. Arrange storage facilities within the staging area for sufficient food storage. If required arrange warehouses in coordination with Warehousing Corporation, HAFED, CONFED, FCI and Market Committees, etc.	DFSC as member of T & SC	Ongoing
	3. Ensure safety of stored food grains in godowns/ warehouses, etc. against inundation and water logging, fire, pest attack and other possible hazards.	AFSO as Divisional Supervisor	Ongoing
	4. Ensure proper arrangement and maintenance for community kitchens.	Food Inspectors/ Sub-inspectors as Single Resource Unit leader	Ongoing
	5. Prepare food packets/ kits as per the need assessment.	AFSO as Division Supervisor	Ongoing
	6. Distribute food items with the help of depot holders, fair price shops, NGOs and voluntary agencies.	Food Inspectors/ Sub-inspectors as Single Resource Unit leader	Ongoing
	7. Provide cooking kits (cooking oil, fuel, etc.) to affected families.	Food Inspectors/ Sub-inspectors as Single Resource Unit leader	Ongoing

	8. Monitor and coordinate flow of food items to the affected area.	DFSO as RBD	Ongoing
	9. Keep a check on hoarding and black marketing of relief food material in association with Police.	AFSO as Division Supervisor	Ongoing
<b>Health</b>	1. Assess the nutritional need of women, children, old persons and affected population as per minimum standards of relief.	SMOs as Divisional Supervisors	Ongoing
	2. Ensure hygienic conditions from cooking to consumption.	MOs as Single Resource Unit	Ongoing
	3. Check the expiry date of packed food items and ensure the quality of cooked food items.	Food Inspectors, Health	Ongoing
<b>Warehousing Corporation, HAFED, CONFED, FCI and Market Committees</b>	1. Arrange warehouses for food storage wherever needed.	Head	Ongoing
<b>Police</b>	1. Ensure safety and security of food and other commodities in godowns, warehouses and community kitchen and also during transportation and distribution.	DySP (HQ) as SO	Ongoing
	2. Keep a check on hoarding and black marketing of relief food material.	SHOs as Division Supervisor	Ongoing
<b>Women and Child Development</b>	1. Assess the nutritional need of women (lactating, pregnant, old) and children (0-6 years) in affected population.	PO-ICDS as member of T & SC	Immediately
	2. Assist Food and Supplies department in preparation of food packets/ kits and for bulk distribution of food items.	CDPO	Ongoing
<b>Revenue and Disaster Management</b>	1. Ensure equitable distribution of food items through food and supplies department in all affected areas.	Patwari	Ongoing
<b>RTA</b>	1. Provide Transportation for food material to godowns and affected areas.	Secy. RTA as Transport Branch Director	Ongoing
<b>Home Guard</b>	1. Assist Food and Supplies department in preparation of food packets/ kits and for bulk distribution of food items.	Volunteers	Ongoing

## ESF 11 Shelter and Camp Management

	Nodal Department	Support Department	Others
<b>For all the Hazards</b>	District Administration	<ul style="list-style-type: none"> <li>• Food &amp; Supplies</li> <li>• PWD (B&amp;R)</li> <li>• RTA</li> <li>• Red Cross</li> <li>• MC/ Zila Parishad</li> <li>• Dev. &amp; Panchayat</li> <li>• Health</li> <li>• PHED</li> <li>• Electricity</li> <li>• Forest</li> <li>• Police</li> <li>• Home guards</li> <li>• Zila sainik board</li> <li>• Education Department</li> <li>• DSW; DCCW; Welfare</li> <li>• Sports and Youth Affairs</li> <li>• Fire</li> <li>• BSNL</li> <li>• Irrigation</li> <li>• Public Relations</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs</li> <li>• Civil Society Organisations</li> <li>• Religious Institutions</li> <li>• NCC</li> <li>• NSS</li> <li>• NYK</li> </ul>

Department	Task	Responsible Person	Time Frame
<b>District Administration</b>	1. Setup relief camps and temporary shelters ensuring minimum standards of relief.	Tehsildar	Within 2 hours for relief camps and 2 days for temporary shelter
	2. Ensure overall arrangement and management of camp.	Camp Incharge*	Ongoing
	3. Register and allocate passes and maintain entry and exit records.	Camp Incharge	Ongoing
	4. Procure commodities such as clothing, bedding and other requirements.	Nazar as PUL	Ongoing
	5. Prepare/ Update list of inmate's kin.	Camp In charge	Ongoing
	6. Also prepare and update list of Women, Children, Injured, Sick, Orphans, Widows.	Camp In charge	Ongoing
	7. Ensure availability of staff by maintaining their duty charts.	Camp In charge	Ongoing
	8. Arrange for appropriate storage and usage of perishable goods and other items.	Camp In charge	Ongoing
	9. Manage kitchens, cooks and other needed items.	Camp In charge	Ongoing



	10. Ensure equitable distribution of food and other material in the camp.	Camp In charge	Ongoing
	11. Depopulate people from relief camps/ temporary shelters ensuring their houses are in liveable conditions.	Camp In charge	Ongoing
	12. Conduct detailed assessment of needs and address those needs as per the eligibility.	Camp In charge	Ongoing
	13. Ensure segregation of waste biodegradable and non-biodegradable and medical wastes.	Camp In charge	Ongoing
	14. Ensure proper lighting in the area such as toilets, kitchens, passages etc. for safety and security.	Camp In charge	Ongoing
	15. Arrange the necessary support (human resource and material) as and when required with the help of NGOs.	Camp In charge	Ongoing
	16. Ensure that bedding and clothing are aired and washed regularly.	Champ In charge	Ongoing
	17. Ensure universal design by putting ramps, sign boards, signage etc. for people with disabilities.	Camp In charge	Ongoing
	18. Monitor and assess the beneficiary satisfaction for distributed relief items and oth <sup>2</sup> er facilities.	Camp In charge	Ongoing
<b>Food and Supplies</b>	1. Provide fuel for cooking, generators and other required activities.	DFSO as RBD	As required
<b>RTA</b>	1. Arrange appropriate transportation for various items.	Secy. RTA as TBD	As required
<b>Red Cross</b>	1. Provide blankets, tarpaulin sheets for tents and floor, shrouds for wrapping dead bodies, sanitary napkins, baby diapers, adult diapers, and ante-natal baby cloths, etc.	Secy. Red Cross as PUL	As required
	2. Provide mosquito nets and repellents, match box, candles and utensils (glasses, plates etc.)	Secy. Red Cross as PUL	As required
<b>PHED</b>	1. Repair and maintain pipelines and ensure non-contamination.	JE (as single resource unit)	As required
	2. Provide safe drinking water and tanks and arrange drums, jerry cans for storage of water.	SDO as DS	Ongoing
	3. Ensure purification of water by piped water chlorination.	JE (as single resource unit leader)	As required

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\*Camp Incharge is to be appointed by Responsible Officer as per the situation.

<b>Municipal Committee/ Municipal councils/ Zila Parishad(for rural)</b>	1. Provide dumpster, garbage bins at the camp site and ensure hygiene and sanitation by appropriate solid waste management system.	Secretary	Ongoing
	2. Ensure segregation of waste biodegradable and non-biodegradable and medical waste.	Secretary	Ongoing
	3. Carry out timely spraying/ fogging against malaria and other epidemics.	Secretary	As required
	4. Maintain functioning of lighting facilities in camp area.	Secretary	Ongoing
	5. Provide trench latrines and toilets in urban areas as per the minimum standards for relief.	Secretary	Ongoing
	6. Ensure hygiene and sanitation by appropriate waste management system in urban areas.	Secretary	Ongoing
<b>Development and Panchayat</b>	1. Provide dumpster, garbage bins at the camp site and ensure hygiene and sanitation by appropriate solid waste management system in rural areas.	BDPO as RBD	Ongoing
	2. Provide trench latrines and toilets as per the minimum standards for relief (in rural areas)	BDPO as RBD	Ongoing
	3. Ensure segregation of waste biodegradable and non-biodegradable and medical waste in rural areas.	BDPO as RBD	Ongoing
	4. Ensure hygiene and sanitation by appropriate waste management system. (in rural areas)	BDPO as RBD	Ongoing
	5. Maintain functioning of lighting facilities in camp area in rural areas.	BDPO as RBD	Ongoing
<b>Health Department</b>	1. Set up mobile clinics, medical posts and arrange timely medical camps.	MO (as single resource unit leader)	As required
	2. Ensure safe and institutional delivery	MO (as single resource unit leader)	As required
	3. Carry out immunization for probable diseases	MO (as single resource unit leader)	As required
	4. Supply special supplements like vitamin, glucose etc. as per the requirement of the camp.		
	5. Carry out timely spraying against malaria and other epidemics.	Dy. CS (Malaria)	Ongoing
	6. Provide psychological first aid and psychosocial care in the camp area.	MO(as single resource unit leader)	As required
	7. Spread awareness for hygiene practices, dos and don'ts.	MO(as single resource unit)	Ongoing

		leader)	
	8. Ensure availability of contraceptives and awareness regarding the same.	MO(as single resource unit leader)	As required
	9. Provide water purifying tablets.	MO as SRUL	As required
<b>Public Relations</b>	1. Spread awareness for hygiene practices, dos and don'ts by various medium of street-plays or folk art programmes.	DIPRO	As required
<b>PWD(B&amp;R)</b>	1. Construct temporary structures like roads, parking spaces, spaces for dining, washing area, kitchens, medical posts, administrative areas etc. with the structures of camps area.	JE (as single resource unit leader)	As required
	2. Ensure universal design to address the needs of persons with disabilities.	JE (as single resource unit leader)	As required
<b>Electricity Department</b>	1. Ensure electric supply to the camp area.	JE (as single resource unit leader)	Ongoing
	2. Ensure emergency backup for electric supply through generators, inverters etc.	JE (as single resource unit leader)	As required
<b>Irrigation Dept.</b>	1. Carry out dewatering in case of water logging in the camp area.	SDO, Mechanical as DS	As required
	2. Provide clean drinking water for affected livestock and poultry in rural areas.	JE as SRU	Ongoing
	3. Ensuring filling of water ponds/ lakes in the district with canal water/ tube wells.	SDO	As required
<b>Forest Department</b>	1. Provide wood as fuel for cooking and other purposes.	BFO as SRUL	As required
<b>Police Department</b>	1. Ensure law and order in the camp and also make necessary measures for safety and protection of women and children.	ASI (as single resource unit leader)	Ongoing
	2. Establish Public Information Booth.	SHO as DS	Immediately
	3. Facilitate family reunification services through public information booth.	ASI (as single resource unit leader)	Ongoing
<b>Home Guards</b>	1. Provide volunteers/ human resources required for various activities of camp management.	Distt. Commandant	As required
<b>Zila Sainik Board</b>	1. Provide volunteers/ human resources required for various activities of camp management.	Secy. ZSB	As required

<b>Education Department</b>	1. Ensure provision of education to children in the camps.	DEO as member of T & SC	As required
<b>DCCW</b>	1. Conduct various activities like playschools, hobby classes and other programs for children.	DCWO as member of T & SC	As required
<b>Sports and Youth Affairs</b>	1. Conduct sports activities for the people in the camp area	District Sports Officer	As required
<b>DSW/ Welfare Department</b>	1. Identify and provide special care and financial assistance to destitute, orphans, widows and eunuchs.	DSWO/DWO as member of T & SC	As required
<b>Fire</b>	1. Provide fire extinguishers and sand buckets at camp site.	Fire Station Officer as RBD	Immediately
<b>BSNL</b>	1. Setup communication booth at the camp site.	GM, BSNL as Com. UL	As required

## ESF 12 Mass care and Housing

Hazard	Nodal Department/Agency	Frontline Department	Others
All hazards	Revenue	<ul style="list-style-type: none"> <li>Health</li> <li>Education</li> <li>Red Cross Society</li> <li>DFSC</li> <li>Police</li> <li>Haryana Roadways</li> <li>RTA</li> <li>Electricity</li> <li>Agriculture</li> <li>Forest</li> </ul>	<ul style="list-style-type: none"> <li>Housing Board</li> <li>Civil Society Organisations</li> </ul>

Department	Task	Responsible Person	Time Frame
Revenue	1. Identify and set-up relief distribution sites.	Patwari	Within 6 hour
	2. Ensure each affected household is registered for disaster assistance and compensation.	Tehsildar	Ongoing
	3. Determine eligibility for assistance, compensations, housing programs etc.	DRO	Ongoing
	4. Provide compensation to eligible population.	NT/SK as Comp.& Claim Unit Leader	Ongoing
	5. Provide financial assistance to the affected population for the reconstruction and rehabilitation activities.	DRO	Ongoing
	6. Ensure each affected household receives relief in remote locations in coordination with Development & Panchayat Dept.	Patwari	Ongoing
	7. Provide appropriate resources like clothes, cots, blankets, utensils, tents, tarpaulin etc.	Nazar as PUL	As per requirement
MC	1. Ensure identification & set up of relief distribution sites in urban areas.	Secretary, MC	Within 6 hours
	2. Ensure each affected household receives relief in urban areas.	Secretary, MC	Ongoing
Education	1. Ensure that all schools are reopened and functional as soon as possible.	DEO as a member of T&SC	Ongoing
Food & Supplies	1. Arrange and provide – food & supplies items in support with private-sector if required.	DFSO as RBD	As per requirement
Red Cross	1. Provide appropriate resources like cots, blankets, utensils etc.	Secretary as PUL	As per requirement
Health	1. Provide accessible health care.	MO as Single Research Unit Leader	Ongoing
	2. Provide post-disaster psychological and psychosocial care.	MO as Single Research Unit Leader	Ongoing

	3. Setup mobile clinics, medical posts and arrange timely medical camps.	MO as Single Research Unit Leader	As per requirement
	4. Ensure timely spraying/fogging against malaria and other epidemics.	Dy. CMO (malaria)	As per requirement
<b>Police</b>	1. Establish Public Information Booth.	SHO as DS	
	2. Facilitate family reunification services through Public Information Booth.	SHO as DS	Ongoing
	3. Provide safety at relief distribution sites.	SHO as DS	Ongoing
<b>Haryana Roadways</b>	1. Provide vehicles for relief activities.	GM, Roadways as a member of T&SC	As per requirement
<b>RTA</b>	1. Provide vehicles for relief activities and procure private vehicles, if needed.	Secretary, RTA as TBD	As per requirement
<b>Food and Supplies</b>	1. Provide mobile Petrol/Diesel/CNG filling points where petrol pumps have become dysfunctional.	AFSO as DS	As per requirement
<b>Electricity</b>	1. Restore electricity supply as soon as possible.	SDE as DS	Immediately
	2. Provide movable battery charging points in localities for people to charge their mobile phones, laptops and other electronic devices to communicate with family/friends etc., if needed.	SDE as DS	As per requirement
<b>Agriculture</b>	1. Establish public information booths for information on insurance, compensation, repair of agro equipments and restoring of agricultural activities.	SDAO as RBD	Ongoing
<b>Forest</b>	1. Ensure protection of people from wild animals	BFO as DS	Ongoing

## ESF 13 Water, Sanitation and Hygiene (WASH)

	Nodal Department	Support Departments	Others
<b>For all the Hazards</b>	PHED	<ul style="list-style-type: none"> <li>• Health</li> <li>• Women and Child Development</li> <li>• Municipal Committee</li> <li>• ZP</li> <li>• Public Relations</li> <li>• District Red Cross</li> <li>• Revenue</li> </ul>	<ul style="list-style-type: none"> <li>• Local/regional newspapers</li> <li>• Local/regional news channels</li> <li>• Local theatre groups</li> <li>• CBOs/NGOs</li> <li>• Doordarshan</li> <li>• All India Radio (AIR)</li> </ul>

Department	Task	Responsible Person as per IRS	Time-Frame
<b>Public Health Engineering</b>	1. Ensure equitable access to safe water as per minimum standards of relief.	JE as Single Resource Unit Leader	Within 1 hour of notification of relief camp
	2. Assess water quality	JE as Single Resource Unit Leader	Ongoing
	3. Ensure chlorination and decontamination of piped water in affected areas.	JE as Single Resource Unit Leader	Ongoing
	4. Ensure adequate quantities of potable water availability for drinking and cooking.	JE as Single Resource Unit Leader	Ongoing
	5. Ensure adequate quantities of water availability for washing and bathing.	JE as Single Resource Unit Leader	Ongoing
	6. Maintain water-supply infrastructure.	SDO as Divisional Supervisor	Ongoing
	7. Ensure functioning of drainage infrastructure in urban areas.	SDO as Divisional Supervisor	Ongoing
	8. Regularly monitor key hygiene practices and the usage of facilities provided, and seeks feedback on the design and acceptability of facilities provided from all user groups in coordination with Health Department.	XEN as Response Branch Director	Ongoing

	9. Identify key risks of public health importance in consultation with the affected.	XEN as Response Branch Director	Ongoing
	10. Assess needs of affected population on the priority basis with regard to hygiene products.	Member(s) of Need Assessment Team	Within 24 hours
	11. Develop and display information material regarding hygiene promotion at strategic locations in the affected area.	SDO as Division Supervisor	Ongoing
	12. Distribute hygiene items such as soap, sanitary napkins, diapers, as per minimum relief standards.	JE as Single Resource Unit Leader	Within 72 hours
<b>Health</b>	1. Provide chlorine tablets and ensure chlorination and decontamination of piped water in affected areas, wherever required.	MO as Single Resource Unit Leader	Within 24 hours
	2. Conduct regular vector-control activities in the affected areas.	Dy.CMO (Malaria)	Within 48 hours
	3. Ensure that all clothing, sheets and other items used by patients and medical-staff are thoroughly washed and sanitized before re-use.	MO as Single Resource Unit Leader	Ongoing
	4. Ensure proper medical waste disposal at all areas requiring intervention of health department.	MO as Single Resource Unit Leader	Ongoing
	5. Ensure that the premises of the medical treatment areas are cleaned and sanitized on a regular basis	MO as Single Resource Unit Leader	Ongoing
	6. Maintain hygienic conditions at community kitchens in all affected areas.	Food Inspector	Ongoing
	7. Ensure quality control of all food items in coordination with Health Department.	Food Inspector	Ongoing
<b>District Red Cross</b>	1. Assist Health Department with hygiene promotion activities.	Secy. Red Cross	Ongoing
	2. Procure and distribute mosquito nets, repellents, soap (bathing and laundry) and acceptable material for hygiene (e.g. washable cotton cloth) as per minimum relief standards and need assessment.	Secy. Red Cross as Procurement Unit Leader	Within 72 hours
	3. Coordinate with NGOs / CBOs working in the district on WASH activities.	Secy. Red Cross	Ongoing
<b>Municipal Committee/</b>	1. Ensure solid waste management in camps and all other affected areas in town/city.	JE as Single Resource Unit	Ongoing



<b>Zila Parishad</b>		Leader	
	2. Ensure vector-control (fogging and spraying) in coordination with Health Department.	JE as Single Resource Unit Leader	Ongoing
	3. Ensure regular cleaning and proper maintenance of toilets.	JE as Single Resource Unit Leader	Ongoing
<b>District Development and Panchayat Office (DD&amp;PO)</b>	1. Assist in hygiene promotion and other WASH activities at the Block/Panchayat/Village level.	Village Secretary	Ongoing
	2. Install mechanisms for regular sweeping and cleaning in order to maintain hygienic environment at block, Panchayat and village levels.	BDPO as Divisional Supervisor	Ongoing
	3. Ensure solid waste management in camps and all other affected areas in rural areas.		
<b>Women and Child Development</b>	1. Identify and assess community-specific hygiene promotion activities considering social, cultural, and religious factors.	PO-ICDS as a member of T&SC	Within 72 hours
<b>Public Relations Department</b>	1. Promote Water, Sanitation and Hygiene awareness, dos-and-don'ts and other relevant information and ensure rumour control through the media.	DIPRO as Information and Media Officer (IMO)	Within 72 hours and ongoing
	2. Disseminate IEC materials regarding hygiene promotion in coordination with Health Department.	DIPRO as Information and Media Officer (IMO)	Within 72 hours and ongoing
<b>Irrigation</b>	1. Ensure functioning of drainage infrastructure in rural areas in coordination with DDPO.	SDO as Division Supervisor.	Ongoing.
	2. Provide clean drinking water for affected livestock and poultry in rural areas.	JE as SRUL	Ongoing
	3. Ensuring filling of water ponds/ lakes in the district with canal water/ tube wells.	SDO as DS	As required

## ESF 14 Media Management

	Nodal Department	Support Departments	Others
<b>For all the Hazards</b>	District Information and Public Relations Department	<ul style="list-style-type: none"> <li>Police</li> <li>Health</li> <li>NIC</li> </ul>	<ul style="list-style-type: none"> <li>Local theatre groups</li> <li>Doordarshan</li> <li>All India Radio (AIR)</li> </ul>

Department	Task	Responsible person	Time-Frame
<b>Public Relations Department</b>	1. Prepare Official Statements and interact with media.	DIPRO as IMO	Within 1 hour of declaration of disaster
	2. Arrange for and advertise news briefings	DIPRO as IMO	Within 2 hours and subsequently, every 24 hours
	3. Brief the Deputy Commissioner/ADC/City Magistrate and other department heads as necessary for interacting with the media, whenever required.	DIPRO as IMO	Within 4 hours/ Ongoing
	4. Monitor the news and respond to media inquiries	DIPRO as IMO	Ongoing
	5. Ensure rumour control by providing factual and to-the-point information	DIPRO as IMO	Ongoing
	6. Prepare and disseminate disaster-related communications for warnings (alerts, evacuation orders)	DIPRO as IMO	Ongoing
	7. Prepare and disseminate disaster-related communications for advisories (dos-and-don'ts, camp location and arrangement, other information important for the public)	DIPRO as IMO	Ongoing
	8. Disseminate IEC material regarding disaster response	DIPRO as IMO	Ongoing
<b>Police</b>	1. Issue 'Official Statements' concerning the state of Law and Order.	SP as a member of T&SC	Immediately
	2. Maintain order and ensure safety of members of media	Dy.SP (HQ) as Safety Officer.	Within 1 hour
	3. Ensure rumour control by providing factual and to-the-point information in coordination with the DIPRO	Dy.SP as RBD	Ongoing

	4. Provide details of area access restrictions and of change in traffic routes/alternate routes to the DIPRO	SHO as Divisional Supervisor	Ongoing
	5. Provide information regarding missing people and updated list of deceased to the Public Information Booth and the media, through DIPRO	Dy.SP as RBD	Ongoing
<b>Health</b>	1. Issue 'Official Statements' concerning the post-disaster Health situation	CMO as a member of T&SC	Within 24 hours
	2. Monitor the media (electronic and print) for reports of health-related incidents in the aftermath of the disaster(s)	Dy.CMO (Health) as RBD	Ongoing
<b>NIC</b>	1. Update the district website with relevant information concerning the disaster	DIO as Doc. Unit leader	Ongoing
	2. Perform the task of postings on the web including social network sites, in coordination with the DIPRO	DIO as Doc. Unit leader	Ongoing
	3. Facilitate video-conferencing at the district-level as and when required	DIO	As required

## ESF 15 Law and Order

Hazard	Nodal Department	Support Departments	Others
All type of Hazards	Police	<ul style="list-style-type: none"> <li>Home Guard and Civil Defence</li> <li>Public Relations</li> </ul>	<ul style="list-style-type: none"> <li>NCC, NSS</li> <li>Defence forces</li> <li>Paramilitary Forces</li> </ul>

Department	Task	Responsible Person	Time Frame
Police	1. Assess initial situation of the affected area	DSP (HQ) as Safety Officer	Immediately
	2. Issue Official statements of Law and Order	SP as a member of T&SC	Immediately
	3. Determine status of staff and facilities and deploy additional staff and resources, if needed according to deployment plan.	DSP as RBD	Immediately
	4. Identify hazardous and unsafe situations and recommend measures for safety of responders	SHO as Division Supervisor	Immediately
	5. Cordon-off the affected area	SHO as Division Supervisor	Immediately
	6. Provide safety and security at affected sites, evacuated sites, demolition sites, shelters and camps, medical post, distribution sites, staging area, godowns/warehouses, etc.	DSP (HQ) as Safety Officer	On going
	7. Keep a check on hoarding and black marketing of relief material.	SHO as Division Supervisor	On going
	8. Provide security to personal belongings recovered from evacuated and demolished sites.	SHO as Division Supervisor	On going
	9. Carry out preventive arrests where required.	SHO as Division Supervisor	As required
	10. Make security arrangements for orphans and destitute women to save them from human trafficking.	SHO as Division Supervisor	As required
	11. Keep a check on theft and looting during or after disaster.	SHO as Division Supervisor	Ongoing
	12. Protect dead bodies to avoid false claims.	SHO as Division Supervisor	As required
	13. Provide additional security as required to VIPs and VVIPs visiting the affected sites.	SP as a member of T&SC	As required
	14. Secure and prevent public access to damaged or impassable routes.	DSP, Traffic as RBD	As required
	15. Ensure rumour control in coordination with Public Relations Department	DSP of affected area as RBD	On going
Home Guards and Civil Defence	1. Assist the police department in maintaining law and order situation	District Commandant	As required

## ESF 16 Public Works

Hazard	Nodal Departments	Support Departments	Others
All hazards	PWD (B&R)	<ul style="list-style-type: none"> <li>Municipal Corporation</li> <li>Irrigation</li> <li>Town and Country Planning</li> <li>Panchayati Raj</li> <li>Forest</li> <li>PHED</li> <li>BSNL</li> </ul>	<ul style="list-style-type: none"> <li>Technical Education</li> <li>Urban Development</li> <li>Urban Estate</li> <li>All Real Estate Developers</li> <li>NGOs</li> </ul>

Department	Tasks	Responsible Person as per IRS	Time Frame
PWD (B&R)	1. Determine the levels of damage of public infrastructure in the affected area (for rapid damage assessment)	As member(s) of Damage Assessment Team	Within first 1 hours
	2. Ensure clearance of debris.	JE as Single Resource Unit Leader	Immediately
	3. Demolish or stabilize damaged structures (public and private) to facilitate evacuation and search and rescue in presence of Police, Fire, Revenue and Disaster Management, Health department and MC.	JE as Single Resource Unit Leader	Immediately
	4. Construct temporary shelters, toilets, medical post, helipad and other infrastructures as needed and new temporary roads if required.	XEN as Response Branch Director	Immediately and as required
	5. Demolish unsafe structures in presence of Police, Fire, Revenue and Disaster Management, Health department and MC.	JE as Single Resource Unit Leader	Once Detailed damage assessment received
	6. Repair or restore damaged segments of public infrastructure	JE as Single Resource Unit Leader	Ongoing
Police	1. Cordon off and maintain law and order at demolition site.	SHO as Division Supervisor	Immediately
	2. Provide security to belongings recovered from demolished site.	SHO as Division Supervisor	During and after demolition
M.C.	1. Ensure clearance of debris in coordination with PWD (B&R)	JE as Single Resource Unit Leader	Immediately

	2. Ensure the clearance and disposal of waste material from affected area.	JE as Single Resource Unit Leader	Immediately
<b>Forest</b>	1. Remove fallen trees on roads and affected areas.	Forest Guards as Single Resource Unit Leader	Immediately
<b>PHED</b>	1. Repair damaged water pipeline, sewerage system, drainage system, water works and water tanks etc	SDO as Division Supervisor	Ongoing
	2. Install tube wells for water supply if required.	SDO as Division Supervisor	Ongoing
<b>Irrigation</b>	1. Repair canals, levees and other irrigation structures.	SDO as Division Supervisor	Ongoing
<b>Electricity Department</b>	1. Collect and analyse information on power system damage and outages (field assessments). [Damage could be in form of damage to hydro/thermal power plants, substations, transformers and service drops]	As member(s) of Damage Assessment Team	Immediately
	2. Restore power supply of critical infrastructure (District control room, hospitals, and relief camps etc.) on priority basis.	JE as Single Resource Unit Leader	Immediately
	3. Ensure supply of electricity from private sources wherever required.	XEN as Response Branch Director	Ongoing
	4. Regulate power supply prioritising facilities over other sources of consumption; and resume the supply when operations have come back to the stage of normalcy.	SDE as Division Supervisor	Ongoing
	5. Provide electrical connections and system at short notice in affected areas for purpose of pumping flood water and illumination of the area	JE as Single Resource	Immediately.
<b>HSIIDC</b>	1. Repair sites of hazardous materials and hazardous waste.	GM as a member of T&SC	Ongoing
<b>RTA</b>	1. Procure and provide vehicles for disposal of debris and waste.	Secretary RTA as TBD	Immediately
<b>BSNL</b>	1. Repair and restore communication as and when required	GM as Communctn. Unit Leader	Immediately
<b>Panchayati Raj</b>	1. Repair and restore damaged infrastructure at village level in coordination with PWD (B&R)	XEN	Ongoing

## ESF 17 Transport

	Nodal Department	Support Dept.	Others
<b>For all Hazards/Disasters</b>	RTA	<ul style="list-style-type: none"> <li>• Haryana Roadways</li> <li>• Police</li> <li>• Health</li> <li>• Civil aviation/ Military/Railway</li> <li>• PHE</li> <li>• Police</li> <li>• DFSC</li> <li>• Forest</li> <li>• Market Committee</li> </ul>	<ul style="list-style-type: none"> <li>• Pvt. Bus Association</li> <li>• Taxi Association</li> </ul>

Department	Tasks/Functions	Responsible Person	Time Frame
<b>Haryana Roadways</b>	1. Provide multi-modal transportation for evacuees, personnel, equipment, and materials and supplies.	GM as a member of T&SC	Immediately.
	2. Track vehicle engaged in emergence services	GM as a member of T&SC	Ongoing
	3. Ensure Maintenance and proper functioning of buses, other vehicles and equipments with use of mechanical team in coordination with Work Manager.	GM as a member of T&SC	Ongoing
	4. Make use of Diesel Pumps of Roadways Depot.	Work Manager as member of Road Operation Group.	As and when required
<b>RTA</b>	1. Acquire and provide vehicle required for all transportation activities from government as well as private agencies	Secretary RTA as TBD	Within 10 hrs
<b>Food &amp; Supplies</b>	1. Provide information on fuel filling station for transportation.	DFSO as RBD	As and when required
<b>PHE</b>	1. Provide tankers from Government Departments and procure from private sources if required.	SDE of affected area.	Ongoing.
<b>Health</b>	1. Arrange special transportation for items like blood, vaccines and other medical relief	Dy.CMO(Health) as RBD	Within 7 hrs

<b>Forest</b>	1. Provide equipment and manpower for clearance of fallen trees on Road	Foresters as DS	Immediately.
<b>Police</b>	1. Ensure safety while transportation of relief goods as and when required.	DSP, HQ as Safety officer.	Ongoing.
	2. Ensure clearing and restoration of the traffic	Traffic police Inspector	Immediately.
<b>District Administration</b>	1. Provide transportation facilities for air transport in coordination with Group incharge Air Operations.	CTM as LO	As per requirement
	2. Identify safe location for air support, helipads in coordination with Group incharge Air Operations.	CTM as LO	As per requirement
<b>Indian Railways</b>	1. Provide transportation and storage facilities	Superintendent Railways as Railway Operations Group Incharge.	As per requirement
<b>PWD (B&amp;R)</b>	1. Provide road maps to district control room	SE as member of T&SC	As per requirement
	2. Construct Helipads where ever needed	XEN as RBD	As per requirement
	3. Provide trucks and other vehicle whenever required.	XEN as RBD	As per requirement
<b>Animal Husbandry</b>	1. Arrange transportation facilities for injured and dead animals	Deputy Director as a Member of T&SC	Ongoing



## ESF 18 Livestock

	Nodal Department	Support departments	Others
<b>For all hazards/Disasters</b>	Animal Husbandry	<ul style="list-style-type: none"> <li>• Police</li> <li>• Health</li> <li>• Transport</li> <li>• Revenue</li> <li>• Development &amp; Panchayat</li> </ul>	<ul style="list-style-type: none"> <li>• Vet. Medical association</li> <li>• Local Transport Association</li> <li>• Gosala Sanstha</li> </ul>

Department	Tasks/ Functions	Responsible Prson	Time Frame
<b>Animal Husbandry</b>	1. Address Public health issues and provide veterinary care to injured and dead animals.	VS as DS	Within 12 hrs.
	2. Provide emergency medical care and temporary shelter	VS as DS	Within 24 hrs.
	3. Provide fodder, feed and water for cattle and poultry	VS as DS	Within 24 hrs.
	4. Ensure availability of grazing area for cattle based on need assessment	VS as DS	Within 48 hrs.
	5. Make necessary arrangement for Tatties, gunny bags and tarpaulin sheets to cover shelter during extreme weather	DD as a member of T&SC	Within 48 hrs
	6. Provide mosquito nets, whenever required.	DD as a member of T&SC	Within 48 hrs
	7. Arrange transportation for injured and dead animals	DD as a member of T&SC	Ongoing
	8. Make arrangements for sprinklers, fans at the shelter during heat waves	DD as a member of T&SC	Within 48 hrs
	9. Coordinate with Volunteer Organizations/Institution/agency related to animal health care.	DD as a member of T&SC	Within 24 hrs
	10. Monitor outbreak of animal diseases	SDO as RBD	Ongoing
	11. 'ensure timely immunization	SDO as RBD	Ongoing
<b>Police</b>	1. Restrict movements of livestock, meat, and related products in and out of affected area.	SHO as DS	Within 3 hrs.

	2. Identify lost, strayed or otherwise displaced animals.	SHO as DS	Ongoing
<b>Health</b>	1. Organise awareness campaign among public regarding animal disease	CMO as a member of T&SC	Ongoing
	2. Take necessary action for livestock diseases affecting humans	CMO as a member of T&SC	Ongoing
<b>Revenue</b>	1. Provide compensation to owner of dead livestock	SK/ NT (accnts) as Com & Claim Unit Leader.	Ongoing
<b>Development &amp; Panchayat</b>	1. Maintain a list of local transportation resources.	BDPO	Within 24
<b>Dist. Public &amp; Relation</b>	1. Coordinate with media and inform public regularly on dos and don'ts and related awareness measures	DIPRO as IMO	Ongoing
<b>Red cross</b>	1. Old blanket and tarpaulin sheets for animal	Secretary, Red Cross Society.	Within 48 hrs.
<b>Forest</b>	1. Ensure protection of cattle and poultry from wild animal	DFO as RBD	Ongoing
<b>DFSC</b>	1. Provide concentrated grain feed for animals wherever needed	DFSO as RBD	Ongoing
<b>RTA</b>	1. Provide facilities for transport of animal wherever required	Secretary, RTA	Ongoing

### ANNEXURE III

Damage %	
100	Structure is unusable. Cannot be repaired.
> 75	Major structural damage. Unsafe for use. Repairable within 1 month.
> 50	Significant structural damage. Unsafe for use. Repairs will take more than 1 week.
> 25	Some structural damage but safe for limited use. Repairable within 1 week.
< 25	Minor structural damage. Usable.

*WHO damage assessment*

### ANNEXURE IV

Tentative Team member for Damage and Need Assessment

TEAM	
Damage And Need Assessment	PWD(B&R)
	Revenue and DM
	Police
	Fire
	Irrigation
	Health
	IS&H
	HSIIDC
	CD and Home Guards
	PHED
	MC
	Food
	Development and Panchayat

## ANNEXURE V

### Rapid damage and need assessment

Date and time of report:

#### 1. Initial identification

1.1. Type of disaster	
1.2. Level of Disaster (L0, L1, L2, L3)	
1.3. Date and time of event	
1.4. Affected area	
1.5. Possibility of after effects	

#### 2. ESTIMATE OF EFFECTS

(Very Approximate Numbers)

2.1. Dead

2.2. Injured

2.3. Missing

2.4. In need of shelter and/or clothing

2.5. In need of food

2.6. In need of water

2.7. In need of sanitation

2.8. Damage to lifeline systems

#### 3. Initial Need for external assistance

3.1 Search and Rescue	Yes/No
3.2 Evacuation	Yes/No
3.3 Protection	Yes/No
3.4 Medical and Health	Yes/No
3.5 Shelter and clothing	Yes/No
3.6 Food	Yes/No
3.7 Water	Yes/No
3.8 Sanitation	Yes/No
3.9 Repair of lifeline systems	Yes/No

The next report, with more details, will be sent at ..... (date/time).

## ANNEXURE VI

### Preliminary damage and need assessment

Date and time of report: \_\_\_\_\_

After effects to disaster	
---------------------------	--

### ESTIMATE OF EFFECTS

#### (Numbers)

- 2.1. Dead
- 2.2. Injured
- 2.3. Missing
- 2.4. In need of shelter and/or clothing
- 2.5. In need of food
- 2.6. In need of water
- 2.7. In need of sanitation
- 2.8. Damage to lifeline systems

**Initial Need for external assistance**

	<b>Number of affected population who require assistance</b>	<b>Response status</b>	<b>Requirement (Equipments + Human Resource)</b>	<b>Priority</b>
<b>SEARCH &amp; RESCUE</b>				
<b>EVACUATION</b>				
<b>SAFETY and SECURITY</b>				
<b>MEDICAL and HEALTH</b>				
<b>SHELTER AND CLOTHING</b>				
<b>PUBLIC WORKS</b>				
<b>FOOD</b>				
<b>Water, sanitation and hygiene</b>				
<b>Other needs</b>				

The next report, with more details, will be sent at ..... (date/time).

## ANNEXURE VII

### Detail Damage and Need Assessment

Disaster Type			Ongoing		Completed		Date		
District									
Area			Pt. of Contact						
1. Affected Population									
	Male	Female	Children	Orphan	Infants	Destitute women	Old age (above 55)		
Evacuate									
Injured									
Sheltere									
Dead									
Displace									
Missing									
2. Affected livestock									
	• He Camel/She Camel	Horse/m are	• Buffalo	• Bullock	Cow	Poultry	• He Donkey/She Donkey	• Mule	• Buffalo (Calf upto 3 years of age)
Evacuate									
Injured									
Sheltere									
Dead									
Displace									

Missing								
3. Damage details								
	Destroyed	Majorly	Minorly	Unaffected	Estimated Total			Number of units insured
						Loss		
Single Family Homes					Rs			
Building					Rs			
Business					Rs			
Industrial Units					Rs			
Total Damage					Rs			
Unemployment Number due to disaster								

	Number of affected population who require assistance	Response status	Requirement (Equipments + Human Resource)	Priority
SEARCH & RESCUE				
EVACUATION				
SAFETY and SECURITY				
MEDICAL and HEALTH				
SHELTER AND CLOTHING				
PUBLIC WORKS				



<b>FOOD</b>				
<b>Water, Sanitation and Hygiene</b>				
<b>Other needs</b>				

Crop affected										Any other loss
Name of the Crop(s)	Extent of damaged area (*in Acres)									
• Wheat • Paddy • Sugarcane • Cotton • & Other Crops	26% to 50%			51% to 75%			76% to 100%			
	No. of Small Farmers affected	No. of Marginal Farmers affected	No. of other than small & Marginal Farmers affected	No. of Small Farmers affected	No. of Marginal Farmers affected	No. of other than small & Marginal Farmers affected	No. of Small Farmers affected	No. of Marginal Farmers affected	No. of other than small & Marginal Farmers affected	

Remark:

Signature:\_\_\_\_\_

## ANNEXURE VIII

### Hazardous Chemicals and their Antidotes

Details of Chemicals Properties, Fire Fighting Agents, Antidotes, First Aid & Medical treatment

Sr No	Name Of Chemical	Hazard Characteristics	Fire Fighting Agent	Antidote / First Aid / Medical Treatment
1	Acetic Acid	Corrosive	Carbon Dioxide, Dry Chemical Powder, Water Spray and Alcohol Resistant Foam	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. If heartbeats are absent, give external Cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open and obtain medical treatment urgently.
2	Ammonia	Flammable, Toxic	Stop flow of gas, use water spray to cool fire exposed containers. Exposed fire fighter must wear positive pressure self-contained breathing-apparatus and full protective clothing.	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Inhalation of steam or vinegar vapour is recommended. If substance has gone in eyes, wash with plenty of water for 15 minutes To relieve restlessness, ingestion morphine 15mg to relieve Dyspnoea, Oxygen inhalation.
3	Ammonium Carbonate	Corrosive	Non-flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open.
4	Ammonia Nitrate (Melt)	-	Use plenty of water to cool fire exposed containers. Exposed fire fighter must wear positive pressure self-contained breathing apparatus and full protective clothing. Container may explode in fire.	In case of burns due to hot Ammonium Nitrate solution, part should be flushed with large quantity of water and treated according to usual burns.
5.	Carbon Dioxide	Asphyxiant	Non-flammable	It is simple asphyxiant and can cause oxygen deficiency in confined space / non ventilated areas. Respiratory protection is required.
6.	Carbon Monoxide	Flammable, Toxic	Carbon monoxide, dry chemical powder, wear self contained breathing apparatus. Let fire burn, shut off gas while using the chemicals.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardiac compression. Do not use mouth to mouth ventilation. Administer 100% oxygen till carboxyhemoglobin level is measured. Cerebral edema and convulsions must be controlled. Methylene blue must not be

				injected.
7.	Chlorine	Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give external cardiac compression. Incase of eye exposure, wash with copious amount of water for 15 minutes, keeping eyelids apart
8.	Coal	Flamm-able	Dry chemical powder, water supply	Incomplete combustion may produce CO1, sulphur dioxide, hence respiratory protection may be required to fight the fire.
9.	Formic Acid	Flamm-able, Corrosive	Carbon dioxide, dry chemical powder, water spray and alcohol resistant, foam all purpose foam.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open and obtain medical treatment urgently.
10.	Fuel Oil	Flamm-able	Carbon dioxide, dry chemical powder, foam	Remove the contaminated clothese. Wash the affected parts of skin with plenty of soap and water and seek medical advice immediately for inhalation of vapours / fumes.
11.	High Speed Diesel	Flamm-able	Dry chemical powder, foam	- do -
12.	Hydro-chloric Acid	Corrosive	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give artificial respiration. Do not give alkaline substances or carbonate preparation. Skin should be treated with 5% Trietanol amine. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open and obtain medical treatment urgently.
13.	Hydrogen	Flamm-able, Explosive	Dry chemical powder, halon. Let fire burn under control. Stop flow of gas.	It is simple asphyxiant and can cause oxygen deficiency in confined space / non ventilated areas. Move victim to the fresh air and apply resuscitation methods.
14.	Hydrogen Iodide	Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardiac compression. Incase of eye exposure, wash with copious amount of water for 15 minutes, keeping eyelids apart.
15	Hydrogen Sulphide	Flamm-able, Toxic	Carbon dioxide, dry chemical powder. Wear self-contained breathing apparatus. Alcohol resistant foam is also advisable to be used to stop fire.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Patient with significant exposure, should be hospitalized for 72 hours of medical observation for delayed pulmonary edema. The respiratory centre may be stimulated by injection of LOBGIN and nike thamide. Victamin C may be injected intravenously. Incase of eye exposure, it should be treated with boric acid solution.
16	Iodine	Toxic	Use water spray or carbon dioxide. Do	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If

			not use foam or dry chemical. Wear full protective clothing and self contained breathing apparatus for fire fighting.	heartbeats absent, give external cardiac compression. Patient with significant exposure, should be hospitalized for 72 hours of medical observation. Consider administration of multiple metered doses of topical steroid hormone or 30 mg/kg of methyl prednisolone IV.
17.	LPG	Flammable, Explosive	Carbon dioxide, dry chemical powder, water spray	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open.
18.	Methane	Flammable, Explosive	Carbon dioxide, dry chemical powder. Shut off gas.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance has gone in eyes wash with plenty of water.
19.	Methanol	Flammable, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Never administer anything by mouth if a victim is losing consciousness. Do not induce vomiting. Do not use mouth to mouth respiration. Massive alkalization in life saving and eye saving measures. Give small quantity of Ethyl alcohol every 4 hourly. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open.
20.	Methyl Acetate	Flammable, Toxic	Carbon dioxide, dry chemical powder and alcohol resistant foam. Water may be ineffective.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heartbeats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open and obtain medical treatment urgently.
21	Methyl Formate	Flammable, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heartbeats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open and obtain medical treatment urgently.
22	Methyl Iodide	Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heartbeats are absent, give external cardiac compression. Do not use mouth to mouth ventilation. Keep under medical surveillance for 48 hours. Consider administration of multiple metered doses of topical steroid by inhalation and or upto 30 mg / kg of methyl prednisolone. In case of eye, contact immediately, refer to ophthalmologist.
19.	Methanol	Flammable, Toxic	Carbon dioxide, dry chemical powder,	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Never

			water spray and alcohol resistant foam.	administer anything by mouth if a victim is losing consciousness. Do not induce vomiting. Do not use mouth to mouth respiration. Massive alkalization in life saving and eye saving measures. Give small quantity of Ethyl alcohol every 4 hourly. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open.
20.	Methyl Acetate	Flammable, Toxic	Carbon dioxide, dry chemical powder and alcohol resistant foam. Water may be ineffective.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heart beats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open and obtain medical treatment urgently.
21	Methyl Formate	Flammable, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heart beats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open and obtain medical treatment urgently.
22	Methyl Iodide	Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heartbeats are absent, give external cardiac compression. Do not use mouth to mouth ventilation. Keep under medical surveillance for 48 hours. Consider administration of multiple metered doses of topical steroid by inhalation and or upto 30 mg / kg of methyl prednisolone. Incase of eye, contact immediately, refer to ophthalmologist.
23	Mono Ethylene Glycol	Flammable, Toxic	Carbon dioxide, dry chemical powder and alcohol resistant foam.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If heartbeats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water.
24	Naphtha	Flammable	Foam dry chemical powder, carbon dioxide. Apply water fog from as far distance as possible.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. The decision of whether to induce vomiting or not should be made by an attending physician. If heartbeats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water.
25	Natural Gas	Flammable	Stop flow of gas. Dry chemical powder, carbon dioxide.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open.
26	Nitric Acid	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Do not induce vomiting. If heartbeats are absent,

				give external Cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open and obtain medical treatment urgently.
27	Nitric Oxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Do not allow to walk. Fatal symptoms may be delayed upto 48 hours even though victim may seem normal after exposure. If hearts beats are absent, give external cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes holding eyes open and obtain medical treatment urgently. Methemoglobinemia due to no resolve in hours with oxygen therapy.
28	Nitrogen	Asphyxiant	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardiac compression. Treat for frostbite with lukewarm water.
29	Oxygen	-	Non flammable	Inhalation of 100 % oxygen can cause nausea, dizziness, irritation of lungs, pulmonary edema, pneumonia and collapse. Liquid oxygen will cause frostbite.
30	Nitrogen Dioxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Enforce complete rest for 24 to 48 hours. Incase of high exposure keep patient under medical observation for atleast 72 hours. Some individuals who had symptoms of acute exposure with or without edema, develop in immune reaction 10 days or 6 weeks after exposure. Symptoms include severe cough, cyanbosis (tuning blue) fever hypoxemia and X ray may show fire scattered nodes in the lungs are vulnerable to virus.
31	Pottasium Hydroxide	Corrosive Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If substance heart beats are absent, give external cardiac compression. Incase of eye contact immediately refer for ophthomological opinion. Treat skin burns conventionally.
32	Potta-ssium Methoxide	Flamm-able, Toxic	Only dry chemical powder is allowed to be used. In reacts with water and CO2.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Never administer anything by mouth if a victim is losing consciousness. Do not induce vomiting. Do not use mouth to mouth respiration. Backing soda in glass of water should be given.
33	Propionic Acide	Flamm-able, Toxic,	Foam, dry chemical powder, carbon	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If heart

		Corrosive	dioxide. Apply waster fog from as far distance as possible.	beats are absent, give external cardiac compression. Incase of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with water & soap.
34	Rhodium Triiodide	-	Non flammable	Remove the victim to fresh air. Material cause irritation of nose, throat and respiratory tract. Repeated exposure to skin can cause allergic sensitization. Incase of eye contact, flush with plenty of water for 15 minutes.
35	Sodium Hydroxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Incase of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with water & soap.
36	Sulphur Dioxide	Corrosive, Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If hearts beats are absent, give external cardia compression. Atrophic rhinitis and phayngitis may be treated by inhalation of 5% solution of sodium chloride, followed by inhalation of 5% solution of sodium chloride, followed by inhalation of vitamin A. Incase of of eye contact, flush with 2% sodium bicarbonate solution, drops of 2 to 3 % phedrine should be instilled in the nose.
37	Sulphuric Acid	Corrosive, Toxic	Non flammable, react with water to form large amount of heat and corrosive fumes. Do not use water to existing fire in the nearby area.	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Incase eye contact flush with plenty of water for 15 minutes. Remove wet clothes and wash affected area with plenty of water.
38	Trichloro Ethylene	Flamm-able, Toxic	Carbon dioxide, dry chemical powder, water spray and alcohol resistant foam.	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Do not induce vomiting If heart beats are absent, give external Cardiac compression. If substance has gone in eyes, wash with plenty of water for 15 minutes, holding eyes open and obtain medical treatment urgently.
39	Ortho Dichloro Benzene	Flamm-able, Toxic	Foam dry chemical powder, carbon dioxide. Apply water fog from as far distance as possible.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Incase of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
40	Trichloro Acetyl Chloride	Corrosive, Toxic	Foam dry chemical powder, carbon dioxide.	It is very corrosive liquid. Exposure will produce tears in the eyes and severe chemical burns. Move the person to fresh air. If not breathing, perform artificial respiration. If required, give oxygen. Wash the affected skin thoroughly with soap and



				water. Flush and irrigate eyes with copious quantity of water for atleast 15 minutes. Do not induce vomiting.
41	Acrylonitrile	Flammable, Toxic	Carbon dioxide, dry chemical powder	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If the unconscious, crush an amyl nitrile ampule in a cloth and hold it under the nose for 15 seconds in every minute. Do not interrupt artificial respiration during this process.
42	Copper Compounds	-	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If heart beats are absent, give external cardiac compression. If substance has gone in eyes wash with plenty of water for about 15 minutes, holding eyes open and obtain medical treatment urgently.
43	Aniline	Flammable, Toxic	Foam, dry chemical powder, carbon dioxide	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Aniline is very toxic, if splashed on skin. It passes through the skin, causing methemoglobinemia. Antidote is methylene blue. In case of eye contact flush with plenty of water for 15 minutes. Remove wet clothes and wash affected area with plenty of water.
44	Benzene	Flammable, Toxic	Foam, dry chemical powder, carbon dioxide	Remove the victim to fresh air. If there is a difficulty in breathing, give Oxygen. Benzene is very toxic or if splashed on skin. Chronic exposure may lead to leukemia. In case of eye contact flush with plenty of water for 15 minutes. Remove wet clothes and wash affected area with plenty of water.
45	Nitrobenzene	Flammable, Toxic	Foam, dry chemical powder, carbon dioxide	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. NB is very toxic if splashed on skin. It passes through the skin causing methemoglobinemia. Antidote is methylene blue. In case of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
46	Phosgene	Corrosive Toxic	Non flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Phosgenen is very toxic in case of inhalation. It has very low TLV – 0.1 ppm. Keep the person under observation for 72 hours for possibility of delayed effect. In case of eye contact, flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
47	Toluene	Flammable, Toxic	Foam, dry chemical powder, carbon	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen.



			dioxide	Toluene is very toxic if splashed on skin. In case of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
48	Di Nitro Toluene	Flammable, Explosive	Use plenty of water to cool fire exposed containers. Exposed fire fighter must wear positive self contained breathing apparatus. Foam and dry chemical powder and carbon dioxide can be used.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Di Nitro Toluene is very toxic if splashed on skin. In case of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
49.	Metaol-uene Di Amine	Flamm-able, Toxic	Foam dry chemical powder, carbon dioxide. Apply water fog from as far distance as possible.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Metaol-uene Di Amine is toxic, if splashed on skin. In case of eye contact flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
50	Toluene Di Isocyanate	Corrosive, Toxic	Dry chemical powder, carbon dioxide. Do not apply water as it reacts violently with water at elevated temperature.	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. Toluene Di Isocyanate is very toxic if inhaled.. In case of pulmonary edema. TLV of TDI vapour is very low i.e. 0.0005 ppm. If splashed on skin, it causes sensitization of skin tissue. In case of eye contact, flush with plenty of water for about 15 minutes. Remove wet clothes and wash affected area with plenty of water.
51	Methyl Iodine	Toxic	Non Flammable	Remove the victim to fresh air. If there is a difficulty in breathing, give oxygen. If heart beats are absent, give external cardiac compression. Do not use mouth to mouth ventilation. Keep under medical surveillance for 48 hours. Consider administration of multiple metered doses of topical steroid aerosol by inhalation and or upto 30 mg / kg of methyl prednisolone. In case of eye, contact immediately, refer to ophthalmologist.
52	Chloro Sulphonic Acid	A poison to irritant, corrosive	Use DCP, foam if exposed to fire.	Remove victim to fresh air. If there is a difficulty breathing, give oxygen. Do not induce vomiting. Obtain medical treatment urgently.
53	Carbon Di Sulphide	Flamm-able, Explosive	Use DCP, CO2	Remove victim to fresh air. If there is a difficulty breathing, give oxygen. Do not induce vomiting. Obtain medical treatment urgently.
54	Ethylene Oxide	Flamm-able, Carcinogen	Use DCP	Remove victim to fresh air. If there is a difficulty breathing, give oxygen. Do not induce vomiting. Obtain medical treatment

				urgently.
55	Acephate Anilophos Ethion Phorate Quinalphos	Non flamm-able	Use DCP, foam if exposed to fire.	Atropine sulphate in dose 2 – 4 mg for adult, 2 pam 1000 – 2000 mg / im.
56	Alachor Carbendazim Thiophanate – M	Non flamm-able	Use DCP, foam is exposed to fire	Inject 1 gm of Eralidioxime chloride IV. Do not induce vomiting if the injected poison is principally a hydrocarbon solvent.
57	Mancozeb Thiram	Non flamm-able	Use DCP, foam is exposed to fire	Low toxicity, no specific treatment.
58	Allethrin Cypermethrin Fevalrate	Toxic	Use DCP, foam is exposed to fire	The treatment is symptomatic.
59	Aluminium Phosphate	Non flamm-able	Use DCP, foam is exposed to fire	Injection copper sulphate 0.25 gm.
60	Isoproturon	Non flamm-able	Use DCP, foam is exposed to fire	Supportive treatment.
61	Hexaconazole Propiconazole	Non flamm-able	Use DCP, foam is exposed to fire	There is no specific antidotes and treats the victim symptomatically.
62	Propane	Flamm-able, Explosive	DCP, Water	First aid.
63	Butadine	Flamm-able, Explosive	DCP, Water	First aid.
64	Propylene	Flamm-able, Explosive	DCP, Water	First aid.
65	Styrene Monomer	Flamm-able	DCP, Foam compound	-
66	Phosphoric Acid	Corrosive	-	Skin Contact :- Wash with clean water. Apply dry sterile dressing. Eye Contact : Through wash with clean water, apply benoxinate (novesine) drop (0.4%) . Inhalation : Administer O2, Give him fresh drink water. Ingestion : Milk of magnesia, fresh

## VIII Annexure: Leak Detection, Neutralization and Disposal

Leak Detection	Neutralization and Disposal
<b>Chlorine</b> To detect the chlorine leak an ammonia spray or swab is used. Chlorine gives white dense fumes of ammonium chloride is greenish yellow gas with pungent and irritating odour.	Emergency disposal of chlorine is done by absorbing it in the solution of caustic soda, soda ash or hydrated lime slurry. Chlorine cannot be vented off as it is toxic gas. Cylinder of any part of cylinder should not be immersed in the tank holding caustic or other solutions. Don't use rubber hose or polyethylene pipe connecting for neutralizing chlorine gas. Do not pour water on the leak.
<b>Ammonia</b> Ammonia leak can be detected easily due to its specific pungent odour. The exact location of leak can be find out by hydrochloric acid swab in suspected region. This will give white vapours of ammonium chloride. Another method used in the detection of ammonium leak is by the use of sulphur dioxide gas, which also forms white fog or cloud in contact with ammonium.	At it is toxic gas it cannot be vented to atmosphere. Ammonia leakage can be absorbed in water in a suitably designed system, as its solubility in water is very high. Mild steel is used as material of construction.
<b>Sulphur Dioxide</b> Sulphur dioxide leak can be detected by odour as it has characteristic odour. But the exact location of the leak can be found out by ammonia vapours from a swab or squeeze bottle. Sulphur dioxide will produce dense white fumes with ammonia vapours. Leak may also be detected by applying soap solution. Soap solution in case of leakage will give bubbles.	Sulphur dioxide leak can be absorbed in caustic solution. For this purpose scrubber should be preferably fabricated of polypropylene backed by FRP. Do not use water on the leak.
<b>Bromine</b> Bromine spillage can be find out as it has intensely irritating odour. Bromine leak can be detected by using ammonia swab or spray. Bromine gives white dense fumes with ammonia solution.	As bromine is toxic and fuming liquid, it can't be vented to atmosphere. Water should not be directly poured over the spillage with mud or earth and mop up with plenty of water.
<b>Carbon Monoxide</b> As the gas inflammable, flame should not be used to detect the leak. Carbon monoxide leak can be detected with soap solution, which gives bubbles around leaking area. Palledour chloride paper gets darkened in contact with carbon monoxide.	Leaking gas can be vented slowly to air in a safe open area or should be burnt off in a suitable gas burner.
<b>Ethylene Oxide</b> Ethylene oxide leak can be detected by using soap solution. Leak will produce bubble with soap solution.	As the gas is extremely flammable, all the ignition sources should be shut off. Leaking gas can be slowly vented off in a safe and open area. Put water spray to cool down, if necessary. The gas can be burnt off in a suitably designed burner.

<b>Vinyl Chloride</b> Vinyl chloride leak can be detected due to its characteristic odour. Leak can be detected with soap solution, which will produce bubbles.	Leaking gas can be vented slowly to air in a safe open area or gas should be burnt off in a suitable burner.
<b>Ethyl Alcohol</b> Ethyl alcohol leak can be detected by its characteristic smell.	Shut off all possible sources of ignition. Mop up with plenty of water and run to waste diluting greatly with running water. Ventilate area well to evaporate remaining liquid and disposal vapours.
<b>Caustic Soda</b> Detect the leak of caustic soda with wet litmus paper caustic will change the colour of the paper from red to blue.	Caustic soda should be scrubbed in water scrubber made of MS or neutralize it with dilute HCl acid.
<b>Sulphuric Acid</b> Detect the leakage of oleum with its sharp penetrating odour. Leakage can also be detected by using wet blue litmus which when coming in contact turns red.	Sulphuric acid should be scrubbed in lime or caustic or water scrubber made up of MSRL or PVC / FRP. Do not put water directly on the leak. Content the leak by mixing it with earth / sand and lime sludge slowly. Neutralize by pouring water and dilute alkali.
<b>Hydrochloric Acid</b> Detect the leak with its sharp pungent odour. Leak can also be detected by using wet litmus paper. Hydrochloric acid will change the colour of the paper from blue to red.	Hydrochloric acid should be scrubbed in lime or caustic or water scrubber made of MSRL. Do not put water directly on the leak. Content the leak by mixing it with earth / sand and lime sludge. Slowly neutralize by pouring water and dilute alkali.
<b>Nitric Acid</b> Detect the leak of nitric acid with wet litmus paper. Nitric acid will change the colour of the paper from blue to red.	Nitric acid should be scrubbed in lime or caustic or water scrubber made of MS or SS. Do not put water on the leak. Content the leakage by mixing it with earth / sand and lime sludge. Slowly neutralize by pouring water or dilute alkali.
<b>Phosphoric Acid</b> Detect the leak of phosphoric acid with wet litmus paper, which will change the colour of litmus paper from blue to red.	Spread soda ash liberally over the spillage and mop up cautiously with plenty of water. Dilute the waste greatly with running water.

## ANNEXURE IX

### Resource Inventory

A. List of Equipments

B. List of Vehicles

C. List of Godowns

D. Human Resource

#### A. List of Equipments

Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
<b>Anaesthesia</b>						
<b>1</b>	GH, Palwal	2		GH Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242105
<b>Ambulance</b>						
						<b>Operator</b>
<b>1</b>	Palwal GH	3		GH Palwal	SMO, Palwal 8901409651	Nain Singh, Kulbhusan 9416273640, 9254700000 Mahesh, Yoginder 9254155374, 9813100000 Devender, Veer Singh 9254155370, 8059996586
<b>2</b>	Tappa PHC	1		Tappa	SMO, Tappa 252102	Karambir, Shyambir 9991139367, 9813400000
<b>3</b>	Dudhola PHC	1		Dudhola	SMO, Dudhola 9254255375, 262262	Roop Chand 9254155371
<b>4</b>	Hathin PHC	2		Hathin	SMO, Hathin 9416071601, 261387	Aamin 9254155378 Naresh, Khurshid 9254155375
<b>5</b>	Nangal Jat PHC	1		Nangal Jat	SMO, Nangal Jat 252102	Dharamveer 9254155373
<b>6</b>	Mandkola PHC	1		Mandkola	SMO, Mandkola 252102	Subhash 925415537, 9946720000

Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
7	Amarpur PHC	1		Amarpur	SMO, Amarpur 252102	Ramrattan 9813750266
8	Hassanpur PHC	1		Hasanpur	SMO, Hassanpur 8053128101, 271203	Baljeet Harveer 9813706146, 9813900000
9	Aurangabad PHC	1		Aurangabad	SMO, Aurangabad 9254255376, 208608	Devi Singh 9254155381
10	Hodal CHC	1		Hodal	SMO, Hodal 9254255377, 235571	Sanjay, Deshveer 9813135469
11	Sikari Service Station	2		Sikri	Dr. Raminder Singh, Civil Surgeon, Palwal 01275-242105	
12	Police Department, Palwal	1		Police Station, Traffic, NH 2, Palwal	Sh Lalit Dalal	Sh Lalit Dalal 8930202034
		1		NH 2, Hodal	Sh Duli Chand	Sh Duli Chand
Ara Machine						
1	Forest	120		Forest office, Palwal	Divisional Forest Officer, Palwal	01275-248978
Autoclave (Horizintal)						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242105
Battery Banks & Charger						
1	HVPNL	1	200AH	66 kv S/stn HVPNL, Rasulpur Road, Palwal	Sh Vinod Bhardwaj, AEE	931531564
		15	100AH			
Boats						
1	Revenue Department	3		Tehsil, Palwal	Tehsildar, Palwal	01275-252004
		1		Tehsil, Hodal	Tehsildar, Hodal	1275-235697
Bolt Cutter						
1	PalwalFire Department,	2	Manual	Minar Gate,Palwal	Sh. Hari Singh Saini, Fire Officer, Palwal	01275-252101
Cardiac monitor with the defib.						
1	GH, Palwal	2		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242105

Sr. No.	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
<b>Chain Saw</b>						
1	Palwal Fire Department,	1		Minar Gate, Palwal	Sh. Hari Singh Saini, Fire Officer, Palwal	01275-252101
<b>Circuit Breakers</b>						
1	HVPNL, Palwal	4	220 KV	220 KV S/Stn, Palwal	Sh. Vinod Bhardwaj, AEE	9315315641
<b>Compressor</b>						
1	Harayna Roadways	1		Workshop, Bus Stand, Palwal	Duty Inspector	9466470424
<b>Cranes</b>						
1	Police Department, Palwal	1		Police Station, Traffic, NH 2, Palwal	Sh Lalit Dalal	8930202034
2	Sh. Raj Pal Arora Contractor	1		New Colony , Palwal	Sh. Raj Pal Arora	9215557254
3	Vasudha Co-Op L&C Society, Palwal	1		Bhatia Colony Behind New Colony, Palwal.(09992018282)	Sh. Vijay Singh	9991140479
4	The Nand Dass Coop. L&C Society Ltd.	2		Village & P.O-Mandkola Tehsil-Hathin Dist.Palwal.	Sh. Surender Kumar	9991654195
5	M/S Shri Bala Ji Construction Co. Civil Contractor & Interior Decorators	2		HUDA , Palwal	Sh. K.K. Gupta	9311770818 9215574756
6	M/S Jayna Construction Co.	1		H.No.1474 Sector-15, Part-II , Gurgaon	Sh. Sekhar Jain	9896929201 9811108067 9896667021
7	Sh. Prashant Sharma, Contractor	1		R/o H.No. 570, Dev Nagar, Palwal.	Sh. Prashant Sharma	9671363640
8	K R Construction s	1		Agra Chowk, Main Mathura Road, Bypass Road, palwal	Sh. Kumar	Mob no: 9911200084

Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
9	Badal Crane Service	3		Pathwari Mandir, Prithla, Chaprola Mode, palwal	Sh Badal	Mob no: 09813111918
10	Bhulla & Sons	2		Chowk, GT RD, palwal	Sh R. Bhulla	Mob no: 09255131767
11	DEV Karan Earth Movers	2		Vill. Khedla, Palwal Haryana, palwal	Sh Dev	Mob no: 09813760665
12	Ndr Crane Service	2		Vill. Prathal, NR Dudhaura Mode, Main Mathura RD, palwal		Mob no: 09671698282
<b>Dead Body Pick Up Van</b>						
1	Police Department, Palwal	1		Police Lines, Palwal	Sh Narender	8814012604
<b>Dental chair &amp; Dental X- ray</b>						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242105
<b>Dewatering Pumps</b>						
1	Irrigation Department	28	DP SET-14 HP 2.0 Cus	Mechanical Work Shop, Irrigation Department, Near Aligarh Flyover, Palwal	Sh. Ram Preasad, ASDE	9958734433, 01275-252179
2		3	EP SET-15 HP 2.0 Cus	Mechanical Work Shop, Irrigation Department, Near Aligarh Flyover, Palwal	Sh. Sohan Lal, SDO,	9896348735, 01275-252179
3		2	EP SET-12 HP 2.0 Cus	Mechanical Work Shop, Irrigation Department, Near Aligarh Flyover, Palwal	Sh. Ram Preasad, ASDE	9958734433, 01275-252179
4		12	EP SET-30 HP 2.0 Cus		Sh. Sohan Lal, SDO,	9896348735, 01275-252179



Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
Emergency Power Back						
1	HVPNL, Palwal	1	Portable DC Battery	220 KV S/Stn, Palwal	Sh. Vinod Bhardwaj, AEE	9315315641
		1	Non Portable			
Extension Ladder						
1	Fire Department, Palwal	3	with Fire Tender	Minar Gate,Palwal	Sh Ram Dutt	9255986100, 01275-252101
2	Fire Deparment, Hodal	2	with Fire Tender	Municipal Committee, Hodal	Sh Rekhpal Singh, Fire Man	9813158100, 01275-252101
Fire Extinguisher						
1	Fire Department,	7	ABC Type - 5 lts	Minar Gate,Palwal	Sh Ram Dutt	9255986100, 01275-252101
2	Hodal Fire Deparment	3	ABC Type - 5 lts	Municipal Committee, Hodal	Sh Rekhpal Singh, Fire Man	9813158100, 01275-252101
Fire Suit						
1	Palwal Fire Deparment	1	Adjustatbl e Fire Entry Suit	Minar Gate,Palwal	Sh Rajender Singh Fire Man	9466754101 01275-252102
Fire Tender						
1	PalwalFire Department,	1	Water Bouser- 12000 lts	Minar Gate,Palwal	Sh Rajender Singh Fire Man	9466754101
		1	Water Tender- 2000 lts	Minar Gate,Palwal	Sh Unish Khan Fire Man	9813044704
		1	Water Tender- 1800 lts	Minar Gate,Palwal	Chran Singh Fire Man	9215666439
2	Hodal Fire Deparment	1	Water Bouser- 10000 lts	Municipal Committee, Hodal	Sh Rekhpal Singh, Fire Man	9813158100
		1	Water Tender- 4500 lts	Municipal Committee, Hodal	Sh Rekhpal Singh, Fire Man	9813158100

Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
3	Hathin Muncipal Committee	Non Fuctional 1	with Fire Tender	SDM Office, Hathin	Hari Singh Saini, Fire Officer, Palwal	01275-252103
<b>First Aid Kits</b>						
1	Palwal Fire Deperament	3		Minar Gate,Palwal	Sh Rajender Singh Fire Man	9466754101
<b>FSL Van</b>						
1	Police Department, Palwal	1		Police Lines, Palwal	Sh Ramvilas	9812207134
<b>Gas Welding Machine</b>						
1	Harayna Roadways	1		Workshop, Bus Stand, Palwal	Duty Inspector	9466470424
<b>Gen Set</b>						
1	Public Health Engineering	3	63 KVA	Public Health Division No. 2, Palwal	SDE-4, Palwal	01275-244594
		2	65 KVA	Public Health Division No. 2, Palwal	SDE-4, Palwal	01275-244594
		2	100KVA	PHED. No.3, Palwal	SDE, PHES Divn. No.1, Palwal	9813823124
		1	250KVA	PHED. No.3, Palwal	SDE, PHES Divn. No.2, Palwal	9812350623
		1	250KVA	PHED. No.3, Hodal	SDE, PHES Divn.Hodal	9813078202
		1	200KVA	PHED. No.3, Hodal	SDE, PHES Divn. Hodal	9813078202
1	Haryana Roadways	1	270 HP	Workshop, Bus Stand, Palawal	Duty Inspector	9466470424
<b>Hammers</b>						
1	Haryana Roadways	1	Big	Workshop, Bus Stand, Palawal	Duty Inspector	9466470424
		20	Small	Workshop, Bus Stand, Palawal	Duty Inspector	9466470424
2	Fire Department, Palwal	1	Sledge Hammer-5kg	Minar Gate,Palwal	Sh Ram Dutt	9255986100

Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
Hooks (Kunde)						
1	Revenue Department	2		Tehsil, Hodal	Tehsildar, Hodal	1275-235697
Iron Rods						
1	Haryana Roadways	10		Workshop, Bus Stand, Palwal	Duty Inspector	9466470424
Karato meter						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242120
Leprosy set						
1	GH, Palwal	2		GH Agra Chauk,Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242120
Life Jacket						
1	Revenue Department	11		Tehsil, Hodal	Tehsildar, Hodal	1275-235697
Oar (Chappu)						
1	Revenue Department	4		Tehsil, Hodal	Tehsildar, Hodal	1275-235697
O.B.M.						
1	Revenue Department	2		Tehsil, Hodal	Tehsildar, Hodal	1275-235697
		1		Tehsil, Palwal	Tehsildar, Palwal	01275-252004
PCR Vans						
1	PS city	1		city palwal	Sh Balbir singh insp SHO	8930202027
2	PS sadar	1		near agra chowk palwal nh-2	Sh Devvart insp SHO	8930202028
3	PS camp	1		near agra chow palwal nh-2	Sh Amarjeet insp SHO	8930202029
4	PS chandhut	1		vill chandhut at palwal aligarh road	Sh Mohd iliyas SHO	8930202030
5	PS hodal	1		city hodal	Sh Rajesh kumar SHO	8930202032
6	PS hassanpur	1		vill hassanpur	Sh Amit dhaiya hps SHO	8930202031
7	PS traffic	1		nh-2 near om hospital	Sh Lalit dalal insp SHO	8930202034
8	PS hathin	1		town hatin at palwal hathin road	Sh Abbas khan si SHO	8930202033

Sr. No .	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
Phako machine with microscope						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242120
Road Roller						
1	PWD, Palwal	1		Provincial Sub Division, Palwal	Sh. R.K. Kalra , SDE Palwal	9050666000
		1		Provincial Sub Division,Hathin	Sh.Mohd. Zubair,SDE Hathin	9416849521
		1		Provincial Sub Division, Hodal	Sh.Mohd. Zubair,SDE Hodal	9416849521
Rope Tackle Set						
1	Fire Department,	2		Minar Gate,Palwal	Sh Ram Dutt	9255986100
Rubber Gloves						
1	Fire Department,	2 Pair	5000 volt	Minar Gate,Palwal	Sh Ram Dutt	9255986100
Search Light						
1	Fire Department,	1		Minar Gate,Palwal	Sh Ram Dutt	9255986100
Semi auto analyzer						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242120
Slit lamp						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, CS, Pwl	01275-242120
Smoke Blow Exhauster						
1	Fire Department,	1		Minar Gate,Palwal	Sh Ram Dutt	9255986100
Testing Equipment						
1	HVPNL	1		66 kv S/stn HVPNL, Rasulpur Road, Palwal	Sh Vinod Bhardwaj, AEE	931531564
Ultrasound machine						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242120

Sr. No	Name of the Department/ Agency	Total No	Capacity/ Type	Address	Nodal Officer / Contact Officer	Contact No
Warter Tankers						
1	Forest Department	2	5000 Lts	Divisional Forest Officer, Palwal	DFO, Palwal	01275-248978
			3000 Lts			
X- Ray machine						
1	GH, Palwal	1		GH, Agra Chauk, Palwal	Dr. Raminder Singh, Civil Surgeon, Palwal	01275-242120

## B. List of Vehicles

Sr . N o.	Name of the Department/Agency	Total Quantity	Capacity per equipment	Address	Nodal Officer/Contact Person	Operator with Contact No (if any)
	Bus					
	Haryanan Road Ways	80	54 Seater	Palwal Bus Stand, Palwal	Sh. Anil, Traffic Manager, 8901369 086	Duty Inspector 9466470424
	Tractor					
1	Forest Department	2		Divisional Forest Office, Palwal	DFO Palwal, 01275-248978	Gulab Singh
						Kartar Singh
	Truck					
1	PWD B&R, Hathin	2	8 Ton	PWD Office, Hathin	Sh. Ashok Kumar, XEN, 01275-252006	Mohd.Zubair,SDE 9416849521
2	PWD B&R, Hodal	2	8 Ton 4 Ton	PWD Office, Hodal		
3	PWD B&R, Palwal	3	4 Ton	PDW Office, Palwal		R.K. Kalra, SDE 9813776640
			4 Ton			
			8 Ton			
4	Haryanan Road Ways	1	Half Body	Palwal Bus Stand, Palwal	Sh. Anil, Traffic Manager, 8901369 086	Duty Inspector 9466470424
5	HVPNL	1		66 kv S/stn HVPNL, Rasulpur Road, Palwal	Sh Vinod Bhardwaj, AEE	931531564

## C. List of Godowns

**Organisation: State Ware House Corp.**

<b>Sr. No</b>	<b>Care Taker and Contact no</b>	<b>Full Address</b>	<b>Open Storage/ Closed</b>	<b>Storage capacity</b>	<b>Items stored</b>	<b>Nodal Officer, Designation &amp; Contact No.</b>
<b>1</b>	Khem Chand Mgr 09466285579	HSW Unit 1, Palwal	Open & Closed	10412 MT	Wheat	Sh Sharma , GM
<b>2</b>	Sh. Mukesh Sisodia 8059089376	HSW Unit 2, Palwal	Open	23683 MT	Wheat	Sh Sharma , GM
<b>3</b>	D.C. Yadav TA Incharge 06416214247	Hodal	Open	72100 MT	Wheat	Sh Sharma , GM
<b>4</b>	R.S. Naruka TA Incharge 08950766319	Ratipur (Palwal)	Open & Closed	32040 MT	Wheat & Rice	Sh Sharma , GM
<b>5</b>	Sh. Jitender Kumar 09729130014	Bachari (Hodal)	Open	16997 MT	Wheat & Rice	Sh Sharma , GM
<b>6</b>	S.P. Bhati 9466365740	Barauli	Open & Closed	7001 MT	Wheat	Sh Sharma , GM
<b>7</b>	Prayag Dutt 9896237367	Hathin	Open & Closed	9800 MT	Wheat & Rice	Sh Sharma , GM
<b>8</b>	Sh. Bhagwan Manager 09416341918	Hathin	Open & Closed	5000 MT	Wheat & Rice	Sh Sharma , GM

## D. Human Resource

### District Administration

Designation	Name	Office	Mobile
<b>Commissioner Gurgaon, Division, Gurgaon</b>	Sh.Chander Prakash, I.A.S. (1995)	0124 -2324033 0124 - 4083677 0124 -2324023(R) 0124-2321572(R)	09050911111
<b>I.G. Police,South Range ,Rewari</b>	Sh O.P Singh, IPS	01274-224755	
<b>Distt. &amp; Sessions, Judge, Faridabad/ Palwal</b>	Sh. Darshan Singh,	0129 -2286698 2226022 Fax - 2295340	09266551148
<b>DEPUTY COMMISSIONER, PALWAL.</b>	<i>Sh. Atul Kumar</i> I.A.S.	Off. 248900 248910 Resi. 248901 248911	09582455555, P.A to D.C 8930001135
<b>Administrator HUDA, Faridabad/ Palwal</b>	Sh. N.K. Solanki, I.A.S. (2011 )	0129 - 2227676	09818984999, (09871940919) 0129-2226377 ®
<b>S.P. Palwal Sppwl@hry.nic.in</b>	Sh. Jagat Singh Hooda, H.P.S	Off. 246700 Resi. 246800	8930202011
<b>A.D.C. Palwal</b>	<i>Dr. Sultan Singh Goshwal,</i> HCS	Off. 248908 Off. 248009	9991679944 P.A to A.D.C 8053004445
<b>C.T.M. Palwal</b>	Sh. Tarun Kumar Pawaria, HCS	Off. 248910	09467671472 09891332136
<b>S.D.M. Palwal</b>	Sh.Satbir Singh Kundu, HCS	252700 off. 252701 Resi.	9466112322
<b>S.D.M. Hathin</b>	Sh.Suresh Kumar Chahal, HCS	01275- 261480 off. 261481Resi.	9992334803, 9416603325,
<b>S.D.M. Hodal</b>	Dr. Yash Garg, I.A.S. (2009)	01275-235836 Fax- 228616	8930903009, 9467214933
<b>M.D. Sugar Mill, Palwal</b>	Sh. V.S. Hooda, HCS	263433, 262033 R-622735,263033	9466119494, 09810685367,
<b>Sec. R.T.A. Mewat &amp; Addl.Charge of Palwal</b>	Sh.Virender Singh HCS	240024	09991308886 09812119190
<b>GM,HR, Roadways at Fbd.&amp; Addl Charge Pwl</b>	Sh. Lajpat Rai	252103	09810213821
<b>Estate officer,FBD. &amp; Addl Charge of Pwl</b>	Sh. B.S. Kali Raman, HCS	0129-2220691	09999940672

## Agriculture

Designation	Name	Office	Mobile
<b>Dy. Director, Palwal</b>	Sh.Karam Chand	248922	9416189243
<b>SDO (Agri.)</b>	Sh. Kuldeep Tewatia		9416674141
<b>Block Agri Officer, Palwal</b>	Sh. Mohar Singh Dahiya		9416637455
<b>Block Agri Officer, Hodal</b>	Sh. Maha Bir Singh		9813810203
<b>Block Agri. Officer, Hathin</b>	Sh. Bhola Singh		9416308710
<b>Block Agri. Officer, Hassanpur</b>	Om Pal		9911298994
<b>DM Ware House</b>			
<b>Faridabad</b>			
<b>DM Ware House Palwal</b>	Sh.Sandeep Kr. Sharma	251223	9467214156
<b>DM Hafed Gurgaon</b>	Sh. Ram Dass		9350681016
<b>DM Hafed Palwal/FBD</b>	Sh.Bheem Singh	0129-	9350681017
		2242929	
<b>Incharge Hafed Pwl</b>	Sh.K.P.Singh		
<b>DM.HR.Agro.PWL At.Gurgoan</b>	Sh.Randhir	252091	9996546910
<b>DM Confed Fbd.</b>	Sh Ram Dhan Mehra	246301	9868974705
<b>DM Seed</b>	Sh. O.P. Sharma	0124-2672847	9416995252
<b>DM Hafed Palwal</b>	Sh R.D Mahra	0129-	
		2440915	
<b>DM FCI PWL/Fbd</b>	Sh Ramesh Nayak	0129-2410527	9250075900
<b>Manager FC Hodal</b>	Sh R.C.Soni	235703	9812825125
<b>Manager FC palwal</b>	Sh Mam Raj		9416636888
<b>DM Kribhco Palwal</b>	Sh.Rajender GoSwami		9466126040
<b>Incharge Kribhco</b>	Sh. Jitender Singh		9466126043
<b>Incharge Kribhco, HDL</b>	Sh.Vinod Sharma		9466126044
<b>Incharge IFFCO PWL</b>	Sh.Hitender Singh		8295954960



## Animal Husbandry

<b>Dy. Dir. Animal Husbandry, Palwal</b>	Dr. Brahamjeet Singh	245632	9416051994
<b>SDO Palwal</b>	Dr. Gori Shankar		09811444733
<b>SDO Hodal</b>	Dr. Joginder Singh Sangwan		9416294664
<b>GVH, Palwal</b>	Dr. Ranbir Singh		09896002619
<b>Head Clerk</b>	Sh.Om Parkash		9315372800

## DHBVN

<b>Xen. Palwal</b>	<b>Sh. V.M. Dahiya</b>	<b>252105</b>	<b>8059888222</b>
<b>S.D.O. Palwal (City)</b>	Sh. H.D. Sharma	252215	8059888221
<b>S.D.O. Palwal</b>	Sh. S.S. Rawat	252107	8059888223
<b>S.D.O. Hodal</b>	Sh. Joginder Kaushik	235521	8059888224
<b>S.D.O. Hathin</b>	Sh. Prashant Kumar	261391	8059888388
<b>S.D.O. Hasanpur</b>	Sh. Robin Khoka	271225	8059222219
<b>J.E. City Palwal</b>	Sh. Satveer Singh	252185	8059888226
<b>J.E. City</b>	Sh. Kuldeep Singh	243174	8059888225
<b>J.E. City</b>	Sh. Raman Madan		8059888227
<b>J.E. S/U Palwal</b>	Sh. Prem Kumar		8059222230
<b>J.E. S/U Palwal</b>	Sh. Sanjay Kumar		8059222235
<b>J.E. Hodal</b>	Sh. Mahender Kumar		8607066661
<b>J.E. Hodal</b>	Sh. Nawal Kishore		8607066662
<b>J.E. Hathin</b>	Sh. Vijay Bhadur Singh		9953699783
<b>J.E. Hasanpur</b>	Sh. Badan Singh		8059888237
<b>XEN, HVPNL</b>	Sh. Deepak Bhardwaj		

## Education

<b>D.E.O Palwal</b>	Smt. Sunita Devi	247721	
<b>D.E.E.O Palwal</b>	Smt. Sunita Ruhil	247720	9255251066
<b>B.E.O Palwal</b>	Sh. Ramesh Chand		9416374173
<b>B.E.O Hodal</b>	Sh. Jagveer Singh	228160	9416235664
<b>B.E.O Hassanpur</b>	Sh. Gajender Pal		9992878680
<b>B.E.O Hathin</b>	Sh. Sangeer Ahmed		9416215113
<b>B.E.E.O Palwal</b>	Sh. Munesh Chaudhary		09910064152

## Fire Office

<b>Fire Officer</b>	<b>Sh. H.S. Saini</b>	<b>252101 102</b>	<b>9466045293</b>
<b>Fire Office Hodal</b>	Sh Rajender Singh		09466754101

## Food & Supply Department

<b>D.F.S.C.</b>	Sh. Parmod Kr. Sharma	240029	9813234033
<b>D.F.S.O.</b>			
<b>A.F.S.O. Hodal</b>	Sh. Suresh Panchal		9467780254
<b>A.F.S.O.</b>	Sh. Bharat Bhusahn		9416406459

S.O.	Sh. Satish Kumar		9873148949
Superintendent	Sh. Puran Chand		9729286905
Auditor	Sh. Dharam Singh		9671764344
Assistant	Sh. Omparkash		08505859486
Clerk	Sh. Braham Singh		9991592780

### Forest Department

D.F.O. Palwal	Sh. Bir Singh	248978	9466695400
Forest Ranger Pwl	Sh. Jai Pal Rathi		
Forest Ranger Hodal/ Hathin	Sh. Kalyan Singh		9466008998
Forester	Sh. Kiran Singh Rawat		9728000011
Superintendent	Sh. Kishan Singh		

### Home Guard

Distt. Commandant Home Gaurd Palwal	Sh. Darshan Singh Hooda	248979	9891066678
Inspector	Sh. Surender Sharma		9467945944

### HUDA Department

Admn. HUDA Fbd.	Sh. N.K. Solanki, IAS	0129 – 2227676 0129-2226377 ®	09818984999, (09871940919)
Estate officer, FBD. & Addl. Charge of Pwl.	Sh. B.S. Kali Raman, HCS	0129-2220691	09999940672
Xen. HUDA Div.2 Palwal	Sh. K.K. Arya	0129-2282183	09971022757
SDO HUDA Palwal	Sh. Hari Singh Jakhar		09911906644
XEN Hort. HUDA	Sh. Jogi Ram		09899948498
J.E HUDA Palwal			

### Health Department

Civil Surgeon (CMO), Palwal	Dr. Ramender Singh	242102	8295911511, 09818456660
Dy.CMO	Dr. (Mrs.) Rekha Singh	242102	9671030943, 9896159944
Dy.CMO	Dr .B.S. Sharma	242102	9416633195
Dy.CMO	Dr. Lok Vir	242102	8295911512, 9971919991
SMO	Dr. J.P. Parshad		9254255373
SMO, Palwal	Dr. Bir Singh Sahrawat	252102	9416273739
SMO, Govt. Hospital, Palwal	Dr. Pasricha	252102	8901409651
SMO Hodal	Dr.Rekha (Charge)	235571	9671030943
SMO Hathin	Dr. Manish (Charge)	261387	9050149532
CMO ESI Fbd.	Dr. M.K. Bansal		09540998238

<b>ESI Palwal</b>		258788	
<b>Distt. Ayurvedic Officer</b>	Dr G.B. Kaushik	242121	9467780339 09810630200
<b>Ayurvedic Officer, Janauli</b>	Dr. Dalip Mishra	242121	9992629557 9992784209

### **Industries Centre Palwal**

<b>Joint Director, DIC</b>	Sh. G.S. Arora	240019 247691	9467941839 09810532840
<b>Dy. Superintendent</b>	Smt. Shakuntla Devi		
<b>Industrial Extension Officer</b>	Sh. Bhim Singh		09811534990

### **Irrigation Deptt. Palwal**

<b>S.E. Irrigation Fbd.</b>	Sh. P.K Verma	0129-2288016	9416468811
<b>Xen. Palwal</b>	Sh. R.K. Singla	252179	09811167846
<b>Xen Mechanical</b>	Sh. Sandeep Taneja	0129-2288078	09810293501
<b>S.D.O Palwal</b>	Sh.Sawaliya Ram	252179	9416637784
<b>S.D.O Hathin</b>	Sh.B.S. Jain	252179	9991787318
<b>S.D.O. Agra Canal</b>	Sh.B.S. Jain(Addl.)	0565-2470110	9991787318
<b>J.E. Palwal</b>	Sh. R.A Gupta	252179	9416897762
<b>SDO Mech. Palwal</b>	R.P Kharab		9802116366
<b>SDO Hodal</b>	P.K Gautam		9896266733

### **Market Committee & Mkt. Board Palwal**

<b>Xen Mkt. Board Palwal at FBD.</b>	Sh. R.N Sharma	0129-2269009	09416463754
<b>SDO Mkt. Board Palwal</b>	Sh. Puran Lal Sharma		9468004444
<b>Secy. Mkt. Committee Palwal</b>			
<b>Secy. Mkt. Committee Hodal</b>	Sh. Sat Parkash	235559	9812833699
<b>Secy. Mkt. Committee Hathin</b>	Sh. Sat Parkash(Addl. Charge)	261993	9812833699
<b>Secy. Mkt. Committ. Hassanpur</b>	Sh. Sukhram	271242	9991140191

### **M.C Palwal/Hodal/Hathin**

<b>President M.C Palwal</b>	ADC,PWL (Administrator)	252517	9991679944
<b>E.O M.C Palwal</b>	Sh.B.N.Bharti	252517	9355077796
<b>Secy. M.C Palwal</b>	Sh.Mukesh Sharma	252518	09802475005
<b>Secy. M.C Hodal</b>	Sh.Makkhan Lal	237371	9416374109

<b>Secy. Hathin</b>	Sh.BalRam Mangla	261436	9255902844
<b>M.E Palwal-2</b>	Sh. Lakhmi Chand Raghav		9416406442
<b>Accountant</b>	Sh. Bhudev Sharma		9255528999
<b>Clerk</b>	Sh. Devender		9991540371

### **Panchayat Department**

<b>D.D.P.O Palwal</b>	Sh. Karan Singh	248907	9467837802, 990045668
<b>B.D.P.O Palwal</b>	Smt.Pooja Sharma	252176	9671002887, 8860085086
<b>B.D.P.O Prithla (Addl. Charge)</b>	Smt. Pooja Sharma		
<b>B.D.P.O Hathin (Addl. Charge)</b>	Smt.Pooja Sharma		
<b>B.D.P.O Hassanpur</b>	Sh.Madan Pal	235657	9467780135, 8295000431
<b>B.D.P.O Hodal (Addl. Charge)</b>	Sh.Madan Pal	271488	

### **Police Department**

<b>S.P. Palwal</b>	Sh. Jagat Singh Hooda, HPS	Off. 246700 Resi. 246800	8930202011
<b>DSP (H.Q.), Palwal</b>	Sh. Jaiveer Singh Rathi, HPS,	252800	8930202022
<b>DSP, Hodal</b>	Sh.Virender Singh ,HPS	235864	8930202023
<b>DSP, Hathin</b>	Sh.Jile Singh, HPS	207644	8930202024
<b>Disstt. Insp. (C.I.D.) FBD./ PWL</b>	Sh. Satpal, Insp.		8860012937
<b>SHO, C.I.D., Palwal</b>	Sh. Mange Ram, A.S.I., I/C.	246470	8860012937 9813516391
<b>Security Incharge I/C, C.I.A, Palwal</b>	Sh. Satbir Dagar		9813553727
<b>SHO, Traffic</b>	Sh. Surender, Insp.		8930202026
<b>SHO, City, Palwal</b>	Sh. Lalit Kumar, S.I.	252060	8930202034
<b>SHO Sadar Palwal</b>	Sh.Rajesh Kumar, Insp.	252100	8930202027
<b>SHO Camp Palwal</b>		252718	8930202028
<b>SHO Hodal</b>		259644	8930202029
<b>SHO Hasanpur</b>		235623	8930202032
<b>SHO Hathin</b>		271228	8930202031
<b>SHO Chandhut</b>		261233	8930202033
<b>Child Protection Officer O/o SP PWL</b>		264216	8930202030
	Smt. Suman Choudhary		9813985280

### **Public Health Deptt. Palwal**

<b>S.E.Public Health</b>	Sh. S.K. Malhotra	246677 246688	09818098050, 9215898050
<b>Xen, PH (Div. 3)</b>	Sh.Fazal Ibrahim	246388, F- 242106	9467596075, 9899998534
<b>Xen. Renneywell (Div. 2)</b>	Sh.S.K Dahiya	244594,207594	9416877685

<b>SDO Palwal (Div.1)</b>	Sh. Sumer Singh Chauhan		9812067355
<b>J.E Palwal(Div.1)</b>	Sh. Ranbir Singh		9671862825
<b>J.E Palwa (Div.1)</b>	Sh. Pradeep Kumar		9416961717
<b>J.E Palwal (Div.1)</b>	Sh. Jag Parvesh		9813155562
<b>SDO Palwal (Div.2)</b>	Sh. Dharambir Singh		9812188919
<b>J.E (Div.2)</b>	Sh. Surender		9812350623
<b>J.E (Div.2)</b>	Sh. Satbir		9813823124
<b>J.E(Div.2)</b>	Sh. Gaje Singh		9466802697
<b>SDO Hodal</b>	Sh Partap Singh Bhajana	237452	9896594491, 8901132391
<b>J.E.Hodal</b>	Sh.Ashok		9466502515
<b>J.E.Hodal</b>	Sh.Raghuvir		9466243587
<b>J.E.Hodal</b>	Sh. Daulat Ram		9813078202

#### **P.W.D (B&R)**

<b>S.E. PWD Gurgaon</b>	Sh. J.S. Sinha	0124-2321494 2221581	09871667078
<b>Xen. P.W.D.</b>	Sh. Ashok Kumar	252006	9416013715 9253861573
<b>Xen. ADB Division</b>	Sh. R.A. Hooda		09810524542
<b>SDO Palwal</b>	Sh. R.K. Kalra		9050666007 9813776640
<b>J.E. Palwal</b>	Sh. Ashok		9896666063
<b>J.E. Palwal</b>	Sh. Ayub Khan		9466968907
<b>J.E. Palwal</b>	Sh. Rajkumar		9467110511
<b>SDO Hathin</b>	Sh. Amit Manucha	261194	9729017798
<b>SDO Hodal</b>	Sh. Zuber Khan	228181	9416849521
<b>J.E. Hodal</b>	Sh. Hari Om		9255436199
<b>J.E. Horticulture</b>			
<b>Xen. Electrical PWD</b>	Sh. R.S. Sharawat	0124-2320874	09811120233
<b>SDO Electrical</b>	Sh. Vishav Nath		09818025971
<b>J.E. Electrical</b>	Sh. Vijay Kr. Tewatia		9991733404
<b>Electrician</b>	Sh. Jai Ram		9813641390
	Sh. Subhash		9254460620 9253139476
	Sh. Nepal Singh (Night)		9991999125
	Sh. Bhagwat		9254644083 9991596570
<b>Carpenter</b>	Sh. Surender	246924	9991500429
<b>Care Taker Rest House</b>	Sh. Bachhan	246924	9996502760
	Sh. Sohan Lal	“	9991647009
	Sh. Kanwal	“	9992067538

			8053426101
	Sh. Pappu	“	9896398070
<b>Plumber</b>	Sh. Madan Lal		9050557285
<b>MAT</b>	Sh. Gorakh		9416374860

### **Railway Police Force**

<b>I/C R.P.F Chowki Palwal Station</b>	Sh. Satish Kumar S.I	245543	9873179367 8901105205
<b>Station Master</b>	Sh. A.K. Sharma	252104	9729531931
	Enquiry	243157 ,58, 59, 60	

### **Red Cross Society**

<b>Secy. Red Cross</b>	Vacant		
<b>Asst. Secy. Red Cross</b>	Sh. Bijender Singh	248902	9812974627 8930920627 9416974627
<b>Accountant</b>	Smt. Anjali Bhyana	248902	9991500410
<b>Office Asst.</b>	Sh. Mahesh Malik	248902	9991079139
<b>Peon</b>	Sh. Satbir		8053288384

### **Roadways Palwal**

<b>Designation</b>	<b>Name</b>	<b>Office</b>	<b>Mobile</b>
<b>G.M Roadways Palwal</b>	Sh. Lajpat Rai	252103	09810213821
<b>T.M Roadways Palwal</b>	Sh. Anil kumar		08901369086
<b>D.I Haryana Roadways Palwal</b>	Sh.Gyan Singh Chauhan		9466470424
<b>B.I Haryana Roadways Palwal</b>	Sh. Ramdev		9671654646
<b>WM Haryana Roadways Palwal</b>	Sh.Om parkash	9467743641	9899472011

### **Revenue Department**

<b>D.R.O Palwal</b>	<b>Sh. Pankaj Setia</b>	<b>248915</b>	<b>09999962900</b>
<b>D.R.O Palwal</b>	Sh. Pankaj Setia	248915	09999962900
<b>Tehsildar, Palwal</b>	Sh.Rakesh Sharma	252004	09810600233
<b>N.T. Palwal</b>	Sh.Khifayat Ullah	252004	9992245286, 9034659285
<b>N.T. Acct. Palwal</b>	Sh.Sanjeev Nagar		9891291064, 9813233140
<b>Tehsildar, Hodal</b>	Sh.Bhupender Rao ,	235697	9416340798, 9896929207
<b>N.T. Hodal</b>	Sh. Sanjeev Nagar	235697	9891291064 9813233140
<b>Tehsildar Hathin</b>		261264	
<b>N.T. Hathin</b>	Sh.Kanwal Singh	261264	09050341542
<b>N.T. Ligh/migh</b>	Vacant	261264	.....
<b>Sadar Kanugo Palwal</b>			
<b>N. S.K Palwal</b>	Sh. Harish Sharma		9416635660

## ANNEXURE X

### Emergency Contact Numbers

Sr No	Contact Person	Office	Mobile
1	Deputy Commissioner, Palwal	Off. 0175-248900 248910 Resi. 01275-248901 248911	09582455555, P.A to D.C 8930001135
2	Police Control Room, Palwal	01275-246380, 246711	
3	SP, Palwal	0175-24670 0 0175-246800	8930202011
4	DSP, HQ, Palwal	01275-252800	8930202022
5	Civil Hospital Control Room	01275-242102	
6	CMO, Palwal	242102	8295911511, 09818456660
7	Fire Station, Palwal	01275-252101	
8	Fire Station Officer, Palwal	01275-252101	9466045293
9	NDRF Control Room	011-26107953, 011- 26105912	09711448595
10	NDRF, Ghaziabad	0120-2766013, 0120- 2766618	09968610014
11	National Security Guard (NSG) HQ, Control Room	011-25671527	

