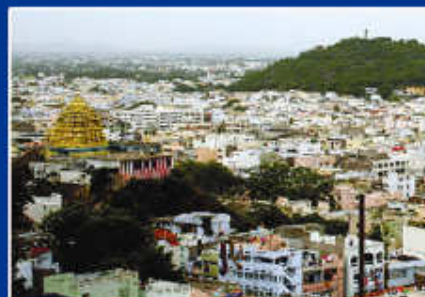


CITY DISASTER MANAGEMENT PLAN

VIJAYAWADA - 2011



UNDP-GoI URBAN RISK REDUCTION PROJECT

VIJAYAWADA MUNICIPAL CORPORATION



CITY DISASTER MANAGEMENT PLAN FOR VIJAYAWADA CITY

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UNDP – GOI URBAN RISK REDUCTION PROJECT
VIJAYAWADA MUNICIPAL CORPORATION

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FOREWORD

Vijayawada is the third largest City in the state of Andhra Pradesh it is an important commercial and transport center of the State. Being a big city people from all over of Andhra Pradesh are migrating to Vijayawada for their livelihood irrespective of their caste and creed. People who migrated to Vijayawada have in the past encroached hill areas situated in the city which are highly risk prone. The unsafe locations have steadily increased and to deal with possible catastrophes, the Natural Disaster Management Plan commissioned by UNDP aims to provide support to the establishment in multi hazard disaster Management as part of a pilot GOI-UNDP Urban Risk Reduction Project.

The main objective of this plan is to make the city prepared to prevent mitigate disasters.

The City Disaster Management Plan aims to provide a practical roadmap of an operationally useful emergency preparedness plan. The present plan is designed to provide Emergency Preparedness Planning. It is accompanied by standardized operational procedures for the city functionaries for Emergency situations.


SPECIAL OFFICER &
DISTRICT COLLECTOR

**G. RAVI BABU, IAS.,
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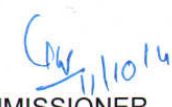


FOREWORD

The Vijayawada is a flourishing town of great historic importance. The Rapid Urbanization in the city has led to increase the problem of settlements with the unsafe locations which the ultimately causes natural disaster. With a view, to identify the various hazards that effect the city, probability, frequency of occurrence their impact on the people, properties and infrastructure. Depending on the above analysis the Natural Disaster Management has been designed to prevent loss of human lives and properties.

The objective of this plan is to formulate an integrated Disaster Management Plan for Vijayawada City. The plan deals with detailed hazards risk, vulnerability analysis, integrated institutional mechanism, resource inventory, mitigation measures, response, reconstruction plans and standard operating procedures. Disaster Management includes all the activities that are carried out prior to the advance notice of a catastrophe in order to facilitate the use of available resources, relief and rehabilitation in the best possible fashion.

The City Disaster Management plan aims to provide a practical roadmap of an operationally useful emergency preparedness plan. The present plan is accompanied by Emergency preparedness planning as well designed to provide Standardized Operational Procedures to the city functionaries for acting in city emergency situations.


COMMISSIONER

COMMISSIONER
MUNICIPAL CORPORATION
VIJAYAWADA

Preparation of City Disaster Management Plan involved the following steps:

Step 1: Formation of City Disaster management Committee

Step 2. work shop with all city and VMC functionaries on HRVA

Step 3. Risk Analysis through field observations, GIS Maps, Records,

Step 4. Situation analysis (Study of city development plans, reports, TARU, Analysis done for Early warning system, 2011)

Step 5. Response Interventions Impact Analysis (Departments, Households)

Step 6. Drawn Disaster Mitigation Measures and preparedness plan (Study, workshops)

Step7: Draft plan submission for suggestions (**w**orkshop)

Step 8: Submission of city Plan

Limitations of the study:

- Due to scarce of time ,Study done for very short period
- very less data available about the previous hazards
- 2011 ward level Census data is yet not available
- City data included with District data
- Some Hazard information could not able to condensed

LIST OF CONTENTS

S. No.	Topic	Chapter Number	Page Number
1	INTRODUCTION	1	1
1.1	Preface		3
1.2	Disaster management-Need of the Hour		3
1.3	Classification of Hazard		4
1.4	Rationale		5
1.5	City Disaster Management Plan		5
1.6	Scope of the plan		6
1.7	Need of Plan		6
1.8	Objectives		6
1.9	Context of Disaster Management		7
1.10	Formation of City Disaster management Steering Committee (CDMC)		7
1.11	City Disaster management Steering Authority (CDMA)		7
2	CITY PROFILE	2	
2.1	City Profile		11
2.1.1	City in History		11
2.1.2	City in Its Regional Setting		12
2.1.3	Location and Arial Co-Ordinates of the Vijayawada		13
2.2	Demographic Profile		14
2.2.1	Population particulars and Scheduled caste population details		14
2.2.2	Population Growth Rate: 1901-2011		14
2.2.3	Literacy level		14
2.3	Topographic Details		14
2.4	Soil and Ground Water profile		18
2.5	Climate and Rainfall profile		20
2.5.1	Annual Rainfall		20
2.5.2	Season Wise Rainfall (2008-09)		20
2.6	Temperature		21
2.6.1	Maximum And Minimum Temperature		22
2.7	Wind Direction		22
2.8	Vegetation and Landscape		22
2.9	Land Use Profile		23
2.10	Rivers and Dams :		27
2.11.1	Krishna River:		27
2.11.2	Parkas Dam: Management		28
2.11.3	Flood Banks:		29
2.11.4	Krishna Lanka Flood Bank: (3.38 KM)		30
2.11.5	M.F.L.s observed		30

2.11.6	K.L.F. Bank (Above Barrage) (13.000 KM)		31
2.11.7	K.L.F Bank (Below Barrage) (89.60 KM)		31
2.11.8	Index plan of Krishna River Flood Banks		32
2.11.9	Embankments located		33
2.12	Budameru Hill Stream:		34
2.12.1	Velagaleru Regulator		34
2.12.2	Map view of Budameru stream course		35
2.13	Administration and Governance		36
2.13.1	Planning Zones and Wards		37
2.13.2	Important Administrative sections and their activities		41
2.13.3	Municipal Infrastructure		43
2.14	Other Supporting and Infrastructure details		44
3	CAPABILITY ANALYSIS		49
3.1	Municipal Infrastructure details (Structural)	3	49
3.2	Strength of Capable resources		51
3.3	Capability analysis: Available resources		53
4	HAZARD RISK VULNERABILITY ANALYSIS		
4.1.a	Map Showing The Extent Of Are Prone To Multi Hazards		56
4.1	Hazard Identification , History and Analysis		57
4.1.1	Floods		58
4.1.1.a	Map of Krishna Flood Area		59
4.1.1.1	Krishna Floods		59
4.1.1.2	Satellite Imagery Map of Krishna River and Flood bank Position at Vijayawada		61
4.1.1.3	History of Hazard		62
4.1.1.4	Year Wise observed Maximum Floods In Krishna River		63
4.1.1.5	Reasons for Krishna Flood	4	64
4.1.1.6	Elevation and location details of Flood affected areas		66
4.1.1.7	List of vulnerable areas to the Krishna flood vulnerable areas		67
4.1.1.8	Vulnerable groups to Krishna floods		68
4.1.1.10	Vulnerable points		69
4.1.2.1	Budameru Floods		69
4.1.2.2	History		72
4.1.2.3	Rainfall and Flood particulars		73
4.1.2.4	Remote sensing imagery of Budameru River and its Vulnerable areas		74
4.1.2.5	Remote sensing imagery of Budameru Catchment area		75

4.1.2.6	Line Diagram of Budameru Catchment	76
4.1.2.7	Reasons for Budameru Flood	77
4.1.2.8	Elevation details of probable Flood effected areas with Budameru	79
4.1.2.9	List of Budameru flood effected areas	80
4.1.2.10	Possible effecting groups with Budamru floods	81
4.1.3	Land sliding	82
4.1.3.1	Satellite Imagery of Hill areas and Topography	82
4.1.3.2	History	83
4.1.3.3	Loss of property/Life in duration of 3 years due to land sliding	84
4.1.3.4	Reasons	84
4.1.3.5	Map illustrating the Landslide Hazard Risk prone areas in Vijayawada City	86
4.1.3.6	List of Land slides effected areas	88
4.1.4	Earth Quake	88
4.1.4.1	Earthquake hazard map	89
4.1.4.2	Level of risk due to Earthquake, cyclone and floods in Krishna District	90
4.1.4.3	History	91
4.1.4.4	Earth Quake Historical Record of Earthquake In Krishna District	91
4.1.4.5	high rise buildings and magnitude of risk due to earth quakes (More than 2 floors) in the city	91
4.1.4.6	Reasons	92
4.1.5	Fire Accidents	93
4.1.5.1	History	93
4.1.5.1	Fire calls attended in one year 2010-2011	94
4.1.5.3	Reasons	94
4.1.5.4	Fire hazard prone areas in the Vijayawada city	96
4.1.6.	Cyclone	96
4.1.6.1	Cyclone intensity map between 1891 – 2007	97
4.1.6.2	Areas affected by depression between 1891 - 2007	98
4.1.6.3	Cyclone Map of Andhra Pradesh for the period 1891-2007	99
4.1.6.4	History And Year wise cyclone data from 1891-2010 crossing Krishna District	100
4.1.7	Surge and Tsunami	101

4.1.7.1	A simulation Map indicating the possible inundation to the coastal Krishna District		101
4.1.8	Drainage failure		102
4.1.8.1	History		102
4.1.8.2	Map showing the UGD lines in Vijayawada city		103
4.1.8.3	Reasons and areas effected and drainage chocking points		104
4.1.8.4	Map Showing Drainage chocking points		105
4.1.9	Infrastructure organization		106
4.1.9.1	Map illustrating the land uses classification		108
4.1.9.2	Map illustrating the population density of the City		110
4.1.10	HEALTH EPIDEMICS		111
4.1.10.1	History		111
4.1.10.2	Reasons		112
4.1.10.3	Identification of High Risk Areas for health epidemic (contaminated diseases) in the city		113
4.2	Vulnerability Analysis of existing hazards		114
4.2.1	Abstract data of hazards and Effected people		114
4.2.2	Hazard wise area coverage analysis		115
4.2.3	Circle wise Vulnerability analysis		116
4.2.3.1	Graphical Representation of Disaster prone areas of Vijayawada		117
4.2.4	Structural Vulnerabilities		118
4.2.5	Non Structural Vulnerabilities		120
4.3	Risk Assessment		121
4.4	people Perception about support during Disasters(2009, Krishna Floods)		126
4.5	<i>Seasonality of Hazards:</i>		127
4.6	Intensity of Disasters		127
4.7	Hazard Matrix		128
4.8	Number of hazards		129
4.9	Hindrances in disaster Mitigation		130
4.10	Graphical representation of Hindrances in disaster Mitigation		130
4.10.1.a	Factor Analysis		131
4.11	4.11 Scenarios (Causative Factors)		133
5	Mitigation Measures		134
5.1	Structural Mitigation Measures		135
5.1.1	Krishna Flood	5	135
5.1.1.a	Satelite Imagery of Vulnerable points at Krishna Flood Area		139

5.1.2	Budameru		140
5.1.3	Land slides		145
5.1.4	Fire accidents		147
5.1.5	Earth Quake		148
5.1.6	Drainage chocking		150
5.1.7	Health Epidemics		151
5.2	Recommended Early warning System		153
5.3	EWS Equipment suitable to the vulnerable area		154
5.4	Non Structural Mitigation measures/Integrated Human Resource Development service programmers		156
5.5	Annual Ward Action Plan		162
5.6	Capacity Building & Training plan for the year 2011		167
5.7.	Training Calendar		169
5.7	Natural Disaster Mitigation Strategies for Civilians		172
6	Budget Estimation		176
6.1	Estimated Budget for Disaster Mitigation Measures	6	177
6.2	Estimated budget for Non Structural Mitigation measures/Integrated Human Resource Development		177
7	PREPAREDNESS AND INSTITUTIONAL MECHANISM (MUNICIPAL CORPORATION)		178
7.1	Emergency Operating centre(EOC) /Control room :		179
7.1.1	Flow chart of working of Emergency operation centre (Incident Control System)	7	180
7.1.1.1	Existing Early warning system		181
7.1.2	Control Room working pattern during floods/ Hazards		182
7.1.3	List of Special Officers for Relief and Rescue at City level		184
7.1.4	Officers to be present from Line Departments		185
7.1.5	Information and warning systems		185
7.1.6	List of Mobile teams at Circle level		186
7.2	Warning stages		187
7.3	Communication System:		187
7.3.1	Wireless sets Location Points		188
7.4	Details of Helipads		188

7.5	Alternate route structure	189
7.5.1	Shelters for Vulnerable areas	191
7.6	Preparedness	193
7.6.1	Budameru floods(The wards effects after receiving releasing 35000 Cusecs of Budameru water)	193
7.6.1.a	Families to be a evacuated initially	195
		196
7.6.2	Data of Relief Operations (Effecting Groups)	
7.6.3	Budameru flood Preparedness pattern	201
7.6.3.1	A category centers (Preliminary Effected areas)	201
7.6.3.2	B category centers (Later Effected areas)	205
7.6.4	Action Plan For Budameru Floods Supply Of Vehicles For Food	210
7.6.5	Opening and closing of vents including maintenance	212
7.6.6	water supply	213
7.6.6.1	water supply for circle 1	213
7.6.6.2	Water supply to circle 2	213
7.6.6.3	Water supply to circle 3	214
7.6.7	Area wise ELSR for water supply	215
7.6.8	Statement Showing The Officer Incharge For sluice /vents gate close	215
7.7	Krsihna River flood	216
7.7.a	Map of Flood Effected Houses of Krishna River bank at Taraka Rama Nagar	217
7.7.b	Map of Flood Effected Houses of Krishna River bank at Ramalingeswar Nagar	218
7.7.c	Houses submerged for releasing of Flood Water 4.00 Lakhs Cusecs	219
7.7.1	Ward status report for relief operations	220
7.7.1.a	Post Flood Action to be taken on Water Supply	222
7.7.1.b	List of Facilities available for Drinking water, Toilets in Flood Rehabilitation Centers	222
7.7.2	Vulnerable groups to Krishna floods	223
7.7.3	Krishna Floods - Plan For 3.50 Lakhs Cusecs Of Krishna Water	224
7.7.4	Krishna Floods - Plan For 5 Lakhs Cusecs Of Krishna Water	229
7.7.5	Krishna Floods - Plan For 7 Lakhs Cusecs Onwards Of Krishna Water	234

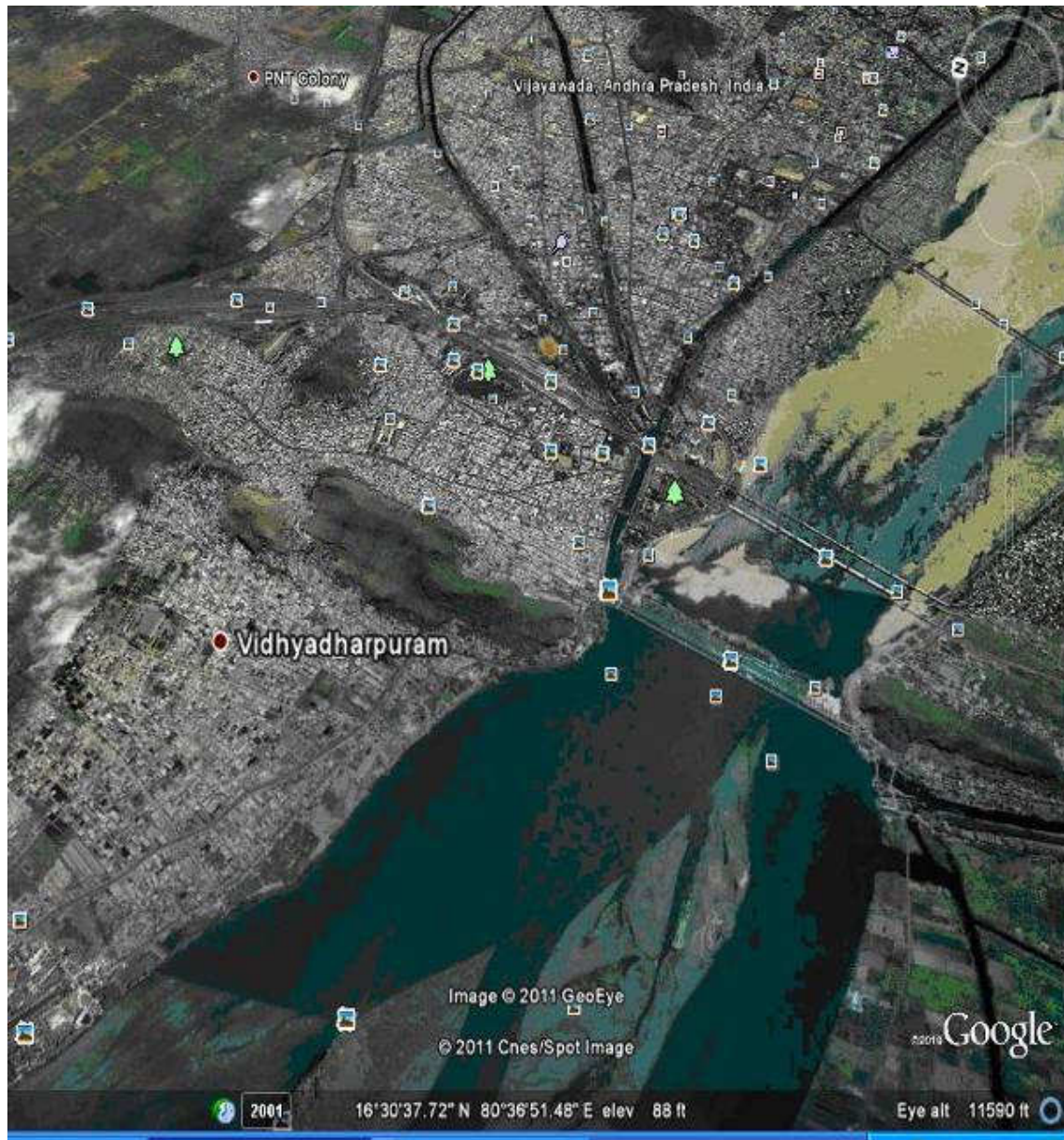
7.7.6	Krishna Floods - Plan For 10 Lakhs Cusecs Of Krishna Water	239
7.7.7	Medical Camps	244
7.7. 8	krishna floods - facilities at rehabilitation centers 2011	247
7.7.9	bailing of water	249
7.7.10	Plan for Relief Material	250
7.7.11	Details of food quantity to be supplied to the vulnerable categories	252
7.7.12	Statement showing the officer in charge for providing lighting	253
7.7.13	Water arrangements	253
7.7.14	Pump Sets Arrangements	254
7.8	Preparedness plan for Fire Hazard	254
7.9	Health epidemics control measures	258
7.1	Other Essential Information	261
7.10.1	Abstract of VMC Community Halls & Kalyana Mandapams	261
7.10.2	Equipment ready with Municipal corporation	265
7.10.3	list of stores and tools to be kept in each circle	266
7.10.4	Availability of boats and Swimmers	267
7.10.5	List of lorry suppliers	268
7.10.6	list of Lorry Drivers	269
7.10.7	List of generators	269
7.10.8	List of Electricians (Generators repairing)	270
7.10.9	list of Pumpsets repairs & service	270
7.10.10	water suppliers	271
7.10.11	List of Milk Suppliers	271
7.10.12	List of Kirana general stores	272
7.10.13	List of Rice Traders	273
7.10.14	List of Dal traders	274
7.10.15	Other Important traders Phone numbers	274
7.10.16	List of Medical Stores(Day and Night working)	275
7.10.17	List of Raitu Bazars	276
7.10.18	List of caterers	277
7.10.19	List of Health Centre Doctors	278
7.10.20	List of Private Hospitals	279
7.10.22	List of water tanker owners	280
7.10.23	List of Cattle shelters	281
7.10.23	List of Gas Agencies	282
7.10.24	List OF Petrol Bunks	283
7.10.25	Municipal Maternity Hospitals	283
7.10.26	List of NGOs	284

7.10.27	List of Fire offices		284
7.10.28	List of Officers Phone Numbers participating in cyclone relief		285
7.10.29	Numbers to be contacted in Emergencies		288
7.10.30	Press Contact Details		289
7.10.31	Nodal Agencies for getting information for Early Warning pertaining to Disaster		290
8	PREPAREDNESS PLANS(CITY LINE DEPARTMENTS)	8	291
8.1	Revenue Department		292
8.2	Irrigation Department		295
8.3	Roads and Buildings Department		297
8.4	Integrated Child Development Services Project		297
8.5	Animal Husbandry Department		298
8.6	Civil supplies		302
8.7	Police Dept		303
8.8	A.P.State Disaster Response And Fire Services Department		305
8.9	NDRF		307
9	RESPONSE MECHANISM	9	309
9.1	Response Mechanism		310
9.2	Division of work among the VMC Functionaries		311
9.2.1	Engineering personnel		311
9.2.2	CMOH		312
9.2.3	Town Planning		315
9.2.4	Revenue		316
9.2.5	Central Control Room		317
9.2.6	Shelter Management		317
9.2.7.	Co-ordination meeting with City Disaster Management		318
9.2.8.	Ward Level Disaster Management Committee		318
9.2.9.	Ward Disaster Response Groups		318
9.3	Duties of Line Departments		319
9.3.1.	Duties of Civil Supplies		319
9.3.2.	Duties of Police Department		320
9.3.3.	Duties of Irrigation Department		321
9.3.4.	Duties of Fire Department		321
9.3.5.	Duties of Electricity Department		321
9.3.6.	Duties of NDRF Department		322
9.3.7.	Duties of Fisheries Department		322

9.3.8.	Duties of Transport Department		322
9.3.9.	NGO		322
10	REHABILITATION MEASURES	10	323
11	STANDARD OPERATION PROCEDURES FOR CITY DISASTER MANAGEMENT		327
11.1	Early warning	11	328
11.2	Search & Rescue and Evacuation		335
11.3	First aid		341
11.4	Trauma counseling		346
11.5	Shelter management		347
11.6	Food & Nutrition		348
11.7	Water & Sanitation		350
11.8	Damage Assessment		354
12	Study Recommendations	12	356
13	Annexure		357
1	Photographs of Hazard prone areas of Vijayawada		358
2	Format for report on preliminary information on the Disaster		362
3	Format for Persons Rescued & Persons Rehabilitated		369
3	Format of Evacuation / Rehabilitation		363
4	Format regarding flood level information		370
5	Rainfall particulars of last 50 years		373
4	List of schools		375
5	Strength of transport vehicles		379
6	Volunteer Organizations in Vijayawada		380
7	Fair price shop dealers phone numbers In Bandar Division		383
8	Ward Disaster Management Committee Representatives		385
9	Broucher on Disasters – Preparedness (Telugu Broucher)		389
10	Broucher of Safe Construction Practices (English)		391

INTRODUCTION

Satellite Imagery of Vijayawada



CHAPTER-I

1.1 Preface

Communities in any area are susceptible to disaster that is, a mishap, calamity or catastrophe of grave occurrence from natural or manmade causes which results in substantial loss of life and property and degradation of environment and it may be of such nature or magnitude as to be beyond the coping capacity of the community of the affected areas. Vijayawada experiences a variety of natural disasters throughout the year. The city region which constitutes about 73.7% of the total area, and 62.8% of the population are vulnerable to natural calamities.

1.2 Disaster management-Need of the Hour

Disaster

Disaster is defined as the occurrence of a sudden or major misfortune, which disrupts the basic fabric and normal functioning of a society (community). It is an event or a series of events which gives rise to casualties and /or damage or loss of property, infrastructure, essential services or means of livelihood on a scale that is beyond the normal capacity of the affected communities to cope with unaided.

“Natural Disaster” means a serious disruption of the functioning of a society, causing widespread human, material or environmental losses caused due to earthquake, cyclone, flood, Tsunami or landslide which exceeds the ability of the affected society to cope using only its own resources.

Hazards

Hazards are defined as "Phenomena that pose a threat to people, structures or economic assets and which may cause a disaster. They could be either manmade or naturally occurring in our environment."

1.3 Classification of Hazard

<u>1. Water and Climate Related</u>	1.Floods and Drainage Management 2.Cyclones 3.Tornadoes & Hurricanes 4.Hailstorm 5.Cloud burst 6.Snow Avalanches 7.Heat & Cold Waves 8.Thunder & Lightning 9.Sea Erosion
<u>2. Geologically Related</u>	10.Earthquakes 11.Landslides & Mudflows 12.Dam Bursts & Dam Failures 13.Mine Fires
<u>3. Chemical, Industrial, Electrical and Nuclear Related</u>	14.Chemical and Industrial Disasters 15.Nuclear Disasters 16.Fire
<u>4. Accidents related</u>	17.Road /Rail Accidents
<u>5. Biologically Related</u>	18.Biological Disasters & 19.Epidemics 20.Food Poisoning 21.Cattle Epidemics 22.Pest Attacks
<i>Source: High Powered Committee Report, Indian Institute of Public Administration ,New Delhi</i>	

Disasters whether natural or man-made can strike at any time. the general response to a disaster is in terms of relief and rescue operations - after the event. However, if we are adequately prepared, it's possible to reduce the impact of a disaster. The impact can be reduced through a

good understanding of preventive actions, as well as having the knowledge of certain life-saving tools and techniques, which when used at the time of the event of disaster can control the total damage to life and belongings.

1.4 Rationale

Rapid urbanization in Vijayawada has led to the increase in demand for land within the city area and expansion of the city along the peril-urban areas. Since there is a lack of efficient and effective public transportation in many habitations, people especially from the low socio-economic class started to gradually move towards the prime (in terms of accessibility) but highly hazard risk prone locations within the city. With inadequate public infrastructure, higher population growth rate, inadequate contingency planning, and deficient urban governance the problem of settlements within unsafe locations are steadily increasing.

to deal with such catastrophe, this plan was commissioned by UNDP to provide support to the establishment of a multi-hazard disaster management in Vijaywada City under the pilot initiative of GOI-UNDP Urban Risk Reduction Project

1.5 City Disaster Management Plan

The objective of this plan is to formulate an integrated Disaster Management Plan for City Vijayawada, integrate city resources to mitigate risk of disasters identified, and prepared to deal with build Capacities to handle them efficiently and effectively and to have prompt and response in case of disaster by speedy planed evacuation , search and rescue , medical aid and restoration of essential services, finally to Initiate rapid recovery by effective rehabilitation and reconstruction.

This plan deals with detailed hazards, risk and vulnerability analysis , integrated institutional mechanism plan , recourse inventory, mitigation plan, response plan , reconstruction plan, standard operating procedures

for different committees and Govt. departments ,budgetary and financial allotments , modalities for monitoring, periodic evolution and update.

1.6 Scope of the plan

The emergency planning process has evolved significantly and taken more importance in the last decade as a result of emergencies and disasters having a greater impact on government industry and agriculture. Today, organizations have an abundance of emergency planning resources and training options available to them. Cooperation between government and industry in the planning process is also high. Consequently, there presently exists an excellent opportunity for organizations to increase their level of preparedness.

1.7 Need of Plan

With passing of Disaster Management Act.,2005 due importance has been given to Disaster Management apart from many state interventions, local preparedness and mitigation of Disasters is also required to have a strategy by integrate all existing resources and opportunities under unified plan for stipulate effective mitigation mechanism. Therefore each city is commissioned to make an integrated City Disaster Management Plan.

1.8 Objectives

- I. Identify various hazards that affect the city, probability and frequency of occurrence, and likely impact on the people, properties, and infrastructure” to prevent loss of human lives and property
- II. To make the city with Preparedness, prevention and suggesting mitigation measures of disasters

Vijayawada City Disaster Management Plan - 2011

- III. Provide information about existing resources opportunities to use in emergencies
- IV. Creating awareness on preparedness
- V. In the light of the above facts, the current City Disaster Management Plan consists the below aspects are
 - 1. Capability analysis 2. Hazard Identification 3. Disaster response
 - 4. Disaster Preparedness 5. Disaster Mitigation measures of the Vijayawada City

1.9 Context of Disaster Management:

The Disaster Management Act of 2005 mandated institutional setup at National, State, and District levels to have a proactive approach. Accordingly in City District Disaster Management Authority, Vijayawada is formed with following members on February 14th 2011.

1.10 Formation of City Disaster management Steering Committee (CDMC)

steering committee was formed with below mentioned functionaries, on 14/2/2011 at Municipal corporation office. The committee decided to organize review meeting on every second week for every three months. at 5PM on wards i.e March 8th, June 8th, September 13th and December 13 2011. Apart from this, the committee will meet as and when required in emergencies

1.11 City Disaster Management Authority (CDMC)

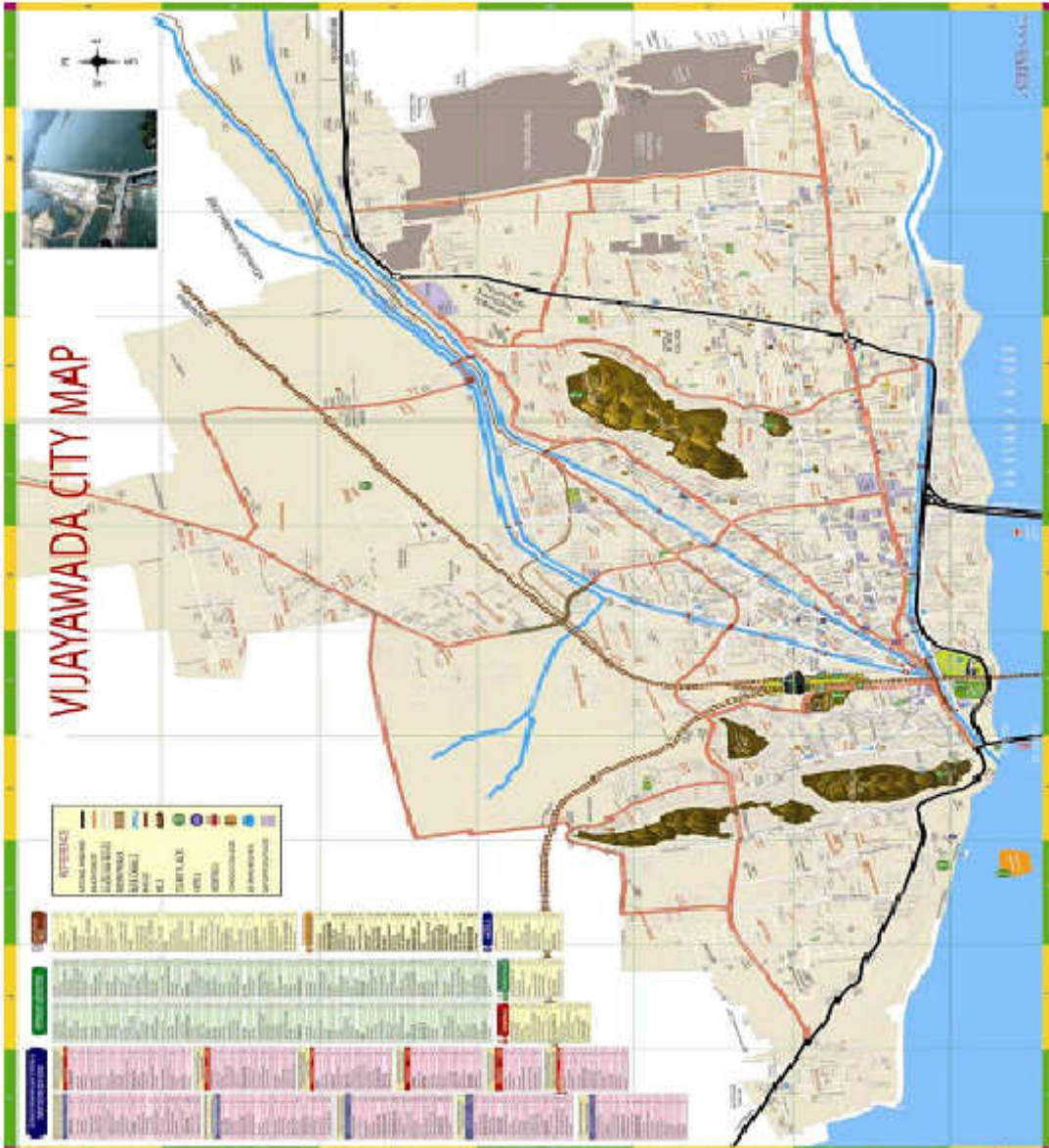
Sno	Officer& Designation	Department	Position	Phone numbers
1	Commissioner Vijayawada	Municipal Corporation	Chairman and convener	9000510345
2	Police Commissioner Vijayawada	Police	Vice Chairman	9440796621
3	Joint Collector,	Revenue	Secretary	9849903965

Vijayawada City Disaster Management Plan - 2011

	Krishna	Department		
4	Superintendent Engineer, Vij	Irrigation	Member	9490959666
5	District Supply Officer, Krishna	Civil Supplies,	Member	8008301464
6	Project Director, Krishna	Women and child welfare	Member	9440814589
7	City planner	Town planning Municipal corporation	Member	9866514209
8	Chief Engineer	Engineering Municipal corporation	Member	9866514160
9	Chief Health Officer	Health Municipal corporation	Member	9866514149
10	Regional Fire officer	Fire Municipal corporation	Member	9959222748
11	Sri Malladhi Vishnu, Vijayawada	MLA,	Member	9848144399
12	Director, Social Service Centre, Vijayawada	NGO	Member	9949264162
13	Women Group	SHG	Member	

CITY PROFILE

Vijayawada city profile



CHAPTER-2

2.1 CITY PROFILE

2.1.1 City in History

Vijayawada is a flourishing town of great historic importance. It was one of the important cities early in the Christian era, and was the religious centre for the kingdom of Vengi. Vijayawada, in Andhra Pradesh is located at the head of the Krishna delta, 70km from the sea, bounded by the Indrakiladri Hills on the west and the Budameru River on the north. The Northern, North-Western, and South-Western parts of the city are covered by a low range of hills, while the Central, South-Western and North-Western parts are covered by rich and fertile agriculture lands with three major irrigation canals. The topography of Vijayawada is flat, with a few small to medium sized hills. The Krishna River runs through the city. These hills are part of the Eastern Ghats cut through by the Krishna river. They have very low elevation compared to the average elevation of the ghats. This historical town has originated on the northern bank of the river Krishna and, by 1855 AD the town was in the form of small settlement on the eastern side of the Indrakiladri hills.

The growth of the town picked up momentum after the construction of a barrage and three irrigation canals namely Eluru, Ryvus and Bandar canals in 1855 and, the rail bridge over the river Krishna in 1892. The city experienced a modest growth in the pre-independence era; however, after independence the construction of road bridge over the river Krishna, establishment of South-Central Railway terminal, setting up of divisional headquarters, major government offices including district court, major institutions for higher education, major commercial and distributive trading activities, wholesale establishments, agricultural marketing centre

and Jawahar autonagar industrial estate have brought a tremendous effect on the city's growth.

2.1.2 City in Its Regional Setting

Vijayawada, the third largest city in the state of Andhra Pradesh after Hyderabad and Visakhapatnam, also it is one of the important commercial and transport centres of the state. The city happened to be the headquarters of the taluk for a long time and acted as a point of centrality to many of the districts of the state. Over years the city has grown as a major economic, cultural and administrative nerve centre of coastal Andhra due to its nodal location as an important railway junction

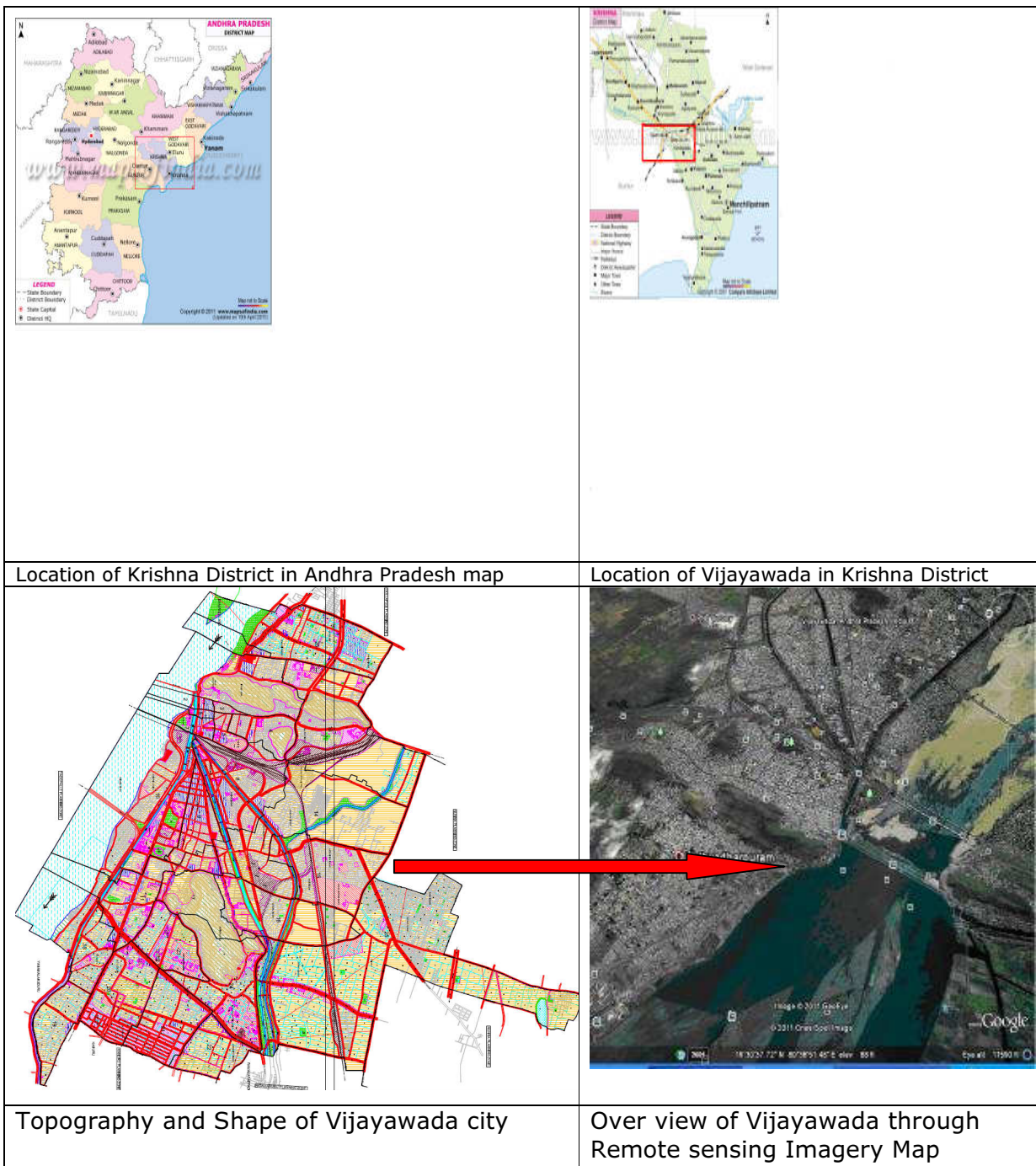
2.1.3 Location

The city is situated at the foot of a low range hills on the northern bank of the river Krishna with its cardinal points as 16° 31' North latitude and 80° 37' East longitude, around 70 km away from the coast.

Arial Co-Ordinates of the Vijayawada

Sl.No	Mandal Headquarters	Latitude	Longitude
21	Vijayawada Urban	N 16-30-40-00	E 80-37-10-10

Location of Vijayawada



2.2 Demographic Profile

2.2.1 Population particulars

Vijayawada Municipal Corporation constitutes about 3.91 % of the total urban population of the state. Vijayawada is the third largest city in the state to which 3 town panchayats were added in 1981 and 2 village panchayats have been added in the year 1985. The population of Vijayawada city is 845217 as per census 2001.

No of wards	Total House Holds	Total Population	In Lakhs	
			Male	Female
59	3,36,285	11,57,237	5,81,804	5,75,388
Source: VMC(un published data)				

Sl. No.	Scheduled Caste details ,2001		
	Persons	Male	Female
1	69359	34448	34911

2.2.3 Literacy details

Mandal	Literates			Literacy Rate		
	Persons	Male	Female	Persons	Male	Female
Vijayawada Urban	591352	317602	273750	69	74	65

Total 591352 persons i.e 69% of literacy is been noted in the city. Males have highest with 74% is been observed.

2. 3 Topographic Details

The land lay of Vijayawada is characterized by four canals, four hills and the holy river Krishna. Vijayawada when approached from Guntur is welcomed by the historic gates across the holy river Krishna. The way to

Machilipatnam runs parallel to Budamerru canal and crosses two other canals. All these canals through the city do evidently cause some hindrance to growth and traffic, but definitely look picturesque in the bird's-eye-view.

There are four major hills:

- a) Indrakiladri hill
- b) Machavaram
- c) Gunadaa Hill
- d) Moghalrajapuram hill
- e) Gollapalem Gattu Hill

The natural slope of the old town is falling from north to south whereas the new town slopes down from west to east. When compared to the old town, the new town is flat and hence makes drainage less effective. Though the city is protected from high flood banks in the southern side, the low-lying lands are not immune to floods, when the river Krishna is in its spate.

The low hills in and around the city are the rich natural assets, which if maintained properly will change the physical atmosphere and also mental atmosphere in terms of thinking and psychology of the people.

Vijayawada being a big city in Andhra Pradesh, several people from all over Andhra Pradesh are migrating to Vijayawada for their livelihood irrespective of their caste, creed. The people who migrated to Vijayawada City started encroaching the by way of dwelling in the hill porambokes situated in Vijayawada Town. the encroachers have constructed pucca structures in many cases. The civil administration i.e., Municipal Corporation with the coordination of Overseas Development Authority (ODA) have provided Civic amenities by forming roads and stair cases to

reach the house of encroachers, drainage facility, electricity and telephone connections, drinking water.

Most of the people who encroached the hill porambokes and other Government porambokes in Vijayawada City are Artisans, Hawkers, small vendors and other daily wage coolies and eking their livelihood. In the process of the encroachment, the people have encroached the following The Northern, North-Western, and South-Western parts of the city covering by a low range of hills height ranges from 10mts to 200 mts.in the 8.5Sq Km of an area consisting 148835people in these hill areas The particulars of hills encroached are as hereunder :-

Indrakiladri Hill 2) Gollapalem Gattu 3) Mogalrajpuram 4) Machavaram 5) Gunadala

1. Indrakiladri hill (one town & vidyadharapuram) :-

The areas covered by Indrakiladri hill are popularly known as I Town, Vidyadharapuram of Vijayawada is a major hill range located on the West Side and Northern Side of Vijayawada City. The hills area located in NTS No 387/23 A1/C1A in an extent of Ac. 286/71 Cents of the hills is about 240 Meters. The encroachment at maximum attitude is at 150 Meters. The perimeter of the hills is about 10 KM. The areas such as Ramarajaya Nagar, Kummaraalem, 4-Pillar center, Ali Nagar, Kabela Road are falling with in this hill area.

2. Gollapalem gattu (frizerpet, tailorpet, winchipet) :-

Gollapalem Gattu Hills of Vijayawajda is a major hill range located on the North Side of Vijayawada city. The hills are located in NTS No 9/1 in an extent of Ac. 97.86 Cents. The hills fall within Vijayawada town of Vijayawada Urban Mandal. The hills are formed with rock in certain areas and with gravel. The maximum height of the hills is about 220

Meters. The encroachment at maximum attitude is at 140 Meters. The perimeter of the hills is about 8 Kms. The areas such as Frizerpeta, Tailorpeta, Wynchipeta are falling with in these hill areas.

3. Mogalrajapuram hill :-

Mogalarajpuram Hills of Vijayawada is a major hill range located on the Eastern side of Vijayawada city. The hills are located in RS No 1/1A in an extent of Ac. 94.05 Cents. The hills fall within Mogalrajapuram village of Vijayawada Urban mandal. The hills are formed with rock in certain areas and with gravel. The maximum height of the hills is about 250 Meters. The encroachment at maximum attitude is at 180 Meters. The perimeter of the hills is about 6 Kms. The areas such as Dasari Ramana Nagar, Ravi Chettu Center, Sunnapubattila Center are falling with in these hill areas.

4. Machavaram hill :-

Machavaram Hills of Vijayawada is a major hill range located on the East Side of Vijayawada City. The hills are located in ward No 16 Block No 24 NTS No 1 in an extent of Ac 147/67 Cents. The hills fall within Machavaram village of Vijayawada Urban Mandal. The hills are formed with rock in certain areas and with gravel. The Maximum height of the hills is about 240 Mts. The perimeter of the the Hill area is about 4 KM. The areas such as Karimkanagar, Gulammohiddin Nagar, Maruthinagar are falling with in these hill areas.

5. Gundala hill :-

Gunadala Hills of Vijayawada is a major hill range located on the Eastern Side of Vijayawada city. The hills are located in RS No 413/A in an extent of Ac. 281.04 Cents. The hills fall within Gunadala Village of Vijayawada Urban Mandal. The maximum height of the hills is about 242 Meters. The encroachment at maximum attitude is at 150 Meters. The perimeter of the hills is about 10 KM. The areas such as

Ayyapanagar, Kristurajapuram, Vijayanagar Colony, Arunlagar, Lurthnagar, Betlahem Nagar etc. are falling with in these hill areas. Padavalarevu is classified as railway quarry, kummari Cheruvu is abandoned tank are also located in Gunadala village only.

In the year 1990, the government have issued clearance for issue of pattas under the G.O.M.S No 331 to the eligible encroachers on hill areas. covered by the above five hills.

As seen from the above, it is evident that all most all the encroachments either in the way of issuance of pattas or by the way of regularization of encroachments with dwelling houses, unauthorized encroachment are located on the hill areas ranging at an altitude of 100 to 180 Meters. it is very difficult to prevent the encroachment on the hill areas of Vijayawada City as migration of poor people from different parts of the state in such of their livelihood is increasingly high every year and they are occupying hill areas due to dearth of vacant land in the city.

Source of the Information: MRO (Urban), Revenue Dept., Vijayawada

2.4 Soil and Ground Water profile

a. Soil

Generally black cotton soil with exceptions in hilly areas is dominant in the zone. The sub soil is moist clay which is good for agriculture. The urban area mainly constitutes three types of soils namely alluvial, black and red ferruginous. Fertile alluvial soils are available in Krishna delta area whereas red ferruginous soils are spread over the uplands. In Giripuram area, metamorphic rocks are found in the sub-soil strata.

b. Ground Water

Water can be tapped at varying depths from 3-5 m from below ground level. Nearly one-third of the entire city's water supply is from ground

Vijayawada City Disaster Management Plan - 2011

water sources. The alluvial spread along the Krishna River and the canals also contains aquifers within shallow depths, which fairly provides a continuous support for cultivation activities in the entire region.

C) Ground Water Levels

Month Wise Ground Water Levels											
Sl. No.	Month	2004-05		2005-06		2006-07		2007-08		2008-09	
		Ground to water level (in Mts)	Rain fall (in MM)	Ground to water level (in Mts)	Rain fall (in MM)	Ground to water level (in Mts)	Rain fall (in MM)	Ground to water level (in Mts)	Rain fall (in MM)	Ground to water level (in Mts)	Rain fall (in MM)
1	JUNE	12.28	111	13.51	64	9.68	112	10.38	236	10.07	135
2	JULY	12.04	191	11.98	251	10.02	80	9.38	151	9.8	243
3	AUGUST	10.64	140	10.31	96	8.97	148	8.86	190	6.65	412
4	SEPTEMBER	10.44	149	8.12	365	7.35	213	7.97	203	6.18	116
SOUTH-WEST MONSOON		45.40	591	43.92	775	36.02	553	36.59	780	32.70	906
5	OCTOBER	9.60	122	7.57	266	8.00	377	7.28	148	7.14	50
6	NOVEMBER	10.38	8	6.63	29	7.40	88	7.70	17	6.84	136
7	DECEMBER	10.59	0	7.65	2	8.14	0	8.59	1	7.86	0
NORTH-EAST MONSOON		30.57	130	21.85	297	23.54	465	23.57	166	21.84	186
8	JANUARY	10.07	1	8.53	0	8.51	0	8.88	0.4	8.49	0
9	FEBRUARY	11.69	4	8.73	0	8.96	9	9.16	58	9.1	0
WINTER PERIOD		21.76	5	17.26	0	17.47	9	18.04	58	17.59	0
10	MARCH	11.89	6	8.72	43	9.42	0	9.16	133	9.42	0
11	APRIL	11.17	5	8.3	64	9.96	0	9.27	17	9.84	0
12	MAY	12.96	59	9.44	60	10.33	10	9.87	2	10.08	96
HOT WEATHER PERIOD		36.02	70	26.46	167	29.71	10	28.30	152	29.34	96
% variation to normal		11.15	- 23.0	9.12	19.8	8.90	0.3	8.88	11.8	8.46	14.9
SOURCE :1) Water levels - Dy.Director, Ground Water Department											
2) Rainfall - Chief Planning Office											

Vijayawada City Disaster Management Plan - 2011

2.5 Climate and Rainfall fall profile

The climate of Vijayawada is tropical in nature with hot summers and moderate winters. The climate is hot and dry throughout the year. Summers are quite hot with very minor difference between the maximum and minimum temperatures. Vijayawada is located on the line which separates the delta-irrigated lands and, the dry uplands of the district. The climatic cycle can thus be divided into four seasons as:

2.5.1 Annual Rainfall

(In MMs.)

Sl.No	Mandal	Normal	Actual'(In MMs.)		
			2006-07	2007-08	2008-09
1	2	3	4	5	6
1	Vijayawada Urban	1024	891	1465	1329

Highest Annual rain fall observed as 1465 mm in 2007-08 when comparing with Normal (1024mm) Rain fall

2.5.2 Season Wise And Rainfall (2008-09)

(MMs)

Sl. No	SOUTH-WEST MONSOON										
	June		July		August		September		Total		
	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	% of Variation
1	3	4	5	6	7	8	9	10	11	12	13
21	110	188	250	279	200	515	136	128	696	1110	59.5

Sl. No	NORTH-EAST MONSOON								
	October		November		December		Total		
	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	% of Variation
1	14	15	16	17	18	19	20	21	22
21	136	44	69	94	13	0	218	138	-36.7

- Cool months January and February
- Hot months March to May
- Monsoon (S.W) June to September and
- Monsoon (N.E) October to December

Vijayawada and the surrounding areas experience high temperature. The mean daily maximum temperature is 47°C, while minimum is 27.7 °C in this region. The temperature begins to rise in mid February and May is the hottest month. December and January are usually the months with the lowest

The rainfall in the region generally decreases from east to west. This region receives maximum rainfall both by southwest and retreating monsoons. Two thirds humidity in the afternoons ranges from 68- *100 years rain fall data given in annexure

2.6 Temperature

Temperatures during the year. During these two months, the mean daily maximum temperature is about 34°C while minimum is about 24.°C. Cold weather period in Vijayawada is normally found in rainy seasons. The city receives an average annual rainfall of 1024mm mm and the bulk of the rainfall is received during south-west monsoon period. Sky is generally overclouded during the southwest monsoon season. North-west monsoon breaks the hot spell and makes the weather bearable. South-west monsoon follows thereafter and extends till the end of September. October and November constitute the post monsoon period. The period from December to mid February is generally marked by fine weather.

2.6.1 Maximum And Minimum Temperature

SL. NO	MONTH	MEAN TEMPERATURE (IN CENTIGRADE)			MEAN TEMPERATURE (IN CENTIGRADE)		
		NORMAL	2008	2009	NORMAL	2008	2009
1	2	3	4	5	6	7	8
1	JANUARY	28.2	30.7	30.4	19.0	19.2	19.7
2	FEBRUARY	30.1	31.2	33.0	20.5	22.0	21.2
3	MARCH	32.2	33.0	33.7	22.5	22.7	22.8
4	APRIL	34.1	34.9	36.2	25.5	25.5	25.5
5	MAY	36.8	40.8	36.2	27.3	28.3	27.1
6	JUNE	36.1	36.7	38.1	26.8	26.9	27.6
7	JULY	32.8	34.0	35.6	25.4	26.1	26.7
8	AUGUST	32.1	32.2	35.7	25.2	25.3	26.3
9	SEPTEMBER	32.1	32.9	34.3	25.2	25.8	26.1
10	OCTOBER	31.1	32.9	33.6	24.1	24.3	24.6
11	NOVEMBER	29.6	31.3	31.7	21.6	22.3	23.4
12	DECEMBER	28.3	30.4	29.9	19.4	20.9	20.5

2.7 Wind Direction

The direction of wind in the region around Vijayawada in the hottest months of April and May is from south to east in the morning hours and, in the evening from southeast to northeast. In warm months from October to March, the wind blows in the morning from east and north and, in the evenings mostly from southeast and east.

2.8 Vegetation and Landscape

Vijayawada and its surrounding region are fairly rich in agriculture activity due to the Krishna River. Soil condition is also suitable for cultivation. Rice and sugarcane are the principal crops cultivated in the region. Coconuts, guava and mango are the major tree crops found all over the Vijayawada region.

2.9 Land Use Profile

The city area can be broadly divided into two categories – one 'Developed area' and the second 'Undeveloped area'. The developed area comprises mainly residential, commercial, industrial, and institutional lands with attendant land requirements for public and semi public uses, transport and parks and playgrounds. Agriculture land, vacant land largely in the possession of government bodies, river area and the hills constitute the "Undeveloped area" category. Of the Vijayawada corporation area of 6188 ha, the developed land part of the city covers 3753 ha accounting for around 61% of the city area, leaving 2435 ha undeveloped.

Vijayawada city. The railway junction and the irrigation canals traversing the city are special features of an urban area.

undeveloped area of 2435 ha, only about 1504 ha covering 62% is "developable" for urban uses in future. As agriculture is still the dominant activity in the villages added to the city, Payakapuram, Bhavanipuram, and Ajitsingh Nagar that are in the initial stages of development. The city fringe area lying in Gunadala covers mainly agricultural lands with low-key development activities.

2.9.1 : Land Use Composition: Vijayawada, 2004

S. No	Land Use	Area in Ha.	% to developed area	% to total area
	Developed component			
1	Residential (Built -up)	1348.25	35.92	21.79
2	Mixed-Residential (Built -up)	141.36	3.77	2.28
3	Residential vacant plots	229.02	6.10	4.11
4	Commercial	247.91	6.6	4.01
5	Industrial	72.38	1.93	1.17
6	Public & Semi- public	270.16	7.2	4.37
7	Institutional	178.31	4.75	2.88
8	Parks & Play grounds	60.34	1.60	0.56
9	Recreational / Others	3.1	0.08	0.05
10	Roads	800.81	21.34	12.94
11	Railway	190.49	5.08	3.08
12	Water Bodies (Canals & Others)	211.26	5.63	3.41
	Sub Total	3753.39	100	60.65
	Un-Developed component			
13	Agricultural Area	885.97	36.40	14.32
14	Vacant Lands	618.27	25.39	9.99
15	Water Bodies (River)	668.42	27.45	10.80
16	Hills	262.06	10.76	4.23
	Sub Total	2434.72	100.00	39.35
	Grand Total	6188.11	100.00	100.00

Source: VUDA

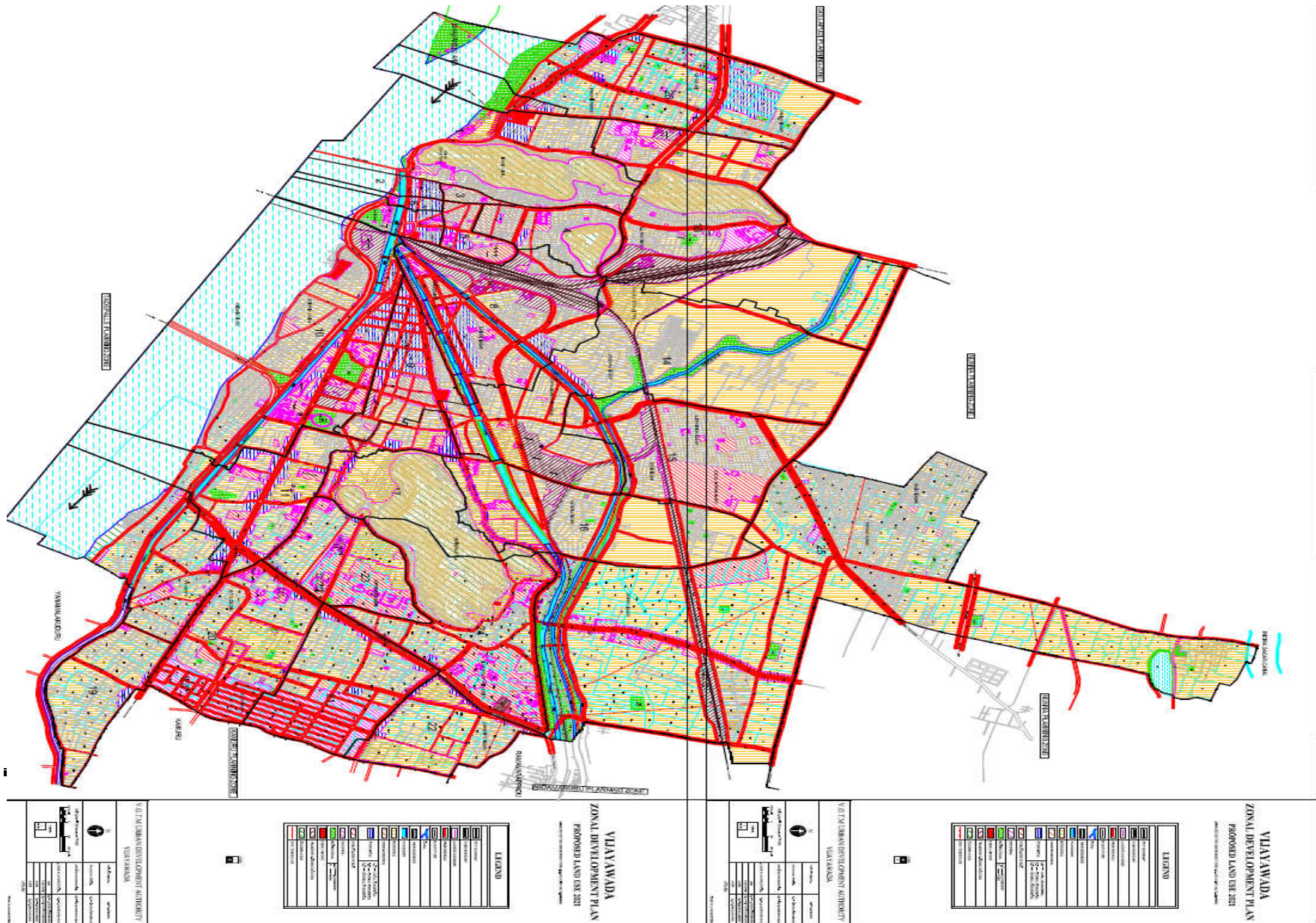
6207	3	Geographical area
121	4	Forest
2	5	% to Geographical area
363	6	Barren & uncultivable land
6	7	% to Geographical area
5241	8	Land put to agricultural land
84	9	% to Geographical area
0	10	Permanent pastures & other grazing lands
0	11	% to Geographical area
0	12	Misc. Tree crops & groves not included in net area sown
0	13	% to Geographical area
0	14	Cultivable waste
0	15	% to Geographical area
0	16	Other fallow lands
0	17	% to Geographical area
6	18	Current fallows
0	19	% to Geographical area
476	20	Net area sown
8	21	% to Geographical area
0	22	Fish tanks
0	23	% to Geographical area
8760	24	Total cropped area
141	25	% to Geographical area
3440	26	Area sown more than once
55	27	% to Geographical area

2.9.2 Land Utilisation, 2009 (Area in Hectares)

Source : SOURCE: CHIEF PLANNING OFFICE, MACHILIPATNAM, 2009

Vijayawada City Disaster Management Plan - 2011

2.10.3 Map showing Land use details



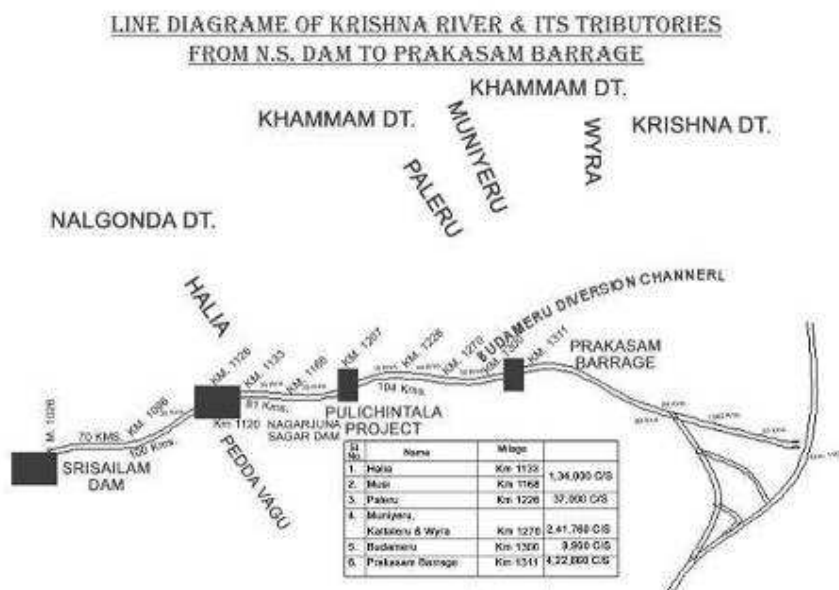
2.10 Rivers and Dams :

There are two rivers flowing from Vijayawada 1. Krishna River 2. Budameru river/Drain which creates havoc during rainy season

2.11.1 Krishna River:

The River Krishna takes of its origin in the western Ghats at an elevation of (+) 1336 Mts and runs for a length of about 1400 Km and runs through Vijayawada city and joins at Bay of Bengal The length of Krishna River up to Prakasam Barrage is about 1310 km and the length from Prakasam Barrage to Puligadda Aqueduct is 64.00 kms. The flow of the river is managed partially by the Nagarjuna Sagar dam which is located to the west of Krishna District and Prakasam Barrage which is located at the beginning of the city.

Krishna river flow details and distance of dam to dam



The Krishna Flood bank Above Prakasam Barrage is about 13KM and below flood bank is 6.40 Km which creates havoc in flood season which

starts from June to December. Water release from barrage with 4,12,734 to 10,94,422 Cusecs is been observed over the years.

2.11.2 Prakasam Dam: Management

- Constructed during the year : 1954-57
- Maximum Flood received : on 05-10-2009
- Observed Maximum Flood Discharge : 11.10Lakh Cusecs
- Corresponding OMFL of U/S of Barrage : +68.78feet/ +.20.97M
- Depth of flow observed over the crest of barrage i.e. +45.05 feet/13.730M:23.73 feet / 7.23 M
- OMFL at D/S of Barrage near c.w.c gauge
- Station at Krishna Lanka : +63.425 feet /19.332 M
- OMFL at D/S of barrage near Kanaka Durgamma Varadhi : +63.385 feet / +19.320M
- OMFL observed at KM 3.650 of K.L.F
- Bank Near pedapulipaka : +61.72 feet / 18.810 M
- OMFL at KM 3.65 of K.L.F Bank
- W.r.t 1903 Flood (i.e. 11.90 Lakh Cusecs): +60.730 feet / 18.5140 M

Dam management:

Construction and maintenance of embankments (including the flood banks within the city) are carried out by the irrigation department while the administration, provision of basic life line services including water supply and sanitation are management by the city municipality. Since the main purpose of the dam is to provide irrigation, the dam authorities try to fill the reservoirs during the monsoon to ensure water availability for the farmers in the surrounding districts during summers. Therefore occurrence of severe rainfall (1 day or 2 day extreme precipitation) due to cyclone or depression during the latter half of the monsoon season in the lower and middle Krishna basin leads sudden increase in the reservoir level forcing the dam authorities to release water which sometime

exceeds the carrying capacity of the river. This leads to flooding along the downstream.

The maximum flood discharge observed during the year 1903 is 11.90 lakh cusecs. After the construction of the Nagarjuna Sagar Dam in the upstream of the river, during the year 1998 Krishna River received a maximum flood discharge of 9.32 lakh cusec and caused alarming situation throughout the flood banks below the Prakasam Barrage. Subsequently the flood banks of Krishna River were restored to original standards during the year 1999 to 2000. These restorations did not include flood banks which are within and nearby Vijayawada city namely Krishna Left Flood Bank (upstream of Prakasam Barrage) and Krishnalanka Flood Bank (downstream of Prakasam Barrage). Subsequently the maximum floods which were received in the 2005 and 2009 were 7.4 lakh cusec and 11.1 lakh cusecs. This flood recorded around 22ft depth of water over the crest of the Prakasam Barrage (+67 ft).

2.11.3 Flood Banks:

The total length of flood bank in Krishna District (within which the Vijayawada city is located) is 226.98 km. The flood banks of the River Krishna were originally formed in 1892 and subsequently strengthened by keeping the top width as 5.50 mts with free board of 0.91 Mts. The flood banks were provided on both sides of the River up to sea as detailed below to contain the flood water within the flood banks and thereby protect the ayacut, properties and human lives etc in Krishna District.

Details of Flood Banks In Krishna District

S.No.	Details Of The Flood Banks	Length In Km
1.	Krishna Left flood bank (above Prakasam Barrage)	13.00
2	Krishnalanka Flood bank (below Prakasam Barrage)	6.40
3	Krishna Left flood Bank (below Prakasam Barrage)	89.60
4	Divi Left flood bank	36.00
5	Divi Right Flood Bank	32.00
6	K.E. Tidal Bank Divi Island	22.00
7	Kona Tidal Bank (Machilipatnam Side)	18.50
8	Seadyke Flood Bank (Machilipatnam Side)	2.50
9	West Side Flood Bank (Machilipatnam Side)	6.00
10	Rudravaram Flood Bank (Machilipatnam Side)	4.00
	Total	230.00

2.11.4 Krishna Lanka Flood Bank: (3.38 KM)

This flood bank was formed during 1967 to protect the residents of Krishna lanka of Vijayawada city.

2.11.5 M.F.L.s observed

The present observed M.L.F. s along the River is observed 0.30 M more than the M.F.L.s established along the flood banks with reference to the maximum flood discharge occurred during the year 1903 i.e. pre construction of barrage.

- The M.F.L.s observed at U/S of Prakasam barrage is +68.78 Feet i.e. (+20.9 M) which is about 23.73 Feet over the crest level of barrage.
- The Crest level of Prakasam Barrage is (+) 45.05 Feet (+13.73M)
- The M.F.L. observed at D/S of Prakasam Barrage is + 63.30 Feet (+19.30 M) i.e. near Kanaka Durgamma Vaaradhi.

- The M.F.L. observed on K.L.F Bank at Km 3.65 is (+) 61.70 Feet (+18.81M) which is one Foot above the previously recorded OMFL i.e. (+) 60.72/+18.10 M

Damage to the Flood Banks:

2.11.6 K.L.F. Bank (Above Barrage): (13.000 KM)

No major damages were occurred to this Flood bank and slips were formed at River side slopes at many places. Temporary protection works carried out to avoid the over topping and breach occurrence. Strengthen of flood bank is required particularly in the Vijayawada city limits.

The K.L.F. bank below Prakasam Barrage is observed safe during the high floods. The work improvements and formation of Double land road on K.L.F. bank is under progress between KM 0.00 to KM 58.50 in Krishna District. The existing bank was lowered up to M.F.L. +0.30 M elevation to form the road over the Flood bank after widening the Flood bank to the required width. The free board observed is only 0.30 M during Floods where the work is under progress. The dowel banks were formed on war foot basis to a height of 0.60 M to prevent the overtopping condition. No breach occurrence reported expects damages occurred to the flood bank with slips and erosion.

2.11.9 Embankments /Flood Bank locations

Sno	Name of the Embankment	Length of the Embankment in Km	Ward no	Area covered	Length of the Embankment with in the ward
1	Krishna Left Flood Bank(Above Barrage) From(Ibrahim patnam to Prakasham Barage)	13KM		Ibrahim Patnam to Bhavani Puram	6KM
2				Bhavani puram To Karakatta South	5KM
3				Krakatta South to Lanchi revu/Punnami Hotel	2KM
1	Krishna Left Flood bank (Bellow Prakasham Barrage) From Brrage to Ramalaingeswara Nagar (Krishna Lanka)	6.40KM		Ranadheevi nagar	2
2				Taraka Ramanagar	1.40
3				Bhupesh Gupta Nagar	1
4				Ramalingeswar Nagar	2

2.12 Budameru River/Drain:

Budameru is a natural drain originating in Kuntamukkla from surrounded hilly catchments. It Reaches Municipal Corporation limit of Vijayawada at Nynavaram Crossing. Maximum flow up to 40,000 cusecs in a return in a period of 25 years (as per the recorded history). In addition to this Flow from Polavaram adds another 11,500 cusecs .The total flow upto 60,000 cusecs including self run off. Recent Floods is due flow from upper reaches through Munneru.

Budmameru River consists of two arms, the western arm rises in the range of hills near Zammula Volu Durgam of A.Konduru Mandal and Eastern arm raised in the hill range near Annaraopet (V) of Reddigudem (M) of Krishna District both the arms (i.e) Western arm (Budameru) and Eastern arm (Kothula vagu) will join at 1.00 Km south of Nandigama (V) of G.Konduru Mandal. Puli vagu another hill stream joins Budameru at Km.2.00 U/s of Velagaleru regulator in the village limits of Velagaleru. Budameru flowes through 21 KM of city area and 36.25 KM from velagaleru regulator further adjoins at Enikepadu in Krishna River.

BUDAMERU DRAIN FROM KM.0.00 (Velagaleru Regulator) to Km.36.250 Km. 36.250 (Enikepadu U.T.) Krishna District.

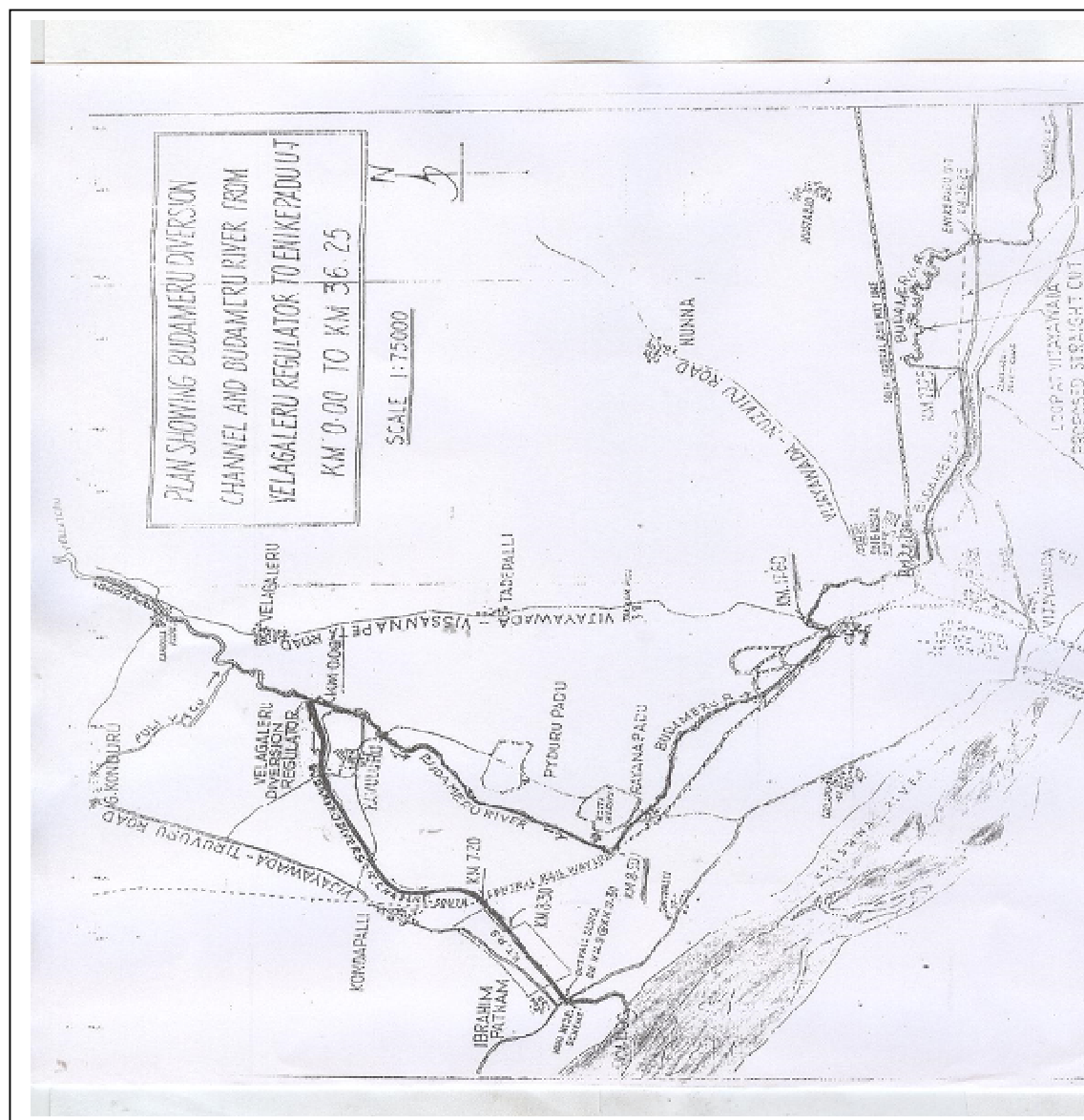
2.12.1Velagaleru Regulator

The catchment area of Budameru up to Velagaleru Regulator is 673 Sq.Km with discharge of 24,500 cusecs and from Velagaleru to Enikepadu U.T is 373 Sq.Km with a discharge of 16,500 cusecs.

In order to reduce the drainage congestion in Kolleru lake and to avoid submersion of ayacut, inundation of villages all along the course and low lying colonies in Vijayawada city, the Budameru diversion channel is being improved for 37,550 cusecs by ISRMC authorities for accommodating the flood water of Budmameru, ISRMC water and VTPS return waters.

2.12.2 Map view of Budameru stream course

The improvements to Budameru diversion regulator and flood banks on upstream side of regulator were completed by June 2009. The Budameru



course below Velgaleru Regulator up to Enikepadu U.T (36.250 Kms around Vijayawada city limits ameru

2.13 Administration and Governance

The growth of the town during 1855 AD was along the banks of the river Krishna abutting Indrakiladri hills around the temple of Lord Malleswara. During 1905 AD, the growth started along the canals and areas abutting Indrakiladri and Gandhi hills. The area of jurisdiction of the municipality has increased from around 30 sqkm in 1888 to around 58 sq km in 2004.

The Municipality of Vijayawada (Bezawada) was constituted on 1st April, 1888 and was upgraded as a selection grade municipality in the year 1960. The municipality was upgraded to a corporation in 1981. With the merger of Gunadala, Patamata and Bhavanipuram village panchayats and two villages payakapuram and Kundavari kandrika in the corporation in 1985.

Vijayawada Municipal Corporation jurisdiction extends over an area of 61.88 sq km as of 2004. VMC is divided into 59 electoral wards and, 26 revenue and planning wards inclusive of the extension areas. VMC is divided into three circles for administrative purposes. Circle I covers the old city and it mainly covers hill areas and slum areas (wards 1-16). Circle II covers the commercial and the residential areas (wards 17,19-30) while Circle III covers the commercial, the residential, industrial and the institutional areas including extensions (wards 18, 31-50).

2.13.1 Planning Zones and Wards

The city has been divided into 3 Circles mainly for planning and management purpose. Further, the city remain subdivided into 59 wards.

Planning Zones / Wards

Ward No.	Extent In Sq.Km	Population (2001)	Covered Areas
1	5.01	14029	Carmel Nagar, Lenin Nagar, Gandhiji Colony, Urmila Nagar
2	4.36	13943	Bharathi Nagar, Currency Nagar, Vijaya Lakshmi Colony, Suba Rao Colony, Ap.I.I.C. Colony, Srinivasa Nagar Bank Colony, N.T.R. Colony, Gurunanak Colony.
3	1.82	13055	Cunadala, Christurajpuram, Veterinary Colony, Lic Colony, Film Colony, Jayaprakash Nagar, Loyola Gardens.
4	0.61	14736	Bthelham Nagar, Ludhu Nagar, Machavaram Hill.
5	0.51	14476	Machavaram, Maruthi Nagar, Seetaram Puram
6	0.57	15223	Machavaram, Pragathi Public School Road
7	0.66	17442	Mogalarajpuram Hill Area, Christurajpuram Hill Area, Kasturibai Pet
8	1.15	15570	Patamata, Mogalarajpuram, Siddhartha Colony, Gayatri Nagar, K.O.Nagar, Teachers Colony.
9	1.39	14337	Postal Colony, R.R.Gardens, Auto Nagar, Maruthi Colony, Vasavya Colony, Income Tax Colony.
10	0.85	13046	New Rtc Colony, Krishna Nagar, Sanjai Gandhi Colony, Ayyappa Nagar, K.P.Nagar, Treasury Colony, Chowdarypet, Ashok Nagar Pandaripuram.
11	0.67	14030	Patamata, Santhi Nagar, J.D. Nagar, Lakshmipathi Nagar, Siva Sankar Nagar, New Rtc Colony, Electricity Colony, Ramadhooth Nagar.
12	0.56	13141	Patamata, Patamatalanka, Ambedkar Nagar, Poornachandra Rao Nagar, Darsipet – 1&2.
13	1.32	15319	Patamatalanka, Pakeergudem, Mogalarajpuram, Brundavan Colony, Cupth Colony, New Postal Colony,
14	3.20	15814	Balaji Nagar, Ramalingeswara Nagar.
15	0.31	14798	Ranigari Thota, Balaji Nagar,, Gunter Bapanaiah Nagar.
16	0.31	14608	Ranigari Thota

Vijayawada City Disaster Management Plan - 2011

17	0.68	14064	Labbipet, Punnamma Thota, Police Quarters.
18	0.54	14392	Giripuram, Woodpet, Badavapet, Labbipet, Sbi Colony.
19	0.54	12907	Suryaraopet, Kasturibaipet, Mogalrajpuram.
20	0.38	13790	Arunadalpet, Durga Agraharam, Seetarampuram.
21	1.46	12942	Governorpet, Suryaraopet
22	0.95	14725	Krishnalanka
23	1.05	15418	Krishnalanka
24	2.02	15320	Bramarambhapuram, Krishnalanka
25	0.81	15286	Mallikarjunapet
26	1.15	15557	Vidhyadarapuram, Sanjai Gandhi Labour Colony, Kamakoti Nagar.
27	1.85	15722	Bhavanipuram, Lorry Stand, Karakatta, Out Agency, Nulakapet.
28	1.27	15201	Priyadarsini Colony, H.B.Colony, (Phase-I, Ii, Iv) Bhavanipuram, Police Colony, Telephone Colony, Lalitha Nagar, Rama Nagar Huts, Milk Colony , Teachers Colony.
29	2.18	15479	Kabela, Rotary Nagar, Bhagathsingh Nagar, Brahmaiah Nagar Colony, R.R. Nagar, Joji Nagar, Yekalavya Nagar, Urmila Subba Rao Nagar, Iron Yard Colony, Kanak Durga Reddy Colony, Ramanagar Huts, Prasanthi Nagar.
30	0.92	14793	Lambadipet, Syndicate Bank Colony, Rajeev Sarma Nagar, Huttingarea.
31	0.42	15629	K.L.Rao Nagar, Railway Quarters.
32	0.23	15734	Kothapet.
33	0.5	15279	Ramaraja Nagar, 4 Pillors
34	0.3	15450	Kothapet, Srinivasamahahal Area.
35	0.22	13512	Frizerpet, Tailor Pet, Gollapalem Gattu.
36	0.32	15355	Frizerpet, Wynchipet, Abothu Appanna Pakalau
37	0.21	14964	Wynchipet, Gollapalem Gattu
38	0.25	15420	Kothapet, Mallikarjunapet
39	0.48	15250	One Town
40	0.6	15259	Islampet, Police Quarters, Gandhiji Hill.
41	0.47	14033	Poornandam Pet, Baptistpalem
42	0.73	13408	Hanumanpet, Gandhi Nagar, Satyanarayana Puram
43	0.37	13996	Bavajipet, Durga Puram
44	0.72	13956	Railway Quarters
45	0.55	13250	Madhuranagar, Pasuputhota
46	0.36	13270	Srinagar Colony, Teachers Colony, Ambedkar Nagar.
47	0.41	13957	Satyanarayanapuram, Muthyalampadu

Vijayawada City Disaster Management Plan - 2011

48	0.33	14043	Poornandampet, Kedareswarpet, Railway Line Huts.
49	0.56	13023	Rajarajeswaripet, Kamsalipet
50	0.31	13862	Kedareswarpet
51	0.69	13671	Ayodhyanagar, Ramalingeswarpet, Lotus Land Mark, Nandakuri Basava Taraka Nagar, Santhi Nagar.
52	4.21	14092	New Rajarajeswaripet, Arunodaya Nagar, Subbaraju Nagarm, Indra Naik Nagar, Nandamuri Nagar.
53	1.56	14723	Vijayadurga Nagar, Ramakrishnapuram, Devi Nagar, Ajithsingh Nagar.
54	0.35	13927	Ajithsingh Nagar
55	0.66	14641	Santhi Nagar, Ajithsingh Nagar, Vasista Colony, Kanakadurga Layout, Prabha Colony, Andhra Patrika Colony, Andhra Jyothi.
56	1.40	13253	Old Payakapuram, Prasanthi Nagar, Devineni Gandhi Puram, Vambay Colony.
57	1.40	13234	Payakapuram. L.B.S.Nagar, Patel Nagar.
58	1.33	13904	Radhanagar, Sundharaiah Nagar, Rajeev Nagar, Vaddera Colony, Uda Colony, Visalandra Layout, Doctor Layout, Ngos Layout, A Colony.
59	2.84	13490	Kundavari Kandrika Village, N.S.C.Bose Nagar, Prajasakthi Nagar, Barma Colony.
Total	61.88	852748	

The governing body of the Corporation includes elected corporation council members headed by a Mayor for a period of 5 years. For administrative purpose, Each ward of the Municipal Corporation is represented by an area corporator. The general administration is under the control of the Commissioner of the Corporation who is assisted by an Assistant Commissioner, Superintending Engineer, City Planner, and Public Health Officer with a host of other officers.

2.13.2 Important Administrative sections and their activities

1. Engineering

engineering section deals with the design, construction and maintenance of the physical and naturally built environment, including works like drains, water lines, lighting, bridges, roads, canals, dams, and buildings

2. Town planning

Town planning Works for regulatory framework planning town reflects the needs, priorities and aspirations of local area, Approval of Building plans & Enforcement, Clearance of change of land use applications, Demolition of unauthorized constructions, Removal of encroachments & Rehabilitation Advertisement Tax Collection, Road widening as per sanctioned Zonal Development Plan, Removal of encroachments on public roads, canal bunds and rehabilitation of such encroachers.

3. Urban Community Development

UCD has been implementing various development, activities for the upliftment of the poor families in the city. Is liaising with the, various agencies like Minorities Corporation, Dist. SCSC Society Dist. BC Society, ST Corporation in implementation of their activities, in addition to the regular activities of the corporation, With the launching of the Indira Kranthipatham (Urban), through the MEPMA, the approach on the SHGs is now focused and poor families are brought into the fold of SHGs. The training programme in the mode of Rajeev UdyogaSree with a, minimum of 70% guaranteed wage employment/self employment is also launched and, the tie-ups are being made with reputed organizations in this regard. Specialists, COs, Animators have been taken for effective implementation, online with the MEPMA Strategy. The social security pensions have also taken a good boost with implementation of INDIRAMMA pensions. Assistance given to the community people to develop human resources as follows

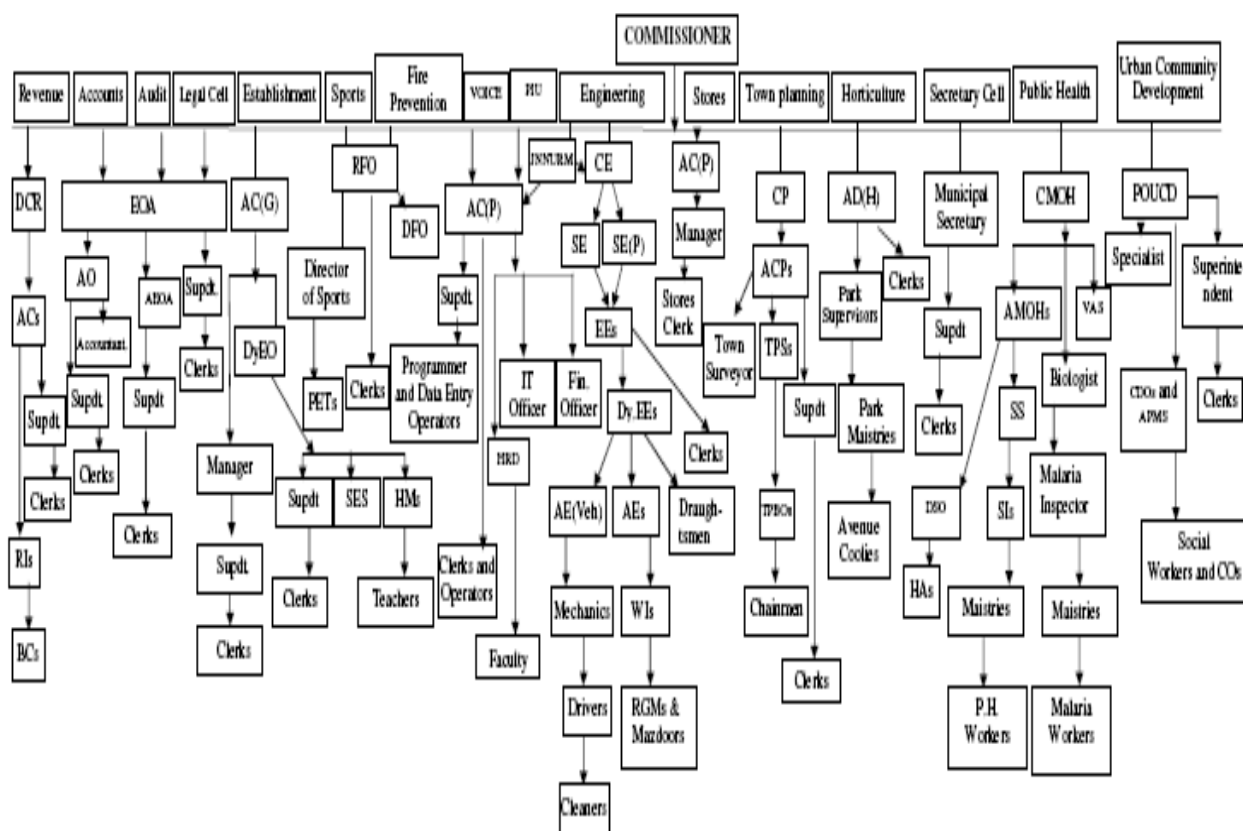
3. Health And Sanitation

Health and sanitation wing takes care of Primary health care / medical care, Control of mosquitoes & malaria, Maintenance of slaughter house and meat hygien, Vital statistics (birth & death registration), Marriage registration, control of stray cattle and stray dogs activities.

There are 44 Sanitary Divisions covering the entire city divided into 3 circles and each circle headed by Health Officer. There are 1100 permanent workers and 3250 self help group workers DWCUA / CMEY for road sweepers, door to door garbage collection and drain cleaning. 150 Nos major drain clean will cleaning the major drains periodically. Out fall drains and some of the major drains are cleaned by Engineering Section by estimation. Desilting of major drains is carried out with 2 batches.

There are 22 Urban Health centers, 4 Maternity centers and 14 Ayurvedic dispensaries. Activities like Identification of fever cases and treatment Anti natal care, MCH activities Immunizations in all the 136 out reach centers on every Wednesday and Saturday, Treatment of minor ailments Conducting normal deliveries in 4 maternity centers are carried

VMC - ORGANISATION CHART



2.13.3 Municipal Infrastructure

The Municipal Corporation Vijayawada (VMC) is responsible for the delivery of variety of functions like Water Supply, Sewerage, Sanitation, drainage, solid waste management, road sand transportation to the citizens and has taken long strides in this regard. It has also been dealing with medical relief, preventive medicine, sanitation and conservancy, maternity and child welfare, control of food adulteration and some other functions under the Public Health regulations. (listed in Chapter No-3)

2.14 Supporting and Infrastructure details

2.14.1 Transport :

The Chennai-New Delhi railway line serves very useful. The railway junction is also connected to National Highway (NH) 5 and 9 connects the city with smaller towns and villages offering excellent, affordable and rapid transport service for business, education and leisure. AP State Transport buses connect Vijayawada to other major Towns of Andhra Pradesh as well as neighboring states and there is a city transit system, and auto rickshaws abound.

2.14.2 Road Connectivity :

Krishna district(Vijayawada) is well connected with other cities by road National Highway (NH)5 and 9 passes through the district and connecting it to other towns

Road network in Maps



2.14.3 Rail and Air Connectivity:

Rail : Vijayawada City is well connected with other districts and cities of the state. There is broad gauge rail route

2.14.3 Airport : The nearest airport is located at Gannavaram which is about 15 km from Vijayawada city. The airport connects the district to important cities such as Hyderabad, Delhi, Vijayawada etc

2.14.4 Power Supply Network:

APSEB located at Ibrahimpatnam, It is the supplier of power to the district Krishna district. It has the largest thermal power station of 12000 kWh and located at Ibrahimpatnam for industrial and residential electricity supply.

2.14.5 No of services & connected load

(As on 31st March 2009)

Sl. No	Name of the Mandal	Low tension		High tension		HT & LT	
		No. Of Services	Connected Load (KWh)	No. Of Services	Connected Load (KWh)	No. Of Services	Connected Load (KWh)
21	Vijayawada Urban	259982	791708	190	57405	260172	849113

2.14.6 Gas Supply :

There is one section of gas pipeline laisoning by Reliance group in the City, work under progress

2.14.7 Industries :

For a long time, the first and foremost function of Vijayawada was serving as a marketing center for the agriculture production. The earliest industries, which began in the city, are the processing industries of agricultural produces like rice, pulses and oil seeds Industries began growing in Vijayawada because of its sound connectivity with important marketing and consumption centers in the region.

Vijayawada City Disaster Management Plan - 2011

the establishment of a thermal power station at Vijayawada with 3000 kWh capacity augmented the growth of industries. Further increase in the capacity to 12000 kWh supplemented the industrial development in the city. Vijayawada Thermal Power Station had a bearing on the industrial development of the region with diverse economic activities and, has increased rapidly over the last few decades in various fields.

Details of Industries

Type of Industry	Number of industries	Working people	Investment (Rs. in lakhs)
Large and Medium	7	586	4414
Small Scale Industries	3104	20715	471.66
Total	3111	21301	4885.66

Source: DIC, Vijayawada

2. 14.8 Education :

There are 178 Primary Schools, 123 Secondary Schools, 73 Junior colleges, 5 Management /5 Degree colleges and 20 technical institutions in the city.

Institution	Total		Total Enrolled	
	Private(aided /unaided)	Municipality /Govt	Male	Female
Primary schools	105	73	24783	25604
Upper Primary	64	3	8021	16073
Secondary schools	95	28	2383	1956
Junior collages	71	2	16052	11504
Graduation colleges	6	-	1326	2120
Technical college	20(18private colleges, 2 govt colleges)		5466	10596
Source; 2009 census				

2.14.9 Hospitals and Health care :

There are 22 community healthcare centers and 300 private hospitals in the Vijayawada . It is a major center of general and specialized health care services such as Kidney care, Heart care and Multi specialty Hospitals are constituted

2. 14.10 Water :

Water supply for industrial purposes in the district can be obtained from two main sources, viz Krishna River and Ground water

2. 14.11 Cinemas and entertainment:

There are 15 Cinemas halls in the city include These are giant sized parcels of land which allow individuals to congregate for festive occasions where probability of disasters like crowd stamping, congestion, electrocution may lead to life/property loss. Therefore the public entertainment places should be kept safe

CAPABILITY ANALYSIS

CHAPTER-3

The City does have background of severe calamities in the past accordingly the infrastructure has been developed in due course of time

3.1 Municipal Infrastructure details (Structural)

Sno	Particulars	Strength
Engineering		
1	Staff Strength	80
2	Sewerage Treatment capacity in MLD	60MLD
3	Water mains	960 kms
4	House Service Connections	56,000 water connections
5	No. of Public Stand Posts(Public taps)	2,892
6	No. of Power Bores	56
7	No. of Boosters	27
8	No. of Hand Bores	2421
9	Water supply per day	41 MGD
10	R.G. filters	34.500 MGD
11	Infiltration galleries 10 MGD	2.000 MGD
12	Ground water	5.000 MGD
13	Water supply	95%
14	Sluice	3
15	Vents	
16	Per Capita Supply in LPCD	160 LPCD
17	Length pumping main in Kms.	47.00 Kms.
18	No. of ELSRs	35(reservoirs)
20	No. of HSCs	99,526
21	Length of UGD	392 km

Vijayawada City Disaster Management Plan - 2011

22	Open drains	1122.4
23	UGD connections	32,837 nos
24	Length of Roads(Corporation)	1240 .72k.m.
25	Public toilets	78

Health

22	staff	2500 nos
23	Urban Health Centre's	22 urban health centers
24	Maternity hospitals	4
25	Ayurvedic hospitals	12
27	Doctors	22
28	ANM	44
29	laboratory	4
30	staff	56

UCD

31	Stitching centers	21
33	Houses constructed	24556
34	No of MFI s(Micro finance institutions)	3

Education

34	Staff	622
35	No of Primary/Upper primary schools	2 (1 Urdu Medium and 1 Telugu Medium)
36	No of High schools	28(Including 3 Urdu H.S., 2 Schools both E.M.&T.M.)
37	Elementary schools	65+10= 75 (10 Urdu Media)(5 E.M.Including E.M)
39	No of colleges with NCC/NSS wings	18
41	No of schools equipped with Protection equipment	nil
42	No of schools constructed with disaster proof design	1

Vijayawada City Disaster Management Plan - 2011

Town Planning		
43	Staff	32
46	Parks	4 city level parks and 45 fenced & 35 unfenced open spaces
47	Housing	under JNNURM. 2016 Nos of housing units constructed

3.2 Strength of Capable resources

Infrastructure	Govt	Private
Total Geograpic area	6207 Sq Km	
Facilities		
Number of NGOs working in the District		60
Staff available with NGOs		600-1000
Hospitals	6	200
Hospital beds	490	1000
Doctors	296	300
Traders		5000
Religious Trusts	3	10
Co-operatives	4	10
strength of transport vehicles		382568
Strength of Non transport vehicles		79261
Ambulances	5	10
City buses	703	100
Transformers	387	-
Personnale		
Police Service Personnel	416	-
Fire Brigade Personnel	72	-
Health Service Personnel	849	-
Ex-service men	1608	-
Home Guards Personnel	120	-

Vijayawada City Disaster Management Plan - 2011

Infrastructure		
Number of wards with Fire Brigade Service	5	-
Number Hospitals with Surgery facility	2	10
Number of X ray machines with public institutions	-	8
Number of blood banks with private institutions	-	5
Number of trauma care centres in private hospitals	-	4
Number of poison care centres in public hospitals	-	5
Number of pathological labs with private organisations	4	50
Number of godowns with public organisations	3	10
Number of wireless sets with public organisations	-	500
Technology Support		
Satellite Communication Link facilities	Yes	-
Availability of Fax machines	20	10
Number of police stations with wireless sets	10	-
No of helipads	4	-

3.3 Capability analysis: Available resources: manpower

Resource	Capability			Availability			Duration		
	City level	Ward level	City level	Easily Available	Rarely available	Not available	Short duration (1 week)	Medium Duration (two weeks)	Long duration (1 month)
Police	Yes	Yes	Yes	Yes					yes
Fire Brigade		Yes		Yes					yes
Defense (NDRF)	yes		Yes				Yes		Yes
Home Guards			Yes				Yes		Yes
Health Services	Yes	Yes	Yes	Yes					Yes
Civil Supply & Food	Yes	Yes	Yes	Yes					Yes
Power Supply	Yes	Yes	Yes	Yes					Yes
Water Supply	Yes	Yes	Yes	Yes					Yes
Engineering Services	yes	Yes	Yes	Yes					Yes
Civil Defence	no	Yes	Yes		Yes	yes			
NGOs	Yes	Yes	Yes	Yes					Yes
Community Based organisation	Yes	Yes	Yes	Yes					Yes
Private Hospitals	Yes	Yes	Yes	Yes					Yes
Professional Associations	yes		Yes		Yes				Yes
Association of traders	yes	Yes	Yes		Yes				Yes
Religious Trusts	Yes	Yes	Yes		Yes				Yes
Colleges Student Volunteers	yes	Yes	Yes		Yes		Yes		Yes
Road Network	Yes	Yes	Yes	Yes					Yes
Railways	yes	Yes	Yes		Yes				Yes
Airways	yes		Yes		Yes			Yes	

Inventory and evaluation of resources

The district has necessary resources that can be immediately put to relief work in case of any disaster. Mainly Municipal Corporation and Revenue Departments are comes first in providing relief and rehabilitation measures, apart from that There are other Line departments like Police, Civil Supplies, Fire, Irrigation, NDRF(Notational Disaster Response Force etc will come in action as and when informed. There are few NGOs, Voluntary

Organizations working in the city will also come to help City administration in case of emergencies.

Communication and Media :

The district has good network of wireless (police communication network), which has to be strengthened to cover the remote areas as well.

Mass Media

There are (13) local news papers and (5) cable operators in the district. Doordarshan Station and AIR station also will be used for educating/creating awareness among the public at times of emergencies.

District Communication Network

All the departments are having telecommunication facilities. Wireless communication sets are available with Police Department and Forest Department

Preparedness Apparatus

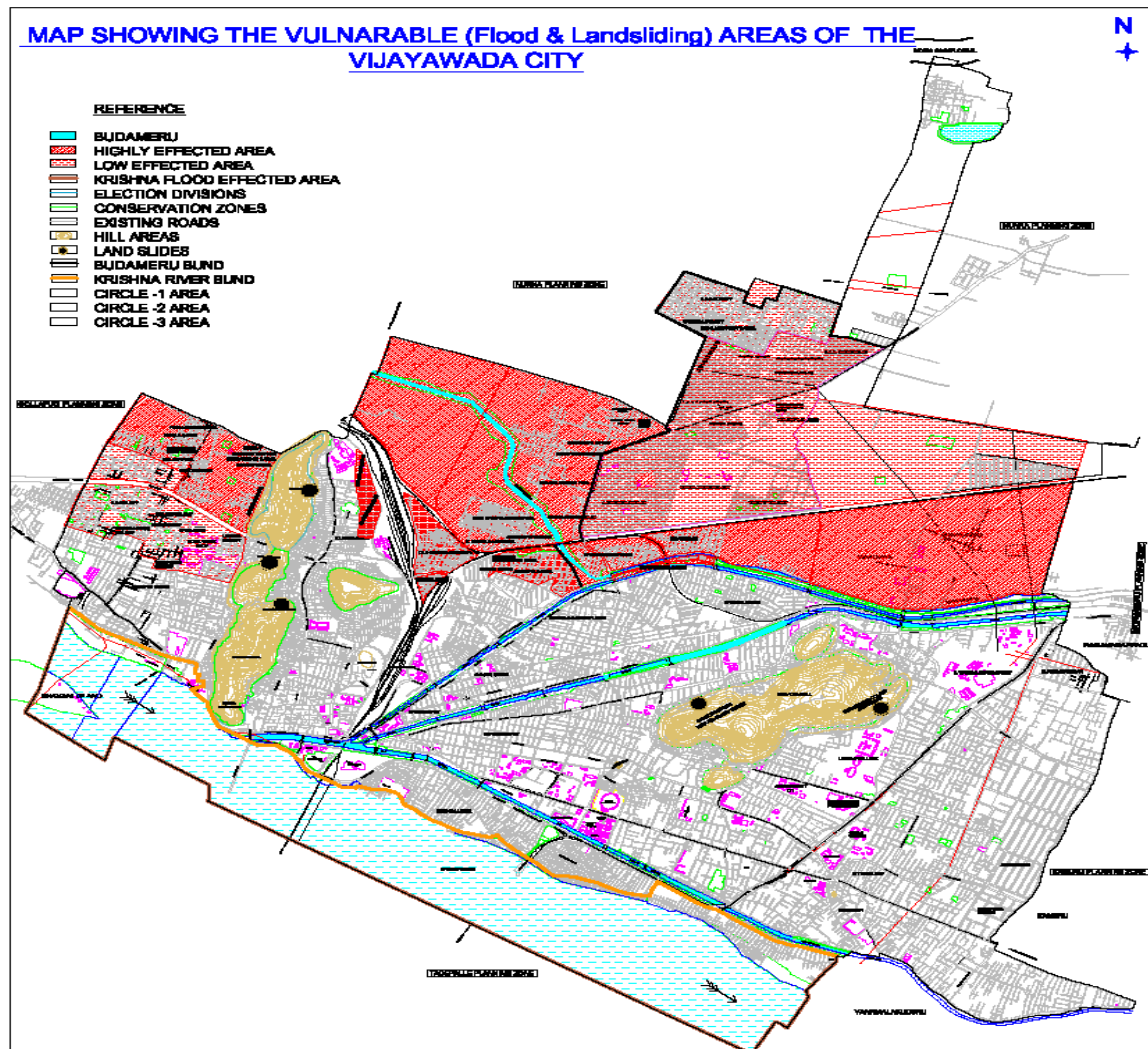
The district administration along with all the departments are ready to plunge into action at short notice. The Police, Home guards, Fire Force, Forest Department, Medical Staff are well trained in their fields to take up rescue works.

Control Room

At present there is a Control Room of the Police Department functioning round the clock. Depending upon the need, additional control rooms will be set up by the District Administration at District and Taluk Levels transmitting necessary instructions/information.

HAZARD, RISK AND VULNERABILITY ANALYSIS

Map showing the extent of area prone to Multi Hazards



CHAPTER-4

4 Hazard Risk vulnerability Analysis

Hazard risk vulnerability (HRV) assessment is a formalized approach to identify, quantify and evaluate potential Natural and Manmade. The HRVA describes through following procedures :

1. Hazard Identification
2. Hazard quantification and
3. Effect analysis

The natural settings in their pristine state ensure a balance in the ecosystem establishing a conducive and sustaining relation between biotic communities and a biotic surroundings.

The imbalances brought in by the society, knowingly or unknowingly, affect adversely the living environment and conditions, Vijayawada is special, in that a number of such imbalances started recently. Such spots and areas are prone to be hazards and disasters in one form or the other as an impact affecting the people in the form of ill health, accidents, mishaps, misery and losses of lives and properties.

4.1 Hazard Identification and Analysis

Vijayawada city is situated on the banks of the river Krishna River around 150 km east of the Nagarjuna Sagar Dam and 70 km west of Bay of Bengal. Vijayawada is prone to natural disasters such as riverine floods and cyclones. Further, the anthropogenic activity including unplanned formation of the settlements, inefficient legislation, unsafe building practices, and disorganized public services has in the recent increased the vulnerability of the people of Vijayawada to other hazards such as earthquakes, hill slides, and urban fire and Budameru floods.

With the growth of industries in its vicinity the economy and the population of Vijayawada city has been growing over the past two decades. Even though there has been a decrease in the rate of growth of population, the growth rate was 22% (1991 – 2001) which is higher than the national average.

Rapid urbanization has led to the increase in demand for land within the old city area and expansion of the city along the peri-urban areas. Since there is a lack of efficient and effective public transportation, people especially from the low socio-economic class started to gradually move towards the prime (in terms of accessibility) but highly hazard risk prone locations within the city. With inadequate public infrastructure, higher population growth rate, inadequate contingency planning, and deficient urban governance the problem of settlements within unsafe locations are steadily increasing.

Important hazards of the Vijayawada are as follows

4.1.1 Floods

Inundating the area due to Rain or River is called the flood

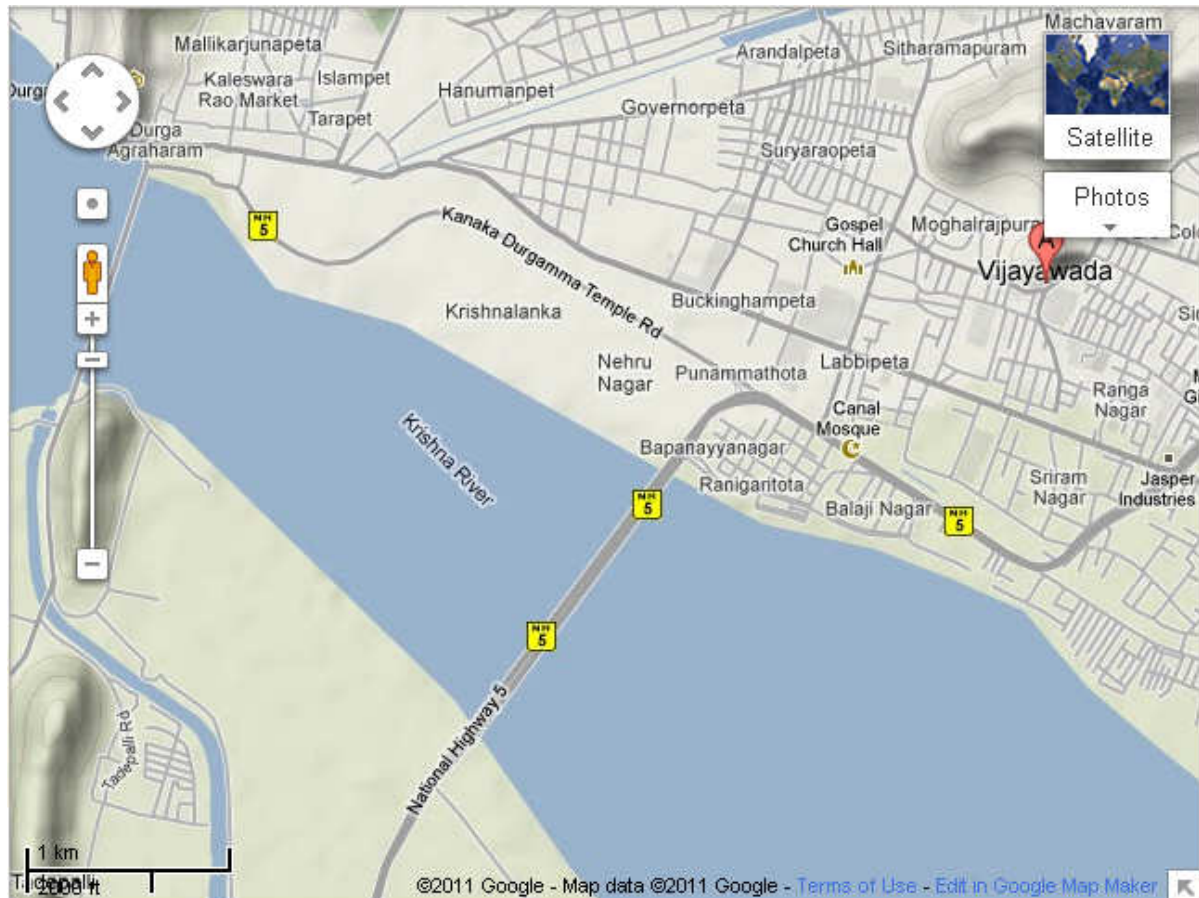
Floods are caused with two rivers in the Vijayawada. One is Krishna River which is on the southern part of the city and the other is Budameru River which is on the North- Western part of the city. Both these rivers contribute to the canal network. Bandar canal and Ryves canal are fed by Krishna River while Eluru canal is fed by Krishna River and partially by Budameru River. The contribution of water from Budameru is mostly seasonal and the canal networks are used to discharge excess/flood waters.

The topography of the city is complex. The central part of the city is above flood plain with hills while Southern and Northern parts of the city are on flood plain. This problem was realized by the irrigation department in later half of twentieth century and bunds were constructed along canals to prevent flood waters from entering the city.

In the past four decades the city due to its growing population has infringed into flood plains. This has led to regular flooding within the settlements during the monsoons especially due the later half when the river flows bank to bank.

The floods in Vijayawada city due to Krishna river, is a regular phenomenon. Almost every monsoon people living in the flood plains of Krishna River are affected.

4.1.1.a Map Of Krishna Flood Area



4.1.1.1 Krishna Floods

The floods in Vijayawada city are due to Krishna River is a regular phenomenon. Almost in every monsoon people living in the flood plains of Krishna River are getting affected by the floods. The primary reason for the flooding is the unauthorized settlements along the river which had taken place due to lack of planning and enforcement.

Flood in the River Krishan are both due to South – West Monsoon in the middle of June and continues up to end of September and North – East Monsoon begins in October and continues till end of November. High floods usually occur during October. The highest flood level with corresponding discharges ever recorded at Prakasam Barrage are noted as 7.4 lakh cusec in the year 2005 and 11.1 lakh cuses in the year 2009. This flood recorded around 22ft depth of water over the crest of the Prakasam Barrage (+67 ft)

4.1.1.2 Satilite Imagery Map of Krishna River and Flood bank Position at Vijayawada



4.1.1.3 History of Hazard

In general, flooding by the Krishna River is a regular phenomenon. In spite of the risk of flood being well known, it is the anthropogenic activities which have taken place in the city over the last four decades have placed the people in the vulnerable locations. The flood history of Krishna River indicates that its flow is uncertain. With the embankments in place the river flows bank to bank almost once in every five years or twice every decade. This time span of five years usually encourages low economic class people to settle on the flood bank. Further the presence of embankments provide a false sense of security to the people and also encourages people who are on the river bed that soon the government is going to construct a embankment that will protect their house.

With the rapid increase in population, large numbers of people end up occupying the area between the flood bank along the Bandar canal and the Krishna River. These areas are subjected to regular flooding during monsoons. In order to safe guard the people and the livelihood the Irrigation department constructed a flood bank parallel to the old bund including the unauthorized settlements which had come up. This structure was designed to prevent the settlements from flooding. The old flood bank was then converted to serve the purpose of transportation (currently NH5). The people who were earlier residing in flood plain were provided with legal ownership and the area was included within the city town planning scheme.

4.1.1.4 Year Wise observed Maximum Floods In Krishna River

Sl.No.	Date	Moht	Year	Cusecs	U/S Side	D/S Side	Barrage
1	7 th	Oct	1903	10,60,830	(+)70.55	(+)69.55	23.50
2	11 TH	Aug	1914	9,48,632	(+)68.20	(+)67.95	21.15
3	2 nd	Nov	1917	9,55,460	(+)68.10	67.25	21.05
4	24 th	Sep	1949	9,24,736	(+)68.15	(+)66.00	21.10
5	2 nd	Oct	1964	9,87,852	(+)68.25	(+)65.30	23.20
6	6 th	Aug	1966	4,12,734	(+)57.95	(+)55.90	12.90
7	30 th	Sept	1974	5,97,800	(+)60.65	(+)58.40	15.60
8	10 th	July	1983	8,27,310	(+)64.05	(+)62.35	19.00
9	24 th	July	1989	6,86,910	(+)61.95	(+)55.0	16.90
10	17 th	Oct	1998	9,32,000	(+)65.45	(+)63.30	20.04
11	21 st	Sept	2005	7,40,232	(+)62.65	(+)60.00	17.60
12	17 th	Aug	2006	5,56,618	(+)59.85	(+)57.60	14.80
13	21 st	Sept	2007	5,56,618	(+)59.85	(+)57.60	14.80
14	11 th	Aug	2008	4,22,660	(+)57.055	(+)55.20	12.50
15	5 th	Oct	2009	10,94,422	(+)68.78	(+)67.50	234.73

The maximum flood discharge observed during the year 1903 is 11.90 lakh cusecs. After the construction of the Nagarjuna Sagar Dam in the upstream of the river, during the year 1998 Krishna River received a maximum flood discharge of 9.32 lakh cusec and caused alarming situation throughout the flood banks below the Prakasam Barrage. Subsequently the flood banks of Krishna River were restored to original standards during the year 1999 to 2000.

These restorations did not include flood banks which are within and nearby Vijayawada city namely Krishna Left Flood Bank (upstream of

Prakasam Barrage) and Krishnalanka Flood Bank (downstream of Prakasam Barrage).

4.1.1.5 Reasons for Krishna Flood

1. This region receives maximum rainfall both by southwest and retreating monsoons.
2. The primary reason for the flooding is the unauthorized settlements along the river which had taken place due to lack of planning and enforcement.
3. Vijayawada is located on the line which separates the delta-irrigated lands
4. Flood bank below barrage is about 6.40 Km which creates havoc in flood season from June to December.
5. High Water release at time from barrage with 4,12,734 to 10,94422 Cusecs of water released in various years.
6. Developmental activities like sluice connectivity to into the river is causing back water(3 sluices connected into river)
- 10 Bund cutting for public private developmental activities (ex: sluice, storm water drains) approach roads for bigger vehicles.
- 11 Allotting the residential areas officially in flood zone. Ex: Police colony.

12 trespassing the river bunds by people

13 damage to the river bunds by rodents

14 Breach occurrence and damages occurred to the flood bank with slips and erosion.

15 Negligence and helpless condition making people to stay at the houses even after passing the warnings

16. With little authoritative power over the settlements along the flood banks, the irrigation department is unable to attend swiftly in vulnerable areas.

17. This situation is further complicated by the false hope provided by the politicians in their campaigns during elections that they would support these illegal settlements. In order to gain vote, some of them even promise to protect these people by assuring that once they are elected they would legalize their settlements and will also revisiting the existing embankments. This measure was taken in 1970's when the location of embankments were changed to include people who are in the flood plains. The history provides people with false hope and at the same time encourages them in moving towards more risk prone areas. With little or no control over the encroachment on the flood banks, the quality and the structural integrity of the embankment to withstand the pressure from the flood waters is a matter of significant concern.

4.1.1.6 Elevation and location details of Flood effected areas

Elevation and location details of Flood effected areas			
Area	Elevation	Longitude	Latitude
Krishna River	37 Ft.		
Krishna Lanka	86 Ft.	16 ⁰ 30'17.70" N	80 ⁰ 36'22.61" E
Krishna Lanka	72-83 Ft.	16 ⁰ 30'12.64" N	80 ⁰ 37'19.48" E
P.N.Bus stand	85 Ft.	16 ⁰ 30'30.54" N	80 ⁰ 36'59.67" E
VMC	97 Ft.	16 ⁰ 30'38.41" N	80 ⁰ 36'42.15" E
Krishna Lanka Tardwra	62-73-74 Ft.	16 ⁰ 37'27. 80" N	80 ⁰ 30'11.79" E
Ranadhive Nagar	74-79 Ft.	16 ⁰ 30'20.69" N	80 ⁰ 37'12.75" E
Bus Stand back	69 Ft.	16 ⁰ 30'22.00" N	80 ⁰ 37'00.54" E
Bhupesh Gupta Nagar	55-64 Ft.	16 ⁰ 29'46.92" N	80 ⁰ 38'07.91" E
Ramalingeswara Nagar UGD	53 Ft.	16 ⁰ 29'07.94" N	80 ⁰ 39'21.17" E
Police Colony	59 Ft.	16 ⁰ 29'08.01" N	80 ⁰ 39'24.18" E
K.R.Market	81 Ft.	16 ⁰ 30'48.62" N	80 ⁰ 36'49.36" E
Indira Gandhi Stadium	70 Ft.	16 ⁰ 30'17.72" N	80 ⁰ 38'17.23" E
RTC Colony	85 Ft.	16 ⁰ 31'51.24" N	80 ⁰ 36'15.21" E
Gannavaram	80 Ft.	16 ⁰ 31'50.99" N	80 ⁰ 47'45.57" E
Patamata girls High School	69 Ft.	16 ⁰ 29'43.39" N	80 ⁰ 40'05.38" E
Krishna River at Punnami	52 Ft.	16 ⁰ 31'28.76" N	80 ⁰ 35'08.48" E
Punnami Ghat	82 Ft.	16 ⁰ 31'34.71" N	80 ⁰ 35'16.88" E

4.1.1.7 List of vulnerable areas to the Krishna flood

Vulnerable areas

Sno	Vulnerability	population	area	Circle	Division/	Area
6	Krishna Flood	15557	1.15	1	26	Lanchi Revu
7		15722	1.88		27	karakatta
27	Krishna Flood	15814	2.81	3	14	Police colony
28		14798	0.65		15,	Bhupesh Gupta nagar,
29		14608	0.5		16	Tarakaramanagar
30		14725	1.46		22	Randheer Nagar
		15418	0.72		23	
		15320	1.92		24	Busstand (back)Saibaba temple
31						
		121962	11.09			

Vijayawada City Disaster Management Plan - 2011

4.1.18 Vulnerable groups to Krishna floods

Sl. No.	Name of the Village	Municipal Ward	Male	Female		Children under 5	Handicapped/Single Parent Family
			Above 65	Pregnant	Lactating		
1	Bhupesh Gupta Nagar (Krishna Lanka)	15	1174	87	93	176	0
2	Tarakarama Nagar (Krishna Lanka)	16	1103	102	95	165	0
3	Ranadheer Nagar (Krishna Lanka)	22	1676	29	23	251	0
4	Ranadheer Nagar (Krishna Lanka)	23	1619	31	26	243	0
5	Near PNB Bus Station	24	2247	124	93	337	6
6	BhavanipuaramLanchila Revu	2286	17	10	146	..	0
	Karakatta	1258	68	69	922	..	0
7	Police Colony, Kalanagar, Balaji Nagar, Ramalingeswara Nagar	1598	254	284	5179	1267	3
	Total		7819	373	330	1172	

4.1.1.10 vulnerable points

The flood bank is fully occupied with encroachments at both sides. There are several vulnerable points existing throughout the flood bank, as the department is unable to attend for maintenance works due to encroachments.

There are three out fall sluices in the flood bank to drain off the city drainage water into the River. The flood situation is observed more alarming along Krishna lanka Flood bank. The flood bank is proposed for under modernization of Krishna Delta.

Sluice at Krishna River

Sno	Sluice location
1	Swargapuri
2	Ramalingeswaranagar
3	Bhupesh Gupta Nagar

4.1.2.1 Budameru Floods

The Budameru River flows from the North Western part of the Krishna District. The river originates in the hills surrounding Mylavaram and flows into Kolleru Lake. In order to control the floods the river is dammed at Velagaleru village, Budameru diversion channel (BDC) is constructed from Velagaleru to join Krishna River upstream of Prakasam barrage.

Budameru River is mainly controlled at two areas before reaching Vijayawada city. The first is the regulator across the Budameru drain at Velagaleru village and at Vijayawada Thermal Power Station (VTPS) which is located on the western part of the city on the upstream of Prakasam barrage. The Budameru River apart from flowing along the western part

of the city towards the VTPS also enters the city from the north leading into the Budameru canal which runs parallel to Eluru Canal.

The problem starts at the tail end of the monsoon, with the reservoir being almost full (but not to its full capacity) and the occurrence of severe rainfall. Since the mandate of the regulator management at Budameru is to fill the reservoir to its capacity and the uncertainty within the rainfall information the release from the regulator drain block, water flow from local catchment causes flooding usually in the northern part of the city

The uncertainty in the rainfall is a common phenomenon within the Krishna Basin. This is especially due to the depressions and cyclones which form in both the Arabian Sea and Bay of Bengal. This uncertainty combined with the limited carrying capacity of the river and the proximity of the Velagaleru Village regulator provides low respite time for both the administrative personnel to prevent the floods and people to prevent their losses. The design and establishment of the EWS should take into account of this important aspect.

The Budameru flood assessment is based on the study of topography and location information collected from secondary sources. There was not much information made available with respect to the regulator release at the Velagaleru Village. Further, there is also much uncertainty with respect to the bathymetry and the channel width of the river.

Budameru canal which has already been indiscriminately blocked by developments and encroachments resulting in thousands of people abandoning their shelters to safe places, loss of property, leaving unhygienic environment for weeks.

Settlement along the river course, the vast land pockets on both the sides of the rivulet in New Rajarajeswari Peta, and the Rajeev Nagar area are the prominent low lying areas prone to flood disaster.

up to 15000 cusecs of water can be blocked at velagaleru regulator. in 2009 high flood water receded , flooded in budameru catchment area and created lot of difficulty for few days. Budameru course is the water which enters into the Vijayawada city. Year 1962-2008 water flow can be observed over the years.

4.1.2.2 History

Budameru Water discharge during floods

Quantified Budameru Water discharge during floods				
Sl. No.	Date & Year	Discharge Through		Total Discharge in cusecs
		Budameru Diversion Channel in Cusecs	Budameru Course Cusecs (below reguletor)	
1	9.9.62	5900	2923	8823
2	22.8.63	6150	6168	12318
3	22.9.64	11125	28470	39595
4	19.5.69	7500	18580	26080
5	21.8.71	526	3196	3722
6	10.8.76	2225	14784	17009
7	31.7.78	6150	16302	22452
8	6.10.83	4250	9600	13850
9	13.8.86	6800	13200	20000
10	23.7.89	10625	24371	34996
11	11.5.90	7800	24473	32273
12	23.9.91	7500	18572	26072
13	24.8.2000	7850	3699	11549
14	20.9.2005	10945	14000	24945
15	10.8.2008	9900	7100	17000
Source: Irrigataion Dept				

The heavy rains during 1989,1990,1991,2005, and 2009 has caused floods. Historical flow tables 4.1.2.2 and 4.1.2.3 shows that the water flow increases along with the rain fall where as, when the rain fall was less water release is also less but the settlements along the river course and the vast land pockets on both the sides of the rivulet are seen the over flow of drains and inundation for days together. It is due to indiscriminately blocked by developments and encroachments. This resulting in thousands of people facing difficulties in terms of loss of property, health and some times lives.

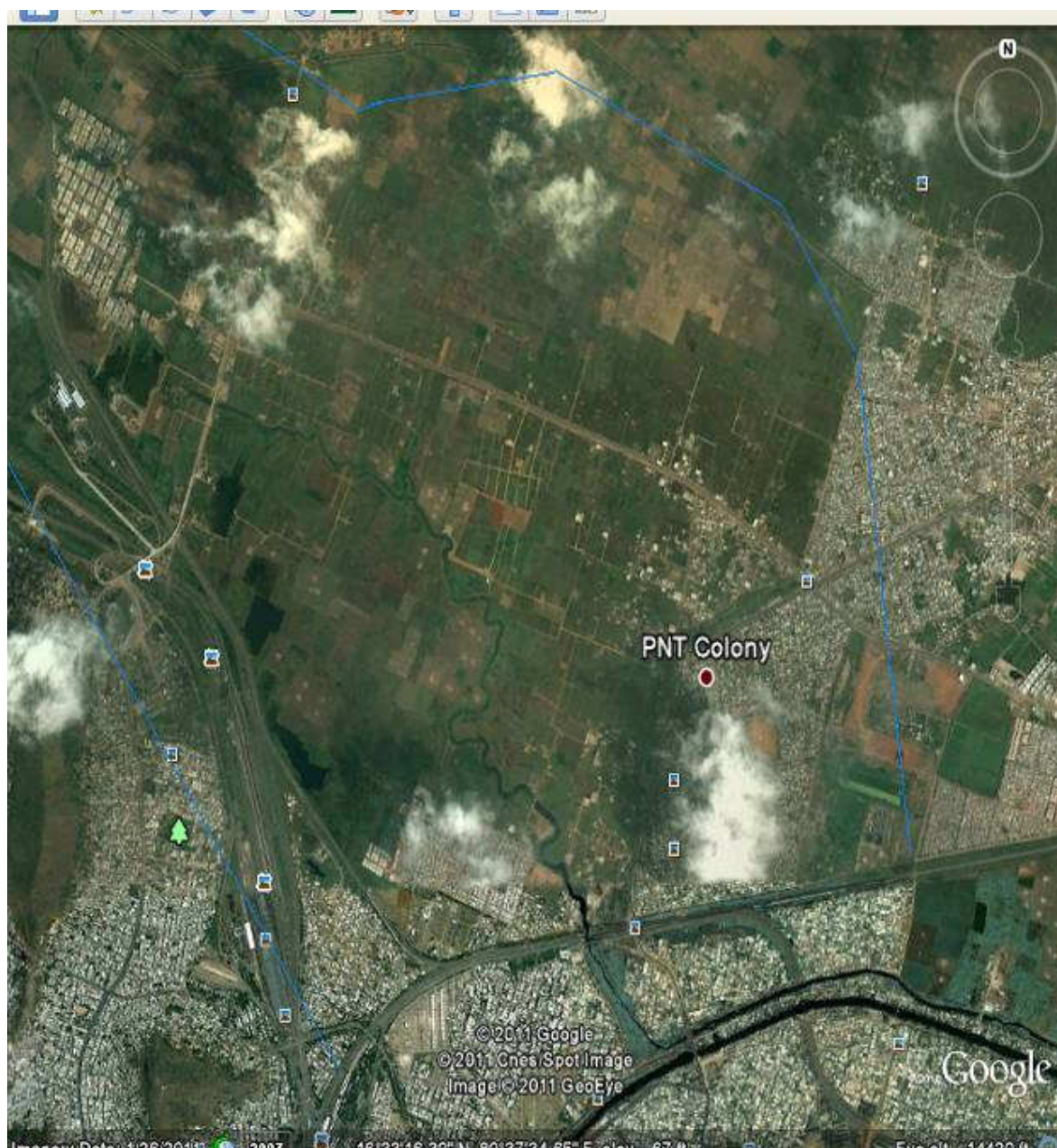
4.1.2.3 Rainfall and Flood particulars

Rainfall and Flood particulars				
		Rainfall (MM)		Flood flow (Cusecs)
Sno	Year	Actual	Normal	Budameru Course (below regulator)
1	1988-89	1264	1029	24371
2	1989-90	1580	1029	24473
3	1990-91	921	1029	18572
4	2005-06	1239	1034	14000
5	2008-09	1188	1034	7100

4.1.2.4 Line Diagram of Budameru Catchment

The recorded history of floods due to Budameru River dates back to late nineteenth century and the recent history include 1964, 1989, 1995, 1996, 1998 and 2005¹.

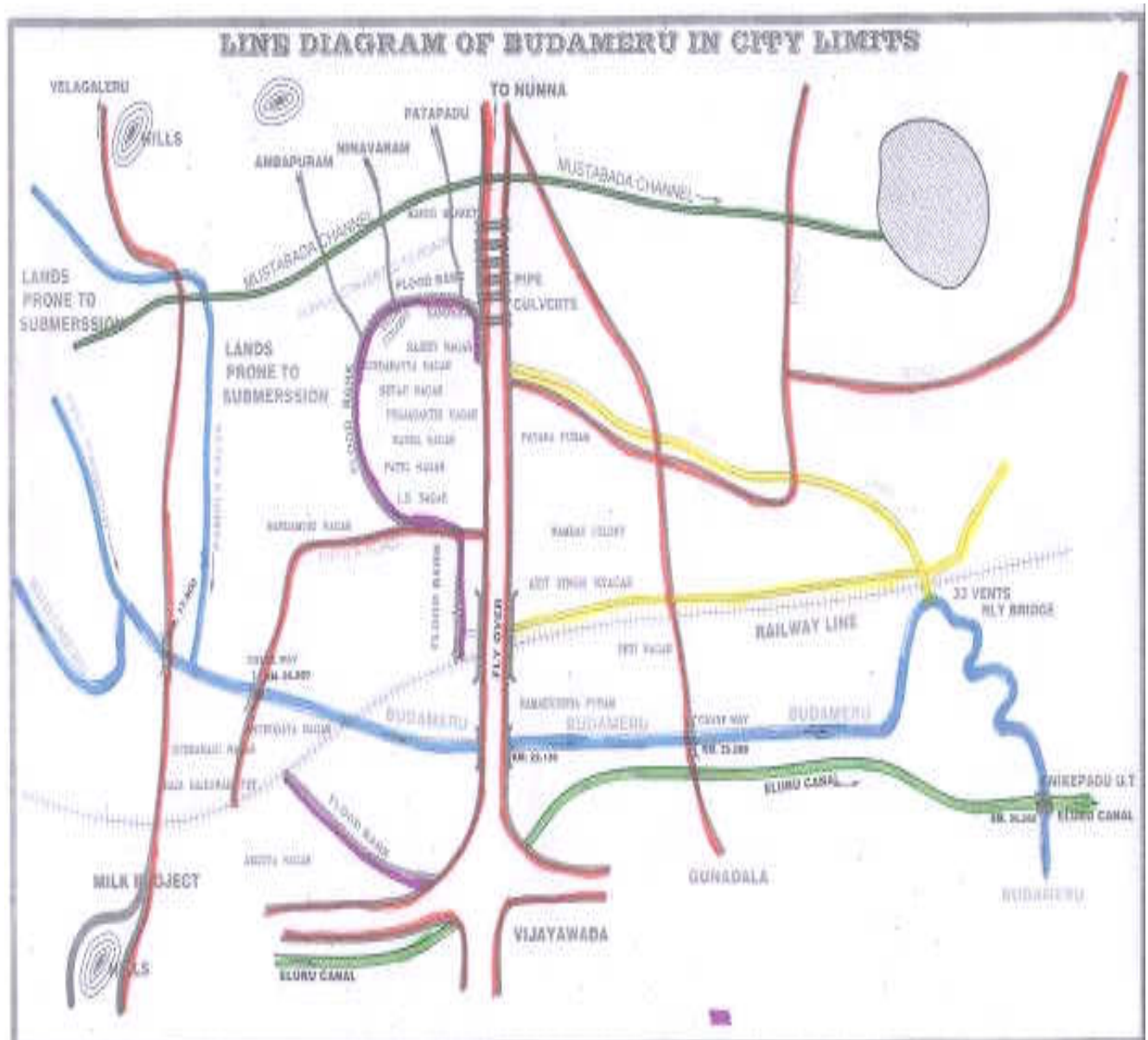
4.1.2.4 Remote sensing imagery of Budameru Catchment area



4.1.2.5 Remote sensing imagery of Budameru River and its catchment



4.1.2.6 Line diagram of habitations at Budameru catchment area



4.1.2.7 Reasons for Budameru Floods

1. Flood plain

1. While Krishna River flooding affects to the flood plains on the outside of the embankments, but the Budameru River affects the entire North and North western part of the city. This is mainly due to the limited carrying capacity of the Budameru river channel and lack of sufficient mechanisms to drain the excess water during severe rain into the Krishna River. Currently there exist diversion channels (BDC) which help to divert some of the flood water from Budameru River into Krishna River upstream of Prakasam Barrage. Nevertheless, the carrying/draining capacity of this channel is at question and the capacity ranges somewhere between 5,000 – 10,000 cusec.
2. Warning mechanism at upstream of the Velagaleru village, where the last regulator for river is currently in place. The distance between the Velagaleru Village and Vijayawada city is very small and does not create enough respite time for the people to react.
3. The problem arises when Budameru catchment gets more than average rainfall within 24 – 48 hours. This leads to the reservoir in the Velagaleru village reach critical level forcing the irrigation department to release water causing floods in Vijayawada.
4. Adding rain water from local catchment and Hills

2. Information:

From the stakeholder consultation, it was inferred that the current warning and evacuation is done by the Municipality during the times of need. While this has proven to be effective in the early situations, with large amount of new migrants moving into the city, they have little or no information about the history of the disasters within the

city. The lack of knowledge of the previous history of flood and landslides, with false encouragement and assurance from others (including legal/illegal transaction), people tend to settle in high risk prone areas.

3. The settlements

The population growth of the city has led to the slow movement of people towards the foot of the hills ,which later led to expansion in to the flood zones. Even though much of these settlements are unauthorized the municipality attempts to cater to the basic needs of these illegal settlements by providing services such as roads, water supply and sanitation. These privileges have further encouraged the settlements in expanding in the high slope / risk prone areas.

Other reasons

4. Indiscriminate human activities like trespassing, Laying constructions into the flood zone of budameru
5. Non feasible house constructions
6. Silting of drains
7. Accumulation of Water hysinth in Main Budameru
8. Occupation of drain embankments
9. Back water due to conjution in storm water (HB colony, Bhavnipuram)
10. Raising the road levels in flood path
11. Occupying the flood bunds
12. Cutting, trespassing of bunds
13. Bund damage by Rodents , bund leaching (LBS nagar, pipula road)
14. Cutting the bund for development activities like bus shelters, beautification etc (Singh Nagar)
15. Less awareness about the situation and negligence about the problem among people.

- 16.** Besides this chocking storm rain water canals, sluice and back water also cause the budameru flood severely and damage the lives and property

4.1.2.8 Elevation details of probable Flood effected areas with Budameru

Elevation details of probable Flood effected areas with Budameru			
Area	Elevation	Longitude	Latitude
Ajit Singh Nagar	75 Ft.	16 ⁰ 32'21.66" N	80 ⁰ 38'28.52" E
Vambay Colony	68 Ft.	16 ⁰ 32'14.17" N	80 ⁰ 39'17.80" E
R.R.Pet	72 Ft.	16 ⁰ 31'59.80" N	80 ⁰ 37'47.60" E
Budameru at New R.R.Pet	67 Ft.	16 ⁰ 32'07.69" N	80 ⁰ 37'53.65" E
Rajeev Nagar	67 Ft.	16 ⁰ 32'15.18" N	80 ⁰ 39'12.40" E
R.R.Peta field	67 Ft.	16 ⁰ 32'43.98" N	80 ⁰ 37'25.68" E
Jakkampudi	91 Ft.	16 ⁰ 35'01.71" N	80 ⁰ 36'55.58" E
LBS Nagar	68 Ft.	16 ⁰ 32'59.87" N	80 ⁰ 38'50.60" E
Andhra Patrika Colony		16 ⁰ 33'00.92" N	80 ⁰ 38'41.56" E
Rajeev Nagar	64 Ft.	16 ⁰ 33'22.73" N	80 ⁰ 38'45.93" E
LBS Nagar	68 Ft.	16 ⁰ 32'57.55" N	80 ⁰ 38'58.98" E

4.1.2.9 List of Budameru flood effected areas

Budameru effecting Areas					
S. No.	population	Area(Sq Km)	Circle	Division	Areas
1	7744.5	0.64	I	29	Rotary nagar, Ekalayvya nagar,Urmila subbarao nagar,ambedkar road,Kabela
2	7396.5	0.49		30	KLRao Nagar
	7814.5	0.21		31	Deenadayal Nagar,Ambedkar nagar
4	7861	0.94		27	Ambedkar Road
5	15201	1.25		28	Housingboard colony, Labor colony
Subtotal	46017.5	3.53		6	10
15	15355	0.33	2	36	Deenadayal Nagar,Ambedkar nagar
16	13023	0.56		49	Old RR Peta
17	14092	4.21		52	New RR peta, Arunodya nagar, Tammina Durga Rao Nagar, Nandamuri Nagar
18	14641	0.65		55	Indira nayak Nagar, Kanakadurga Nagar, Andhra Patrika Colony
19	14723	1.56		53	RK Puram, Vijayadurga nagar,Devinagar
20	13671	0.68		51	Ayodhya nagar
21	13234	0.44		57	LBS Nagar,Patel nagar
22	13904	1.39		58	Old Rajeev Nagar, Vaddera Colny,VUDA colony,New Rajeev nagar
23	13490	2.71		59	Radha Nagar,Prajasakthi Nagar,Kandrika Bose Nagar(NSC
24	13927	0.35		54	Singh Nagar
25	13253	1.36		56	Vambey Colony
subtotal	153313	14.24		11	23
26	14029	5.93	3	1	Sangam Road, Gandhiji colony,Karmel Nagar, Joseph Nagar
subtotal	14029	5.93		1	4

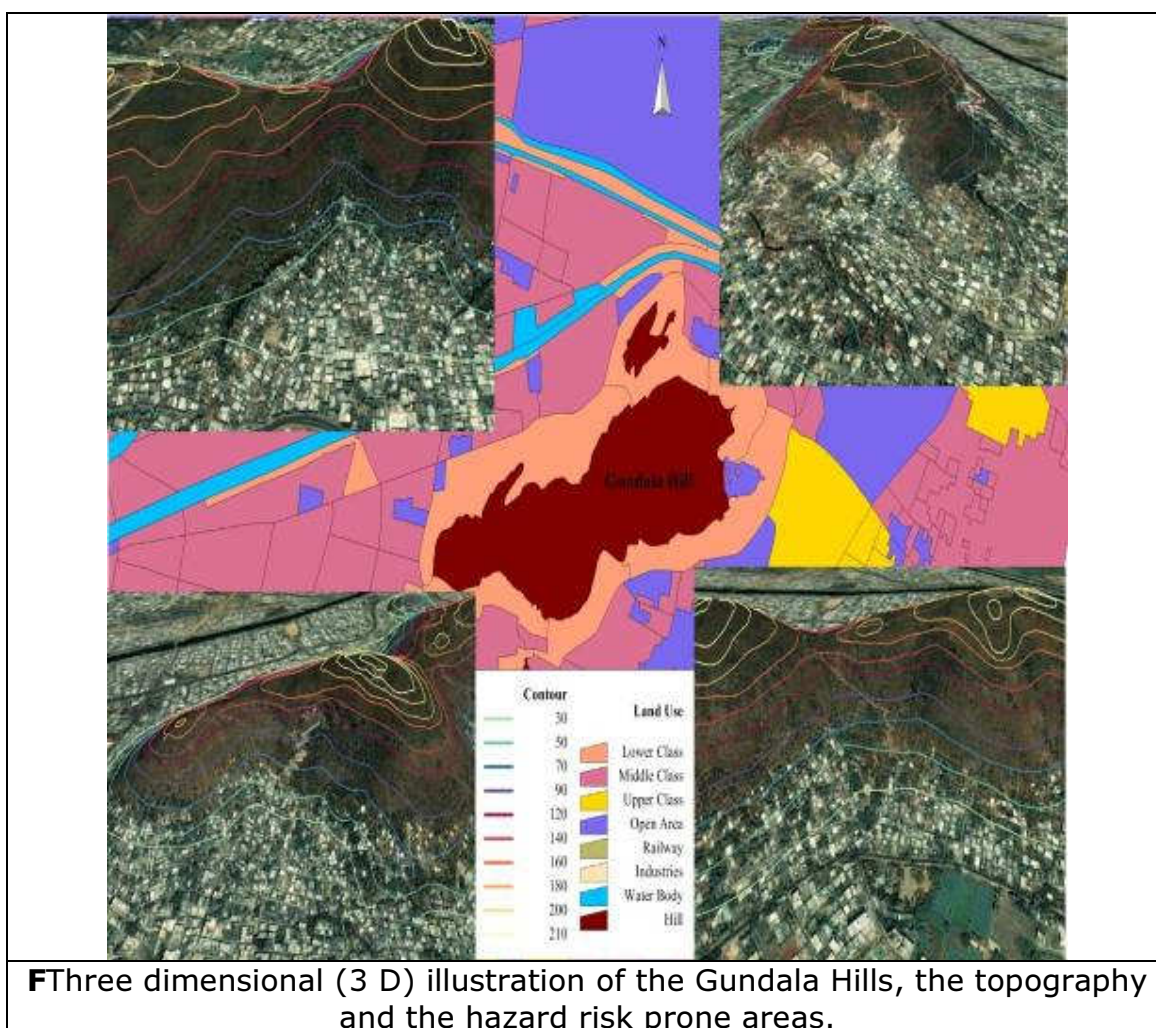
4.1.2.10 Possible effecting groups with Budamru floods

statement showing Possible Effecting Groups								
Sl. No.	Name of the ward	Name of the Area	Municipal Ward	Male	Female		Children under 5	Handicapped/Single Parent Family
				Above 65	Pregnant	Lactating		
1	Bhavanipuram	Rotary Nagar, Ekalayvya Nagar	29	1804	53	69	271	2
2	Vidyadharapuram	KL Rao Nagar	30	1573	63	70	236	0
3	Vidyadharapuram	KL Rao Nagar	31	901	60	40	135	0
4	Bhavanipuram	Urmila Subba Rao Nagar, Ambedkar Road	29	1804	53	69	271	2
5	Bhavanipuram	Ambedkar Road	27	1258	68	69	189	0
6	Bhavanipuram	Housing Board Colony, Labour Colony, Ramanagar	28	1275	24	20	191	0
7	Vidyadharapuram	Deenadayal Nagar, Ambedkar Nagar	36	2175	96	121	326	4
8	Vijayawada Village	Old RR Peta	49	2597	12	8	389	0
9	Vijayawada Village	New RR Peta, Arunodaya Nagar, Tammina Durga Rao nagar, Nandamuri Nagar	52	1409	96	52	211	0
10	Vijayawada Village	Indira Nayak Nagar, Kanakadurga nagar, Andhra Patrika Colony	55	1464	61	28	220	0
11	Mutyalampadu	RK Puram, Vijayadurga Nagar, Devi Nagar	53	1472	195	173	221	1
12	Vijayawada Village	Ayodhya Nagar	51	1376	55	37	206	0
13	Payakapuram	LBS Nagar, Patel Nagar	57	1323	199	120	199	0
14	Payakapuram	Old Rajiv Nagar, Vaddera Colony, VUDA Colony, New Rajeev Nagar	58	1390	61	43	209	0
15	Payakapuram	Radha Nagar, Prajasakti Nagar, Kandrika, Bose Nagar, (NSC)	59	1349	92	87	202	0
16	Mutyalampadu	Singh Nagar	54	1393	31	29	209	2
17	Machavaram	Vambey Colony	56	1325	185	118	199	1
18	Gunadala	Sangam Road, Gandhiji Colony, Karmel Nagar, Joseph Nagar	1	3063	0	0	459	0
	Total		755	28951	1404	1153	4343	12

4.1.3 Land sliding

Landslides are among the major natural disasters in the world. In hilly terrains of India, including Himalayan mountains landslides have been a major and widely spread natural disasters that strike life and property almost perennially and occupy a position of major concern. These landslides, year after year, bring about untold misery to human settlements. Landslides, debris fall, debris slide, debris flow, rock toppling etc. cause destruction of slope and ground surface, initiating the change of uncontrolled erosion in the mountain terrains.

4.1.3.1 Satellite Imagery of Hill areas and Topography



The Figure above identifies the areas which are in extreme slopes are prone to the landslide hazard risk. Even though enough data related to slides was not available since much of the incidences go unnoticed by the administrative or city management, as people don't report minor incidences due to illegal/ unauthorized status of their settlements. The vulnerability and the anthropogenic activities which contribute to landslides are explained in detail under the section vulnerability analysis.

4.1.3.2 History

The landslides which are also known as Hill-slides in Vijayawada are of serious concern. The topography of Vijayawada is marked with small and medium sized hillocks surrounded by plains. With the settlements surrounding and expanding over these hillocks has lead to the concern of landslides in the region. The regions around these hills are of red, sandy soil while the plains near the river Krishna are alluvial. The hills are mostly rocky and therefore lack dense vegetation. The population growth of the city has led to the slow movement of people towards the foot of the hills which later led to expansion on the hill slopes. Even though much of these settlements are unauthorized the municipality attempts to cater to the basic needs of these illegal settlements by providing services such as roads, water supply and sanitation. These privileges have further encouraged the settlements in expanding in the high slope / risk prone areas.

The above situation is further complicated with the rainfall and construction activities. While a heavy rainfall lasting for 24 to 48 hours cause little impact on the movement of boulders and rocks, continuous moderate to less severe rainfall occurring over extended period of time (one week to 10 days) cause the water to seep into the fractures within the rocks leading to landslides. Such incidences are further aggravated by the construction activities which usually disturb the internal stability of the land mass.

It is observed with the past experiences that in every year in rainy season, land slides occurs, causes loss of human lives and property. It became a difficult task to the city administration to face such untoward as there is no monitoring system to prevent such incidents.

4.1.3.3 Loss of property/Life in duration of 3 years due to land sliding

Area	Date	Reason	Time	Incident	
				Life Loss	Property Loss
Mogalrajapuram	6-11-07	Rain			Retaining wall
				Injuries	Thatched house
	27-07-08		7.30P.M		House
Brahamananda Reddy Nagar	28-07-08	Hill collapse			Property Loss
Vidhyadharapuram	28-07-08	Hill Boulder			Thatched house, compound wall
	03-08-08	Hill Boulder	10.30 AM		Mudwall
Faizorepeta, One Town	4-08-08	Rain			Wall
					Thatched Hut, Wall collapsed
		Rain			Two Thatched Hut,
	9-8-2008	Rains		2 Deaths	

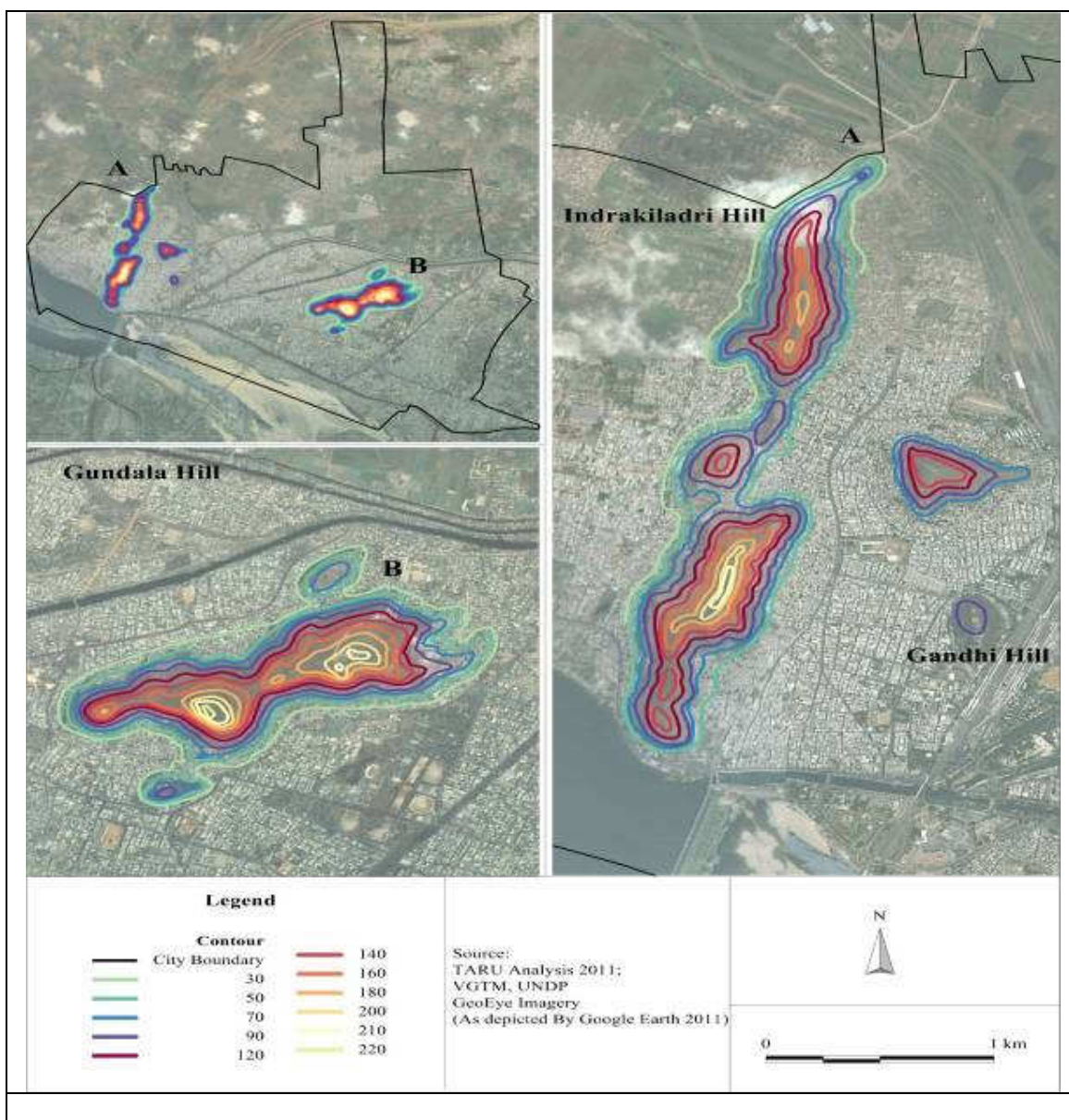
4.1.3.4 Reasons

1. Building vulnerability is a key to disaster risk in Vijayawada City. The people in low income group usually especially residing in flood plains and hill slopes usually opt for un-engineered structures. These structures are of brick walls covered with tin or thatched roofs. These structures undergo modifications over the years depending upon their income generated and need for further expansion. For example along the flood plains people occupy the land without permission from the Municipality or development authority and construct their temporary shelters. Since the return period of floods (river flowing bank to bank) ranges from three to five years, these temporary shelters get converted into semi structured housing with brick walls with tin roofs.

2. Similar pattern was also observed along the hill slopes where people start with the temporary shelters which get converted into semi-engineered structures. As the number of households gradually increases, they start to demand other services from the municipality such as water supply, sanitation and roads. Once the families settle themselves gradually they convert their houses from tin roofs to concrete roofs. Some of the houses even though they consist of brick walls and concrete roofs, these structures are not safe mainly because of the quality of construction and the people who actually execute the work. Most of the people, being from labor class, identify semi-skilled workers to design and construct/modify/expand their houses. With no monitoring and supervision from experts and people having little knowledge of the terrain and the impending risks usually opt to cut costs where possible leading to poor construction and haphazard development.

3. The expansion in the hill slopes follow similar pattern as that in flood plains. In addition, unlike the flood plains where risk is felt usually during the monsoon (especially during its tail end), landslides/hillsides/rockslides are experienced year around. The frequencies of these events do increase during the monsoons/storm season. As mentioned earlier, the quality of building construction is poor in hill localities. The overall quality of construction was found to decrease as one proceeds uphill where new developments are taking place. This is mainly due to lack of professional engagement in design and construction, lack of monitoring and supervision of activities, improper use of material, followed by low maintenance. Further, people who are used to living in plains tend to move towards the hills without appreciating the possible risks.

4.1.3.5 Map illustrating the Landslide Hazard Risk prone areas in Vijayawada City



5. Construction of houses in these areas are carried out by semi-skilled laborers who with their limited experience of working in plains think similar technology will also work in the hills. Such practices have added to the risk of landslides causing “building slides” where houses constructed without proper plinth slide from

their base and collapse onto the houses, which are located at the lower elevation.

6. The building slides happen over time and the causes range from internal seepage in the drainage, improper joints, non-technical construction, poor quality of materials, and construction of buildings without proper foundations. People in these areas should be more concerned about the quality of construction of the houses uphill to them to prevent any major loss to their property and life.
7. People reshaping the hills for the expansion of their building to accommodate their expanding family and need for more space. The reshaping takes place in without any understanding of the physical structure of the terrain causing mass movements.
8. Having settled in the risk zones people over the years develop mechanisms to live with the hazards. Further, having experienced disastrous situations people tend to develop resilience to the dangers and start to accept such events as part of their regular life. This combined with the need (in case one of their family members gets married) and greed (to generate additional income through rent) forces people to expand. In the flood plains people tend to expand by encroaching into the flood banks which are constructed for their protection.

4.1.3.6 Land slides effected areas

Sno	Vulnerability	population	area	Circle	Division/ n/	Area
8	Hill slides	15279	0.52	1	33	Ramarajya Nagar,aggipettela vaari veedhi
9					29	Sithara Theatre (Church Road)
10		14793	0.98		30	Lanmbadi peta
11		15629	0.42		31	tannerpeta
12		15734	0.17		32	Katikala Masthan veedhi
13		15450	0.41		34	Potulaadiyyaveedhi, dokkara papaya veedhi
14		15286	0.8		25	mallikarjun peta
32	Hill slides	13055	1.91	2	3	vijayanagar colony,Arunnagar
33		15223	0.57		6	Ramalayaveedhi, venkata swami veedhi
34		12907	0.63		19	Kasthuribhaipeta, Khajayalamanda veedhi
	Total	41185	3.11		3	6

4.1.4 Earth Quake

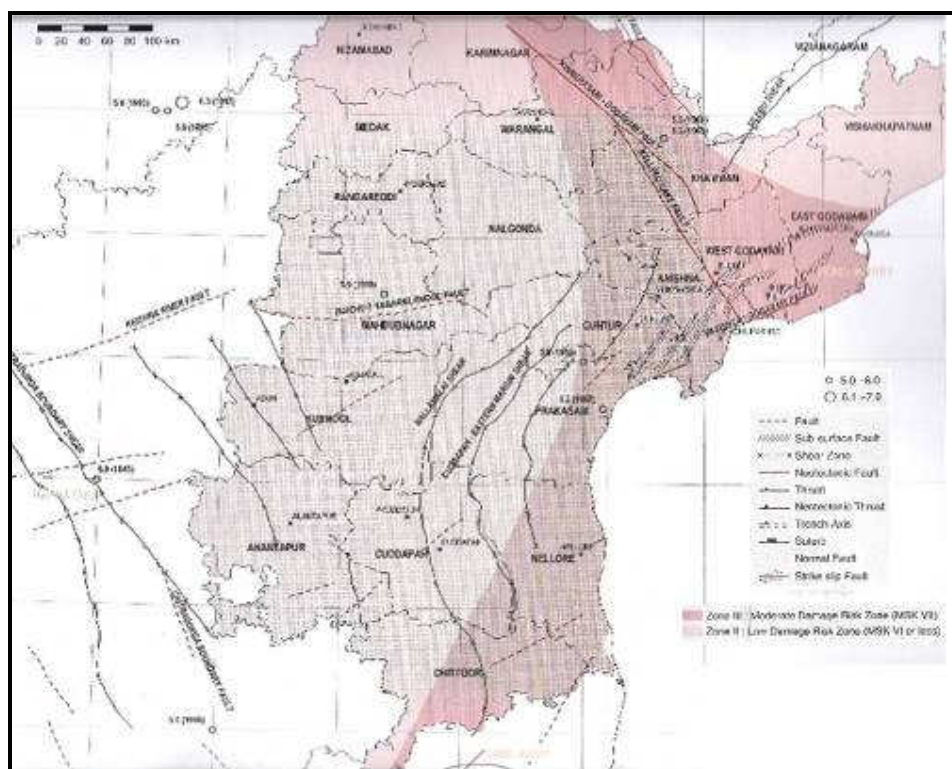
The ground movements caused by earthquakes can have several types of damaging effects. As the vibrations and waves continue to move through the earth, buildings on the earth's surface are set in motion. Each building responds differently, depending on its construction.

The seismicity or seismic activity of an area refers to the frequency, type and severity earthquakes experienced over a period of time

Vijayawada city lies in Zone III which refers to moderate damage risk zone (MSK VII). The earthquake zonation for the state of Andhra Pradesh is presented in the Figure above along with its classification.

Even though the city is in risk zone the quality and location of the building may add to the more vulnerability of the region. In addition study on liquefaction analysis along with other parameters may be carried out for assessment of detailed seismic hazard of the city. The catalogue of historical earthquake incidences is presented in Table below:

4.1.4.1 Earthquake hazard map



Earthquake hazard map (Source: BMPTC, Vulnerability Atlas of India 2007)

Current location and quality of construction does place these areas under vulnerability (moderate to severe damage) to seismic event. An event of lesser magnitude may cause extreme damages in these areas.

4.1.4.2 Level of risk due to Earthquake, cyclone and floods in Krishna District

4.1.4.2 Level of risk due to Earthquake, cyclone and floods in Krishna District											
Wall Roof	Census		Level of Risk in Krishna District								
	No of Urban Houses	%	Earthquake Zone				Wind Velocity m/s				Flood Prone Area* in %
			V	IV	III	II	55 & 50	47	44 & 39	33	
			Area in %								
					96.5	3.5	37.8		62.2		
Wall	576,417	100 %									
Mud & Un-burnt Brick Walls	32,594	6%			M	L	VH		M		VH
Stone Wall	11,966	2%			M	L	H		L		VH
Burnt Brink Wall	214,239	37 %			L	VL	H		L		H/M
Concrete Wall	291,332	51 %			VL	VL	L		VL		L/VL
Wood Wall	1,753	0%			VL	VL	VH		M		H/M
Other Materials	24,533	4%			VL	VL	VH		M		VH
Roof	314,217	100 %									
Light Weight Sloping Roof	108,009	34 %			L	VL	VH		H		VH
Heavy Weight Sloping Roof	34,484	11 %			L	VL	H		L		H
Flat Roof	171,724	55 %			Damage Risk as per the wall supporting it						
Source: BMPTC											

Level of Risk: VH = Very High; H = High; M = Moderate; L = Low and VL = Very Low

*Possible maximum precipitation at a station of the district in 24 hrs is 560 mm

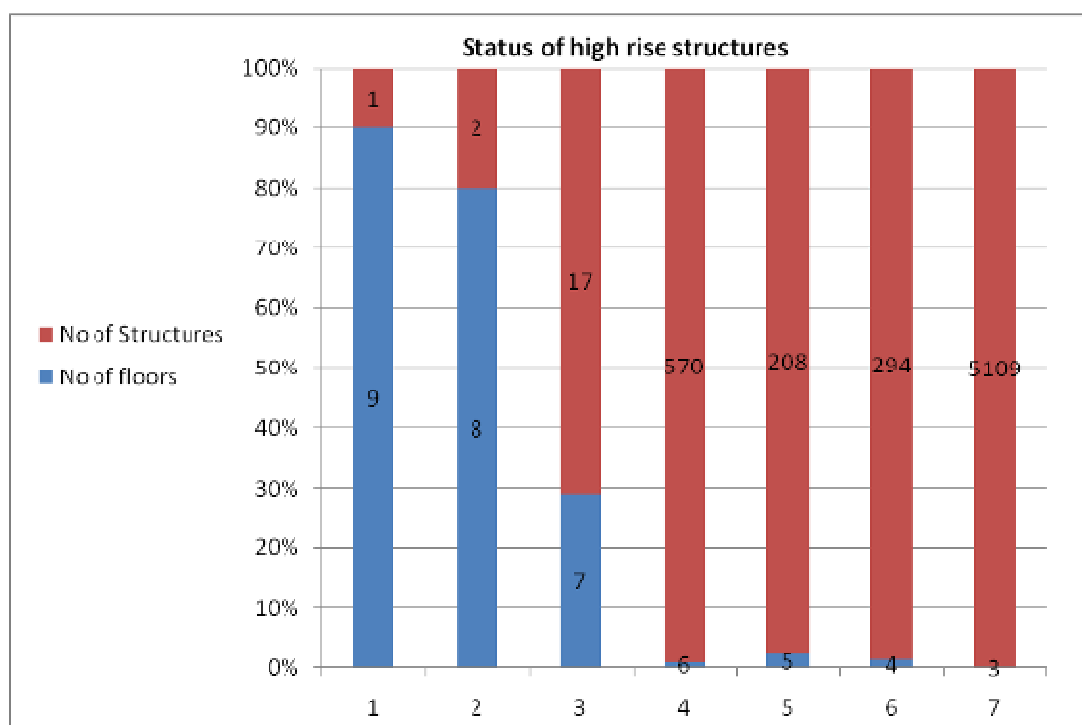
4.1.4.3 History

Vijayawada to withstand an earthquake or any disaster for that matter as per the study of past records and research publications the city definitely falls under 'moderate damage risk zone' (Zone –III), wherein earthquakes of higher intensity are concerned.

4.1.4.4 Historical Record of Earthquake In Krishna District

Date	Lat	Long	Location	Intesity	Rector Readings(Magnit ude)	Ref.
24.07.1861	16.4	77.3	Krishna , Krishna	IV	3.7	OLD
13.01.1862	16.4	77.3	Krishna, Krishna	IV	3.7	OLD
31-6-1984			Krishna, (Vijayawada)		3	UNDP Project
11/8/2009			Krishna (Vijayawada)		>6	NEWSP APER
<i>Source: Disaster management department, Government of Andhra Pradesh.</i>						

4.1.4.5 high rise buildings and magnitude of risk due to earth quakes (More than 2 floors) in the city



There are 6201 buildings (3-9 floors) located in vijayawada. Among those, 17 are 7 floor buildings and 570 are 6 floor buildings. Nearly 80 per cent of the apartments and high-rise buildings (above three floors) in the city were susceptible to damage when massive earthquake strikes. Any building that had a stilt or 'cellar and stilt' was unsafe, and 80 per cent of the high rise buildings and apartments had these features. About 40 per cent of these buildings will damage if the intensity on Richter scale crosses 7.

4.1.4.6 Reasons

1. Vijayawad in Zone -III therefore it is susceptible to earthquake any time
2. Not installing Reinforced Concrete columns
3. Tilting, cracking and failure of structure may result from soil liquefaction
4. Inadequate foundation design.
5. Non Install Reinforced concrete bands in masonry buildings

6. Punching and blowing off of corrugated iron roofing sheets attached to steel trusses.
7. Brittle failure of asbestos – cement sheeting of the roofs of industrial sheds; failure of these sheets is generally ridges and gable ends.
8. Failure of large industrial buildings with light weight roof coverings and long/tall walls due to combination of internal and external pressures.
9. Failure of roofing elements and walls along the gable ends particularly due to high internal pressures.
10. Overturning failures of compound walls of various types.
11. Failures of improperly attached or constructed parapets.
12. Damage to roof/lintel projection
13. Damage to improperly attached windows or window frames

4.1.5 Fire accidents

A fire hazard is any situation in which there is a greater than normal risk of harm to people or property from Fire hazards include things which pose a hazard to people, toxic fumes when heated or objects that block fire exits.

4.1.5.1 History

Vijayawada climate is tropical, with hot summers and moderate winters. The peak temperature reaches 45 °C (120 °F) in May-June, C causes fire accidents of thatched houses here.

The fire risk hazard is a major concern especially among the low socio-economic groups due to the type and location of the settlements. Further, their proximity to one another makes the situation even worse because of the possibility of the fire spreading from one household to another is high.

4.1.5.2 Fire calls attended in one year 2010-2011

Fire calls attended in one year 2010-2011					
s. No.	Name of Fire Station	No. of fire calls attended			
		Serious	Medium	Small	Rescue & Emergency
1	Vijayawada	3	-	20	3
2	Autonagar	-	1	10	-
3	Ajitsinghnagar	-	1	6	-
	TOTAL	3	2	36	3
(Source: Fire Department, Vijayawada)					

Table illustrates the frequency of fire hazard within Vijayawada city for one year based on the number of reported call from the respective fire stations. From the table one can infer that Vijayawada fire station handles the maximum of fires followed by Autonagar and Ajitsingh Nagar.

Number of fire calls attended in one month. Small accidents are relatively high number within the city and medium accidents are relatively low number of calls. And 30 People got effected out of 7 incidents in the year 2010

4.1.5.3 Reasons for Fire Hazards

There are two types of Fire enforcement mechanism in the city. Fire protection measures/rules will be applied to buildings(commercial) above 15 meters. And buildings above 18 meters (residential). According to the records 90% buildings are residential buildings only 10 percent are commercial buildings. Buildings constructed before 1990 are issued no objection certificates without proper fire safety mechanism.

Most of the fire accidents usually occur due to

1. Low quality electrical appliances and
2. this people psychological status, suicidal tendency of the victims, conflicts between wife and husband

3. human negligence,
4. lack of safety measures and the
5. delayed response due to inaccessibility of the fire service to certain areas (no roads, road width not enough to accommodate fire engines, etc).
6. Staying in combustible material like Thatched roof tops ,thatched houses
7. Kitchen accidents due to using fire wood gas leakage.
8. Storage of combustible material with out proper storage facility
9. Industrial fires
10. No proper ventilation, and house plan to move fire vehicles

4.1.5.4 Fire hazard prone areas in the Vijayawada city

Thatched huts are predominant such as the river bank clusters Chalasani Nagar, Tarakarama Nagar, next to Excel Power Plant at Ajith singh Nagar and southern part of Rajiv Nagar and many parts of the hill areas.

Sl no	Indrakeeladri	S No	Gunadala	S No	Gollapalemattu
1	4 Pillars Centre, Pacemvari St.	7	Bethlehemnagar, Near Merymatha Temple	12	Frizerpet, Chittinagar
2	Cheruvu Centre, Ramarajyanagar	8	Gangireddula Dibba		13. Gollapalemattu (KBN College back Side)
3	Sitara Centre, Top of the tennel	9	Near Machavaram Police Station, Christurajapuram	14	Wynchi pet
4	Opp.Gandhi Statue, Lambadipet	10	Nimmathota Centre, Moghulrajapuram	15	1 Town Market
5	Kotta Ammavari Temple, Chittinagar	11	Machavaram	16	Rajeev nagar Katta
6	Near Anjaneyavagu, Kothapeta				

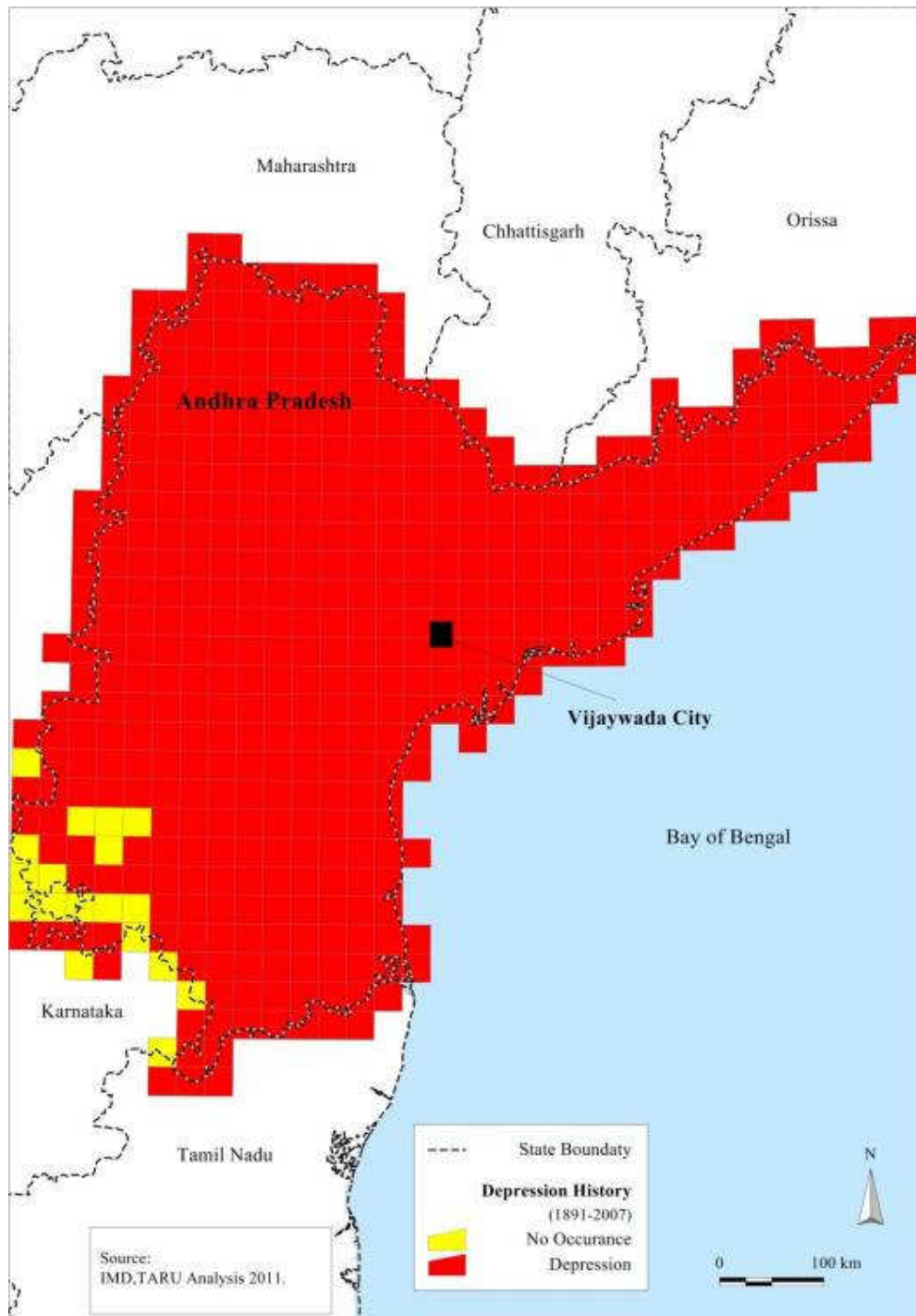
Total 16 areas are prone to Fire hazards out of them two are plain and 14 are hill areas

4.1.6 CYCLONE

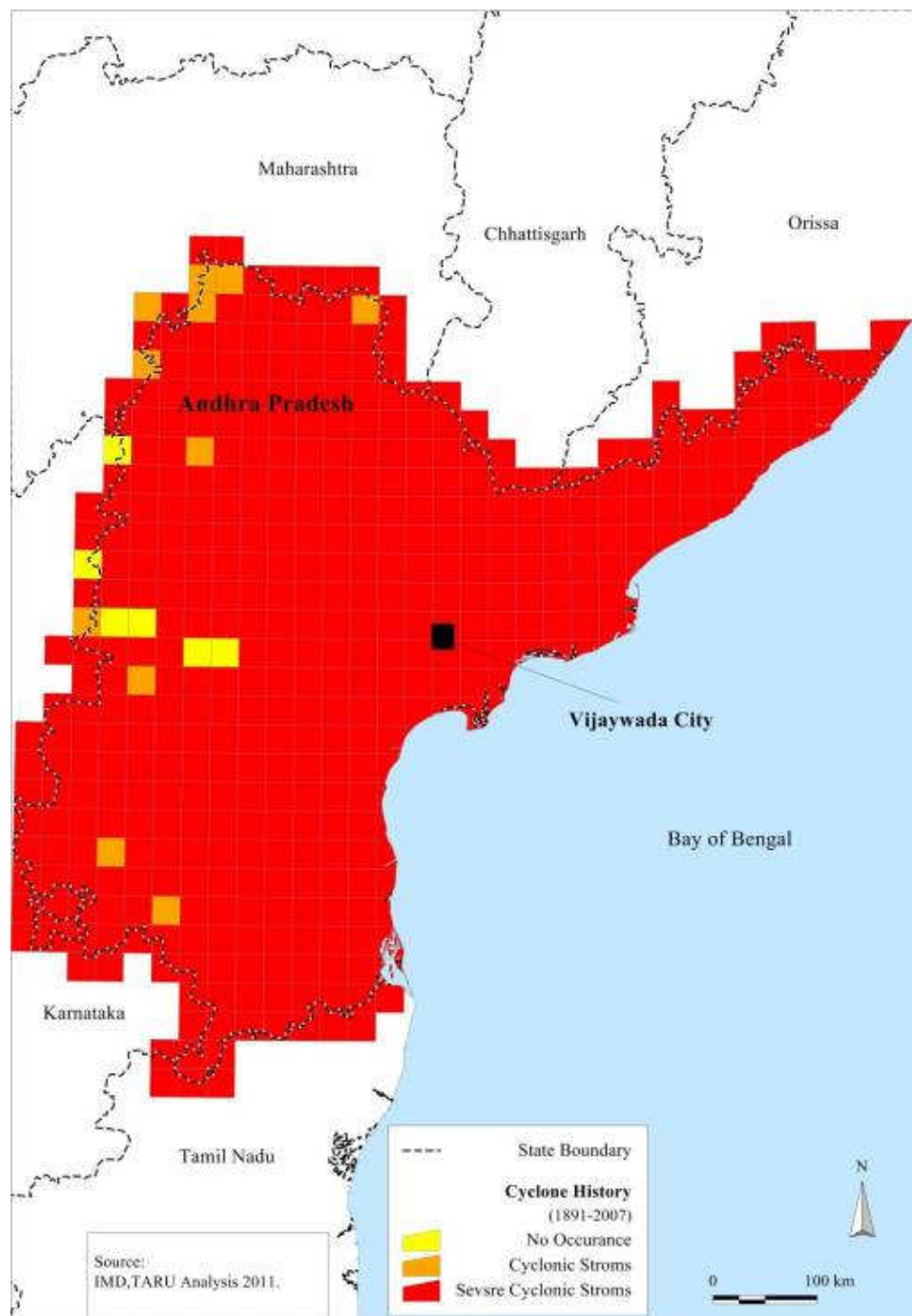
Cyclones pose a major threat to life and property in many parts of the world.

Vijayawada city being close to the Bay of Bengal (~80 km) is prone to cyclones. In the last century Andhra Pradesh has experienced around 100 depressions, 62 cyclones and over 50 severe cyclonic storms.

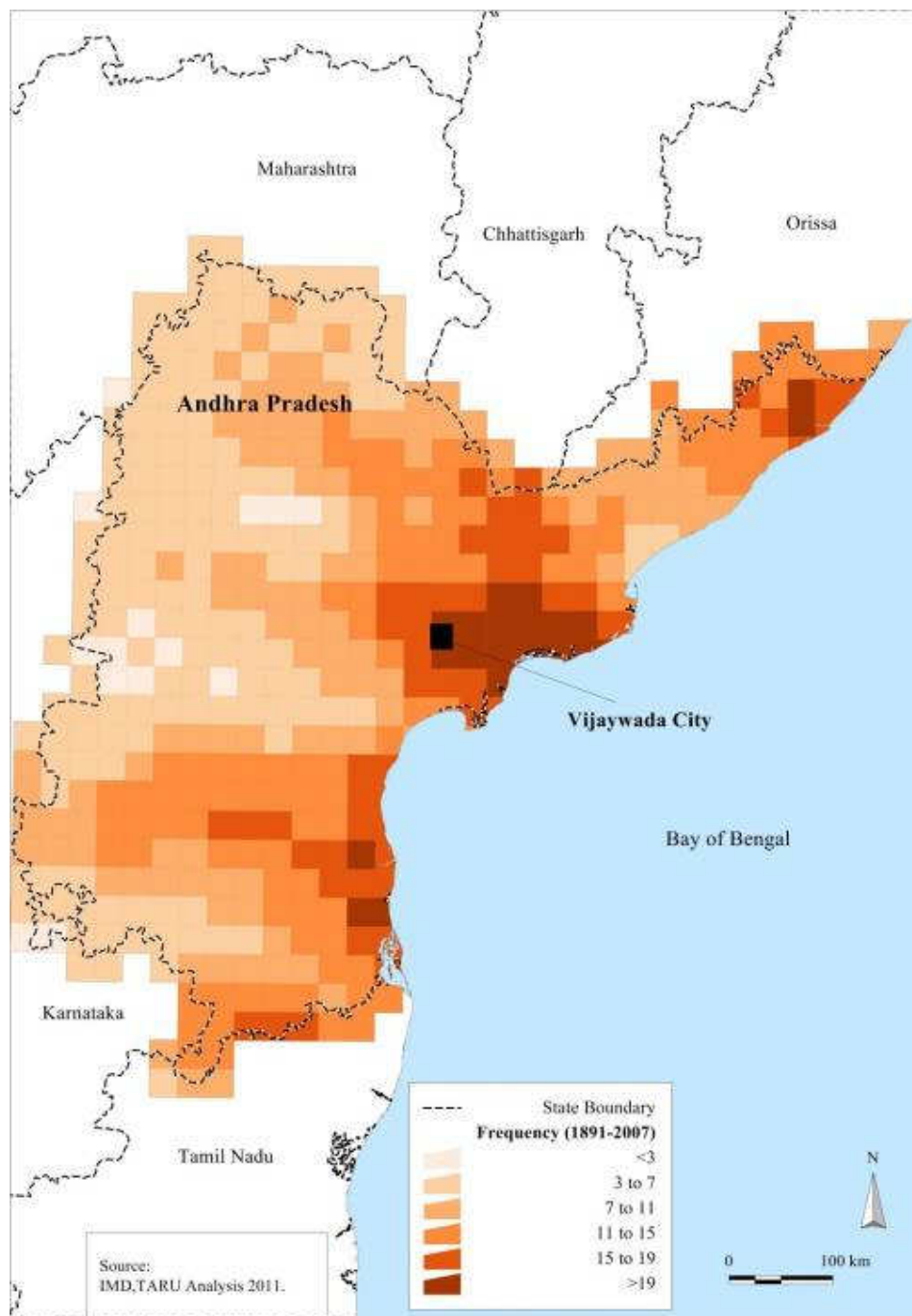
4.1.6.1 Cyclone intensity map between 1891 – 2007



4.1.6.2 Areas affected by depression between 1891 - 2007



4.1.6.3 Cyclone Map of Andhra Pradesh for the period 1891-2007



4.1.6.4 History And Year wise cyclone data from 1891-2010 crossing Krishna District

S.No.	Date of Formation	Month of Formation	Year	Crossing District
1	18	10	1892	Krishna
2	9	10	1898	Krishna
3	12	11	1907	Krishna
4	20	9	1911	Krishna
5	17	11	1922	Krishna
6	25	10	1936	Krishna
7	29	10	1948	Krishna
8	21	10	1949	Krishna
9	3	11	1976	Krishna
10	14	11	1977	Krishna
11	5	5	1990	Krishna
12	11	12	2003	Krishna

From above data it illustrates that Krishna district followed by Vijayawada has experienced 12 cyclones since 1892 to 2003

4.1.6.5 Reasons

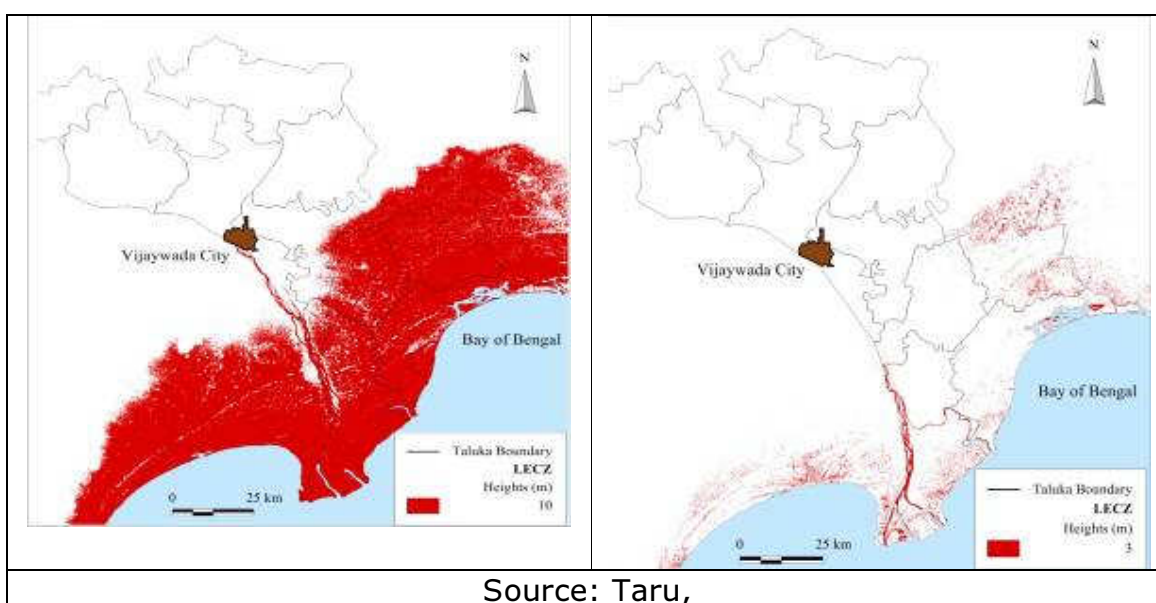
1. Vijayawada is just 65 km away from Machilipatnam town which is frequently hit by cyclones originating in the Bay of Bengal
2. frequency of cyclones and the maximum and minimum intensity of the storms across Andhra Pradesh. From the map we can infer that the state of Andhra Pradesh in general and Vijayawada city in specific are within the high risk of being affected by cyclonic storms (including depressions). From the max and minimum intensity map we can further infer that the probability of Vijayawada city being affected by cyclonic storms is high.

4.1.7 Surge and Tsunami

Vijayawada city is at a safe distance from coast and has little impact of the both the surge due to cyclones or tsunami. Being around 80 km from the coast even with a rise of water level up to 10 m will have little to no impact to the city. The Figures illustrate the possible effect of the surge. From the figure, we can infer that the extent of impact will be negligible.

Surge

4.1.7.1A simulation Map indicating the possible inundation to the coastal Krishna District



A simulation indicating the possible inundation to the coastal Krishna District and District due to Storm Surge or Tsunami. The map on the left indicates the area that will be inundated due to storm surge of 10 m height and the map on the right indicates the area that will be inundates due to storm surge of 3 m height. In both the cases the Vijayawada City is least affected.

4.1.8 Drainage failure

Drainage system is the important eminence of an urban area. Water stagnation due to chocking conjution in the Drainage. This is the one problem which effects the city even there is less rain fall continuously for one hour, the city get effects badly with water chock.

4.1.8.1 History

There are two types of drainage systems in the Vijayawada city 1) Open drains or Storm water drains 2) UGD (Under Ground Drains). Though they serve immense to the people some times problem will arise with this system. As of there is no major problem occurred with the UGD only health epidemics will arise when UGD drain mixes with drinking water line but back water problem will not arise with these lines because the STPS are in elevated portions.

At present 150 MLD is been treated by STP (sewerage treatment plant) and get mixes into the Krishna River and Budameru stream rivers. There are Four STPs located in various locations they are. Auto nagar

1. Ramalingeswara nagar
2. Singh Nagar
3. Jakkam Pudi

The problematic stagnation will cause in the city due to storm water drains. The storm water drains of the city is not facilitated with proper net work. The existing storm water drains are not sufficient for carrying the storm water. All the minor drains are leading into two outfalls located at as vehicle depot pumping station and Nizam gate area.

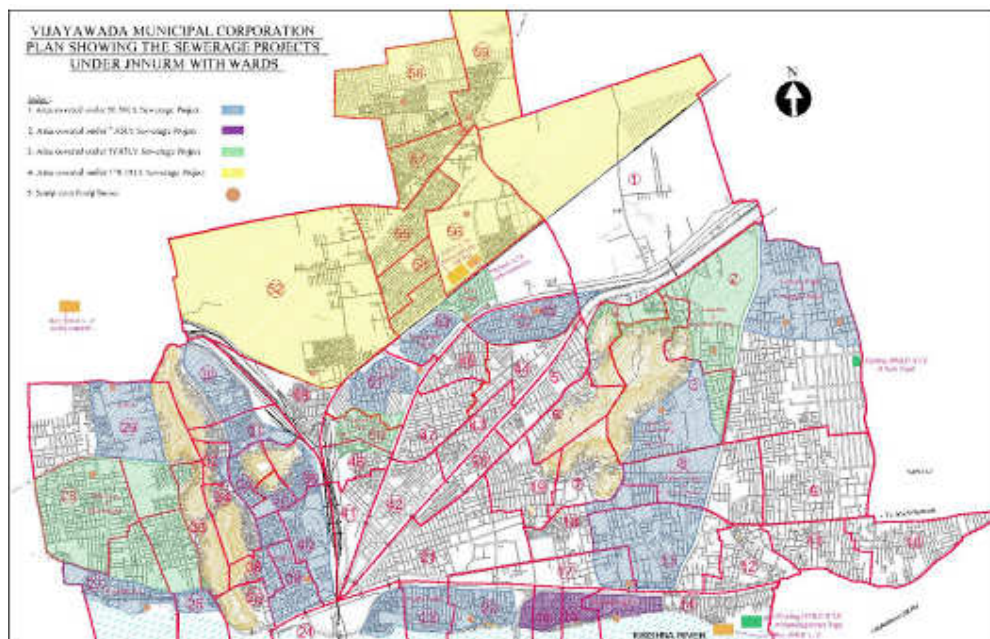
The major drains are passing through the following streets.

1. Ganapati Rao street
2. KT Road
3. Drain street
4. Masthjan Veedhi
5. Gollapalem Gattu
6. Sykam Baskara Rao Road
7. RCM School Road
8. Pula Baavi street
9. Brahmin Street
10. Basava Bangarayya street

At the tail end, Both drains are passing through the culverts, on which railway tracks are laid.

The Storm water drains finally mixes with Krishna and budameru rivers through sluices. There are 9 sluice connected to Krishna river and few other connected in to three canals.

4.1.8.2 Map showing the UGD lines in vijawada city.



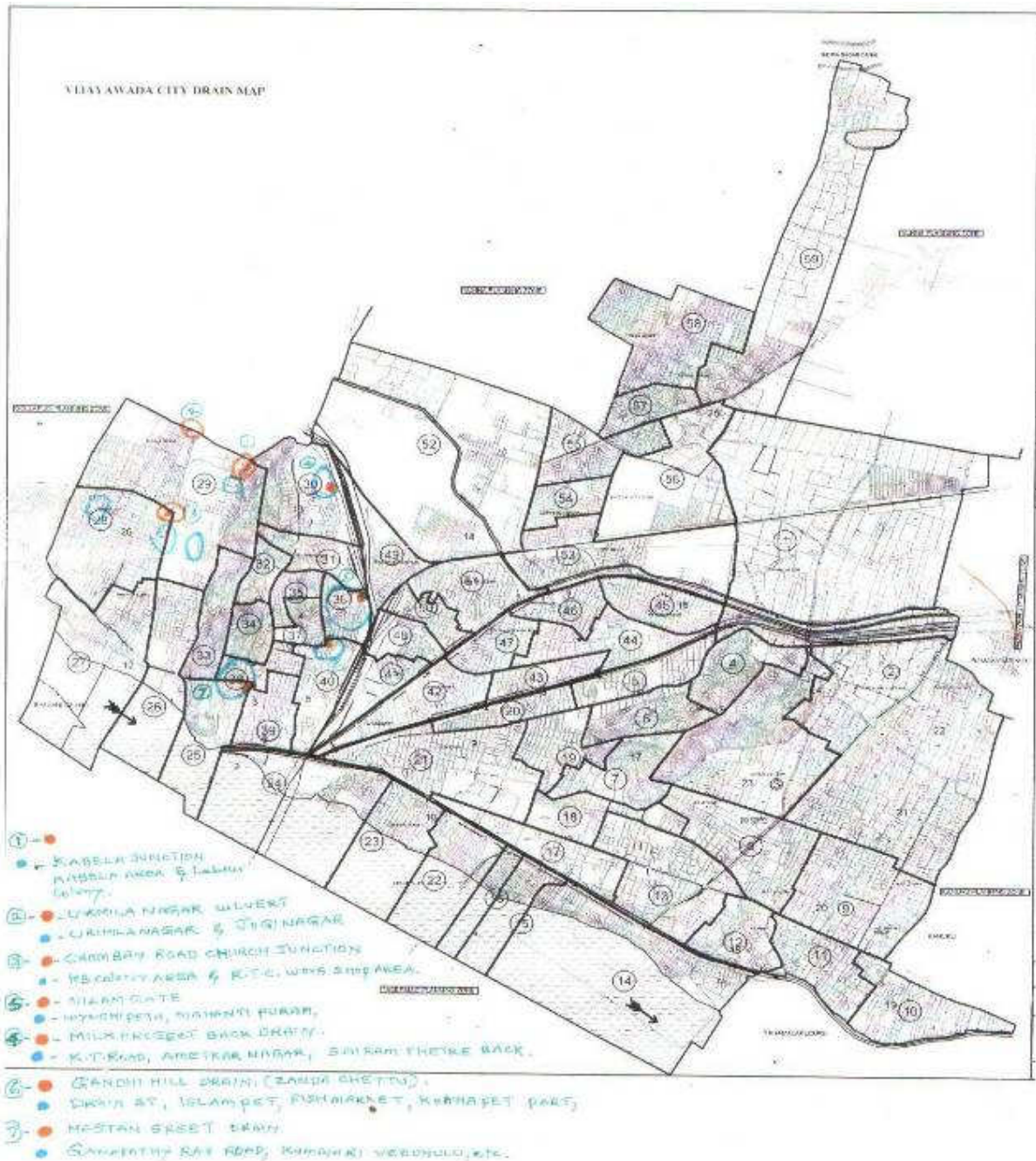
Vijayawada City Disaster Management Plan - 2011

4.1.8.3 Reasons and areas effected and drainage chocking points

Drainage Chocking is the common problem to Vijayawada due to conjution in storm water drains. Circle wise Drain Chocking Points, Areas inundated and Reason was given below table.

Sno	Cirle No	Drain Chocking Points	Areas inundated	Reason
1	1	Kabela Junction	Kabela area, Labor colony	Less out let capacity, Pipes should be reopened at Rly crossing
2		Urmila Nagar Culvert	Urmila Nagar , Jogi nagar	
3		Crombay Rd, Church Road	HB Colony area, RTC work Shop area	
4		Milk Project Back Drain	KTRod, Ambetkar Nagar,Sairam Theatre	
5		Nizaam Gate	Winchi pet, Mahanti puram,Low Bridge,BRP Rd,Chalapathi Rd, KT Rd,	
6		Gandhi Hill Drain(Zanda Chettu Centre)	Drain ST,Islam Pet, Fish Market, Kotha pet Park,,	
7		Mastan Street Drain	Ganapathy Rao Rd, Kummari Veedhulu	
8		Sitara bhavani puram Rly track		
9	2	Pappula Mill to Meesala Rajarao Bridge		Garbage Struiking in the mesh/gate
10		Kedaraeswara Peta		Less out let capacity
11		Lower Bridge		
12		Pipula Roaad	LBS nagar, Patel Nagar	
13		Sunadaryya anagar		
14		NSC Bose Nagar out let drain		
15		Pejjonpeta	Governer Peta	
16			Satyanarayana Puram	
17			Singh Nagar , Payakapauaram,	
	3	Siddhrtha Poly clinic Rd	Jammichettu Centre,Siddharatah College	Less out let capacity

4.1.8.4 Map Showing Drainage chocking points:



- ⑩ Ayodhya Nagar drain
Ayodhya Nagar Area
- ⑪ Kedareswara Pet drain
Kedareswara Pet, Ramalingeswara Pet Area.
- ⑫ Bhanu Nagar drain Tank
Bhanu Nagar Area.
- ⑬ UDA Colony Out-fall drain
UDA Colony & Rajeev Nagar
- ⑭ N. S. C. Bose Nagar Out-fall drain
NCC Bose Nagar B.V. Subbar Reddy school West Side.
- ⑮ Budameru Drain
Rama Krishna Puram & Devi Nagar.
- ⑯ Budameru Drain
Vijaya Durga Nagar
- ⑰ Budameru Drain
Kausika Durga Nagar & Anantho Padma Colony
- ⑱ Excel Plant Out-fall drain
Anji Reddy Nagar Block nos 1 to 25

4.1.9 Infrastructure organization

Infrastructure in Vijayawada is developing along with the increasing population. The Municipality is currently providing roads, water supply and sanitation to many areas within the cities including the areas of where unauthorized or illegal construction/development has taken place.

Roads: The roads in Vijayawada are mostly narrow and the city is currently planning to implement BRT. Due to narrow width of the carriage way the city is prone to traffic jams and accidents. The Municipality has taken up the task to provide accessible roads to the settlements which are in the flood plain and also living on the hill slopes. These roads are made of concrete and are wide enough to accommodate two wheels but not four wheelers. Further, the construction of the roads has encouraged people to construct beyond its service area, expecting that the municipality will extend the roads over a period of time.

A comprehensive warning system for Vijayawada city should take into account of transportation surge during emergencies. Key parameters include - consider the width of the road, its carrying capacity and the nature (i.e. whether the road is on slope or plain). This information relates to the respite time that will be required for the people to react to the warning and evacuate from risk prone areas.

Bridges and Canals: The city of Vijayawada is surrounded by three Krishna canals and one Budameru Canal which runs parallel to the Eluru canal (fed by Krishna River) in the north. The canals are currently used for supplying water to the eastern villages during normalcy and also to drain the Krishna flood water during monsoons. While Krishna River Flooding affects to the flood plains on the outside of the embankments, but the the Budameru River affects the entire North and North western part of the city. This is mainly due to the limited carrying capacity of the

Budameru river channel and lack of sufficient mechanisms to drain the excess water during severe rain into the Krishna River. Nevertheless, the carrying/draining capacity of this channel is at question and the capacity ranges somewhere between 5,000 – 10,000 cusec.

The problem arises when Budameru catchment gets more than average rainfall within 24 – 48 hours. This leads to the reservoir in the Velagaleru village reach critical level forcing the irrigation department to release water causing floods in Vijayawada.

Settlements

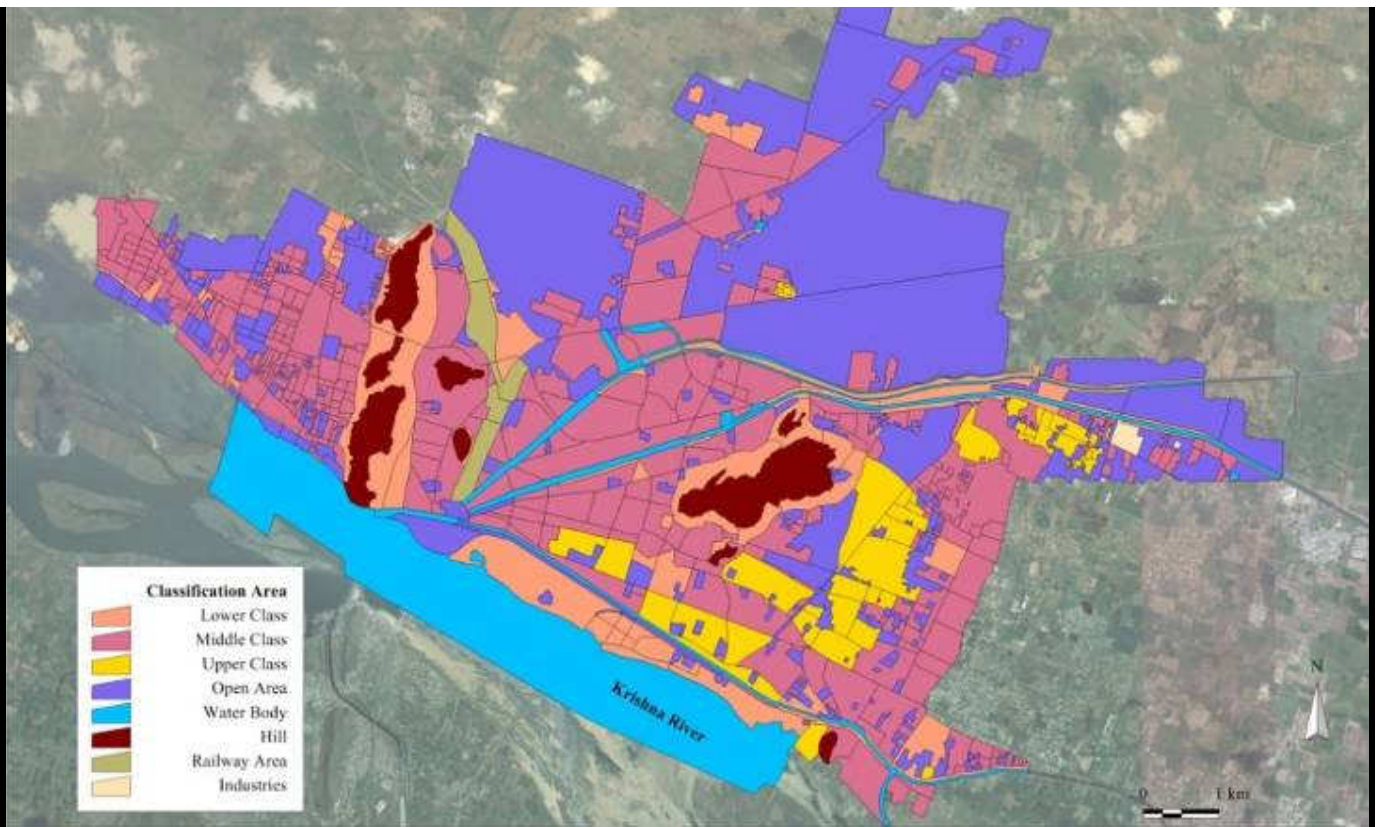
The settlements in Vijayawada City are sprouting in places with risk without much respect for development control regulations/Building byelaws as indicated in the planning scheme. Some of these developments are catalyzed by the market demand i.e. the expanding population needs place to stay.

People prefer to settle in areas (which are close to their work place) in spite of being aware that these areas are prone to flood risk, because of lack of efficient transportation system within the city. In addition the city planning department and municipality have also allocated risk prone areas for public housing (police housing along the Krishna River, low cost housing near Budameru flood zone , as indicated in Figure 18 above). Even though the reason for such planning are not known, the development in these risk prone areas by the municipality has provided a false sense of security to the people at large encouraging other development to take place around these area.

Another major driver of settlements in the city is the availability of basic services. Due to pressure from public and political forces, the Municipality is forced to provide basic services including roads, water supply and sanitation to the unauthorized settlements in the hill slopes and flood plains thereby indirectly encouraging their activities. Even though

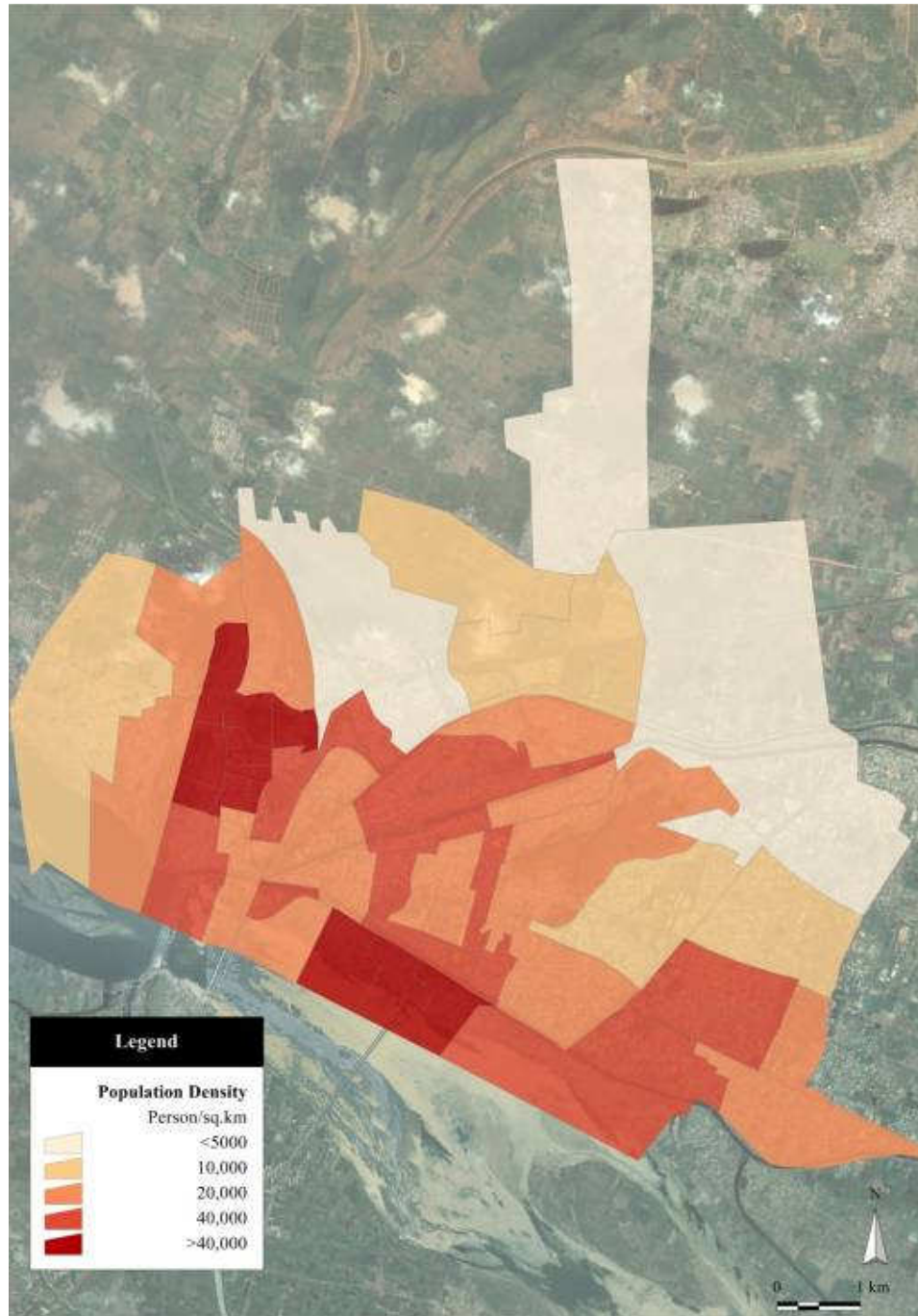
sanitation is provided to majority of the household, many of the existing drainage are not underground (more than 50%). Further much of city's sanitation is discharged into the canals and the rivers without proper treatments. These are currently a source of health risk. In general people who are living in slums or low income settlements are more vulnerable to the hazards in general. This is illustrated through the population density map and land use

4.1.9.1 Map illustrating the land uses classification



Map illustrating the land uses classification of the Vijayawada city. From the map it is evident that much of the highly risk prone areas are usually of low socio-economic segment

4.1.9.2 Map illustrating the population density of the Vijayawada city



Map illustrating the population density of the Vijayawada city. From the map it is evident that much of the highly risk prone areas are of high population density thereby increasing the vulnerability.

4.1.10 HEALTH EPIDEMICS

A widespread outbreak of an infectious disease; many people are infected at the same time is called Health Epidemic

An epidemic is an occurrence of cases of a disease in excess of usual expectations for a particular population. An outbreak of influenza that affects thousands of people in a month in a nation

Several kinds of epidemics can be distinguished. A *point-source epidemic* is one in which a group of people all fall ill as a result of a single exposure, typically to an agent in food they have all consumed. Example Malaria, diarrhea, Dengue fever, Chicken pox etc

Common food/water born ailments effects the city are ,Cholera /Diarrhea, Malaria, dengue etc

4.1.10.1. 1 History

During the year 2010 compared to the corresponding period of 2009 there was an increase of Total malaria cases and falciparum incidence in the city.

Malaria incidence in Vijayawada City from 2005 to 2010

Year	BS Coll & Examined	Malaria Positive Cases		
		Pv	Pf	Total
2005	179370	6050	221	6271
2006	151660	2818	103	2921
2007	166077	1655	93	1748
2008	132242	1633	52	1685
2009	128866	1666	60	1726
2010	145526	2480	165	2645

During the year 2010 the early commencement of monsoon followed by incessant rains maintained the stagnant water sources through out the year and the humidity along with the medium temperature lead to the profuse breeding of the mosquitoes and also shortened the extrinsic incubation period of the disease causing micro organisms resulted in increased transmission of the VBDs in the community. Certain minor lapses on the part of the District administration like not following the revised dosage schedule for malaria aggravated the situation.

4.1.10.2 Reasons

1. Stagnant water in and around the habitations in areas like Budameru drain flow areas
2. humidity along with the medium temperature leading to the profuse breeding of the mosquitoes
3. Shortened the extrinsic incubation period of the disease causing micro organisms resulted in increased transmission of the VBDs in the community.
4. not following the revised dosage schedule for malaria aggravating the situation.
5. deaths due to malaria and dengue cases are alarmed the situation
6. cattle drinking drainage water are falling ill ex: rajarjeswari peta leaving the human animal waste into the drains are also observed
7. Diahorria occurring in the city due to mixing the drinking water line with Under ground drainage lines

Vijayawada City Disaster Management Plan - 2011

4.1.10.3 Identification of High Risk Areas for health epidemic (contaminated diseases) in the city

tary Divisi on Num	Areas covered	House holds
1,2,3 High Risk	Bhavanipuram(part), H.B.Colony, Central Ware House, Out Agency area, Dargah, Kamakoti Nagar (part), Vidyadharapuram, Andamani Brahmaiah Colony, Bhavanipuram, Karakatta South, Christianpeta, Malapalli, Punnam Hotel, RTC Work shop road area. Urmila Subba Rao Nagar, Ekalavya Nagar, Rotary Nagar, Ramarajyanagar, Lobour colony, Indrakeeladri park Vidyadharapuram, Indrakeeladri (part), Ramarajya nagar, Four Pillars Junction	10500
4,5,6 High Risk	Bhimanavaripeta, Lambadipet, Milk Project area, Indrakeeladri hill area, Chittinagar, K.L.Rao nagar, Syndicate Bank colony, Indrakeeladri hill area. Tailorpeta, Indrakeeladri hill area, Lambadipeta, Kothapeta hill area, Anjaneya vagu, Nehru Bomma centre Gollapalem Gattu (part), Frizerpeta, Tailorpeta hill area.Mahantipuram, KBN College area.	32705
13,14,15 High Risk	New Rajarajeswaripeta, Nandamuri nagar, Indira Nayak nagar, Old Rajarajeswaripeta, Kamsalipeta Old Singh nagar, Luna centre, Daba Kotlu centre, Vivekananda school area, Ambedkar centre, Old Ajith Singh Nagar Vambay colony, Prasanthi nagar, Deveneni Murali nagar, Old Payakapuram	19713
16,17,18 High Risk	LBS Nagar, Patel Nagar, Sundarayya nagar, Radha nagar, Indina Express colony Old Rajiv Nagar, New Rajiv Nagar, Vaddera Colony, Visalandra colony, Old Payakapuram, Kundavari kandrika, Nunna road, NSC Bose road Hanumanpeta, Gandhi nagar, Seethannapeta, Bavajipeta, (part), Urvasi centre, Laxmi nagar, G.S.Raju Road, Police quarters, Maruthi Vyayamasala area	21648
31,32, 32A High Risk	Ramalingeswara nagar, Eenadu colony, Police colony, Satyanarayana nagar, Ranigarithota, Bhupesh Gupta Nagar, Chalasani Nagar Chandramoulipuram, Israelpet, Municipal Employees colony, Revenue Colony, Pakeergudem, N.G.Ranga Colony, Pettingleppe, Brundavan colony, Krishna nagar, P&T Colony Govt. Polytechnic College area, Govt. ITI area, All India Radio Colony, Gayathri nagar, Varalakshmi nagar, Siddhartha Nagar, Patamata, K.P.Nagar, Teachers colony, Mary Stella College area, Nirmala Convent School area,Chandramoulipuram,Loyola Collegearea, Film nagar	16868
33,34 High Risk	Ranigarithota (part), Kanaka Durgamma Varadhis, Nehru nagar, Gowthami nagar, Kanaka Durgamma varadhi (part), Balaji nagar Krishnalanka (part), Tarakarama nagar, Driverpeta, Siva Sankara puram, Chowdaripet, Dwaraka nagar, Harinathapuram, Naidupet. Brahmarambapuram, Ganganamma temple area, Saw mill area, Swargapuri area, Bhaskararaopet, Jawaharlal Nehru Bus Complex area, Municipal Corporation office area, Police quarters area	7500
	TOTAL	108934

Total 17 areas are identified as High Risk Areas for health epidemics

4.2 Vulnerability Analysis of existing hazards

Out of total 59 revenue divisions 36 revenue divisions are been identified as risk prone areas to multi hazards such as Krishna Floods, Budameru Floods, Land Slides etc., out of them 18 areas are Budameru flood effected, 8 areas are Krishna flood effected and 22 areas are Land sliding effected areas under the project. To fore cast, Reduce the loss and mitigate the floods, a preparedness plan is needed to the city

4.2.1 Abstract data of hazards and Effected people

Abstract dat of hazards and Effected people				
Disaster	People effected (lakhs)	Geographic area(Sq Kms)	Divisions effected (Nos)	Areas effected (Nos)
Budameru floods	213359.5	23.7	18	34
Krishna floods	160118.5	13.68	8	8
Land slides	125889.5	6.35	10	22
Total	499367.5	43.73	36	64

4.2.2 Hazard wise area coverage

Hazard zonation				
Budameru				
Circle number	population	Geographic area	No of Divisions	No of Area
1	46017.5	3.53	6	10
2	153313	14.24	11	23
3	14029	5.93	1	1
Total	213359.5	23.7	18	34

Krishna				
Circle number	population	Geographic area	Divisions	Area
1	69435.5	5.62	2	2
3	90683	8.06	6	6
Total	160118.5	13.68	8	8
Hill slides				
Circle number	population	Geographic area	Divisions	Area
1	84704.5	3.24	7	16
3	41185	3.11	3	6
Total	125889.5	6.35	10	22

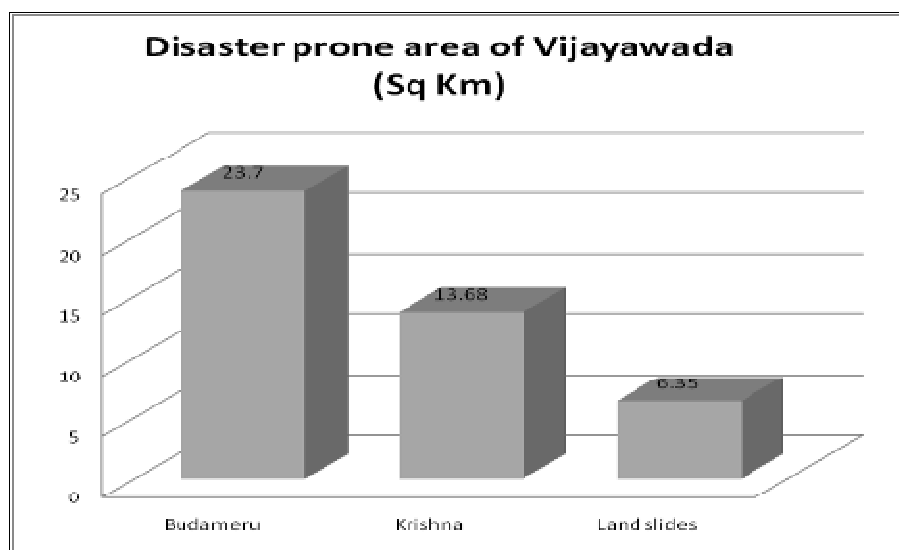
4.2.3 Circle wise Vulnerability analysis

Circle wise Vulnerability analysis					
Circle number		People likely to be effected	Geographic area	No of Divisions vulnerable	No of Areas vulnerable
1	Budameru	46017.5	3.53	6	10
1	Krishna	69435.5	5.62	2	2
1	Land slides	84704.5	3.24	7	16
	Total	200157.5	12.39	15	28

Circle number		population	Geographic area	Divisions	No of Areas
2	Budameru	153313	14.24	11	23
2	Total	153313	14.24	11	23

Circle number		population	Geographic area	Divisions	No of Areas
3	Budameru	14029	5.93	1	1
3	Krishna	90683	8.06	6	6
3	Land slides	41185	3.11	3	6
	Total	145897	17.1	10	13

4.2.3.1 Graphical representation of Disaster prone areas of Vijayawada



From **Table 4.2.2**, out of total 59 divisions flood effected divisions are 26. Among those, 8 divisions are Krishna flood effected, 18 divisions are Budameru flood affected which covers 37.38 Sq Km that is more than 60% of the area is under flood threat. Besides this 6.35 Sq Km i.e 10% of the Geographic area is under hill slides which are frequently prone to land sliding.

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4.2.4 Structural Vulnerabilities						
Sno	Entity	General@	Krishna	Budameru	Land slides	Total
Geographic Vulnerabilities						
1	Geographic Area	61.88	13.68	23.7	6.35	43.73
2	No. of Municipal Wards	59	8	18	10	36
3	* No. of Katcha houses (slums)	11,785	3000	4500	2068	9568
4	*No. of Pucca houses proposed	000	18000	40054	12000	70054
5	*Building more than 2 floors					
Physical Vulnerabilities						
6	Source of water	Krishna(Surface, Underground)	Krishna, Under ground	Krishna	Krishna	
7	Water mains	960 kms	60	40	5	105
8	No. of Public Stand Posts(Public taps)	2,892	120	150	70	340
9	No. of Hand Bores	2421	33	41	10	84
10	Water supply	95%	90%	0%	0%	90%
11	Length of UGD	392 km	5	80	0	85
12	Open drains	1122.4 km	300	780	0	1080
13	UGD connections	32,837 nos	60	15800	0	15860
Social Vulnerabilities						
Sno	Entity	General	Krishna	Budameru	Land	Total

Vijayawada City Disaster Management Plan - 2011

					slides	
	Population (as per 2001)	8,45,217	1,60,118.5	2,13,359.5	1,25,889.5	4,99,367.5
*	No. of Households (as per 2011)	3,36,285	30000	180000	10000	220000
	Above 65		7819	28951	4328	41098
	Pregnant		373	1404	874	2651
	Lactating		330	1153	436	1919
	Children under 5		1172	4343	3462	8977
	Handicapped/Single Parent Family		9	12	6	27
	SC Population	69359	8456	15634	7457	31547
Economic Vulnerabilities						
	Private Property	500cr	5cr	10cr	2cr	
	Corporataion Property	1000cr	3cr	7cr	1cr	
Data collected from Focus group discussion, official records and interaction with officers and community people						

4.2.5 Non Structural Vulnerabilities

People perception to words Disaster management perspective	
	Points allotted out of 10 points
Less awareness	8
Less education on hazard measures	7
Negligence	8
No information	6
Cautious about Valuable things in the houses	8
Less participation	7
Poverty and insecure livelihood	6
Note 1:More points denotes Need of More concentration	
Note2 : Perception analysis done through Focus group discussions with the community people	

Vijayawada City Disaster Management Plan - 2011

4.3 Risk Assessment				
Sno	Hazard	Parameter	General Assessment	Risk Assessment
1	Flood Risk Assessment (Krishna Flood)	Annual Rainfall	Range of annual rain fall is 700-1000 mm is creating flood in NE and SW Monsoons	
		Water catchment	Huge Water Catchment area near about 13.68 Sq KM	Can be able to hold up to 7 Lakhs cusecs
		Barrage capacity	Barrage water holding capacity 12 lakhs cusecs	Can hold up to 12 laths cusecs if exceeds Dam failure may occur
		Time to reach flood water from upper catchment	2to 4 days Depending on the rain fall	Local catchment ,inflow of local streams also increase the flood intensity
		Shape of river	Rectangular shape with strait flood bank	13.00 KM and 6.40 km of flood banks. But height of the flood bank is being decreasing down words top width as 5.50 mts with free board of 0.91 Mts.
		Soil	Black cotton and alluvial soil which hold moisture for maximum time.	
		Ground Growth	Very less ground growth can be observed	
		Drainage	Even there is no UGD in many areas of	Thse sluice will work

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			Flood zone, but Storm water drains were built. Apart from these, three sluices were connected to release the drain water in to the krisna river.	reverse by taking back water.
		Slope elevation		
			43 mts to 60mts height	Very near to flood bank height height
Sno	Hazard	Parameter	Risk assessment	Remarks
	Flood Risk Assessment Budameru	Annual Rainfall	Range of annual rain fall is 700-1000 mm is creating flood in NE and SW Monsoons	
		Water catchment	Huge Water Catchment area near about 23.7 Sq KM	Huge area than Krishna flood area
		Regulator capacity	Regulator at Velagaleru can hold the water 35000 cusecs of water	Highest flood recorded as 15000 cusecs of water
		Time to reach flood water from upper catchment	2 to few hours to one day Depending on the rain fall	
		Shape of river	Irregular shape with no or less flood banks and less height (1feet to 1 meter only)	This is the one of major cause
		Soil	Black cotton and red gravelly soil which hold moisture for less time	Water sinking nature is less
		Ground Growth	Other than in residential areas Thorny bushes, grass growth is more	

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		Drainage	Even there is no UGD in many areas of Flood zone, but Storm water drains were built. Apart from these, three sluices were connected to release the drain water in to the krisna river. UGD drains and storm water drains used for waste drain flow	Sluice and storm waters chocks and send water in reverse direction
Sno	Hazard	Parameter	Risk assessment	Remarks
	Earthquake	Zone	Vijayawada located in Earth Quake Zone III	
		construction	Weak constructions,	
		High rise buildings	Non Install Reinforced concrete bands in masonry buildings inadequate foundation design	80% high rise buildings are susceptible to earth quake (Old buildings and High rise buildings)
Sno	Hazard	Parameter	Risk assessment	Remarks
	Epidemics	Water born	Maleria, dengue, cholera are commonly effecting epidemics both Budameru and Krishna area	Fever cases are slightly more in Budameru
		Air born	Chickengunia viral disease created havoc for some time in the city	

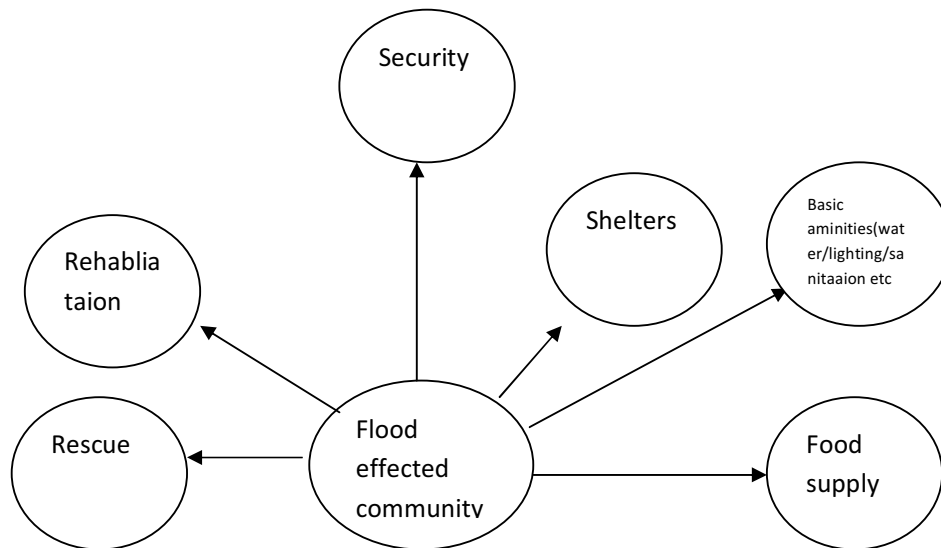
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		Contaminated food	Food cooked in hygienic condition is making people ill with food poison, vomiting etc	
		Health Facility	Health centers are not having appropriate vaccines, and drugs	
		Sanitation	Poor sanitation in certain areas of Buameru and Krishna flood zones are making ill	
		Parameter	Risk assessment	Remarks
	Fire	Electricity devices	people use low quality electric devices	
		Distance between houses	Some places like Hill area and crowded places like markets and malls are having very less or no distance was observed	Easy to spread th fire
		Wind direction	hottest months of April and May is from south to east in the morning hours and southeast to northeast in the evenings	Houses in this direction or flames in this direction in thatched houses is dangerous
		heat	temperature begins to rise in mid February and May is the hottest month. With 40° centigrade	
		Thatched houses	30 percent of the people in the city stay in thatched houses mostly in hill areas	
		Parameter	Risk assessment	Remarks
	Land sliding	House construction	1. Technically improper constructions 2. Staying in thatched houses . Staying in steep slopes	

Vijayawada City Disaster Management Plan - 2011

		Rock binding	4. Rock are not binded with tight soil	
		Soil type	5. Loose, Red gravelly, 8. Soil layers formed under gravity	
		Slope		
		Elevation	6. 120-300 meters high	
		Rain fall	7. Many land slides from data is been observed as they fallen in rainy season	
		Parameter	Risk assessment	Remarks
	Drainage chock	Soil	Black cotton, Gravel soil in	
		elevation	40 mts to 70 mts range	
		Direction	Drain water passing in four sides Sitara to Budameru, Singh Nagr to NSCBose nogar to ramavarappadu, Pinnanamaneni to Penamaluru,	
		Slope	Natural slope of the old town is falling from north to south whereas the new town slopes down from west to east. When compared to the old town, the new town is flat and hence makes drainage less effective.	

4.4 people Perception about support during Disasters(2009, Krishna Floods)



The diagram shows that the necessary provisions that people availed. Less distance explains that they availed sufficiently. More distance means, that they didn't avail or remotely availed. However this opinion deviates ward to ward in the city.

Difference in availability of resources or provisions are may caused due to below mentioned reasons.

4.5 Seasonality of Hazards:

Hazard	Ja n	Fe b	Ma r	Ap r	Ma y	Jun e	Jul y	Au g	Sep t	Oc t	No v	De c
Cyclone												
Flood / Heavy Rains												
Earthquake *												
Sunstroke												
Fire												
Chemical *Accidents												
Epidemics												
Lightening*												
Hail/ Strom												

4.6 Intensity of Disasters

Hazard	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Cyclone											****	****
Flood / Heavy Rains						*	*	****	****	****	****	****
Earthquake*	****	****	****	****	****	****	****	****	****	****	****	****
Heat waves	****	****	****	****	****	****	****	****	****	****	****	****
Fire	**	***	**	****	****							
Chemical Accidents	*	*	*	*	*	*	*	*	*	*	*	*
Epidemics							***	***	***			
Lightening						*	*	*	*	*	*	*
Hail/ Strom						*	*	*				

***indicates severity**

Flood/ heavy floods , Cyclone, heat waves are experienced as severe hazards flowed bt the health epidemics in the city. Chemical accidents can occur any time in the city.

4.7 Hazard Matrix

 తీవ్రత పెరుగుతుంది	Very High					భూకంపం
	High				బుడమేరు	
	Medium			భగవంతుని కలకంఠం		
	Low		అగ్ని ప్రమాదం		అనారోగ్యం	
	Very Low					
		Very Low	Low	Medium	High	Very High



 విపత్తు వలన నష్టం

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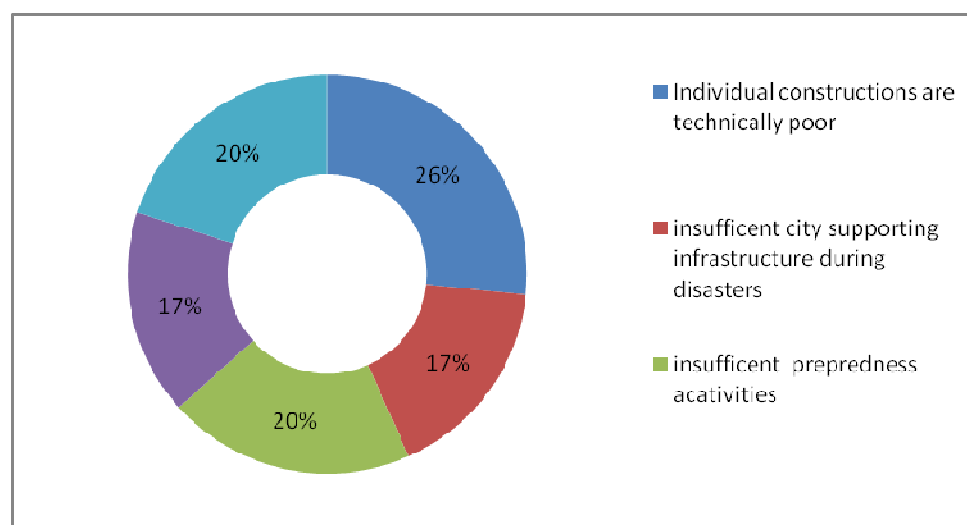
4.8 number of Hazards: The City does have background of severe calamities in the past is described in the

Disaster s	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Earthquakes																																
Krishna Floods				☆	☆						☆								☆							☆				☆		
Budameru Floods																☆		☆			☆				☆		☆			☆		
Cyclones											☆													☆								
Epidemics																															☆	
Industrial Accidents																															☆	
Fire			☆	☆		☆					☆			☆		☆			☆	☆	☆										☆	
Road/Rail accidents																																
Heat wave													☆			☆			☆				☆				☆		☆			
Drain chock																																

4.9 Hindrances in disaster Mitigation

Hindrances occur while taking measures in disaster Mitigation		
Sno	Factors	Points allotted
1	Individual constructions are technically poor	8
2	insufficient city supporting infrastructure during disasters	5
3	insufficient preparedness activities	6
4	Warning and communication	5
5	less concentration of maintenance of Restoration of repaired infrastructure	6
Total Points		30
Note: more points denotes Need of More concentration Note : 30 out of 60 points indicates The city administration stood on medium preparedness		

4.10.1 Graphical representation of Hindrances in disaster Mitigation



Study reveals people are less focused on preparedness due to less awareness, negligence and cautious about valuable belongings therefore there is need to bring attitudinal change in the people mind sets .

Vijayawada City Disaster Management Plan - 2011

4.10 Factors Analysis

SNo	Factors Caused				Hazards	Assets effected			
	Ecolo gical	Econ omic al	Socia l	Institut ional		Ecological	Economical	Social	Instituti onal
1	√		√		Krishna Flood		√	√	
2	√		√		Budameru flood	√	√	√	
3	√		√		Landslides	√	√	√	√
4	√		√		Earth Quake		√	√	√
5			√	√	Health Epidemics		√	√	
6	√		√		Fire	√	√	√	
7			√	√	Drainage chocking		√	√	
	5		7	2	Total	3	7	7	2

Vijayawada City Disaster Management Plan - 2011



The present analysis shows that social factors that caused more numbers of disasters. They affected economical and social assets more. Therefore a Psychological or attitudinal change is required in the people behavior About the disasters. That will protect the economical resources and assets also.

Vijayawada City Disaster Management Plan - 2011

4.11 Scenarios (Causative Factors)

The Vijayawada city is at risk to cyclones, flood, landslides/hillsides/rock fall, fire and earthquake. The vulnerability of the city is high due to developments on the flood plains, on hill slopes, poor accessibility, open drains and poor quality of construction. The possible causative factors that may place the life and livelihood of the people at risk are as follows:

Causative Factor	Possible Risk
Extreme single day or two day rainfall in the Krishna Catchment when the Nagarjuna Sagar Reservoir is full. Such occurrence is possible due to cyclonic activities (including depression) in either Bay of Bengal or Arabian Sea.	Floods in southern part of the city including areas inside of the Embankments, possible breach of embankments, lifeline services including water supply, sanitation and electricity may be damaged/affected
Extreme single day or two day rainfall in the Budameru Catchment during the tail end of monsoon	Floods in North and North Western parts of Vijayawada City
Extreme single day or two day rainfall in Vijayawada due to cyclones	Damage to buildings, Floods within the city and possible over flow of canal followed by health risk
Continuous rainfall ranging for several days at a stretch	Hill slides, Damage to buildings
Fires in the Hill Areas (negligence, lightning, etc)	Damage to buildings
Earthquake of mild intensity	Negligible damage to houses on the plains, Large scale damage to the buildings on the hill slopes
Construction activity on the Hill Slopes	Building damage which would be felt more during the onset of rainfall
Open Drainage and Improper Sanitation	Health risks during floods, Seepage of water in Hill areas leading to land slides

MITIGATION MEASURES

CHAPTER-5

5.1 Structural Mitigation Measures

Mitigation measures are very important phase of disaster management. They will help to reduce the loss and increase the capacity of people in managing the disasters

5.1.1 Krishna Flood

The flood due to the Krishna River is generally due to extreme rainfall within the Krishna basin (other states) in general and has little correlation with the events in Vijayawada city. Therefore in order to achieve sufficient respite time any proposed warning mechanism should be set up at the upstream of Nagarjuna Sagar Dam.

Since there is already a warning mechanism prepared by irrigation department, CWC and Andhra Pradesh disaster management authority which currently exist, the EWS should be coordinated with the existing flood warning mechanism which is already in place. The potential forecast outlook can be translated into early warning messages and initiate preventive/preparedness actions.

Vijayawada City Disaster Management Plan - 2011

S. No.	Name of the activity	Estimate (Rs in Lahks)	Agency	work Status
1	As per the building byelaws 1981, no permission to construct a building on site shall be granted , if the site is with in 9 meters of the highest water mark of a tank,			
1a	Further the authority may require the floor of the lowest storey of such building to be raised above the normal minimum flood level of the adjoining to ground or to such other level as the authority may prescribe			
2	Shift or restrict the people living in flood banks to safe place by providing all amenities			Collector, Krishna Commissioner, VMC MLA East and west Zones
a*	shift to temporary centers when receiving the 1 st warning			
2	Krishna Bund strengthening at Krishna lanka, ranadheevinagar, Bhupesh Gupta nagar	50	SE, Irrigation	initiated the work
3	Krishna bund construction from police colony to yanamala kuduru	5000		work initiated but stopped due to communal conflicts
4	Raising the free board of Krishna flood bunds from 1.5 metre to 2 meters.		SE,Irrigation	have been submitted for K.L.F. Bank and K.R.F. Banks
5	Shift the habitants of the flood zone of Budameru temporary or permanent		Commissioner ,VMC 9000510345	

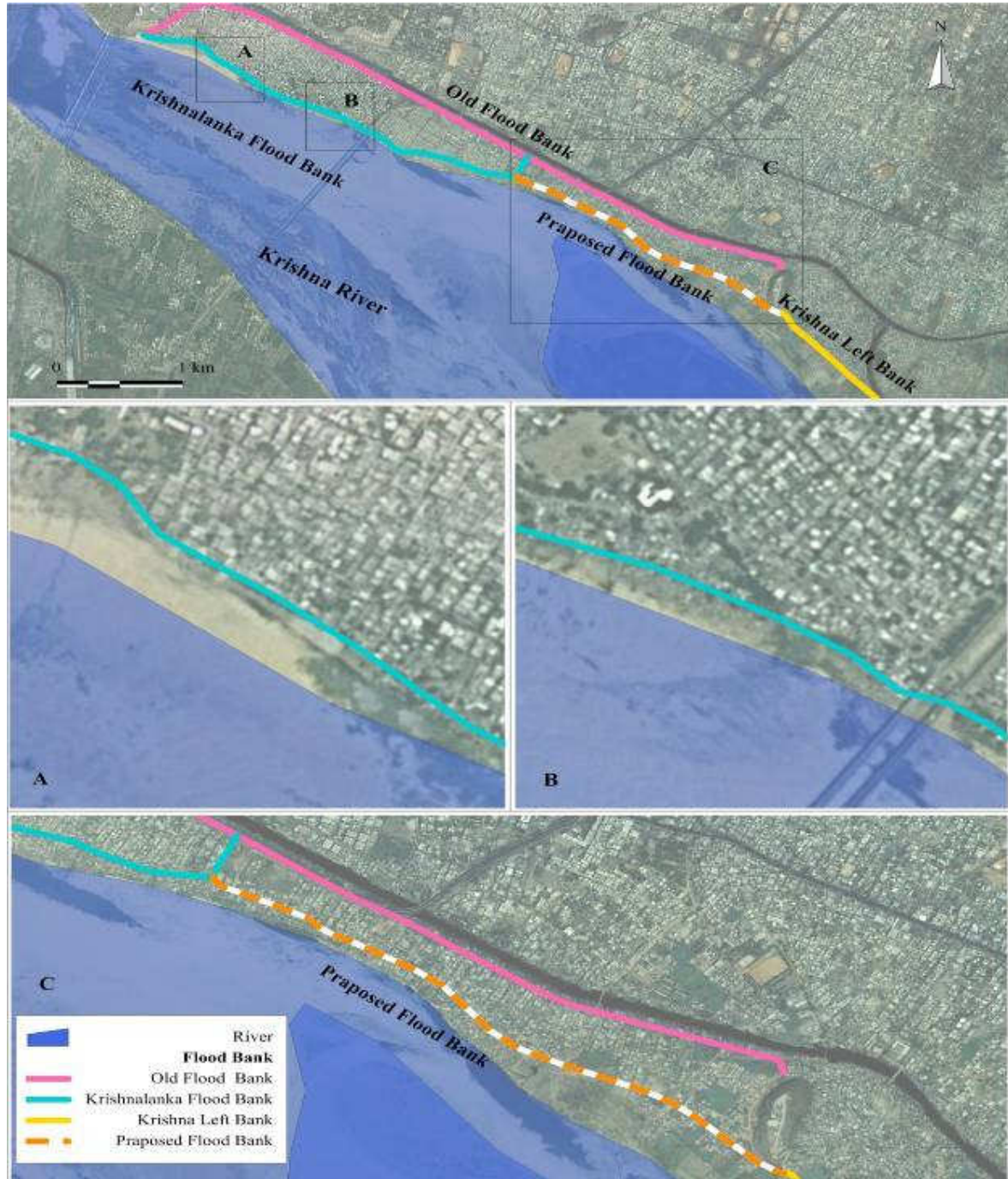
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	to safe shelters after announcing the warning		EE3 : VMC	
6	Stop plowing / occupying the budameru bund from singh nagar to NSC Bose nagar			
7	Providing Road side rain water drains at banadar road	5196	Commissioner ,VMC 9000510345 EE3 : VMC 9866514163	initiated the work
8	Providing Road side rain water drains Ayyappanagar Road	1948	Commissioner ,VMC 9000510345 EE3 : VMC 9866514163	yet to begin
9	Providing Under ground drainage and sewer lines and construction of sump cum [Pump house	232	Commissioner ,VMC 9000510345, SE: Irrigation 942029999	yet to begin
10	Construction of Flood banks for Krishna River and Budameru Floods	10400	SE: Irrigation 942029999, Commissioner ,VMC 9000510345	yet to begin
11	The proposals for raising the free board have been submitted for K.L.F. Bank and K.R.F. Banks.		SE, Irriataion	yet to begin
12	construction of electrical grave yard Ramalingeswar Nagar	120	Commissioner VMC 9000510345	yet to begin
13	construction of 10 shelters /Rehabliataion shelters at Safe zones	300	Commissioner VMC 9000510345	yet to begin
14	Procuring rescue equipment at various locations	20	Commissioner VMC 9000510345	yet to begin
15	shifting and construction Housing f or the krishna flood bank residents	52000	Commissioner VMC 9000510345	yet to begin

Vijayawada City Disaster Management Plan - 2011

16	Renovation or construction of safe schools and providing safety equipment at schools	50	DYEO,VMC 9866514224	yet to begin
17	procuring food for flood effected people	20	POUCD, VMC 9989635099	yet to begin
18	Providing health camps and Medicine stock	20	CMHO VMC, 9866514149	yet to begin
19	Provision of Food to lactating mothers and Infants and children under 6 years	20	PDw&C 9440814589	yet to begin
20	reconstruction of rubbish or spoiled roads in many points of the city to protect form water stagnation	50	R&B Dy. SE. 9440818159	yet to begin
a*	Filling and repairing the ditches and exposed road			
21	Construction of 50 animal sheds at safe zones	10	Joint Director Animal Husbandry	yet to begin
22	Identify the high milk production and other animal or bird production areas, based on that preference should be given to provide all measures to those cattle and birds safety and multiplication			yet to begin
	Total	23436		
*indicates temporary activities				

5.1.1.a Satellite Imagery of Vulnerable points at Krishna Flood area



5.1.2 Budameru

Floods strikes with the Budameru River are due to the extreme rainfall in the Budameru Catchment. The nearest control of the river is from Velagaleru Village. Since the time required for the flood waters to reach Vijayawada City from Velagaleru Village is very low, another regulator may be established at the upstream from which it is being originating(Khammam).

An increase in the draining capacity of the BDC will help in flood reduction. Further, there is also little warning mechanism upstream of the Velagaleru village where the last regulator for river is currently in place.

Along with this the local raingauge and water measuring instruments should be set up at upstream of Velagaleru reservoir to monitor the precipitation, at the reservoir to monitor the level of water and at north of Vijayawada city to communicate the information to the people. Apart from this, below mentioned measures will reduce the problem

Vijayawada City Disaster Management Plan - 2011

S. No	Name of the activity	Estimate (Rs in Lakhs)	Agency responsible	Work status
1	As per the building byelaws 1981, no permission to construct a building on site shall be granted , if the site is with in 9 meters of the highest water mark of a tank,			
1a	Further the authority may require the floor of the lowest styorey of such building to be raised above the normal minimum flood level of the adjoining to ground or to such other level as the authority may prescribe			
2	Construction of Storm water drain along inner ring road between Pipula road to Kanakadurganagar main road,	83.34	Chief Engineer VMC 9866514160	initiated the work
a)*	shift to temporary centers when water level		Commissioner ,VMC	
3	Construction of Storm water drain along Railway track from RR Peta railway level crossing to Budameru Bridge.	134	Chief Engineer VMC 9866514160	initiated the work
4	Construction of Storm water drain along Nuzvid road from Pipula road to Rly.Track side church in Singhnagar	196.78	Chief Engineer VMC 9866514160	yet to begin
5	Construction of Storm water drain along inner ring road between Pipula road to Kanakadurganagar main road	356.57	Executive engineer 2 VMC 9866514150	yet to begin
6	De-silting of all the kutchra drains and also for all along this temporary drains provided up to 33 vents in being taken up by VMC.		Executive Engineer, VGTM UDA,	Annual maintanan ce

Vijayawada City Disaster Management Plan - 2011

6	proposed to provide 800 / 900 / 1000mm dia available un-used pipes of VMC can be used in 2 or 3 rows at important crossings with sufficient width for cart passage wherever necessary to facilitate the farmers field to stop the obstruction of water flow	10	Executive Engineer, R&B, and Executive Engineer, Drainage,vmc	
7	As per historical data, flood flow coming from upper catchment areas and actual run- off coming over the existing IRR, as sheet of water has to be assessed. The IRR will act as retaining wall which leads to inundation in the catchment area and resulting sub-mergence of habited areas.			
8	study should be the similar features along already constructed IRR reach from Pipula road junction to Vijayawada Nainavaram R& B road at Jakkampudi and suggest suitable flood management plan.			
9	Payakapuram Bund Reach-I Patel Nagar to Radha Nagar for 1.100 KM Including raising and formation of BT Road	66	SE: Irrigation 942029999	yet to begin
10	Payakapuram Bund Reach-II Radha Nagar NSC Bose Naga for 3.460 KM Including raising and formation of BT Road	144	SE: Irrigation 942029999	yet to begin
11	Providing central lighting with MV lamps with all fittings at various places(	90	EE (6), EE (4) VMC 9866514200	yet to begin
a)	Two 1000 w halogen lights Near Sluice Gate under Fly-over near Railway track on Singh Nagar side			yet to begin
b)	Four 400W Metal Halide fittings lights Under Fly-over opposite to Indiranaik Nagar			yet to begin
C)	Two 2000 W Halogen fittings lights Near Pipula road junction			yet to begin

Vijayawada City Disaster Management Plan - 2011

d)	Four 400W Metal Halide fittings lights Along flood bank from pipula road			yet to begin
e)*	Two 400W Metal Halide fittings lights Near Ayodhya Nagar Sluice Gate			yet to begin
12	Strengthen the Budameru bund and protect it from Rodentts plough,illegal ploughing for approach path, removal of bund mud for other purpose	20411		
18	Raise the culverters on budameru drain and mainatain the road levels always low.		Sc, Irrigataion	initiated the work
a)*	desilting, de weeding of the budameru drain			
19	Protecting wall through habitations from budameru drain		Commissioner ,VMC SI,Police, SI, vmc	yet to begin
21	Irregular shape of the Drain should make as strait line so the water drains fast and inundates slow and water get percolates into the soil.		Sc, Irrigation	yet to begin
22	Provide manpower to monitor such encroachment or authority to bring down the structures which have encroached into the flood banks.		Sc, Irrigataion Commissioner ,VMC Commissioner, VMC AC(G), VMC	yet to begin
20	Houses should construct above drain level.(2 meters high)		Commissioner ,VMC CE/SC/EE,VMC CP,VGTM, EE,Housing	yet to begin

Vijayawada City Disaster Management Plan - 2011

	Construction of 50 animal sheds at safe zones	10	Joint Director Animal Husbandry	yet to begin
	Identify the more milk production and other animal or bird production areas, based on that preference should be given to provide all measures to those cattle and birds safety and multiplication			
	TOTAL	21492		
** indicates short term activity				

5.1.3 Land slides

It is very difficult to set up any warning system for the landslides, because they occur due to multiple reasons including continued precipitation within Vijayawada city, poor quality of construction, seepages from water and sanitation services, disturbance caused by the construction activity and last but not the least unplanned hill terrain alteration by people. Monitoring of any one of the parameters may not solve the problem at hand. Further the circumferences of the hills and the intricate nature of the development will involve large amount of investments for setting up a network that could monitor all the above. One of the best ways to arrive at an efficient network of hill slide warning system is to carry out a detailed micro analysis of the region including the quality of contraction, the socio-economic status and other practices before arriving at the location and type of warning system that would be required. Landslides may have many causes but in majority of cases has one trigger- continuous heavy rains.

Vijayawada City Disaster Management Plan - 2011

S. No.	Name of the activity	Estimate (Rs in Lakhs)	Agency	work Status
1	Construction of retaining wall as boundary line with iron mesh or geo wire at hill areas to hold the rolling boulders	5000	Chief Engineer VMC PH: 9866514160	yet to begin
2	Install sensor information system and alarms at hill tops and near to residential locations in hill areas	200		
4	Parameter monitoring systems for large movement, sudden variation, Precision deformation for warning the Landslide			
5	Install hand sirens with wired mesh for identification of rock movement			
6	Provide the drainage facility through water proof pipe lines only			
A*	rehabilitating/shifting the people to safe places		Commissioner, VMC 9000510345	yet to begin
3	construction of temporary and permanent shelters for affected people	500	Commissioner, VMC 9000510345	yet to begin
	Total	5700		

5.1.4 Fire accidents

The recorded History shows that irrespective of the place the hazard may happen any where in the city. The vulnerable areas of these Fire accidents are Thatched areas, Crowded areas, Industrial areas huge complexes. Therefore the strict enforcement on plan approval ,set backs , for mass gathering points like, malls, schools, hostels, Theatres etc Apart from this below mention measures will help to reduce the problem

S. No.	Name of the activity	Estimate (Rs in Laks)	Agency	work Status
	Long term			
	installing fire extinguishers at crowded /Hill areas, and narrow places	10	RFO, VMC PH :98665 1416	initiated
	providing water holes at hill points for accessing water	5	RFO, VMC PH :98665 14169	yet to begin
	Procuring fire safety equipment and vehicles to reach safely	20	RFO, VMC PH :98665 14169	yet to begin
	As there is huge number of malls/shops/multifloors /theatres rising in the city establish enforcement to Install fire extinguishing equipment	-		initiated
	Interior stairs shall be constructed of non combustible material		RFO, VMC	Few works are exempted or not

Vijayawada City Disaster Management Plan - 2011

				yet practicing
	Fire escapers directly connected to the ground		PH :98665 14169	Few works are exempted or not yet practicing
	Building shell be designed and constructed according to National Building code of part iv of fire protection		RFO, VMC	Few works are exempted or not yet practicing
	Total	35		
*indicates temporary activities				

5.1.5 Earth Quake

Even though the city is not in high risk zone the quality and location of the building may add to the vulnerability of the region. In addition study on liquefaction analysis along with other parameters may be carried out for assessment of detailed seismic hazard of the city. The catalogue of historical earthquake incidences is presented in Table below:

S. No.	Name of the activity	Estimate (Rs in Laks)	Agency	work Status
1	see to implement the construction of houses with safe construction practices(earth quake proofing)	-	City planner VMC, 9866514209, CP	yet to begin
2	construct the houses with retrofitting(individual level)	-	City planner VMC, 9866514209,	yet to begin
3	construct the Govt housing with safe construction practices	-	City planner VMC, 9866514209	yet to begin
4	Implement enforcement mechanism to follow the Municipal Corporation Bye Laws ,1981(GOM No 905, Housing Administration Urban Development (MA)		City planner VMC	Few works are exempted or not yet practicing

Vijayawada City Disaster Management Plan - 2011

	7 th August 1981			
5	Issue completion certificate and occupancy certificates only to the only to the safe structures or buildings		City planner VMC	Few works are exempted or not yet practicing
	Notice unsafe buildings which are against to Building bye laws and consider to be danger the public safety shell be restored by repairs other wise demolish and vacate the adjacent structures get vacated as causes of emergency		City planner VMC	Few works are exempted or not yet practicing

5.1.6 Drainage chocking

S. No.	Name of the activity	Estimate (Rs in Laks)	Agency	
1	Mortar and chemical treatment for exposed rebar region under side of top slabs	10	VMC, 9866514149	yet to begin
2	restoration of distressed slab by concrete	10	SE,VMC 9866514160	yet to begin
3	Box culverters at the end of reaches	10	SE,VMC 9866514160	yet to begin
4	Strengthening of existing culverters	10	SE,VMC 9866514160	yet to begin
5	Fencing to trenches to avoid dumping	10	SE,VMC 9866514160	yet to begin
a	Removal of accumulated plastic debris	5	SE,VMC 9866514160	yet to begin
b	Desalting the middle reaches of main drains	5	SE,VMC 9866514160	yet to begin
c	Pipe culverts/vents at the reaches to be cleaned to avoid chocking	5	SE,VMC 9866514160	yet to begin
d	Reapplying the mortar to the masonry joints	5	SE,VMC 9866514160	yet to begin
6	Cement grouting to SS masonry abutments, piers, walls and arch bottom at 1 town	10	SE,VMC 9866514160	yet to begin
7	Weld mesh should be fixed in all three canals to sieve the debris chocking in the canals	50	SE,VMC 9866514160	yet to begin
8	Desilting of drains and Removal of floating garbage drain passage through janda chettu centre,padi street, Gandhi konda		CMHO,VMC	Ongoing
9	Remove waste regularly near Drain passing under railway track at nizam gateand subbaraju nagar		SE,VMC 9866514160	yet to begin

Vijayawada City Disaster Management Plan - 2011

10	Increase or widen the out let drains at under railway track at bhavani puram, sitara	50	SE,VMC 9866514160	yet to begin
11	Increase or widen the out let drains at NSC Bose nagar drain from pipla rd to 33 pipe line	50	SE,VMC 9866514160	yet to begin
12	Increase or widen the out let of gunta tippadu drain from pinnamaneni poly clinic to rivus canal/drains at	50	SE,VMC 9866514160	yet to begin
	Total	280		

5.1.7 Health Epidemics

	Long term	Estimate (Rs in Lahks)	Agen	
61	Removal of bush growth in vacant lands and control the larva growth of mosquitoes.	-	CMHO , VMC, 9866514149 Malaria officer, Malaria project	Regular practice
62	Anti larval operations with Larvicide's in open breeding sources like Wells and low lying areas and in open plots.	-	CMHO 9866514149 VMC	Regular practice
63	Water Hyacinth removal.	-	CMHO , VMC, 9866514149	Regular practice
	Fogging and Pyrethrum spray Operations.	5	CMHO VMC, 9866514149	Regular practice
64	Indoor Residual spray (IRS) Operations.	5	CMHO VMC, 9866514149	Regular practice
	sources checking and treatment.		CMHO VMC, 9866514149	Regular practice
	Keep the stock of chlorine and medicines		CMHO VMC, 9866514149	Regular practice
65	list of precautions to be taken by the public before, during and after the disaster		CMHO VMC, 9866514149	Regular practice
66	establishment of field medical centers, mobile clinics, emergency operation centers		CMHO VMC, 9866514149	Regular practice

Vijayawada City Disaster Management Plan - 2011

67	A medical control room should be established at municipality		CMHO VMC, 9866514149	Regular practice
68	sprinkling of kerosene oil and lime on the drains and roads to prevent gastro enteritis with the help of Sanitation team.		CMHO VMC, 9866514149	Regular practice
69	Provide nets in shelters, spray malitlan in drains, Vector borne like malaria, filarial, dengue, chikungunya, Japanese cephalitis	10	CMHO VMC, 9866514149	Regular practice
70	shall prepare a Hospital Disaster management Plans		CMHO VMC, 9866514149	Regular practice
71	Take precautionary measures for hospital safety during disasters		CMHO VMC, 9866514149	Regular practice
72	Conduct Health mock drills		CMHO VMC, 9866514149	Regular practice
73	To identify the requirements of equipment and medical stocks that		CMHO VMC, 9866514149	Regular practice
74	build network with referral hospitals, blood banks, ambulance services, etc.			
	Total	20		

Vijayawada City Disaster Management Plan - 2011

5.2 Recommended Early warning System

Sno	Nature of disaster	Cause	Suitable EWS Solution for prevention / minimizing impact
1	Krishna floods	Heavy rains around end of rainy season when NS dam is nearly full	☐ Automatic rain measurement units in the NS dam catchment area. ☐ Automatic water level measurement units at strategic places Real time rain fall data at Prakasam and Krishna Dt and
2	Budameru floods	Heavy rains in catchment area for 2 or more days	☐ Automatic rain measurement units in the river catchment area. ☐ Automatic water level measurement units at strategic places ☐ With real time rain fall data and prediction software
3	Hill slides	Heavy rains, construction activities etc.	☐ Automatic rain gauges ☐ Automatic soil moisture measurement ☐ Extensometers Automatic rain gauges (details are already given above) ☐ Shallow soil saturation measurement ☐ Ground water level measurements ☐ Digital wire extensometers ☐ Debris movement monitors and ☐ Rock fall catch fence Shallow soil saturation measurement
4	Fire	High ambient temperatures, combustible roofs and huts in clusters	24X7 disaster response call centre to respond to calls regarding initiation of fire to initiate immediate response from fire brigade, police etc.

Vijayawada City Disaster Management Plan - 2011

5	Cyclones	Development of low pressure areas over the bay of Bengal and weather related reasons	Reliable communication links with organisations / offices responsible for issuing warning messages will ensure that all vulnerable population receives warning Automated last mile message broadcast systems with redundancy for high reliability
Source: EWS survey report by UNDP			

5.3 EWS Equipment suitable to the vulnerable area

	Name of the Equipment	Main requirements	EWS suitable in target area	Remarks
1	VHF Radio	Government license for wireless set operation and ownership	Yes	License is normally granted to Govt. or renowned institutions. Security and safe keeping of equipment is very important
		· Frequency allotment by Government		
		· Reliable power supply		
2	Voice message delivery using fixed telephones or SMS and voice messaging on WLL	· Availability of Land line phones or WLL coverage · Reliability of system	Yes	Reliability depends up-on availability of networks during pre disaster stages
3	SMS and voice message delivery using GSM (cell phone) based services	GSM coverage availability	Yes	Reliability depends up-on availability of networks during pre disaster stages
4	FM Radio based systems	· FM Radio station	Yes	

Vijayawada City Disaster Management Plan - 2011

		coverage		
5	Community radio based systems	· Availability of community radio station in the area	No	License to operate Community Radio is granted only to
6	Audio broadcast using Direct To Home (DTH) TV transmission system	Agreement with Door Darshan or other DTH operators		Yes
7	Inmarsat satellite based systems (BGAN and D+)	License to operate in India	No	License is not available, however permission is granted to Government users on case by case basis
8	Interactive Voice Response System (IVRS)	Availability of landline or GSM phones	Yes to some extent	Users need to dial-in to get information, which is not useful in case of unannounced release of water from barrage
9	VSATs	License to operate and	Yes	System is costly to operate
		Reliable power supply		
10	HAM Radios	Government licence for frequency and	Yes	System is costly and getting and maintaining license is time consuming process
		Reliable power supply		
11	Village Knowledge / Resource Centers	Availability of VKC or VRC in the region	Yes	These are provided by renowned NGOs as system cost is high. ISRO provides VRCs free of cost only to NGOs.
		Reliable power supply and		
		Trained manpower to operate		

Vijayawada City Disaster Management Plan - 2011

5.4 Non Structural Mitigation measures/Integrated Human Resource Development service programmes

Non Structural Mitigation measures/Integrated Human Resource development						
SNo	Activity Head	Sub activity	Responsible	No of times per yer	Estimated budget	Work status
1	Awareness related to Disasters	Mock drills , Rally/street plays ,Training program awareness classes and sensitization program to the socially economically suppressed sections, SHGs,Teachers, Children, employees, NGOs, Doctors, ANMs, Social workers and Mother committees etc.	PO,UCD;VMC PD,ICDS,Krishna Director, Social welfare, Krishna DYE0, VMC CP,Police dept,Viz NDRF,Mangalagiri	Three times	100000	Work started by UNDP-GOI URR Project
		SubTotal	100000			
2	Counseling or psycho social care measures	Training to , Doctors, Psychologists, Health Educators, ANM and ASHA workers on or psycho social care of pre and post disasters situations	CMHO,VMC DMHO,Krishana PD,ICDS,Krishna	Three times	100000	Work started by UNDP-GOI URR Project
		Sub Total	1000000			
3	Health Care measures	Construct Area hospitals and take measures for safety of Infants/new born and the lactating mother by using Bala suraksha Yojana scheme and janani scheme in the safe place of disaster zone	CMHO,VMC CMHO,VMC DMHO,Krishana PD,ICDS,Krishna	Through out the year	100000	Yet to start
4		Issue health cards under Rastriya Swasthya Bheema Yojana to all vulnerable groups	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	Work under progress
5		Provide Re Hospitalization facility to the person who hurt/injured in disaster through Arogya shri card	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	Under progress

Vijayawada City Disaster Management Plan - 2011

6	Providing help to lactating and pregnant women in disaster areas under Sukhee bhava scheme	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	
7	Provide Mobile Hospital units flood zones for safe delivery	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	Yet to start
8	Nutritious food supply before after disaster through mother committees and ICDS workers	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	Undr progress
9	Provide training to women and Arrange Post disasters immunization like Polio, Measles and Vitamin- A. under National Immunization program	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	progress
10	Establish Nutrition rehabilitation centres in vulnerable wards to protect children from mal nutrition	CMHO,VMC PD,ICDS,Krishna	Through out the year	500000	Not yet started
11	Provide education and Health protection under 17 years below girl child under Kishora balika scheme	CMHO,VMC PD,ICDS,Krishna	Through out the year	100000	Not started
12	Draft amount on the name of girl child after one monthnof disaster	Cpcommissioner, VMC	Through out the year	500000	Not yet started
13	Provide facility as Inpatient through Arogya raksha insurance in private hospitals also	Commissioner, VMC	Through out the year	G	Ongoing
14	To check/stop the population growth and continuing of stay in flood basin or hazardus areas encourage Family planning scheme and controlee the local population	CMHO,VMC Commissioner, VMC	Through out the year	100000	Yet to start

Vijayawada City Disaster Management Plan - 2011

15		Any adolescent or girl child lost the parents or self life in disasters provide the insurance coverage under RAJARAJESWARI MAHILA KALYANA YOJANA and BHAGYA SRI welfare scheme	CMHO, VMC Commissioner, VMC	Through out the year	100000	Yet to start
		Sub Total	2000000			
16	Economic safety measures	Improvement of Health and sanitation or rehabilitation of households staying in floods/land slides through swarnajayanthi yojana.	VMC Commissioner, VMC, CE, VMC	Through out the year	100000	started
17		Many areas observed to be located in slums who are need to stay in hazardous condition hence these people must be rehabilitated to safe housing through RAY(Rajeev Aavas Yojana)	CMHO, VMC Commissioner, VMC CE, VMC	Through out the year	100000	started
18		Block development like sanitation, public toilets, urinals and roads construction can be developed through Indira mahila yojana	CMHO, VMC Commissioner, VMC CE, VMC	Through out the year	100000	started
19		Provide Gas and other non conventional energy sources to the poor among slum women through Poverty elimination program Deepam scheme	CMHO, VMC Commissioner, VMC POUCD, VMC	Through out the year	G	ongoing
20		Primary health care and economic development of vulnerable group can be assisted through Vision 2020		Through out the year	G	ongoing
		Subtotal	3000000			
21	Social safety measures	Socially economically people of these areas belong to vulnerable therefore help the people by Prioritizing these areas and provide Schemes like Pava vaddi, Abhaya Hastam	CMHO, VMC	Through out the year	G	ongoing
			Commissioner, VMC			
			POUCD, VMC			

Vijayawada City Disaster Management Plan - 2011

22	People are not much educated and less aware about the mental growth of the children therefore arrange angan wadis to /pre school to 3-5 years below aged children	PD,ICDS,Krishna	Through out the year	G	ongoing
23	Similarly establish adult education centers in these areas for educating and increasing the outlook of situation		Through out the year	1000000	Should intensify
24	Provide BPL cards to these people for procuring easily before and after disaster	POUCD,VMC	Through out the year	G	initiated
25	People of these categories of the area generally don't have skill work there fore to increase their expertise special skill development classes should be arranged. Avail loans Easily through banks and WOMEN/SC/BC FINANCE COMMISSIONS for restoration of livelihood of the effected people	Bank manager,SBI Director,women finance commission Director, SC, Finance commission POUCD,VMC	Through out the year	5000000	ongoing
26	Help to establish small scale industries/entrepreneurs/units etc	Director, DIC	Through out the year	1000000	ongoing
27	Many people works as vendors small business, daily wage laborers therefore mostly on small business i.e provide group linkage, Micro finance to these people	POUCD,VMC	Through out the year	1000000	ongoing

Vijayawada City Disaster Management Plan - 2011

28		Area or locality insurance should be applied to the wards which are in vulnerable condition.	POUCD,VMC	Through out the year	1000000	nil
		Sub Total	9000000			
29	Institutional safety measures	Provide Self employment in various streams to the interested youth in selected wards through TRISEM scheme	POUCD,VMC Director,DIC		5000000	nil
30		vulnerable groups who are below poverty line are should be assisted to increase the standard of life in through Jawahar rojgaar yojana JRY (Intensive)			5000000	started
31		Provide employment for at least 100 days in Health, sanitation and constriction works to the unemployed people in the urban areas through UEGS.	Commissioner ,VMC	Three times	G	Initiated
32		Provide monitory assistance for Economic empowerment of women assist the women through DWACUA to establish small scale industries/units etc	POUCD,VMC	Through out the year	G	onoing
33		Make sure of health and education of the girl child through 11-17 years old through KISHORA BALIKA SCHEME	DYEO,VMC	Through out the year	500000	Ongoing without scheme
34		Youth and skilled persons should be get benefit through CMEY scheme	Diretor,DIC Employment officer,vijayawada POUCD,VMC	Through out the year		initiated
35		Provide Industrial schools or MOTHER UNITS to industrial areas to assist the women	Diretor,DIC Employment officer,vijayawada	Through out the year	500000	nil

Vijayawada City Disaster Management Plan - 2011

36		Provide Nirmithi and Aadarana Kendras in BC dominant areas for BC women to grow as small scale entrepreneur	Director, DIC Employment officer, vijayawada	Through out the year		nil
37		Educated men and women should be assisted in by providing trainings/loans/jobwork under Indira Kranthi Pathakamu	Director, DIC Employment officer, vijayawada	Through out the year		started
		subtotal	11000000			
		Grand Total	11500000			

Vijayawada City Disaster Management Plan - 2011

5.5 Annual Ward Action Plan

Annual Ward Action Plan														
SNo	Works to be Done	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Incharge
I	PHYSICAL WORKS	✓	✓	✓	✓	✓								CE,VMC
1	Construction of Storm water drain	✓	✓	✓	✓	✓								CE,VMC
2	De-silting of all the kutchra drains, canals(eluru.rivus,Bandar,bud ameru)													CE,VMC CMHO,VMC
3	Deweeding (budameru)	✓	✓	✓	✓	✓								CMHO,VMC DYSC,Irrig
4	Pipe culverts/vents at the reaches to be cleaned	✓	✓	✓	✓	✓								CE,VMC
5	Bund Strengthening	✓	✓	✓	✓	✓								CE,VMC
6	Lighting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CE,VMC
7	Underground drainage	✓	✓	✓	✓							✓	✓	CE,VMC
8	Shelter repairing/Construction	✓	✓	✓	✓									CE,VMC

Vijayawada City Disaster Management Plan - 2011

9	Procuring rescue equipment	✓	✓	✓	✓									RFO,VMC DFO,Krishana
10	rehabilitating/shifting the people to safe places													AC(G)
11	Storing food stock	✓	✓	✓	✓								✓	CMHO,VMC
II	HEALTH PROTECTION WORKS													
12	Bush removal/Jungle clearance	✓	✓	✓	✓									CMHO,VMC
13	Removal of accumulated/floating plastic debris	✓	✓	✓	✓									CMHO,VMC
14	Anti larval operations	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	CMHO,VMC
15	Fogging and Pyrethrum													CMHO,VMC
16	Keep the stock of chlorine				✓									CMHO,VMC
17	establishment of field medical centers, mobile clinics, emergency			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CMHO,VMC

Vijayawada City Disaster Management Plan - 2011

	operation centers													
18	A medical control room	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CMHO,VM C
19	Mock drills , Rally/street plays ,Training program awareness classes and sensitization program													CMHO,VM C
20	Mobile Hospital units	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		CMHO,VM C
21	Pre and post disaster Immunization program	✓	✓	✓	✓	✓						✓	✓	CMHO,VM C
22	Protection measures to Pregnant Lactating Mothers and children below 5 years					✓	✓	✓	✓	✓	✓			CMHO,VM C
III	ECONOMIC DEVELOPMENT WORKS													
23	Survey and enumeration of effected unemployed oldage			✓										PO,UCD
24	Assistance to Educated men and women by providing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	PO,UCD,V

Vijayawada City Disaster Management Plan - 2011

	trainings/loans/job work under Indira Kranthi Pathakamu													MC
25	Provide loan facilities to various SHG groups for restoration to normal life	√	√										√	PO,UCD,V MC
26	Provide loan facilities to various vendors for restoration to normal life		√									√	√	PO,UCD,V MC
27	Providing Industrial loans													PO,UCD,V MC
IV	SOCIAL DEVELOPEMENT													
28	Training on skill development	√	√	√	√	√	√	√	√	√	√	√	√	
29	Establishing Adult education centers	√	√	√	√	√	√	√	√	√	√	√	√	Rajeev Vidymission
30	Urban employment Guarantee works	√	√	√	√	√								Commissioner,VMC
31	Establishing pre schools													PD w&C

Vijayawada City Disaster Management Plan - 2011

32	Establishing mobile angan wadi/preschools						✓	✓	✓	✓				PD w&C
33	Implementing all girl child protection schemes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	PD w&C
34	Provide Old age pensions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	PO,UCD,V MC PD w&C
V	OTHER GENERAL WORKS													
35	Update Ward action plan				✓									Manager, VMC
36	City Disaster Steering committee Meetings	✓				✓							✓	ACG,VMC
37	Training to ward steering committees	✓				✓							✓	ACG,VMC
38	Establish Permanent Control room	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	ACG,VMC

Vijayawada City Disaster Management Plan - 2011

5.6 Capacity Building & Training plan for the year 2011

Vijayawda Capacity Building & Training Plan for the year 2011							
S. No	Department	Target group	Topic	No.of Persons	Unit Cost	Total Cost	Training Agency
1	Revenue	Tahisildar & VROs	CBDRM	100	400	40,000	APARD
3	Municipal Department	Engineers	Hazard Resistance technology	40	400	16000	JNTU/NAC
4	Housing	Engineers	Safe Constructions	40	400	16000	JNTU/NAC
5	Medical & Health	Doctors/Nurses/ANMs/ etc.	Hospital Preparedness	100	400	40000	EMRI
6	Agriculture (Rural Vijayawada)	Aos/MAOs/JD /AD/DDs	Crop Damage Assessment & Lone	80	400	36000	MCRHRD
7	Animal Husbandry	Doctors/Compoundars/Pasumithras	CBDRm/ Preparedness	100	400	40000	MCRHRD
8	Police	Constables/ CI/SI	Search and Rescue	150	400	60000	APARD

Vijayawada City Disaster Management Plan - 2011

9	Fire	all staff	Search and Rescue/ Floating Aids	40	400	16000	APARD
10	Fisheries	F.A.Os/ Ads/JDs	Infrastructure Damage assessment/ preparedness/ Loans	40	400	16000	APARD
12	R & B	Engineers	Safe Constructions	40	400	16000	JNTU/NAC
13	Education	Teachers and MEOs	School Safety preparedness/ Plans	200	400	80000	MCRHRD
14	PRI	MPTC/ZPTS/ Sarpanchs/ Corporators	CBDRM	200	400	80000	MCRHRD
15	CBO	SHG/VO/UG/ RMG/	CBDRM	300	400	120000	APARD/ MCRHRD
Total				1596		613,600	

Vijayawada City Disaster Management Plan - 2011

5.7 Training calendar

7.5 Training calendar															
SNo	Area	Works to be Done	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Incharge
1	Health	Mock drill on Health preparedness	√	√	√	√	√								CMHO,V MC
2		Mock drill on Evacuation and Rehabilitation					√	√	√						Comma nder ,NDRF CP,Pol ICE
3		SHG Sensitizations program	√	√	√	√	√	√	√	√	√	√	√	√	PO,UCD ,NGO
4		Training program to sanitary workers	√	√	√	√									CMHO,V MC
5	engineers	Training program to engineers on safe construction hazard resistant technology	√	√	√	√	√	√	√	√	√	√	√	√	CE/SE, VMC
6		Builders awareness	√	√											CP,VMC

Vijayawada City Disaster Management Plan - 2011

		program													
7		Sensitizations and training program to mansions		√	√									√	CP
8		Sensitizations and training program to Bar benders										√	√	√	CP
9	Social and institutional	Sensitization and awareness program to Bankers, NGOs, other financial institutions on financial support to the communities before after Disaster	√	√	√										POUCD, VMC
10		Training program to Social worker, community organizers, Program specialists on prep and post care after disasters	√	√			√	√					√	√	PUCD,V MC

Vijayawada City Disaster Management Plan - 2011

11		Training program on Shelter management and rehabilitation measures to HODs and NGOs			✓	✓									AC(G), VMC DYES,V MC
12		Mock drill in schools	✓	✓	✓	✓	✓	✓							DYES,V MC,Com,NDRF
13		Training to Youth volunteers, NSS,NCC students, college students, voluntary organizations on civil discipline during disasters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	AC(G), VMC NSS Coordinator,Vij
14		Mansions Training	✓	✓	✓	✓	✓								EE

Vijayawada City Disaster Management Plan - 2011

5.7 Natural Disaster Mitigation Strategies for Civilians

EARTHQUAKE MITIGATION		
Before the Disaster	During the Disaster	After the Disaster
• Check for hazards in the home • Identify safe places in each room • Locate safe places outdoors • Ensure all family members know how to respond after an earthquake • Teach children when and how to call 9-1-1 • Have disaster supplies on • Develop an emergency communications plan in case of separation during the earthquake • Ask an out-of-state relative or friend to serve as the family contact	• If indoors: Take cover under a piece of heavy furniture or against an inside wall and stay inside • If outdoors: Move into the open, away from buildings, street lights, and utility wires and remain there until shaking stops • If in a moving vehicle: Stop quickly, stay in vehicle, move to a clear area away from buildings, trees, overpasses, or utility wires	• Be prepared for after shocks • Help injured or trapped persons and give first aid where appropriate • Listen to a battery operated radio for emergency information • Stay out of damaged buildings and return home only when authorities say it is safe
EXTREME HEAT MITIGATION		
Before the Disaster	During the Disaster	After the Disaster
• Install window air conditioners	• Protect windows that receive sun by hanging draperies or shades	First Aid for conditions after a drought/extreme heat: • Sunburn (skin redness and pain, possible

Vijayawada City Disaster Management Plan - 2011

• Install temporary reflectors to reflect heat outside • Consider keeping storm windows up year round • Check air-conditioning ducts for proper insulation	• Conserve electricity • Stay indoors as much as possible; eat well-balanced light meals and drink water regularly • Limit intake of alcoholic beverages • Dress in loose fitting clothes • Allow body to get acclimated to the heat w/in the first few days of a heat wave, avoid sunshine and use sunscreen if needed • Avoid extreme temperature changes • Reduce, eliminate, or reschedule strenuous activities	swelling, blisters, fever, headaches) - shower using soap to remove oils that may block pores. If blistering occurs, apply dry, sterile dressings and get medical attention. • Heat Cramps (painful spasms in leg and abdominal muscles) - Place firm pressure on cramping muscles or gentle massage to relieve spasm. Give sips of water, however if nausea occurs, discontinue. • Heat Exhaustion (heavy sweating, weakness, skin cold, pale, and clammy, weak pulse, fainting and vomiting may occur) - lay victim down in a cool place, loosen clothing and apply cool, wet cloths. Give sips of water, however if nausea occurs, discontinue. Seek medical attention if vomiting occurs. • Heat/Sun Stroke [high body temperature (+106?) , hot and dry skin, rapid pulse, possible unconsciousness, no perspiration] - Call 9-1-1 immediately to get victim to a hospital immediately. Delay can be fatal.
FLOOD MITIGATION		
Before the Disaster	During the Disaster	After the Disaster
• Learn warning signs and community alert systems	During a flood watch:	• Don't return home until authorities express it is safe to do so

Vijayawada City Disaster Management Plan - 2011

• Stockpile emergency building materials • Install check valves in sewer traps to prevent flood waters from backing up in sewer drains • Plan and practice an evacuation route • Have disaster supplies on hand • Develop an emergency communication plan in case of separation • Ask an out-of-state relative to serve as the "family contact" • Teach family members how and when to turn off the gas, electricity, and water and teach children how and when to call 9-1-1 • Ask your insurance agent about flood insurance	If indoors: • Turn on battery operated radio to get latest emergency information • Get pre-assembled emergency supplies • If told to leave, do so immediately. If outdoors: • Climb to high ground and stay there • Avoid walking through any floodwaters. • If in a car, turn around and go another way; if your car stalls, abandon it immediately and climb to higher ground. During an evacuation: • If advised to evacuate, do so immediately to avoid flooded roads, being sure to follow recommended evacuation routes and listen to radio for evacuation instructions	• Help neighbors whom may need assistance • Use extreme caution when entering buildings • Inspect foundations for cracks or other damage and examine walls, floors, doors, and windows to make sure that the building is not in danger of collapsing • Watch out for animals, especially poisonous snakes, that may have come into your home with flood waters • Watch for loose plaster and ceilings that could fall • Take pictures of damage for insurance claims • Look for fire hazards • Throw away all food (including canned) that has come in contact with flood waters • Pump out flooded basements gradually (~ 1/3 amount of water per day) to avoid structural damage • Service damaged septic tanks, cesspools, pits, and leaching systems ASAP - damaged sewage systems are health hazards.

Vijayawada City Disaster Management Plan - 2011

LANDSLIDES & MUDFLOW MITIGATION		
Before the Disaster	During the Disaster	After the Disaster
• Get a ground assessment of your property • Minimize home hazards (plant ground cover on slopes, build retaining walls, and in mudflow areas, build channels or deflection walls to direct flow around buildings) Recognize landslide warning signs: • Doors/windows stick or jam for the first time, new cracks appear in plaster or foundations, outside walks, walls, or stairs pull away from buildings, underground utility lines break, bulging ground appears at base of a slope, ground slopes downward in one direction and may begin shifting in that direction under your feet; faint rumbling sound that increases in volume as landslide nears • Make evacuation plans, planning at least two routes allowing for blocked and closed roads • Develop an emergency communication plan and ask an out-of-state relative or friend to serve as the family contact • Purchase flood insurance.	If indoors: • Stay inside and get cover under a sturdy piece of furniture. If outdoors: • Try to get out of path of mudflow • Run to nearest high ground in a direction away from path • If rocks and other debris are approaching, run for nearest shelter such as a group of trees or a building • If escape is not possible, curl into a tight ball and protect your head. Be cautious of sinkholes: • Sinkholes occur when groundwater dissolves a vulnerable land surface such as limestone, causing the land surface to collapse from lack of support.	• Stay away from slide area • Check for injured and trapped persons and give first aid where needed • Listen to battery-operated radios for emergency information • Remember flooding may occur after a mudflow or landslide • Check for damaged utility lines and report damage to the utility company • Check the building foundation, chimney, and surrounding land for damage • Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding.

BUDGET ESTIMATION

CHAPTER-6

Heavy floods in Sept 2009 and September 2010, are caused damage to the Municipal properties are Rs 2605 Cr and Rs 33865859 Cr spent on relief Measures. hence to forecast and reduce the loss some disaster mitigation measures and financial assistance is required

6.1 Estimated Budget for Disaster Mitigation Measures

Estimated budget for Structural Mitigation measures (Rs in Lakhs)	
	21492
Budameru flood zone area development	
	23436
Krishna flood bank area development	
Fire prevention measures	35
	5700
Land sliding protection activities	
Health protection activities	20
Drainage Works	280
	50963
Total	

6.2 Estimated budget for Non Structural Mitigation measures/Integrated Human Resource Development

Estimated budget for Non Structural Mitigation measures(Integrated Human Resource Development) in Rs	
Awareness programs	100000
Counseling or psycho social care measures	100000
health safety measures	2000000
economic development	300000
Social development	9000000
Total	11500000

PREPAREDNESS PLAN

(Municipal Corporation)

CHAPTER-7

Pre-disaster activities that are undertaken within the context of Multi disaster risk management and are based on risk analysis. This includes the development/enhancement of an

The present Disaster Response Preparedness plans and measures will helping at-risk communities, reduce the risk and increase capability and safeguard their lives and assets by taking appropriate action during the disaster.

7.1 Emergency Operating centre(EOC) /Control room :

An **emergency operations center**, or **EOC**, is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level in an emergency situation, and ensuring the continuity of operation of a company, political subdivision or other organization.

The common functions of all **EOC's** is to collect, gather and analyze data; make decisions that protect life and property, maintain continuity of the organization, within the scope of applicable laws; and disseminate those decisions to all concerned agencies and individuals. there is one individual in charge In most **EOC's** and that is the Emergency Manager.

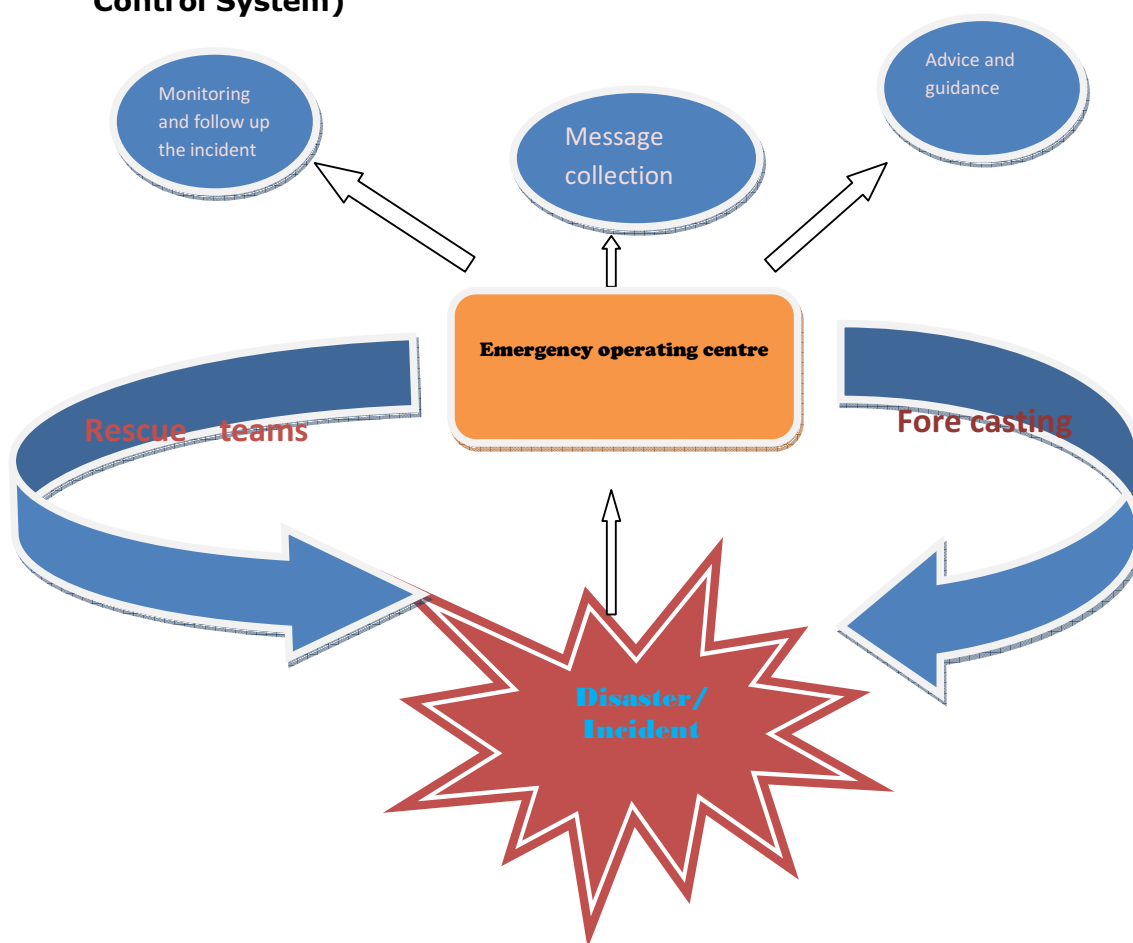
During an emergency or disaster, the District Administration will take immediate and appropriate action to determine, direct, mobilize, and coordinate resource needs it increases alertness, giving public officials time to take preventive, precautionary or protective measures to reduce loss of life and minimize damages. The City Administration initiating to establish, equip, an Emergency Operations Center (EOC)/ at Muncipal corporation Office premises from which all emergency activities will be

managed. The EOC will communicate with the other city and district administration to ensure close cooperation in emergencies and disasters.

Functions

- dealing with incoming emergency calls and prioritizing them
- taking the necessary information from the caller
- recording details of incidents on computer systems
- providing necessary advice and guidance
- Dispatching an emergency services team to deal with the incident.
- Maintaining contact with the team at the scene of the incident to keep up to date with the situation and ensure staff safety.

7.1.1 Flow chart of working of Emergency operation centre (Incident Control System)



7.1.2 Control Room working pattern during floods/ Hazards

Central Control Room

After flood alert message received from the District Administrator the Central Control Room has opened. The Central Control and co-ordination shall be done by AC (G) and AC (Projects). They may take the help of other officer's available for running the round the clock (all 24 hours). The room shall have CMOH, and representatives from Engineering and Dist. Supplies Officer.

The Central Control room will be located in VMC's MAIN OFFICE, at the New Conference Hall. "Gulzar's Samalochana" with the following staff pattern for round the clock in 3 shifts *under the control of AC (G)*:

S. No.	Shift Time	Designation of Staff	Officer
1.	6.00 AM to 2.00 PM. 2.00 PM to 10.00 PM 10.00 PM to 6.00 AM	1. Superintendent 2. Junior Assistant 3. Computer Operator 4. Office Sub-ordinate	AC(G) and AC(P)

Duties of Central Control Room:

1. Information gathering for discharge of water time to time and intimate the same to Rescue Teams and Officials of the VMC.
2. To alert the Rescue Teams, Rehabilitation Teams and Medical Teams, for taking necessary action immediately time to time.

7.1.3 List of Special Officers for Relief and Rescue at VMC

Further, to help mandal level committee in preparedness and response operations there will be a city level officer. List of Special Officers designated for Disasters as follows

Sl.No	Activity	Designation	Contact No.
1	Provision of Shelters	Additional Commissioner(G)	9866514142
2	Warning and communication	Additional Commissioner(Projects)	9866514143
3	Relief	Deputy Commissioner(Revenue)	
4	Rescue	City Planner and Regional Fire officer	9866514209
5	Health and Sanitation	Chief Medical and Health Officer	9866514149
6	Food supply	Project Officer(UCD)	9989635099
7	Engineering complaints and Constructions	Chief Engineer	9866514169
8	vehicles	Executive Engineer IIV	
9	water	Executive Engineer VI	

7.1.4 Officers to be present from Line Departments

During floods, apart from this control room, zonal officer, evacuation team supervisor, rehabilitation supervisors, shelter team supervisor should be allocated from various line departments in the city .

SNo	Super visor category	Required officers (nos)	Line departments allocation of persons
1	Zonal Officers	7	MRO, Revenue, TP, VGTMUDA
2	Evacuation team supervisor	7	SI, Police Dept ,
3	Shelter Team Super visor	7	AH, Agriculture,

7.1.5 Information and warning systems

Rain gauges and Sirens fixed areas

Sl.No	City	Rain guage fixed Area	Siren fixed area
1	Vijayawada	Head Water works	Donbosco School, Gunadala
2		Rajiv Gandhi Park	Government Press
3			Nandamuri nagar and
4			Payakapuram Health Center

7.1.6 List of Mobile teams at Circle level

The EEs are responsible for

1. Breaches
2. Closing and opening of vents
3. Road cuttings
4. Anticipation of problems
5. Contact with contractors

Sl.No	Name of the Team	Officer	Head Quarters	Ph Nos
1	<u>EE1 mobile team:</u>	1) EE1 2) DyEE/WS1 3) WI's: 3 nos (Varma, Ravikumar and Prabhakararao)	Circle 1 office Chitti nagar	9866514161
2	<u>EE2 Mobile team:</u>	1) EE2 2) Tap inspector 1no (Stephen Babu) 3) Electrician 1no (Prasad) 4) WIs 2nos (ARK Prasad, Joji Prasad)	Circle 2 office Satyanarana Puram	9866514150
3	<u>EE3 mobile team:</u>	1) EE3, 2) DyEE/Civil 1 3) AE/Civil	Circle 3 Office Patamata	9866514163

7.2 Warning Stages:

Flood –Krishna	Cyclone
1 st -Warning - When flood level reaches 12ft. at Prakasam	Alert:- 48 hrs. before anticipated rainfall
2 nd Warning - When flood level reaches 15 ft. at Prakasam	1 st Warning - 24hrs. before anticipated rainfall
3 rd Warning - When flood level reaches 17 ft. at Prakasam	Subsequent Warnings

The Warnings are disseminated to the following by means of message through VHF / Wireless Sets / Ham Sets / telephone / Telegram / DD / AIR / Satellite based disaster

7.3 Communication System:

Communication systems for dissemination of warnings include-Radio, TV, Ham radio, Satellite telephones, Wireless Systems and Telephones / Cell phones. During Natural Calamities. wireless systems are last to fail. In Vijayawada city wire less and Department cell phones will be used mostly during emergencies for disseminating warnings. Communication systems at in the Vijayawada city are positioned as below:

7.3.1 Wireless sets Location Points

Sl. No.	Place	N0
1	Main Control room at Sub-Collector's office	5
2	Police Control Room ,Vijayawada	30
3	Municipal Corporation	60
4	Tahasiladar Office	3
5	NDRF	4
6	Gunadala(Repeater Station)	2

It is to be ensured that all these sets are in functional condition during disasters times. Sufficient number of backup batteries also to be kept ready. All the messages communicated should be clear, easily understandable, direct and immediately relevant indicating possible damages. Repeated messages could be more effective.

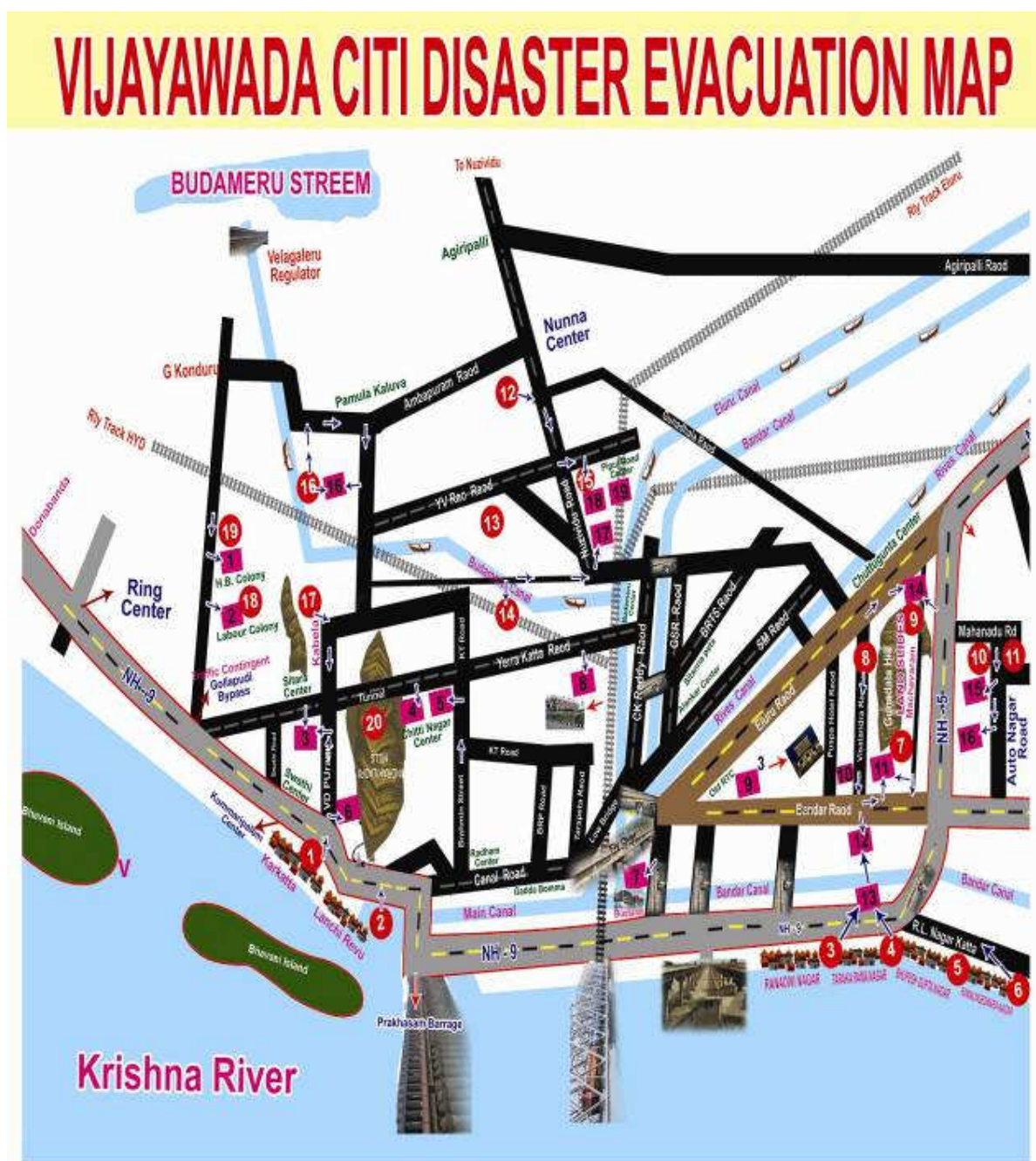
7.4 Details of Helipads

Sno	Name of the Area identified for Helipad	Elevation	Latitude & Longitude	Size of the Area
1	Indira Gandhi MPL Stadium	70 Ft	16 ⁰ 30'17.72" N 80 ⁰ 38'17.23" E	250 Sq Mts
2	Singh Nagr Stadium	75 Ft.	16 ⁰ 32'21.66" N 80 ⁰ 38'28.52" E	250 Sq Mts
3	Police Parade Grounds	80 Ft	16 ⁰ 30'11.16"N 80 ⁰ 38'11.88"E	250 Sq Mts
4	Gannavaram Airpoprt	74 Ft	16 ⁰ 31'45.74"N 80 ⁰ 47'47.48" E	250 Sq Mts
5	PWDgrounds	82 Ft	16 ⁰ 30'23.70" N 80 ⁰ 37'55.33" E	250 Sq Mts

Vijayawada City Disaster Management Plan - 2011

7.5 Alternate route structure

Vulnerable area	Main route	Alternate route
New Rajarajeswari peta	Singh Nagar Fly over to RRPeta	1 town to Old RR peta Mango market to Kedareswar peta to New RR peta
Old Rajarajeswari peta	One town to Old Rajarajeswari peta	Singh Nagar Fly over to new RRPeta to old RR Peta
HB colony	Vidhyadhara apauaram to HB Colony	One Town to HB Colony
LBS Nagar	Pipula road to LBS nagar	Prakash Nagar (inside) to Pipula Road
Rajeev Nagar	Nunna Road to Rajeev nagar	100 feet bypass toad from Jakkam Pudi to LBS nagar
Andhara Patrika Colony	Pipula Road to mud road	UDA vaddera Colony-Rajeeva nagar-Anadhra Patrica Colony
Karmel Nagar	Eluru Road- Sunnam battilu-Karmel Nagar	Ramavarappadu Ring- Gunadala- Karmel Nagar
winchipeta	Kedareswar peta- winchipeta	Old RR peta- winchipeta
Gulam Moiuddin Nagar	Eluru Road- BSNL-Gulam Moiddun Nagar	Visalandra-Ramamandiram-Feeder Road-Gulam Moiddin Nagar
Lambadi Peta	Chittinagar- Lambadi peta	On town -Lmabadipeta
Karakatta	Vidhya Dhara Puaram to Karakatta North	Karakatta South to Karakatta North
Laanchi revu	Punnami ghagt to Laanchi revu	Head water works to Laanchi revu
Ranadheevi nagar	Krishna Lnaka Donka road to Ranadheevi nagar	Krishna Lanka Fire office opp down
Taraka aramanagar	High way Police colony to Sanitory house to Tarakarama nagar	High way to Sanitory house to Taraka aramanagar
Ramalingeswara Nagar	High way to Police colony to Ramalingeswara Nagar	Ramalingeswara Nagar to



7.5.1 Shelters for Vulnerable areas

No (Red)	Vulnerable area	No (Pink)	Shelter
1	Karakatta (south)	6	DSM School
2	Lanchi Revu	7	Bus Stand
3	Ranadheevi Nagar	13	Indoor stadium
4	Tarak Rama Nagar	12	Indira Gandhi Stadium
5	Bhupesh Gupta Nagar	16	Patamata ZPH School
6	Ramalingeswar Nagar	16	Patamata ZPH School
7	Gulam Moiddin Nagar	11	NTR Complex
8	Gunadala	11	NTR Complex
9	Gangi Reddula Dibba	12	Indira Gandhi Stadium
11	Auto Nagar	14, 15	Siddharatha College, Patamata Auditorium
12	Rajeev nagar		Municipal school
13	Lbs nagar		Community Hall, Municipal School
14	rajarajeswaripeta	17,18,19	Care and Share, Gujjala Sarala Devi Mandapam

Vijayawada City Disaster Management Plan - 2011

15	Singh nagar	5	Munipal school, MKBaig School
16	Old RR Peta		MKBaig School
17	kabela		Municipal School
18	Labor colony	1	Municipal Elementary School
19	HB Colony	2	Municipal School
20	Sitara		Municipal School

7.6 Preparedness

7.6.1. Budamerufloods

The wards and groups effects after receiving releasing 35000 and above Cusecs of Budameru water

7.6.1 Possible Effecting Groups and wards after releasing 35000 and above-budameru floods															
Sl. No.	Name of the revenue village	Name of the Area	Municipal Ward	Total Populat ion	Male		Female			Childr en under 5	Sick Per son s	Handicappe d/Single Parent	Tractors & Tlr Available	Carts/Tracto rs/ Available	Transport required
					Above 65	Others	Pregna nt	Lactati ng	Others						
1	Bhavanipura m	Rotary Nagar, Ekalayvya Nagar	29	18043	1804	16239	53	69	6082	271	..	2	Mini van	..	Mini Van
2	Vidyadharap uram	KL Rao Nagar	30	15734	1573	14161	63	70	5287	236	..	0	Mini Van	..	Mini Van
3	Vidyadharap uram	KL Rao Nagar	31	9007	901	8106	60	40	3002	135	..	0	Mini Van	..	Mini Van
4	Bhavanipura m	Urmila Subba Rao Nagar, Ambedkar Road	29	18043	1804	16239	53	69	6082	271	..	2	Mini Van	..	Mini Van
5	Bhavanipura m	Ambedkar Road	27	12578	1258	11320	68	69	4209	189	..	0	Mini Van	..	Mini Van
6	Bhavanipura m	Housing Board Colony, Labour Colony, Ramanagar	28	12752	1275	11477	24	20	4312	191	..	0	Mini Van	..	Mini Van
7	Vidyadharap uram	Deenadayal Nagar, Ambedkar Nagar	36	21752	2175	19577	96	121	7300	326	..	4	Mini Van	..	Mini Van

Vijayawada City Disaster Management Plan - 2011

8	Vijayawada Village	Old RR Peta	49	25966	2597	23369	12	8	8816	389	..	0	Mini Van	..	Mini Van
9	Vijayawada Village	New RR Peta, Arunodaya Nagar, Tammina Durga Rao nagar, Nandamuri Nagar	52	14092	1409	12683	96	52	4695	211	..	0	Mini Van	..	Mini Van
10	Vijayawada Village	Indira Nayak Nagar, Kanakadurga nagar, Andhra Patrika Colony	55	14641	1464	13177	61	28	4917	220	..	0	Mini Van	..	Mini Van
11	Mutyalampadu	RK Puram, Vijayadurga Nagar, Devi Nagar	53	14723	1472	13251	195	173	4811	221	..	1	Mini Van	..	Mini Van
12	Vijayawada Village	Ayodhya Nagar	51	13761	1376	12385	55	37	4624	206	..	0	Mini Van	..	Mini Van
13	Payakapuram	LBS Nagar, Patel Nagar	57	13234	1323	11911	199	120	4301	199	..	0	Mini Van	..	Mini Van
14	Payakapuram	Old Rajiv Nagar, Vaddera Colony, VUDA Colony, New Rajeev Nagar	58	13904	1390	12514	61	43	4666	209	..	0	Mini Van	..	Mini Van
15	Payakapuram	Radha Nagar, Prajasakti Nagar, Kandrika, Bose Nagar, (NSC)	59	13490	1349	12141	92	87	4495	202	..	0	Mini Van	..	Mini Van
16	Mutyalampadu	Singh Nagar	54	13927	1393	12534	31	29	4704	209	..	2	Mini Van	..	Mini Van
17	Machavaram	Vambey Colony	56	13253	1325	11928	185	118	4321	199	..	1	Mini Van	..	Mini Van

Vijayawada City Disaster Management Plan - 2011

18	Gunadala	Sangam Road, Gandhiji Colony, Karmel Nagar, Joseph Nagar	1	30630	3063	27567	0	0	10414	459	..	0	Mini Van	..	Mini Van
	Total		755	289530	28951	260579	1404	1153	97038	4343		12			

7.6.1.a Families to be evacuated initially :

Sl.No.	Loacation of the Area	No. of families to be evacuated
1.	Rotary Nagar, Midilanaga, Kabela, Ramanagar	300
	Ekalavya nagar, Prajasakthi Nagar	100
	Ambedkar Road	100
2.	Deendayal Nagar, Ambedkar Nagar	250
	K.L. Rao Nagar	150
3.	Old RR Peta	1000
4.	New RR Peta	1200
5.	R.K. Puram, Ayodhya Nagar	600
	Devinagar	400
	Vijayawada Nagar	100
6.	Indira naik Nagar, Kanakadurga nagar, Andhra patrika colony	1500
7.	Singh Nagar	1000
8.	Vambay Colony	1000
9.	LBS Nagar, Patel Nagar	300
	Radha Nagar	300
	Prajasakthi nagar	400
10.	Old Rajiv Nagar, VAddera Colony, Vuda colony	1000
11.	New Rajiv Nagar	1000
12.	Kandrika (NSC) Bose nagar,	500
13.	Karmel Nagar, Joseph Nagar	500
	Sangasm Road, Gandhiji Colony	800

Vijayawada City Disaster Management Plan - 2011

7.6.2 DATA OF FOR RELIEF OPERATIONS (BUDAMERU FLOODS)

Sl.	No.	Name of the Village	Municipal Ward	Name of the Area	House Type			Safe Shelters	Schools	Cyclone/Flood Shelters	PR Office etc.	(kms) Distance of vill. From Mandal Hqrs.	Site for Helicopter landing - distance & cardinal direction and coordinates	Road approaches for use by rescue / relief teams & Med. Aid	Road Type (BT/MT) used by Lorry/Bus/Tractor/Jeep/Cart	Open Grounds available in and around built up areas
	1	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
					Thatched Roof With Mud Walls	Thatched Roof with Brick	CGI Sheet Roof	Houses								
1		Bhavani puram	29	Rotary Nagar, Ekalayvya Nagar	0	0	30	25	1	0	1	Below one KM	No		BT Road	Yes
2		Vidyadh arapura m	30	KL Rao Nagar	0	0	45	30	1	0	1	Below one KM	No		BT Road	Yes
3		Vidyadh arapura m	31	KL Rao Nagar	0	0	30	25	1	0	1	Below one KM	No		BT Road	Yes

Vijayawada City Disaster Management Plan - 2011

4	Bhavanipuram	29	Urmila Subba Rao Nagar, Ambedkar Road	0	0	25	30	1	0	1	Below one KM	No		BT Road	Yes
5	Bhavanipuram	27	Ambedkar Road	30	10	35	0	1	0	1	Below one KM	No		BT Road	Yes
6	Bhavanipuram	28	Housing Board Colony, Labour Colony, Ramanagar	0	0	0	45	1	0	1	Below one KM	No		BT Road	Yes
7	Vidyadharapuram	36	Deenadayal Nagar, Ambedkar Nagar	30	5	40	10	1	0	1	Below one KM	No		BT Road	Yes
8	Vijayawada Village	49	Old RR Peta	30	10	45	25	1	0	1	Below one KM	No		BT Road	Yes

Vijayawada City Disaster Management Plan - 2011

9	Vijayawada Village	52	New RR Peta, Arunodaya Nagar, Tammina Durga Rao nagar, Nandamuri Nagar	75	15	90	45	1	0	1	Below one KM	No		BT Road	Yes
10	Vijayawada Village	55	Indira Nayak Nagar, Kanakadurga nagar, Andhra Patrika Colony	25	10	100	55	1	0	1	Below one KM	No		BT Road	Yes
11	Mutyalam padu	53	RK Puram, Vijayadurga Nagar, Devi Nagar	75	25	20	10	1	0	1	Below one KM	No		BT Road	Yes
12	Vijayawa da Village	51	Ayodhya Nagar	25	10	5	0	1	0	1	Below one KM	No		BT Road	Yes
13	Payakap uram	57	LBS Nagar, Patel Nagar	30	15	5	5	1	0	1	Below one KM	No		BT Road	Yes

Vijayawada City Disaster Management Plan - 2011

14	Payakapuram	58	Old Rajiv Nagar, Vaddera Colony, VUDA Colony, New Rajeev Nagar	25	20	5	105	1	0	1	Below one KM	No		BT Road	Yes
15	Payakapuram	59	Radha Nagar, Prajasaki Nagar, Kandrika, Bose Nagar, (NSC)	30	15	10	120	1	0	1	Below one KM	No		BT Road	Yes
16	Mutyala mpadu	54	Singh Nagar	10	0	35	60	1	0	1	Below one KM	No		BT Road	Yes
17	Machava ram	56	Vambey Colony	25	0	20	35	1	0	1	Below one KM	No		BT Road	Yes

Vijayawada City Disaster Management Plan - 2011

18	Gunadala	1	Sangam Road, Gandhiji Colony, Karmel Nagar, Joseph Nagar	20	0	70	10	1	0	1	Below one KM	No		BT Road	Yes
Total				430	135	610	635	18	0	18					

Vijayawada City Disaster Management Plan - 2011

The Budameru flood preparedness plan was developed for the areas which are in Circle 1 and Circle 2. The plan was prepared and practiced since 2009 Budameru flood

7.6.3 Budameru flood Preparedness pattern

7.6.3.1 BUDAMERU FLOODS: A category centers (Preliminary Effected areas)

Sl. No.	Circle	Area / Areas	No. to Rescued	Shelter	Rescue Personal	No. to be Fed	Relief Personnel Designation	Supply centre / Hotel	Water Drums required	Rescue material / Equipment	Medical Personnel deployed	Relief lighting (Tubes)
1	1	Rotary Nagar, Midilanagar, Kabela, Ramanagar	300	Uppalapati Ramadhandraya School	AE1/Civil, BC3, Chariman TBPO-1, and SI-2	300	HM, SURRMCH School, B26, RI-2, SW1 (Krishna Rao)	Anj.Vilas, 1-Town	6-HW W	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Yasodhar, MO, Jyothi ANM Jojinagar	6
2	1	Deenadayal Nagar, Ambedkar Nagar	250	Nalanda School	AE3/Civil, Chainman TPBO-2, BC5, SI4	250	HM, SPLSMES: F14, SW2, RI-3	Anj.Vilas, 1-Town	5-HW M	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Narayana Charyulu MO, Narayanamma ANM Lambadipet+	13

Vijayawada City Disaster Management Plan - 2011

3	1	Ambedkar Road	100	VM Ranga School	AE1/WS Chainman TPBO-3, BC1, SI-4	100	HM, VMRRMES: RI-9, B5, SW3(Nagaraju)	Panchavati, 1 Town	2-HW W	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Narayana Charyulu MO, Magarett ANM Lambadipet+	3
4	2	Old RR Peta	200	Urdu School	AE6/Civil, Chainman TPBO-4, BC-6, and SI-10	500	HM, VMC(U) School:RI-6, C5, CO1	Sarovar, G.Nagar	10-Kpet	Charge light 2 nos., hand mikes 2, Long rope 2 nos. Fibre boats 2 nos	Dr.Rama Rao MO, P.Vijaya Kumari ANM RRPet+	4
			200	T Pota raju School		500	HM, TPRMS: B25, RI-6, SW4	Sarovar, G.Nagar	10-Kpet			2
5	2	New RR Peta									Dr.Rama Rao MO, V.Kumari ANM	
6	2	Indira Naiknagar, Kanakadurga Nagar, Andhra Patrika Colony	1500	Gajjula Saraladevi Kalyan mandapam	Dy.EE1/C6, Chainman TPBO-6, BC-16, and SI-14	1500	HM, MK Beig MES, RI-5, C4, CO3	Sarovar, G.Nagar	30-Snagar	Charge light 1no., hand mikes 2, Long rope 2 nos. Fibre Boats 1 no.	Dr.Rafi Ahamad MO P.S.N Laxmi Kumari ANM New RR Peta +	5

Vijayawada City Disaster Management Plan - 2011

7	2	RK Puram, Ayodhya nagar	600	Mutyalam padu School	DyEE/C 6, Chainman TPBO-7, BC-28, and SI-20	600	HM, GSRMHS: RI-7, C7, CO4	Alankar, Gandhi nagar	12-Mfactory	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Basha MO, Vijaya laxmi ANM Madhuranagar	8
8	2	Vijaya Durga Nagar	100	Tammina Durga Rao School	AE5/Civil, Chainman TPBO-8, BC-13, RI-15, SI-31	100	HM, STDRMES: K1, RI-15, CO-5	Alankar, Gandhi nagar	2-Mfactory	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Basha MO, Jasmin ANM Madhuranagar	3
9	2	Devi Nagar	400	Mutyalam padu School/Alternative multipurpose Shelter	DyEE3/C6, Chainman TPBO-9, BC-14, and SS-1	400	HM, GSRMHS: Jr.Asst.(Sports), RI-7, EBC 18A, CO6	Sarovar, G.Nagar	8-Mfactory	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Basha MO, R. Vijaya Laxmi ANM Madhuranagar	5

Vijayawada City Disaster Management Plan - 2011

10	3	Karmel Nagar, Joseph Nagar	500	TMR C School, Mac hava ram	AE9/Civil/C3, Chainman TPBO-10, BC-24 and SI-26	500	HM, TMRCMCH School, Jr.Asst.(Sports), BC-18, CO-7, Park Supervisor, Circle-3	Ramayya Mess, SRR	10-ELSR	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Ashok Kumar MO, Kejiya ANM Gunadala	

Vijayawada City Disaster Management Plan - 2011

7.6.3.2 BUDAMERU FLOODS: A category centers (Later Effected areas)

Sl. No	Circle	Area / Areas	No. to Rescued	Shelter	Rescue Personal	No.to be Fed	Relief Personnel Designation	Supply centre / Hotel	Water Drums required	Rescue material / Equipment	Medical Personnel deployed	Relief lighting (Tubes)
1	1	Ekalavya Nagar, Parajasakthi Nagar	100	Siddam Krishna Reddy School	DyEE1/Civil, BC-2, and SI-1	100	HM, SKEMCES, Supt.(Regn.) CDOL (Subba Reddy). BC-4	Srinu Hotel, 1 Town	2-Lstand	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Yasodhar MO, Parvathi ANM Jojinagar	4
2	1	KL Rao Nagar	150	Matta Lazarus School	DyEE2/Civil, Chainman TPBO-2, BC-7, and SS-3	150	HM, MLMCES: G2, CDO-2, (Stevenson), BC-6	Anjaneya Vilas	3-Lstand	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Narayana Charyulu MO, R.Vijaya Laxmi ANM Lambadipeta+	4
3	2	LBS Nagar	300	Sundarai ah M.H.S	DyEE/UGD, Chainman TPBO-3, BC-29 and SI-16	500	HM, SPSMCHS ; B24, BC25, TPBO1, CO8	Alankar	5-Vambay	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Murali Mohan MO, Esther Rani ANM Prakash Nagar+	5

Vijayawada City Disaster Management Plan - 2011

4	2	Patel Nagar		PH Hostel			NS Asst. SPSMCHS , B19, CO-9, BC-10, TBPO-2	Alankar	5-Vambay	Charge light 1no., hand mikes 1, Long rope 1 no.	MDr.Murali Mohan MO, Y.Prameela ANM Prakash Nagar+	5
5	2	Old Rajiv Nagar, Vadder a Colony, VUDA Colony	1000	MPHS, Old Rajiv Nagar School	AE-7, Chainman TPBO-4, BC-33, and SI-17	1000	HM, Rajiv Nagar HS; Supdt.(Ac counts), RI-13, CO-10, TPBO-3	Sarovar	20-Rajiv Nagar	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Krishna Prasad MO, Durga Laxmi ANM Rajiv Nagar Hospital	5
6	2	New Rajiv Nagar	1000	Health Centre	DyEE/Civil, Chainman TPBO-5, BC-21,and SI-17	1000	HM, Rajiv Nagar ES; Supdt.(Audit), RI-12, SW-5, TPBO-4	Sarovar	20-Rajiv Nagar	Charge light 1no., hand mikes 1, Long rope 1 no.	Dr.Krishna Prasad MO, Prakasam ma ANM Rajiv Nagar Hospital	5
7	2	Radha Nagar	300	Nagarjuna Public School	AE/UGD, Chainman TPBO, BC-31, and SI-16	300	HM, SPSMCES, LBS Nagar, G2, BC-20, TPBO-5, SW-6	Sarovar	6-Rajiv Nagar	Charge light 2nos., hand mikes 1, Long rope 1 no.	Dr.Rafi Ahamad MO, Sumathi ANM Singh Nagar	3

Vijayawada City Disaster Management Plan - 2011

8	2	Prajasa kthi Nagar	400	CHSPRM ES, Prajasa kthi Nagar	DyEE/Civil/C 3, TPBO-7, BC-30, and NS-1	800	HM, CSPRMCE S, Prakash Nagar(N); M-1, BC- 11, TPBO- 6, SW-7	Sarovar	16- Rajiv Nagar	Charge light 2nos., hand mikes 1, Long rope 1 no.	Dr.Murali Mohan MO, Chinni ANM Prakash Nagar	5
9	2	Kandrik a (NSC Bose Nagar)	500	BV Subba Reddy, M.School	DyEE/C5, TPBO-8, BC- 19, and SS-2	1000	HM, SBV Subba Reddy, MCHS, Kandrika; Supdt.(Le gal), BC- 23, SW-8, TPBO-7	Sarovar	20-NSC Bose Nagar	Charge light 2nos., hand mikes 1, Long rope 1 no.	Dr.Krishna Prasad MO, Christiana ANM Rajiv Nagar	5
10	2	Singh Nagar	100 0	MK Baig School	AE3/WS, Chainman TPBO-9, BC- 12, BC-13, BC-14, and SI-12	1000	HM, MK Beig, MCHS, Singh Nagar; Sr.Asst. MK Beig, MCHS, BC-26 and TPBO-8	Sarovar	20- Singh Nagar	Charge light 1no., hand mikes 2, Long rope 1 no.	Dr.Krishna Prasad MO, Y.Nirmala kumari ANM Singh Nagar	5

Vijayawada City Disaster Management Plan - 2011

				Vivekananda School			HM, JDMCES, VAMBAY Colony; Supdt.2(Accounts), BC-8, TPBO-9	Sarovar				3
				Sarada Vidyalaya School (Prakash Nagar North)			HM, MCES, Praksh Nagar (S); Sr.Asst. APSRMHS, BC-15, and TPBO-10	Sarovar				4
11	2	VAMBAY Colony	1000	JDMM School	DyEE/UGD/C 4, Chainman TPBO-10, BC-22, and SI-15	1000	HM, JDMCHS, Vambay Colony, Supdt.(C. Charter), APM-1, RI-11	Sarovar	20-Vambay	Charge light 1no., hand mikes 2, Long rope 1 no.	Dr.Razia MO, Y.Vijaya Laxmi ANM Vambay Colony	6

Vijayawada City Disaster Management Plan - 2011

12	3	Sangam Road, Gandhiji Colony	800	Gunadala, E.School	AE-12/Civil/C3, Chainman TPBO-11, BC-32 and SI-27	800	HM, VMCE.School, Gunadala, Supdt.(PRO), RI-10, APM-2	Sarovar	16-Gunadala, P house	Charge light 1no., hand mikes 2, Long rope 1 no.	Dr.Ashok Kumar MO, Fathima ANM Gunadala	10

Vijayawada City Disaster Management Plan - 2011

7.6.4 action plan for budameru floods- supply of vehicles for food

Sl. No .	Loca tion	Vehicl e No.	Name of the Hotel			Relief Center-I			Relief Center-II			Relief Center-III			Relief Center-IV			Sanitary Inspecto r / Food Inspecto r	Cell No.
			Hotel	Vehicle Arrival Time/Departure Time		Name of RC	Time		Name of RC	Time		Nam e of RC	Time		Nam e of RC	Time			
				AM	PM		AM	PM		AM	PM		AM	PM		AM	P M		
1	Circl e-I	MV-I	Anjaneya Vilas 1- Town area	9.00 12.00	4.00 7.00	Uppalapati Ramachandr aiah School	12.20	7.20	Matta Lazarus School	12. 35	7.35	Nala nda Scho ol	12.5	7.4 5				Sri B.V.Sure ndranath	986 699 640 3
2	Circl e-I	MV-II	(1). Srinu Hotel, 1- Town & (2). Panchavati, 1-Town	9.00 12.00	4.00 7.00	Sidham Krishna Reddy School	12.20	7.20	V.M.Ra nga School	12. 45	7.45							Sri Pandu Ranga Rao	986 699 637 5
3	Circl e-III	MC- III	Ramaish Mess, Opp.S.R.r. College	9.00 12.00	4.00 7.00	T.M.R.C. School, Machavaram	12.20	7.20										Sri Rama krishna	986 699 639 8
4	Circl e-II	Lorry- I	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	Urdu School	12.20	7.20	T.Pothu raju School	12. 35	7.35	Care & Shar e Scho ol	12.5	7.4 5				Sri T.Jayaraj u	986 699 637 6
5	Circl e-II	MV-IV	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	Mutyalampa du School	12.20	7.20	Gujjalas aralade vi Kalyana mandap am	12. 35	7.35							Sri M.S.C.Bo se	986 699 637 8
6	Circl e-II	Lorry- II	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	M.P.H.S Old Rajiv Nagar	12.20	7.20	Health Center, Rajiv Nagar	12. 35	7.35							Sri P.V.Saty anarayan a	986 699 638 1

Vijayawada City Disaster Management Plan - 2011

7	Circle-II	Lorry-III	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	Nagarjuna Public School	12.20	7.20	C.S.P.R. M.C.E.S , Prajaskathi Nagar	12.35	7.35	B.V. S.Subbareddy, M.Sc school	12.5	7.45				Sri R.Obeswara Rao	986 699 638 8
8	Circle-II	MV-V	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	M.K.Baig School, Singh Nagar	12.20	7.20	Vivekananda School, Singhnagar	12.35	7.35							Sri R.Obeswara Rao	986 699 638 8
9	Circle-II	MV-VI	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	J.D,M.M.School	12.20	7.20	Sarada Vidyalayam, Prakash Nagar (North)	12.35	7.35							Sri Nagabhusan	986 699 640 2
10	Circle-III	MV-VII	Ramaiah Mess, Opp.S.R.r. College	9.00 12.00	4.00 7.00	Gunadala Ele.School	12.20	7.20										Sri Pulla Rao	986 699 638 9
11	Circle-II	Lorry-IV	Sarovar, Gandhi Nagar	9.00 12.00	4.00 7.00	GSRMCH, Mutyalampadu School	12.20	7.20	Tammina Durga Rao	12.35	7.35	Sundarayya M.H.S	12.5	7.45				Sri D.V.S.Narayana	986 699 639 2

7.6.5 Opening and closing of vents including maintenance

Sl. No	Vents to be closed	No. of sand bags required	Equipment required	Sand bags location	Responsible person
1	Sluice Gate near Railway track near fly-over	500	Sluice Gate Gear lock and operating wheel	Excel Plant	AE-6
2	Pipula road junction culvert	200	Sluice gate lock and Operating wheel	Excel Plant	AE-7
3	Indiranaik Nagar entrance road near fly-over	1000	Casuarina Posts and Bamboo Mats	Excel Plant	AE-6
4	Ayodhna Nagar Sluice Gate near Railway Track	200	Sluice Gate Gear Lock and Operating wheel	Excel Plant	AE-6
5	Box culvert on Zero Bulb Railway Line	1000	Casuarina Posts and Bamboo Mats	Excel Plant	AE-6

The SE2 is responsible for the water supply

Vijayawada City Disaster Management Plan - 2011

7.6.6 water supply

7.6.6.1 water supply for circle 1

BUDAMERU FLOODS WATER SUPPLY ACTION PLAN - CIRCLE - 1

Sl. No.	Description of Action to be taken	Category - A			Category - B		
1	Allotment of tankers Circle - wise for Engineering Circles	4			2		
2	Area wise requirement of water for the affected population with quantities required	Area	Population	Required Water supply @ 150 LPCD	Area	Population	Required Water supply @ 150 LPCD
		Rotary Nagar	240	36000	Ekalavya Nagar	500	75000
		Midhila Nagar	100	15000	Prajaskathi Nagar	150	22500
		Kabela	1400	210000	K.L.Rao Nagar	500	75000
		Rama Nagar	800	120000			
		Deenadayal nagar	400	60000			
		Ambedkar Nagar	400	60000			
		Ambedkar road	1400	210000			
		Total	4740	711000	Total	1150	172500
3	The required no of trips with capacity of the tanker will be calculated area - wise	Area	Population	No. of Tankers of capacity 4000 lr. @ 40 LPCD	Area	Population	No. of Tankers of capacity 4000 lr. @ 40 LPCD
		Rotary Nagar	240	2	Ekalavya Nagar	500	5
		Midhila Nagar	100	1	Prajaskathi Nagar	150	2
		Kabela	1400	14	K.L.Rao Nagar	500	5
		Rama Nagar	800	8			
		Deenadayal nagar	400	4			
		Ambedkar Nagar	400	4			
		Ambedkar road	1400	14			
		Total	4740	47	Total	1150	12
4	Tail End areas	Nil			Nil		

7.6.6.2 Water supply to circle-2

Budameru Floods- Water Supply Circle -2 Tail-end areas-Which may need police escort to ensure water supply			
Category-A		Category-B	
S.No	Name of the Area	S.No	Name of the Area
1	Old RR peta	1	VUDA Colony
2	Kamsalipet	2	Vaddera Colony
3	NBT nagar	3	Radhanagar
4	Shanthinagar	4	Prajasakthinagar
5	Ayodhya nagar	5	Singhnagar
6	Vijayadurga nagar		
7	Devinagar		

7.6.6.3 Water supply to circle 3

BUDAMERU FLOODS-Circle3 WATER SUPPLY ACTION PLAN

Sl. No.	Description of Action to be taken	Category - A			Category - B		
1	Allotment of tankers Circle - wise for Engineering Circles	1			1		
2	Area wise requirement of water for the affected population with quantities required	Area	Population	Required Water supply @ 150 LPCD	Area	Population	Required Water supply @ 150 LPCD
		Karmel Nagar	150	22500	Sangam Road	200	30000
		Joseph Nagar	350	52500	Gandhi Colony	400	60000
		Total	500	75000	Total	600	90000
3	The required no of trips with capacity of the tanker will be calculated area - wise	Area	Population	No. of Tankers of capacity 4000 lr. @ 40 LPCD	Area	Population	No. of Tankers of capacity 4000 lr. @ 40 LPCD
		Karmel Nagar	150	2	Sangam Road	200	2
		Joseph Nagar	350	4	Gandhi Colony	400	4
		Total	500	5	Total	600	6
4	Tail End areas	Nil			Nil		
5	ELSR and Area mapping	Supply by tankers not possible. Syntex tanks available in the schools can be used			1.Gunadala Booster for Gandhi colony. 2.Sangam road by Syntex tanks.		
6	The closing of tap supply at the time of inundation	Name of the area	Person responsible		Name of the area	Person responsible	
		Karmel Nagar	A.E - 5 (W.S)		Sangam Road	A.E - 5 (W.S)	
		Joseph Nagar	A.E - 5 (W.S)		Gandhi Colony	A.E - 5 (W.S)	
7	The scowering and restoration after flood water	Name of the area	Person responsible		Name of the area	Person responsible	
		Karmel Nagar	A.E - 5 (W.S)		Sangam Road	A.E - 5 (W.S)	
		Joseph Nagar	A.E - 5 (W.S)		Gandhi Colony	A.E - 5 (W.S)	

7.6.7 ELSR for Circle 1

BUDAMERU FLOODS-Circle1 ELSR-Vs-AREA				
CATEGORY-A		CATOPGORY-B		
S.No	Name of the area	Name of the ELSR/ GLSR	Name of the area	Name of the ELSR/ GLSR
1	Rotary Nagar, Mitdilanagar, Ambedkar Road	Ramarajya Nagar GLSR	Ekalavya Nagar	Priyadharshini Colony ELSR
2	Ramanagar	Priyadharshini Colony ELSR	K.L Rao Nagar	Freizerpet ELSR
3	Kabela	Direct pumping from Head water works	Prajasakthinagar	Direct pumping from Head water works
4	Deenadayal nagar, Ambedkar nagar	Freizerpet ELSR	Deenadayal nagar, Ambedkar nagar	

7.6.8 Statement Showing The Officer In charge For sluice /vents gate close

Sl. No	Vents to be closed	No. of sand bags required	Equipment required	Sand bags location	Responsible person
1	Sluice Gate near Railway track near fly-over	500	Sluice Gate Gear lock and operating wheel	Excel Plant	Sri MCS Patrudu, AE-6
2	Pipula road junction culvert	200	Sluice gate lock and Operating wheel	Excel Plant	Sri M. Ravi Kumar, AE-7
3	Indiranaik Nagar entrance road near fly-over	1000	Casuarina Posts and Bamboo Mats	Excel Plant	Sri MCS Patrudu, AE-6
4	Ayodhna Nagar Sluice Gate near Railway Track	200	Sluice Gate Gear Lock and Operating wheel	Excel Plant	Sri MCS Patrudu, AE-6
5	Box culvert on Zero Bulb Railway Line	1000	Casuarina Posts and Bamboo Mats	Excel Plant	Sri MCS Patrudu, AE-6

7.7 Krsihna River flood

First warning

The First warning will be issued as and when the flow over the crest of barrage is 12 feet in clear condition and the corresponding discharge allowed is 3.97 lakh cusecs. The message will be sent to officers concerned

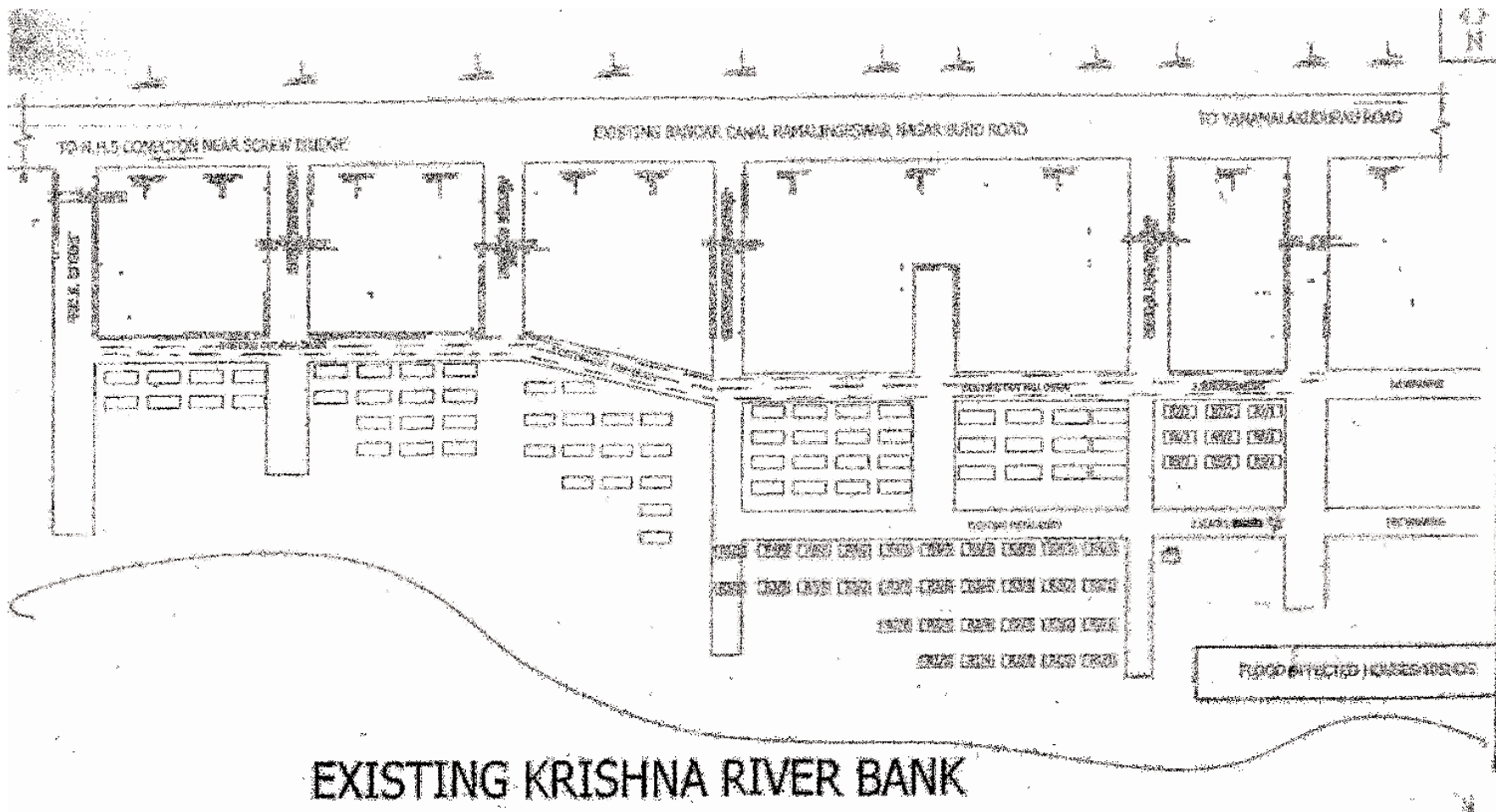
Second warning

The Second warning will be issued as and when the flow over the crest of barrage is 15 feet in clear condition and the corresponding discharge allowed is 5.69 lakh cusecs. The flood received 15 Feet and above will be treated as danger level and flood duty officers both of irrigation department and Revenue department should attend to the Flood duties in their respective Flood stations as per the Krishna River Flood contingency plan and as per G.O. 1155 – 1. Date: 9.4.1929. Issued on flood duties.

Effected Persons Release of Flood Water from Prakasam Barriage

S.No	Location of the Area Effected	Effected persons on release of Flood water from Prakasam Barriage (Lakhs Cusecs of Water)								
		2	3	4	5	6	7	8	9	10
1.	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	100	200	500	1000	1000	1000	1000	1000	1000
2.	Krishna Lanka, (Ranadhiv nagar from reservoir to varadhi)	50	800	800	2000	5000	5000	9000	9000	15000
3	Ranigarithota (Tarakarama nagar)	50	2300	3000	1500	3000	10000	10000	10000	11000
4.	Ranigarithota (Bhupesh Gupta Nagar)	10	1500	1500	1000	1000	3000	3000	3000	5000
5.	Balaji nagar, Police colony, from Gethanagar katta to 10MGD Plant	0	200	200	1000	1000	10000	10000	10000	10000
6.	Ramaligeswara Nagar, from 10MGD Plant to Border	0	300	1000	2000	2000	2000	2000	2000	10000
7.	Bhavanipuram, lanchi Revu, Karkatta upto HWW	0	500	500	1000	1000	1000	1000	1000	2000

MAP OF FLOOD EFFECTED HOUSES OF KRISHNA RIVER BANK AT RAMALINGESWAR NAGAR



Vijayawada City Disaster Management Plan - 2011

Housesd Submerged for Releasing of Flood Water 4.00 Lakhs Cusecs

S.No.	Rows	No.of Houses in Taraka Rama Nagar	No. of Houses in Gandhi Colony (End of Alla Challarao St.,) in Ramalingeswarnagar	Total Houses
1.	9 th Row		2	2
2.	8 th Row		17	17
3.	7 th Row		22	22
4.	6 th Row	30	16	46
5.	5 th Row	29	15	44
6.	4 th Row	44	10	54
7.	3 rd Row	39	12	51
8.	2 nd Row	35	6	41
9.	1 st Row	20	5	25
		197	105	302

Vijayawada City Disaster Management Plan - 2011

7.7.1 ward status report for relief operations

ward status report for relief operations																
Sl. No.	Name of the Revenue area	Municipal Ward	Name of the Area	House Type			Safe Shelter s	Schools	Cyclone Shelters	PR Office etc.	Distance of vill. From Mandal Hqrs. KM	Site for Helicopter landing - distance & cardinal direction and coordinates	Road approaches for use by rescue / relief teams & Med. Aid	Road Type (BT/MT) used by Lorry/Bus/Tractor/Jeep/Cart)	Open Grounds available in and around built up areas	Evacuation of villages 1. Name of the village to place of evacuation
				Thatched Roof With Mud Walls	Thatched Roof with Brick Walls	CGI Sheet Roof	Houses									
1	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	BHAVA NIPUR AM	26	Lanchila Revu	200	500	150	0	1	0	1	Below one KM	No	NH5	BT Road	Yes	Lanchila Revu
2		27	Karakatt a	200	500	0	0	1	0	1	Below one KM	No	NH5	BT Road	Yes	Karakatta
3	Patama ta	14	Police Colony, Kalanag ar,Balaji Nagar,R amaling eswara Nagar	0	0	0	Police Quarte rs -100	1	0	1	Below one KM	No	NH5	BT Road	Yes	Police Colony
4	Vijaya wada Town	15	Bhupesh Gupta Nagar (Krishna Lanka)	25	5	125	20	1	0	1	Below one KM	No	NH5	BT Road	Yes	Bhupesh Gupta Nagar

Vijayawada City Disaster Management Plan - 2011

5	Mogalrajapuram	16	Tarakarama Nagar (Krishna Lanka)	35	0	75	0	1	0	1	Below one KM	No	NH5	BT Road	Yes	Tarakarama Nagar
6	Vijayawada Town	22	Ranadheer Nagar (Krishna Lanka)	45	0	90	0	1	0	1	Below one KM	No	NH5	BT Road	Yes	Ranadheer Nagar
7	Vijayawada Town	23	Ranadheer Nagar (Krishna Lanka)	40	0	75	0	1	0	1	Below one KM	No	NH5	BT Road	Yes	Ranadheer Nagar
8	Vijayawada Town	24	Near PNB Bus Station	75	10	30	0	1	0	1	Below one KM	No	NH5	BT Road	Yes	Near PNB Bus Station
	Bramarambhapuram		(Near Saibaba Temple backside)										NH5			(Near Saibaba Temple backside)
Total				620	1015	545	20	8	0	8						

Vijayawada City Disaster Management Plan - 2011

VIJAYAWADA MUNICIPAL CORPORATION

POST FLOOD Action to be taken on WATER SUPPLY

Sl.No	Name of the Shelter	No of Hand Bore s to be Restored	Pipe Line to be Scoured in Km	Remarks
1	Krishna Lanka - From Padmavati Ghat to Reservoir	6	0	
2	Krishna Lanka - Rnadev Nagar	4	0	
3	Panigari thota Taraka Rama Nagar	8	0	
4	Bupesh Gupta Nagar	4	0.5	
5	Balaji Nagar - Police Colony to 10 MGD Olant	2	0.5	
6	Rama lingeswara nagar from 10 MGD Plant to STP	2	0.5	
	TOTAL	26	1.50	

Cost Estimate for Restoration of
Hand Bore Rs.

5.20

Lakhs

Pipe Line Restoration

Only cleaning
and Scouring

VIJAYAWADA MUNICIPAL CORPORATION

List of Facilities available for Drinking water, Toilets in Flood Rehabilitation Centers

No	Name of the Shelter	No.of Water Drums	No of Toilets	No of Bath Rooms	Remarks
1	P N Bus station	4	15	6	Sulabh Complex available
2	APSRM School	3	16	3	
3	VM Ranga School	3	6	1	
4	Cement Goodown	3	4	1	Mear Mosque 8 Public Toilets
5	Sample Building & Hospital	7	1	1	Public toilets available 8 toilets+4 Bath Rooms
6	Patamata Lanka VMC School	8	9	4	
7	G.D.E.M.T.School, Patamata	5	9	2	
8	Stadium	20	12	3	
	TOTAL	20	72	21	

Vijayawada City Disaster Management Plan - 2011

7.7.2 Vulnerable groups to Krishna floods

Sl. No.	Name of the revenue village	Municipal Ward	Male	Female		Children under 5	Handicapped/Single Parent Family
			Above 65	Pregnant	Lactating		
1	Bhupesh Gupta Nagar (Krishna Lanka)	15	1174	87	93	176	3
2	Tarakarama Nagar (Krishna Lanka)	16	1103	102	95	165	0
3	Ranadheer Nagar (Krishna Lanka)	22	1676	29	23	251	0
4	Ranadheer Nagar (Krishna Lanka)	23	1619	31	26	243	0
5	Near PNB Bus Station	24	2247	124	93	337	6
6	BhavanipuaramLanchila Revu	2286	17	10	146	..	0
	Karakatta	1258	68	69	922	..	0
7	Police Colony, Kalanagar, Balaji Nagar, Ramalingeswara Nagar	1598	254	284	5179	1267	3
	Total		7819	373	330	1172	12

Vijayawada City Disaster Management Plan - 2011

7.7.3 KRISHNA FLOODS - PLAN FOR 3.50 LAKHS CUSECS OF KRISHNA WATER

S o. N o.	Ward No.	Areas for Rescue	No.of Persons to be rescued	Rescue Supervisor	Rescue/ Evacuation team		Shelter	Number of persons to be rehabilitated	Rehabi litatio n superv isor	Rehabilitation team	Medical Team			Food Poc ket s Su ppli ers	Name of the F.I
					6.00 AM to 6.00PM	6.00P M to 6.00A M					8 AM to 2 PM	2 PM to 9 PM	9 PM to 8 AM		
1	23	Krishna Lanka (Metla Bazar, Kodandara m ghat) from Padmavath i Ghat to Reservoir	200	SFO 9989773498	Rambabu , Dy.EE 9866514 191 SI-15, 9963998 961 Srinivasa Kumar TPBO-11 9949458 826 Chainma n, BC-32 9248750 016	AE-12, 98665 14204 SI-18, 98669 96404 TPBO- 3, 99594 42213 Chain man	PNBS Shirdi, Kanaka Durga Ghat	200	AC-3 986651 4147 K.V.Sat yanara yana, Supdt., 990887 1585	AC-3 staff AUB Sarma, RI, 9866996426 K.Devadanam, BC-24A, 9885369242 N.Koteswara Rao, RI, 9866996427 S.Rajarambabu , BC-24 9247880068	Dr.Aruna Kumari MO 9490113497 Y.Nirmala Kumari ANM	Sarvani CO Suseela, A.N.M. 9618396963	Dr RamaRo MO Mvijayakumari ANM	Shirdi And Kanaka Durga, RTC Bus stand	M.S.C.Bose 9866996378

Vijayawada City Disaster Management Plan - 2011

3	2	Ranigarithota (Tarakarama nagar)	800	J.Sriniva s, DE 9866514 193 SI-9, 9866996 386, T.Sailaja, TPBO-9, 9242329 0776 Chainma n, BC-33 9866911 252	Dy.EE, 99594 42218 SI-17, 80088 01483 TPBO- 2, 98665 14215 Chain man	APSRMC H School HM, 934757 7857	500	ACP-2 994951 7005	School, HM, BC-35
16	22	Krishna Lanka, (Ranadhiv nagar)	2300	Eswar Reddy, AE 9959094 252 Si-10 9866996 402 TPBO-10 Chainma n, BC-31 9989865 246	AE-11 (Civil), 99594 44097 SI-11, 98669 96377 , TPBO- 4, 99511 43339 Chain man	VM Ranga School HM, 988572 9319	300	ACP-2 994951 7005	School, HM, BC-34
				DFO	SFO	SFO			
				9959222748	9989773498	9989773498			
				Prasad, MO, 9948166509 Durga	Babu, MO, 9440485112 Karuna Mary	Dr.Chiranjeevi Babu, MO, 9440485112 Karuna Mary ANM			
				Kumar, MO, 9949894461	mi, M.O, 9885076688	Dr.Uttaralakshmi, M.O, 9885076688			
				Kumar, CO, 9908160987,	Basava Rao MNO Dr Iqbal Hussain MO 9885902787 Sultana ENO	Basava Rao MNO Dr Iqbal Hussain MO 9885902787 Sultana ENO			
				Sri Sai Man ikan ta Caterers, Ayodhya nagar	Manikanta Caterers, Ayodhya nagar	Sri Sai Manikanta Caterers, Ayodhya nagar			
				M.S.C.Bose 9866996378	M.S.C.Bose 9866996378	M.S.C.Bose 9866996378			

Vijayawada City Disaster Management Plan - 2011

4	15	Ranigarithota (Bhupesh Gupta Nagar)	1500	ACP-1 9949517005	ACP-1 9949517005	T.Ranga Rao, AE 9866514 207 SI-7, Pradeep Kumar, 9948137 648 TPBO-8 Chainma n BC-30 9246478 890	Srikan th, AE-9 99897 73495 2 SI-8, 80088 01418 TPBO- 5, 98665 14211 Chain man BC30	Health Centre	750	750	AC-3 986651 4147 K.V.Sat yanara yana, Supdt., 990887 1585	HM, MC Ele. School, Ramalingeswar a nagar, Md.Asiam, RI 9866996429 G.V.Laskhmana Rao, BC-27, 9948988680 PVS Raghvendra Rao, RI, 9866996428 Y.Sudheer, BC-36 9948595092	Dr.Pradeep Kumar 9010105177 Jennemma ANM	Dr William, MO 9848680534 Sailaja ANM	Dr BRamaRao 9703013238 Jawahar Babu MNO	Sri Sai Manikanta Caterers, Ayodhya nagar	M.S.C.Bose 9866996378
												AC-3 986651 4147 K.V.Sat yanara yana, Supdt., 990887 1585	SES, AUB Sarma, RI 9866996426 K.Mani Raju, BC-12A 9866618007 N.Koteswara Rao, RI 9866996427 KV Ramana, BC-28 9847576090	Dr.Kamala Chandrika, MO, 9441034969 RajaMani, ANM Dr Yashodar MO 9985445112 Syamala ANM	MO, 9440117137 K.Lakshmi,FNO	Sri Sai Manikanta Caterers, Ayodhya nagar	M.S.C.Bose 9866996378

Vijayawada City Disaster Management Plan - 2011

5	14	Balaji nagar, Police colony, from Gethanagar katta to 10MGD Plant	200	EE-3 9866514163	G.S.V.V. S.S.N.V. Prasad, Dy.EE 9866514172 SI-5, 9866996371 TPBO-12, Chainman BC-29 9390075249	Dy.EE -1, (WS), 9866514181 SI-6, 8008801475 TPBO-6, 9866996369 Chainman, BC-31A	VMC High School, Patamata lanka HM, 9649750420	200	Secretary, 9866514155 A.O., 9866514156	HM, Patamata lanka, VMC High School, JDN Sastry, BC-36A 9296601245 Naga Durga, BC-17A 9000419243 Nagendra Babu, BC3A 9908896669	Dr Savitri MO 9490907811 Bnirmala Kumari ANM	Dr Ragahvendra Rao MO 9848123737 Nagamani ANM	Dr Rama Koteswar Rao MO 9848653672 nsRINIVAS Rao MNO	Sri Sai Manikanta Caterers, Ayodhya nagar	M.S.C.Bose 9866996378
6	14	Ramaligeswara Nagar, from 10MGD Plant to Border	300	EE-3 9866514163	Raghava Rao, Dy.EE 9866996398 SI-I Aruna, TPBO, 9705917087 Chainma	Dy.UG D, 9959442214 SI-2, 8008801479 Chainman, TPBO-7,	VMC School, Parameter lank HM, 9649750420	150	Secretary, 9866514155 A.O., 9866514156	HM, Parameter lank, VMC High School, JDN Satyr, BC-36A 9296601245 Naga Dura, BC-17A 9000419243 Nagendra Babu, BC3A 9908896669	Dr Savitri MO 9490907811 Bnirmala Kumari ANM	Dr Ragahvendra Rao MO 9848123737 Nagamani ANM	Dr Rama Koteswar Rao MO 9848653672 N.Srinivasa Rao MNO	Hotel Sarova Garden Nagar	R.Obeswara Rao 9866996388

Vijayawada City Disaster Management Plan - 2011

7.7.4 KRISHNA FLOODS - PLAN FOR 5 LAKHS CUSECS OF KRISHNA WATER

SL. No.	Ward No.	Areas for Rescue	No. of Persons to be rescued	Rescue Supervisor	Rescue/ Evacuation team		Shelter	Number of persons to be rehabilitated	Rehabilitati on supervisor	Rehabilitati on team	Medical Team			Food Pockets Suppliers	Name of the F.I
					6.00 AM to 6.00PM	6.00PM to 6.00AM					8 AM to 2 PM	2 PM to 9 PM	9 PM to 8 AM		
1	23	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	1000	SFO 9989773498	Rambabu, Dy.EE 9866514191 SI-15, 9963998961 Srinivasa Kumar TPBO-11 9949458826 Chainman, BC-32 9248750016	AE-12, 9866514204 SI-18, 9866996404 TPBO-3, 9959442213 Chainman	PNBS Shirdi, Kanaka Durga Ghat	1000	AC-3 9866514147	AC-3 staff	Dr.Aruna Kumari MO 9490113497 Y.Nirmala Kumari ANM	Sarvani CO Suseela, A.N.M. 9618396963	Dr RamaRo MO Mvijayakumari ANM	Shirdi And Kanaka Durga, RTC Bus stand	M.S.C.Bose 9866996378

Vijayawada City Disaster Management Plan - 2011

3	2	22	Krishna Lanka, (Ranadhiv nagar)	1250	DFO 9959222748	J.Srinivas, DE 98665141 93 SI-9, 98669963 86, T.Sailaja, TPBO-9, 92423290 776 Chainman , BC-33 98669112 52	AE-11 (Civil), 995944 4097 SI-11, 986699 6377,	TSRMCE School, Cement Godown HM 960312 4751	600	AC-3 9866514147	School, HM, BC-35A	Dr.Krishna Prasad, MO, 9948166509 Durga Lakshmi, ANM	Dr.Ashok Kumar, M.O, 9000891424, Eathima, ANM	Compoundr 9701246191 Srinivasa Rao
16														
8800														
DFO 9959222748														
Esvar Reddy, AE 99590942 52 SI-10 98669964 02														
AE-11 (Civil), 995944 4097 SI-11, 986699 6377,														
TSRMCE School, Cement Godown HM 960312 4751														
600														
AC-3 9866514147														
School, HM, BC-35A														
Dr.Krishna Prasad, MO, 9948166509 Durga Lakshmi, ANM														
Dr.Ashok Kumar, M.O, 9000891424, Eathima, ANM														
Compoundr 9701246191 Srinivasa Rao														
Sri Sai Manikanta Caterers, Ayodhya nagar														
M.S.C.Bose 9866996378														

Vijayawada City Disaster Management Plan - 2011

5	14													
Balaji nagar, Police colony,from Gethanagar katta to IOMGD Plant	Ramaligeswara Nagar,from IOMGD Plant to Border													
1000	2000													
EE-3 9866514163														
G.S.V.V.S .S.N.V. Prasad, Dy.EE 9866514172 SI-5, 9866996371 TPBO-12, Chainman BC-29 9390075249	Dy.EE-1, (WS), 9866514181 SI-6, 8008801475, TPBO-6, 9866996369 Chainman, BC-31A	R.C.M.El e.School Krishna lanka												
1000	1000	1000												
Secretary	Secretary 9866514155	Secretary												
HM, Patamata lanka, VMC Ele.School, BC-36A	HM, Patamata lanka, VMC High School, BC-3A	HMGDETM High School, BC-17A												
Dr.Rajiya, MO, 9959211109 Durga Kumari, ANM	Dr Savitri MO 9490907811 Bnirmala Kumari ANM	Dr.Aruna Kumari, MO 9490113497 Y.Nirmala Kumari, ANM												
Dr.Sudha Rani, MO, 9440030795, Radhika, ANM	Dr Raganvendra Rao MO 9848123737 Nagamani ANM	Mangamma, C.O, 8142724875 Sumathi, ANM												
Dr.B.Rama Rao, MO, 9703013238, Jawaharbabu, MNO	Koteswar Rao MO 9848653672 nsRINIVAS Rao	Prasanth Kumar, CO, 9908160987, Suresh, Asst												
Hotel Sarovar, Gandhi Nagar														
R.Obeswara Rao 9866996388														

Vijayawada City Disaster Management Plan - 2011

7	26	Bhavanipuram, lanchi Revu, Karkatta, upto HWW	1000	9866514161	EE-1	M.Saibaba , AE986651 4183 SI-29 80088014 73 Rajyalaks hmi, TPBO 94400515 32 Chainman , BC-3 94408836 53	AE-I (Civil), 986651 4179 SI-39, 986699 6397 TPBO- 1, 986651 4212 Chaimm an BC-35A	SMA Kuddus Urdu High School, Bhavani puram HM, 944128 3720	500	PO, UCD 9866514153	School, HM, BC-10A	Dr.Narayanacharyulu, MO, 9441307733 Graceleela, ANM	Dr.Rafi Ahamad MO, 9949894460 Nagalakshmi, FNO	9393024389 Sudeep, CO, Suresh	Anjaneya Vilas, BRP Road, K.G.Market	B.A.Prasad 9866996379	
								DSM High School, Vidyadh arapura m HM, 984977 7087	500	PO, UCD 9866514153	School, HM, BC-21B	Dr.Basha MO, 9440231351 Vijayalaxmi ANM	Philomina, HV, 8179663519 Kparvathi CO	Malleswari, FNO 9290617946 Bhishma, Asst.			
		Total	16550						16550								

Vijayawada City Disaster Management Plan - 2011

7.7.5 KRISHNA FLOODS - PLAN FOR 7 LAKHS CUSECS onwards OF KRISHNA WATER

SL. No.	Ward No.	Areas for Rescue	No. of persons to be supplied	Rescue Supervisor	Rescue/ Evacuation team		Shelter	Number of persons to be rehabilitate	Rehabilitation supervisor	Medical Team			Name of the Caterer	Name of the Food Inspector
					6.00 AM to 6.00PM	6.00PM to 6.00AM				8 AM to 2 PM	2 PM to 9 PM	9 PM to 8 AM		
1	23	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	1000	SFO 9989773498	Rambabu, Dy.EE 9866514191 SI-15, 9963998961 Srinivasa Kumar TPBO-11 9949458826 Chainman, BC-32 9248750016	AE-12, 9866514204 SI-18, 9866996404 TPBO-3, 9959442213 Chainman	PNBS Shirdi, Kanaka Durga	1000	Dy.E.O Durga Prasad	Dr.Aruna Kumari MO 9490113497 Y.Nirmala Kumari ANM	Dr.Durgavathi MO 9949894181 Saleem MNO	Dr.Iqbal MO 9885902787 T.Srinivasa Rao compounder	Sri Vasavi Seva Sangam, Metla Bazaar, Krishna lanka	D.V.S.Narayana, 9866996392
2	22	Krishna Lanka, (Ranadhi v nagar) from Reservoir to Varadhi	9000		J.Srinivas, DE 9866514193 SI-9, 9866996386 Ch.Sitaram aiah	Dy.EE, 9959442218 SI-17, 8008801483 TPBO-2, 9866514211	APSRM CH School HM, 9347577857	750	AC-3 (Revenue)	Dr.Narayanacharyulu MO B.Nirmala Kumari	Dhanalaxmi HV Nagamani FNO Nirmala Kumari FNO	Dr.B.Rama Rao MO, 9703013238 Jawahar Babu MNO		

Vijayawada City Disaster Management Plan - 2011

7	26	Bhavanipuram, Ianc hi Revu, Kar katta up HWW	1000	EE-1 9866514161		AE-2 (Civil) SI-29, TPBO-1 Chainman BC-35A	SMA Kuddus Urdu High School, Bhavanipuram	500	500	PO, UCD	Dr. Zenath Begum MO, 994989446	Dr. Rafi Ahamad MO, 9949894460	Dr. Sundararama charyulu MO, 9940335242	Dr. Ramana Raju MO, 9440377433		
		Total	44000				DSM High School, Vidyadh arapura m	500				Dr. Basha MO Vijayalaxmi ANM	Dr. Yasodhar MO 998544511	Dr. Srinivasa Rao		

Vijayawada City Disaster Management Plan - 2011

7.7.6 KRISHNA FLOODS - PLAN FOR 10 LAKHS CUSECS OF KRISHNA WATER													
SL. No.	Ward No.	Areas for Rescue	No.of persons to be supplied	Rescue Supervisor	Rescue team	Shelter	Num ber of perso ns to be rehab ilitate d	Rehab ilitatio n super visor	Medical Team			Name of the Caterer	Name of the Food Inspector
									8 AM to 2 PM	2 PM to 9 PM	9 PM to 8 AM		
1	23	Krishna Lanka (Metla Bazar, Kodandar am ghat) from Padmavat hi Ghat to Reservoir	1000	SFO 9989773498	AE-12 SI-18, TPBO-3, Chainma n	PNBS Shirdi, Kanaka Durga	1000	Dy.E.O Durga Prasad	Dr.Aruna Kumari MO 9490113497 Y.Nirmala Kumari ANM	Dr.Durgavathi MO 9949894181 Saleem MNO	Dr.Iqbal MO 9885902787 T.Srinivasa Rao compounder	Sri Vasavi Seva Sangam, Metla Bazaar, Krishna lanka	D.V.S.Narayana, 9866996392
2	22	Krishna Lanka, (Ranadhi v nagar) from Reservoir to Varadhi	15000		AeE-5 SI-17, TOBO-2, Chainma n	Montesso ri School, Opp.All India Radio Station	7500	Revenu e Depart ment	Dr.Narayanacharyulu MO B.Nirmala Kumari ANM	Dhanalaxmi HV Nagamani FNO Nirmala Kumari FNO	Dr.B.Rama Rao MO, 9703013238 Jawahar Babu MNO		

Vijayawada City Disaster Management Plan - 2011

5	14	Balaji Nagar, Police Colony, from Geeta Nagar katta to 10 MGD plant	10000	EE-3 9866514163	Dy.EE-1, (WS) SI-32, TPBO--6 Chainm an BC-31A	Krishna veni Public School, Patamat a	5000	AC-3 (Revenue)	Dr.Prem Kumar MO, 9985943410 D.M.V.Laxmi FNO	Dr.Kesavarao babu MO, 9989877700 Prasanna Kumari ANM	Dr.Amara Venkateswara Rao MO, 9490743390 T.Sreenivasa Rao MNO	New India Hotel, Gandhi nagar, 9866375487	S.Panduranga Rao, 9866996375
6	14	Rammalige swara Nagar from 10 MGD Plant to Boarder	10000	EE-3 9866514163	Dy.UGD 'SI-11,Chai nmanTP BO-7, BC 32A	VMC High School, Patamata lanka	1500	Secret ary, VMC	Dr.Malkatunnisa MO, 9441520226Padmavathi FNO	Renuka K.L.Mary ANM	Suseela, 9948853695Prasad Helper	M.Ravi Kumar, Gandhiji Municipal High School, 9392710793	B.A.Prasad, 9866996379
						NSM School, Patamat a	5000		Dr.Sivanagaraju MO Rajya laxmi ANM	Christiana ANM Purnima Helper	Nagamani CO 9290778543 Nukalamma	T.Nageswara Rao, Vijayaka mess, Gandhi nagar, 9908477906	Somaraju, 9866996384

Vijayawada City Disaster Management Plan - 2011

7	26	Bhavanipuram, Lanchi, Karakatta, Uto, HWW	2000	9866514161	AE-2 (Civil) SI-21, TPBO-1 Chainman an BC-I	SMA Kuddus Urdu High School, Bhavanipuram	500	PO, UCD	Dr. Rafi Ahamed MO, 9949894460 K. Padmavathi FNO	Dr. Sundararama charyulu MO, 9849335243 Chandrababu ANM	Dr. Ramana Raju MO, 9440377433 Srinivasa Rao Compounder		
				EE-1		DSM High School, Vidyadharapuram	500		Dr. Zenath Begum MO, 9949894461 D.H. Rani ANM	Dr. Basha MO Vijayalaxmi ANM	Dr. Yasodhar MO 9985445112 Sailaja ANM		
						Shadiikana	1000						
		Total	54000				48000						

Vijayawada City Disaster Management Plan - 2011

7.7.7 Krishna Floods - Medical Camps - Revised Action Plan - 2011

SL . No .	Medical Camps						Survey Teams (Survey for Fever and Diarrhoea cases)
	Medical Camps in Relief Centers	Name of the Doctor and Staff		Medical camps in Rescue Places	Name of the Doctor and Staff		
		1st Shift	2nd Shift		1st Shift	2nd Shift	
1	PNBS	Dr.A.Aruna Kumari MO VMC 9490113497 Nirmala Kumari FNO S.Sarala Rani Helper	Dr.Iqbal MO VMC 9885902787 T.Srinivasa Rao compounder	Karakatta South (Lotus Legend Apartments)	1.Dr.Yasodhar MO 9985445112 2.D.Sailaja ANM 3.T.Vijaya Kumari Helper	1.Dr.Narayanacharyulu,MO 9441307733 2.P. Parvathi, ANM 3.Durgamba, Helper	DHANAMANI., H.V 9392130539 1.K.Parvathi CO 2.Mahalaxmi CO 3.Dayamani CO 4.Sumithra ANM 5.Parvathi ANM 6.Arunajyothi ANM 7.B.Mary ASHA 8.K.Kumari ASHA 9.Mary lavanya ASHA 10.B.Vasantha ASHA 11.Alimbee ASHA 12.M.Vasundara ASHA 13.Blessi ASHA 14.Jhansi ASHA
	Bishop Hazaraiah School near Red circle	Dr.Laxmi Thayaru MO, VMC 9297250737 Jessemma Fno	Dr.Y.Ramesh MO 9490754481 Govardhan MNO				

Vijayawada City Disaster Management Plan - 2011

2				Krishnalanka MMH, (Ranadheer Nagar Community Hall)	1.Dr.Babu Srinivas MO 9440117137 2.Jasmin, ANM 3.M.Kumari Helper	1.PSNL Kumari ANM 2.Padmavathi, Helper	1.Sarvani CO 2.Baby Rani CO 3.Syamala ANM 4.Bhulaxmi ASHA 5.M.Laxmi ASHA 6.A.Bhavani ASHA 7.T.Venkateswaramma ASHA 8.T.Padmavathi ASHA Total Teams 4
3	IGM Stadium Complex	Dr.S.Durgavathi MO 9949894181 Chittitalli ANM Koteswaramma Vijaya Laxmi FNO	Dr.Nazeer MO 9490228576 Prabhavathi CO Prasad Helper	Tarakarama Nagar Katta (Opp.Saiba Temple)	1.Dr.Basha 9440231351 2.Y.Prameela ANM 3.Dhanalaxmi Helper	Dr. Rafi MO 9949894460 Venkateswaramma, ANM Prasanna, ANM Roja pushpa, Helper	1.Madana CO 2.Nagamani CO 3. Jennemma ANM 4.Nirmala Jyothi ANM 5.NCS Laxmi CO 6.Snehalatha CO 7.Kumar CO 8. P.Bharathi ASHA Total teams 4
4	VMC High School, Patamata lanka	Dr.Malkatunnisa MO, 9441520226 Parvathi ANM	Dr.Ramarao MO9703013238J avahar Babu MNO	Ramaligeswara Nagar from 10 MGD Plant to Boarder	Dr.Balasubrahmanayam,MO, 9443336923Prasanna, ANM	Dr.Raghavendra Rao, MO9848123737 M.Nagamani ANM Rohini Kumari Helper	DHANALAKSHMI,HV 1.Re nuka CO2.Durga Kumari ANM3.Sarada CO4.Radhika ANM5.K.L.Mary ANM6.D.Laxmi ASHA7. P.Laxmi ASHA8.Y.Nagalaxmi ASHA9.A.Sudharani
	ZP Girls High School, Patamata lanka	Dr.Zeenath Begum MO Durga Kumari ANM	Dr.Babu Srinivasa Rao MO, 9440117137 Saleem MNO				

Vijayawada City Disaster Management Plan - 2011

	NSM School, Patamata	Dr.Rama Devi MO (MMH) 9346223827 Chinni ANM Anitha ANM	Dr.Sivanagar Raju MO 9177274274 Sekhar Helper				ASHA10. Sunandini ASHA11.Padmavathi ASHA12.G.Venkateswaram ma ASHA13.Prabhu Kumari ASHA14.V.Bhara
5	Sr.Arthur Cotton High School, Bhavanipuram	—	—	Krishnalank a (Police Station Bazar)	Dr.Venkata Rao, MO 9701483058 B.Nirmala Kumari, ANM	Dr.Krishna Prasad,MO 9948166509 Noble Kumari,ANM DMV Lakshmi, FNO	B.SAROJINI, HV 1.Karuna Mary ANM 2.Mangamma CO 3.Lazarus CO 4.B.Sujatha ASHA 5.P.Mukkanti ASHA 6.Yesuratnamma ASHA 7.Ch.Daivakrupa ASHA 8.Vijaya Kumari ASHA Total Teams -4
	DSM High School, Vidyadharapura m	Dr.Amara Venkateswarlu 9490743390 T.Srinivasa Rao, MNO	K.Parvathi ANM Durga Malleswari FNO Y.Bhishma Helper				
6	SPSMC Urdu Elimentary School Vidyadhrapuram	—	—	Swargapuri Road, Brahmaram bapuram	Dr.Laxmi Kumari, MO 9440174860 Sadaxmi, ANM T.Vijaya Kumari, Helper	Dr.Rama Koteswara Rao MO Dhana Kumari, ANM N.Srinivasa Rao, MNO	1.Mani CO 2.Annamary CO 3.Narayanamma ANM 4.Durga Bhavani CO 5. Y.Sailaja ASHA 6.N.Sunitha ASHA 7.M.Anitha ASHA 8.K.Kumari ASHA 9.K.Krishna Kumari ASHA 10. P.Veeramma ASHA Total teams 5

Vijayawada City Disaster Management Plan - 2011

7.7.8 krishna floods - facilities at rehabilitation centers 2011

SL.No.	Rehabilitation Center	No.of Toilets	No.of Water drums	Name of the Sanitation Incharge	No.of Sanitation workers	No.of Dumper bins	No.of Lights	Rehabilitation team		Medical Officer	No.of Para Medical staff	Remarks
		Required	Required		Required	Required	Required	Supervisor	Team Members			
1	PNBS	55	24	Pulla Rao, SI-19	20	2	15	K.Durga prasad	20	2	2	
2	Montessori School, Opp.All India Radio Station	25	17	Sankara Kumari, SI-13	15	1	30	AC-3	HM, AE-3,	2	2	
3	Bishop Hazaraiah School near Red circle	15	8	DVS.Narayana SI-22	15	1	31	AC-3, BC-34, HM	BC-34, HM	2	2	
4	IGM Stadium Complex	55	49	D.Somaraju, SI-14	90	2	50	AC-2	BC-35, RI	2	2	
5	Siddartha Academy	0	19	N.Vijaya Raju	10	1	0	0	0	0		
6	Krishnaveni Public School, Patamta	0	0	Saleem Ahamad, SI-1	10	1	0	0	0	0		
7	VMC High School, Patamata lanka	10	14	Venugopal, SI-26	10	1	20	Secretary, VMC	5	2	2	
8	ZP Boys High School, Patamata	0	14	M.Ramesh	10	1	0	Secretary, VMC	0	2	2	
9	ZP Girls High School, Patamata lanka	10	0	Nagendra Reddy, HA	10	1	20	Secretary, VMC	4	2	2	
10	NSM School, Patamata	20	13	Navakishore, SI-25	10	1	15	ADH, VMC	VRO, RI, Tahasildar	1	2	

Vijayawada City Disaster Management Plan - 2011

11	DSM High School, Vidyadharapuram	18	18	P.V.Satyanar ayana SI-11	10	1	35	H.M, DSM School	10	1	3	
12	PSM Girls High School	0	0	P.Jayasurya, SI-12	10	1	0	0	0	0	0	
13	Gandhiji School & College	0	0	P.Jayasurya, SI-12	10	1	0	0	0	0	0	
14	SPSMC Urdu Elimentary School, Vidyadhrapuram	7	6	A.Anuradha, HA-1	10	1	6	PO UCD	8	1	2	
15	Shadikhana	10	7	D.Nageswar a Rao	10	1	20	VRO(R)	25	1	3	
16	Bhashyam High School, Bypass road, near Sitara theatre	6	8	Sam Sunder Pillai, SI-3	10	1	0	N.Sattiba bu, Superviso r, 98484131 87	3	2	2	
17	Netaji Public School Police School	5	3	Jaya raj, SI- 15	10	1	10	1	30	2	2	
18	Sir Arthur Cotton School	7	6	P.Ramesh Babu, SI- 17A	10	1	0	1	30	1	4	
19	Mynepalli Police School, Vidyadharapuram	5	5	A.Anuradha, HA-1	10	1	16	PO UCD	8	1	2	
20	Madapati Bhaskararao Ele.School, Vidyadharapuram	7	6	K.Ramesh, SI-27	10	1	17	A.E.H.B Sk.Mastan	15	0	2	
	TOTAL	255	217		300	22	285		158	24	36	

Vijayawada City Disaster Management Plan - 2011

7.7.9 following staff should arrange pump sets for bailing of rain water and also touch with the A.P.S.P.D.C.L authorities for necessary action.

Area	Name of the Assistant Engineer	Arrangements to be made
Balaji Nagar and Swargapuri	, AE (Electrical), 9866514189	Arrangements of pump sets at Sluice Gate
Dwarakanagar	AE (Electrical) 9866514187 2)AE (UGD)	Arrangements of pump sets at Sluice Gate

Vijayawada City Disaster Management Plan - 2011

7.7.10 Plan for Relief material

SL. No.	Ward No.	Areas for Rescue	Shelter	Relief material	Rescue material
1	23	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	PNBS Shirdi Canteen	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
2	22	Krishna Lanka, (Ranadhiv nagar) from Reservoir to Varadhi	Montessori School, Opp.All India Radio Station	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
			Bishop Hazaraiah School near Red circle	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
3	16	Ranigarithota (Taraka Ramanagar) from Varadhi to beginning of Bhupesh Gupta nagar	IGM Stadium Complex	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
4	15	Ranigarithota (Bhupesh Gupta Nagar)	Siddartha Academy	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
				Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
5	14	Balaji Nagar, Police Colony, from Geeta Nagar katta to 10	Krishnaveni Public School, Patamata	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10

Vijayawada City Disaster Management Plan - 2011

		MGD plant	NSM School, Patamata	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
6	14	Ramaligeswara Nagar from 10 MGD Plant to Boarder	VMC High School, Patamata lanka	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
			ZP Boys High School, Patamata	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
			ZP Girls High School, Patamata lanka	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
			Krishnaveni Public School, Patamata	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
			NSM School, Patamata	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
7	26	Bhavanipuram	SMA Kuddus Urdu High School, Bhavanipuram	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10
			DSM High School, Vidyadharapuram	Chargeable light 5 no, Hand mikes 2no, Long rope 5no, Boat 1 (during flood)	Rice 100Dal 20Vegetables 2 qtl, Water Barrels (100 lit each)-5, Medicine, Tube lights -10

7.7.11 The details of food quantity to be supplied to the vulnerable categories

Category (Ae Group)	Type of food	Days	Quantity of food required per head(g)	food required for 500 members in (Kgs)
6 months to 3 years	MTF	one Time/day	0.11	55
	Eggs	week	2	1000
3 Years to 6 years	Upma	one Time/day	0.09	45
	Kichidi	one Time/day	0.09	45
	Halwa	one Time/day	0.09	45
	SF	one Time/day	0.025	12.5
	Eggs	week	2	1000
Pregnant & Lactating mothers	Upma	one Time/day	0.14	70
	Kichidi	one Time/day	0.14	70
	Halwa	one Time/day	0.14	70
	Eggs	weekly	2	1000

7.7.12 statement showing the officer incharge for providing lighting				
Sl. No	Name of the Mandal	Name & Designation of the Officer	Contact Number	Remarks
1	Vijayawada Urban	Sri. YSRKVVL Narasima Rao Executive Engineer V Vijayawada Municipal Corporation	9866514200	

7.7.13 water arrangements

I. Bailing out of water-Circle2

1. All the pump sets in DP Station in Kandrika (NSC Bose Nagar) shall be kept in working condition

2. Additional Oil Engines to be provided at the following places

- a) Ayodhya Nagar near Sluice Gate
- b) Near Beeruvala company road by the side of Railway Track
- c) Near NSC Bose Nagar ELSR to bail out stagnated water
- d) **.7.10** from internal roads

7.7.14 pump sets arrangements

Sl. No	Area	Location	No. of pump sets required	Capacity
1	Ayodhya Nagar	Near Sluice Gate on Budameru Flood Bank	4 Nos	8 HP 9
2	Old Rajarajeswaripet	Near Box culvert on Railway Line	4 Nos	5 HP
3	NSC Bose Nagar	Near Reservoir	2 Nos	5 HP
4	NSC Bose Nagar	DP Station	4 Nos	10 HP
5	Rajiv Nagar	Between Radha Nagar & Rajiv Nagar Junction point	2 Nos	5 HP
6	Rajiv Nagar Vaddera colony	Between Vaddera colony and VUDA	2 Nos	5 HP

7.8 Preparedness plan for Fire Hazard

27 Thatched areas identified on Hill tops in Vijayawada City. Out of that 14 thatched areas are proposed to be provided with Fire extinguishers. Since these thatched areas on the Hill tops cannot be reached by the Fire Engines to extinguish fires. The Following first Aid Fire Fighting equipments may be stationed in the Community Halls /Community leader house in that areas to use in case of emergency. The community disaster management committee will be trained of usage of these instruments

Vijayawada City Disaster Management Plan - 2011

Particulars of the name of the areas and number of Fire Extinguishers to be

Sl. No.	Name of the thatched area on the Hill top of Indrakeeladri	No. of Fire Extinguishers	Fire extinguishers fixed stations	No. of Thatched Houses	Remarks
	4 Pillars Centre, Pacemvari St.	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping station	10 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
2	Cheruvu Centre, Ramarajyanagar	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping station	8 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
3	Sitara Centre, Top of the tennel	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping station	14 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
4	Opp.Gandhi Statue, Lambadipet	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping station	16 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
5	Kotta Ammavari Temple, Chittinagar	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping station	18 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
6	Near Anjaneyavagu , Kothapeta	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping station	15 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency

Vijayawada City Disaster Management Plan - 2011

stationed on the Hill top of the Indrakeeladri :

Particulars of the name of the areas and number of Fire Extinguishers to be stationed on the Hill top of the Gunadala :

Sl.No.	Name of the thatched area on the Hill top of Gunadala	No. of Fire Extinguishers	Fire extinguishers fixed stations	No. of Thatched Houses	Remarks
1	Frizerpet, Chittinagar	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Frizerpet,	24 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
2	Gollapalem gattu (KBN College back Side)	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping Station	16 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
3	Wynchi pet	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Wynchipet	27 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency

Vijayawada City Disaster Management Plan - 2011

Particulars of the name of the areas and number of Fire Extinguishers to be stationed on the Hill top of the Gollapalemgattu (Wynchipte + Frizerpet):

Sl.No.	Name of the thatched area on the Hill top of Gunadala	No. of Fire Extinguishers	Fire extinguishers fixed stations	No. of Thatched Houses	Remarks
1	Frizerpet, Chittinagar	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Frizerpet,	24 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
2	Gollapalemgattu (KBN College back Side)	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Water Pumping Station	16 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency
3	Wynchi pet	1 No. 5 Kg. DCP Fire Extinguishers 1 No. 9 ltrs. Water CO2 Fire Extinguishers	Wynchipet	27 Thatched house are located in one place	Fire extinguishers are to be used in case of emergency

7.9 Health epidemics control measures

Vector Control Measures.

In Vijayawada city the Vector Control measures are being carried out by the local body on receipt of case information from the District Malaria Officer/DM&HO.

The Municipal Corporation hired a Technical Person for supervision and guidance to the teams in the field. A review of the work of Vector control done in the presence of Biologist of Municipal Corporation. The Chief Medical Officer is totally supervising the activities from time to time. The required man power has been provided to the Malaria Supervisors of the Municipal Corporation. The man power has been divided in to different teams to take up the following activities of vector control.,

Health Preparedness Schedule			Survey Teams (Survey for Fever and Diarrhoea cases)
Medical camps in vulnerable places	Name of the Doctor and Staff		
	1st Shift	2nd Shift	
Karakatta South (Lotus Legend Apartments)	1.Dr.Yasodhar MO	1.Dr.Narayanacharyu lu,MO	DHANAMANI., H.V
	9985445112	9441307733	9392130539
	2.D.Sailaja ANM	2.P. Parvathi, ANM	1.K.Parvathi CO
	3.T.Vijaya Kumari Helper	3.Durgamba, Helper	2.Mahalaxmi CO
			3.Dayamani CO
			4.Sumithra ANM
			5.Parvathi ANM
			6.Arunajyothi ANM
			7.B.Mary ASHA
			8.K.Kumari ASHA
			9.Mary lavanya ASHA
			10.B.Vasantha ASHA
			11.Alimbee ASHA
			12.M.Vasundara ASHA
			13.Blessi ASHA
		14.Jhansi ASHA	
Krishnalanka MMH, (Ranadheer Nagar Community Hall)	1.Dr.Babu Srinivas MO 9440117137	1.PSNL Kumari ANM	1.Sarvani CO
	2.Jasmin, ANM	2Padmavathi, Helper	2.Baby Rani CO
	3.M.Kumari Helper		3.Syamala ANM

Vijayawada City Disaster Management Plan - 2011

			4.Bhulaxmi ASHA
			5.M.Laxmi ASHA
			6.A.Bhavani ASHA
			7.T.Venkateswaramma ASHA
			8.T.Padmavathi ASHA
			Total Teams 4
Tarakarama Nagar Katta (Opp.Saibaba Temple)		Dr. Rafi MO	1.Madana CO
	1.Dr.Basha 9440231351	9949894460	2.Nagamani CO
	2.Y.Prameela ANM	Venkateswaramma, ANM	3. Jennemma ANM
	3.Dhanalaxmi Helper	Prasanna, ANM	4.Nirmala Jyothi ANM
		Roja pushpa, Helper	5.NCS Laxmi CO
			6.Snehalatha CO
			7.Kumar CO
			8. P.Bharathi ASHA
			Total teams 4
Ramaligeswara Nagar from 10 MGD Plant to Boarder	Dr.Balasubrahmanaya m, MO, 9443336923	Dr.Raghavendra Rao, MO 9848123737	DHANALAKSHMI,HV
	Prasanna, ANM	M.Nagamani ANM	1.Renuka CO
		Rohini Kumari Helper	2.Durga Kumari ANM
			3.Sarada CO
			4.Radhika ANM
			5.K.L.Mary ANM
			6.D.Laxmi ASHA
			7. P.Laxmi ASHA
			8.Y.Nagalaxmi ASHA
			9.A.Sudharani ASHA
			10. Sunandini ASHA
			11.Padmavathi ASHA
			12.G.Venkateswaramma ASHA
			13.Prabhu Kumari ASHA
			14.V.Bhara
Krishnalanka (Police Station Bazar)	Dr.Venkata Rao, MO 9701483058	Dr.Krishna Prasad,MO 9948166509	B.SAROJINI, HV
	B.Nirmala Kumari, ANM	Noble Kumari,ANM	1.Karuna Mary ANM
		DMV Lakshmi, FNO	2.Mangamma CO
			3.Lazarus CO
			4.B.Sujatha ASHA
			5.P.Mukkanti ASHA
			6.Yesuratnamma ASHA
			7.Ch.Daivakrupa ASHA

Vijayawada City Disaster Management Plan - 2011

			8.Vijaya Kumari ASHA
			Total Teams -4
Swargapuri Road, Brahmarambapuram	Dr.Laxmi Kumari, MO	Dr.Rama Koteswara Rao MO	1.Mani CO
	9440174860	Dhana Kumari, ANM	2.Annamary CO
	Sadalaxmi, ANM	N.Srinivasa Rao, MNO	3.Narayanamma ANM
	T.Vijaya Kumari, Helper		4.Durga Bhavani CO
			5. Y.Sailaja ASHA
			6.N.Sunitha ASHA
			7.M.Anitha ASHA
			8.K.Kumari ASHA
			9.K.Krishna Kumari ASHA
			10. P.Veeramma ASHA
			Total teams 5

Vijayawada City Disaster Management Plan - 2011

7.10 Other essential Information

7.10.1 Abstract Of VMC Community Halls & Kalyana Mandapams							
STATUS OF COMMUNITY HALLS IN VIJAYAWADA URBAN MANDAL							
Sl No.	Where Cyclone Shelter (Community Halls) situated (Village/Hamlet)		Position of the Cyclone Shelter (for occupation or not?)	Nature of utilization in normal time	Condition of Cyclone Shelter	Capacity of Occupancy	Remarks
	Area	Place of Community Hall					
1	Gunadala	Currency Nagar	Vacant	Communal Purpose	Good	1000	
2	Patamata	RTC Colony	Vacant	Communal Purpose	Good	1000	
3	Patamata	Lambadipet Community Hall	Vacant	Communal Purpose	Good	1500	
4	Patamata Lanka	Thota Vari Street Community Hall	Vacant	Communal Purpose	Good	1000	
5	Mogalrajapuram	Siripurapu Devasahayam Community Hall	Vacant	Communal Purpose	Good	1500	
6	Mogalrajapuram	Vemula Syamaladevi Community hall	Vacant	Communal Purpose	Good	1500	
7	Machavaram	Madhura Nagar Community hall	Vacant	Communal Purpose	Good	1000	

Vijayawada City Disaster Management Plan - 2011

8	Vijayawada Village	Baptistpalem Community Hall	Vacant	Communal Purpose	Good	1500	
9	Vijayawada Village	Noor Mahammadh Community Hall, Old Rajarajeswaripet	Vacant	Communal Purpose	Good	1000	
10	Payakapuram	LBS Nagar Community Hall	Vacant	Communal Purpose	Good	1500	
11		Rajiv Nagar Community Hall	Vacant	Communal Purpose	Good	1000	
12		Rajiv Nagar Community Hall-2	Vacant	Communal Purpose	Good	1000	
13	Mutyalampadu	Singh Nagar Community Hall	Vacant	Communal Purpose	Good	1500	
14		H.B.Colony Community hall	Vacant	Communal Purpose	Good	1000	
15	Machavaram	Machavaram Community Hall	Vacant	Communal Purpose	Good	1500	
16	Mogalrajapuram	Woodpet Community Hall	Vacant	Communal Purpose	Good	1500	
17	Krishnalanka	Chalasani Nagar Community Hall	Vacant	Communal Purpose	Good	1000	

Vijayawada City Disaster Management Plan - 2011

18	Vijayawada Town-I	Thammina Pothuraju Kalyana Mandapam	Vacant	Communal Purpose	Good	1000	
19	Vijayawada Town-I	Palla Kanakaiah Kalyana Mandapam	Vacant	Communal Purpose	Good	1500	
20	Vijayawada Town-I	Mukka Venkata Ramana Hymavathi Kalyana Mandapam	Vacant	Communal Purpose	Good	1000	
21	Vijayawada Town-I	Shadhikana (Kothapet) Market	Vacant	Communal Purpose	Good	1000	
22	Vijayawada Town-I	Sampara Tatabbaiah Kalayana mandapam	Vacant	Communal Purpose	Good	1000	
23	Vijayawada Town	Mango Market Kalyana Mandapam	Vacant	Communal Purpose	Good	1000	
24	Mutyalampadu	Gujjala Sarala Devi Kalyana Mandapam	Vacant	Communal Purpose	Good	1500	
25	Mutyalampadu	Shadikana	Vacant	Communal Purpose	Good	1000	

Vijayawada City Disaster Management Plan - 2011

26	Vijayawada Town	Kandukuri Kalyana Mandapam	Vacant	Communal Purpose	Good	1000	
27	Vijayawada Town	K.J Gupta Kalyanamandapam	Vacant	Communal Purpose	Good	1500	

7.10.2 Equipment ready with Municipal corporation, Vijayawada procured under GOI – UNDP UVERP program

Sl.No.	Description of Equipment	Qty in Nos.
1	Megaphone	10 Nos
2	Search Light (Rechargeable)	21
3	Torches (Heavy Duty)	25
4	Helmets	5
5	Petromax Lights	15
6	Electric Drill Machine	2
7	Electrical Drill Bit	2
8	Rope ladder (30 feet)	3
9	Life Jackets	25
10	Face Shield / visor	3
11	Dust Mask	10
12	Safety Wests (Horoslenty & Water Proof)	10
13	Klothem Blankets	30
14	Rain Coats	28
15	First Aid Boxes	25
16	Folding Stretches	10
17	Screen Dis Set	5
18	Life Bouys	5
19	Rubber Boat	2
20	Standing Post Emergency Light	1
21	Crowbar	10
22	Round Shovel	10
23	Hydraulic Jack	2
24	Hammer Piton	5
25	Concret Iron cutter	2
26	Tape Siling (3M Length)	5
27	Sledge Hammer 7 Kgs	5
28	Ropes (10 Meters)	24

7.10.3 list of stores and tools to be kept in each circle.

1.	Empty Cement Bags	-50,000 Nos.
2.	Casurina Bullies	-500 Nos
3.	Bamboos	-1500 Nos.
4.	Sand	-250cum.
5.	Country Twine	-50 Kgs.
6.	Coir Rope	-50 Kgs.
7.	Petromax Light	-10 Nos.
8.	Torch Light	-10 Nos.
9.	Kirosene	-100 Lts.
10.	Hurricane Lanterns	-100 Nos.
11.	Bill hooks with handles	-50 Nos.
12.	Filling axes with handles	-50 Nos.
13.	Crowbars	-100 Nos.
14.	Mamooties with Handles	-100 Nos.
15.	Earth work basket	-200 Nos.
16.	Pricely Pear Hooks	- 50 Nos.

Vijayawada City Disaster Management Plan - 2011

7.10.4 Availability of boats and Swimmers

The EE6 with his DyEEs shall be responsible for procurement of boats and operation of the boats

Availability of boats					
Sl. No.	Name of the Officer	Name of the Organization	Boats	Deep Swimmers	Ph Number
1	Fire Officer	Vijayawada Municipal Corporation	Rubber Boats-2 (10 Seater)	20	
2	Dy Commander	National Disaster Response Force	Inflatable Motor Resque Boats (Big) 20 Seaters-1 Inflatable Motor Resque Boats (Small) 10 Seater-1 Motor Risqué BAUT Universal Type-1	60	
3	Assistant Director,	Dept of Fisheries, Vijayawada	Country boats-200	60	
4	Kali	President Fishaerman society, Padavala Revu	Country boats-60	60	9866310774
5	Chekka Ramarao	President Fishaerman society, Ranadheevi Nagar	Country boats-60	60	9989461809
6	Kokkiligadda krishna	Member, Fishaerman society, Ranadheevi Nagar	Country boats-10	10	9391273451

Vijayawada City Disaster Management Plan - 2011

7.10.5 List of lorry suppliers

Sl. No	Owner of Vehicle	Type of the Tanker	Nos	Capacity of Tanker	Contact Phone Nos/Cell No.
1	BHSV JANNA REDDY	Tractor	7	4000	9246473757
2	K. PANDU RANGA RAO	Lorry	1	12000	9394331628
		Tractor	2	4000	
3	A. SRINIVASA REEDY	Tractor	6	4000	9399936999
4	CH. VENKEATESWARA RAO	Lorry	1	12000	9866514777
4	CH. VENKEATESWARA RAO	Tractor	3	4000	
5	ADH / VMC (SINTEX TANK)	Tractor	1	4000	9866514154
6	ADH / VMC (PRAKASH ARTS)	Lorry	1	12000	
7	ADH / VMC	Tractor	1	4000	
8	SANTHAN KUMAR	Lorry	1	12000	
10	K. RAGEVENDERARAO	Tractor	1	4000	9848113667
11	ILAPURAM VENKAIAH	Lorry	1	12000	
12	T. LOKESWARA RAO	Tractor	1	4000	9392222227
13	V.V. RAMARAJU (10 TYRES)	Lorry	1	20000	
14	MALLADI VISHNU	Lorry	1	12000	
15	V.V. RAMARAJU	Lorry	1	12000	
16	ADH/VMC (RAMBABU)	Tractor	1	4000	
17	PVT VEHICLE (DRUMS)	Tractor			
18	Vamsi-Gannavaram		1	4000	9848022644
19	Chaitanya College(Ajay)		1	4000	9848304447
20	Kodali Nani,Gudivada/Yalaparthi Srinivasarao		1	4000	9848153333

Vijayawada City Disaster Management Plan - 2011

7.10.6 list of Lorry Drivers

Sl. No.	Name of the Lorry Driver	Address	Ph Number
1	Lorry owners Association	Krishna Lanka	0866-2477741 08662573342
2	Ramesh	Krishna Lanka	9966445971
3	M.Ravindra	Krishna Lanka	949385225
4	Manikyala Rao	Krishna Lanka	9949384242
	M.Satish	Krishna Lanka	9963924231

7.10.7 List of addresses of Generators availability (rental)

Sl. No.	Name and Address	No of Generators Available
1	Yenamadala Sankara Rao, Ashok Nagar, Venkatappaiah street, Vijayawada	2
2	Ch. Rambabu, NSM School Road, Patamata Vijayawada	2
3	Dhanekula Satyanarayana, Opp Auto Nagar Gate, Vijaya Lakshmi Hotel Side, Vijayawada	7
4	Anga Ramu, Opp High School Road, Ramayanapuvari Street, Patamata, Vijayawada	3
5	Snkara Azad, Kranti Enterprises, Opp Annapurna Theatre, Vijayawada, Ph. 2571736 & Cell > 9392111736	5
6	M. Venkateswara Rao, Opp. Urvasi Theatre, Vijayawada	4
7	G. Nageswara Rao, Bandar Laku, Vijayawada	4
8	Sankara Mike Subba Rao, Opp Jaihind Complex, Vijayawada-2	6
9	Garimella Nani, Patamat Centre, Back Side of Municipal Complex, Vijayawada	2
10	Bala Komala Vilas Centre, Vijayawada.	2
11	Mandeva Kutumba Rao, Chuttugunta, LIC office corner Vijayawada	2
12	Srinivasa Mike Service, Yampati Raghavaiah, Vuruvasi Theatre, Opp Market, Vijayawada	2
13	Mohan Babu, Mohan Electricals, Vurvasi Theatre, Near Market	1

7.10.8 List of Generators repairing Electrishians

GENERATORS REPAIRS			
1	JALEEL ELECTRICAL WORKS	12-8-2, HYDER SAHEB ST, TARA PET, VJA.	TEL:9848317141
2	KAISER INDIA	33-21-33, SEETHA RAM PURAM, VJA.	TEL:6647765
3	PERFECT ENTERPRISES	26-9-4, RAMA RAO ST, GANDHI NAGAR, VJA.	TEL:6644315
4	SRI BALAJI ELECTRICALS	GR ROAD, G PET, VJA.	TEL:2571926
5	DISEL – TECH SERVICES	55-10-8, INDL, EST ANGR, VJA.	TEL:9848090745

7.10.9 list of Pumpsets repairs & service

PUMPS REPAIRS & SERVICE			
1	AGRI MARKETING AGENCIES	11-2-55, SUBBARAMAIAH ST, VJA.	TEL:662217
2	AL-SUPREME AGENCIES	12-3-7, PM ST, TARA PET, VJA.	TEL:2425870
3	BHARAT ENGINEERING COMPANY	12-10-56, OPP ATKISON H SCHOOL, CONVENT ST, VJA.	TEL:2425870
4	BHARGAVAN ENTERPRISES	12-6-14, HAZT ST , TARA PET, VJA.	TEL:6695869
5	COASTAL ENGINEERING COMPANY	TARA PET, VJA.	TEL:2421903

7.10.10 Water Supply (Water packets)	
Area	Contact Number
Sri rama enterprises12-7-13, HK st, tara pet,	2424757
Polo Packed drinking water, Pata padu, Vij	3239293813
Crystal Packed drinking water , Pipula Road	9966737071

7.10.11 List of Milk Suppliers

Milk Suppliers			
S.NO	NAME	ADDRESS	CONTACT
1	A P DAIRY MILK DEVELOPMENT CO- OPERATIVE FEDERATION Ltd.	CHITTI NAGAR, VJA.	TEL: 251841
2	AGRI GOLD	40-1-21/3, 1 ST FLOR SURYA TOWERS, M G ROAD, VJA.	TEL: 2473711
3	MODEL DAIRY (P) Ltd.	NIDAMANURU.	TEL:2842777
4	DURGA DAIRY	NUZIVEEDU ROAD.	TEL:2853374
5	HERITAGE FOODS (INDIA)Ltd.	54-18/1-12, PRASANTHI NAGAR, ITI, VJA.	TEL:3095568

7.10.12 list of Kirana general stores

List of Kirana general stores		
Sno	Address	Ph Numbers
1	Gayatri General Stores	2421224
	Canal Raod,	
	Kaleswara Rao Market.	
2	Sai Teja General Stores	-
	Canal Road,	
	Kaleswara Rao Market.	
3	Padmaja General Stores	2424579
	Canal Road,	
	Kaleswara Rao Market.	
4	Oil & General Merchant	9248908960
	Pro. Lakshmi Naresh	
	Canal Road,	
	Kaleswara Rao Market.	
5	Raghavendra General Merchant	9948170139
	Canal Road,	
	Kaleswara Rao Market.	
6	VMC Complex	5527362 (Vegitables)
	Vegetable,	
	Kaleswara Rao Market.	
7	Balaji Traders,	2425473
	Canal Road,	
	Kaleswara Rao Market.	

7.107.10.13 List of Rice Traders:

Rice Traders
1. Sri Venkata Durga Rice Corporation 9-3-3, Brahminst, Viajayawada. Ph.2561034.
2. Sri Venkateswara Rao Rice Stores, 34-2-20, Near Pushpa Hotel eat, Vijayawada-10 Ph.2484120.
3. Vijaya Durga General Stores, NTR Ctr., Patamata, Vijayawada-10. Ph.2472420
4. Sri Venkata Srinivas Rice Company, 27-21-52, Besent Road, Vijayawada-2 Ph.5776580.
5. Srinivasa Traders, 30-1-11/3, Kuranaiah St., Vijayawada-2 Ph.2439283.

7.10.14 List of Dal traders

DALL			
1	KOTA RANGANAYAKULU	370 MGWCC, GOLLAPUDI.	TEL:2421864
2	LAKSHMI SRINIVASA TRADERS	11-25-19, SUBBARAMAIAH ST, KOTHA PET, VJA.	TEL:9247288776
3	SRI SRINIVASA DALL & GENERAL MERCHANT	86, KG MARKET, VJA.	TEL:6699509
4	JAYA LAKSHMI TRADERS	S.NO: 22, K G MARKET, SOUTH BLOCK, VJA.	TEL:939310455
5	SAI TRADERS	11-59-23/8, KCSR COMPLEX, MASJID LANE, CANAL ROAD, VJA.	TEL: 2420192

7.10.15 Other Important traders Phone numbers

వివరములు	సంప్రదించతగు వ్యక్తి	ఫోన్ నంబర్
1. బిల్డింగ్ మెటీరియల్	విజయలక్ష్మి ఏజెన్సీ	9848171936
2. వంట సామాన్లు	ఇబ్రహీం టెంట్ హౌస్	9885943498
3. మందుల షాపు	అపోలో, శ్రీ సాయి , విజయసాయి	2432333, 2489599, 2436159,
4. హార్డ్ వేర్	సాయిదుర్గ హార్డ్ వేర్	9700277618, 9666183303, 0866-2400286
5. రైస్ మిల్స్	బాలాజీ రైస్ మిల్స్	9393854866
7. విద్యుత్తుపరికరములు	విజయలక్ష్మి ఏజెన్సీ	9848171936
8. హోటల్	హోటల్ సరోవర్, కెనాల్ రోడ్,	9948195791, 0866-52421477
9. మినరల్ వాటర్	క్రిస్టల్ వాటర్	9966737071, 9247282929
10. టార్పలిన్ షీట్స్	సంభవ్ టార్పలిన్, 1 టౌన్	0866-6667766, 6648118
11. పాలు	గోకుల్ డైరీ పార్లర్	9030570786
12. కిరాణా	శ్రీ లక్ష్మి జనరల్ స్టోర్స్	9885462091
13. పౌరసరఫరాలు		8008301464, 0866-2493197

7.10.16 List of Medical Stores

Sno	Day & Night Medical Stores
1	Apollo Pharmacy 29-37-98 Opp. Vijaya talkies Eluru Road Ph. 2432333.
2	Lakshmi Teja Medicals 26-6-12/2 RCR Road, Ph.2431646.
3	Samatha Medical Stores Ramachandra Rao Road, Surya Rao Pet, Ph.2437751
4	Sri Sai Pharmacy Mahatma Gandhi Road, Benz Circle, Viajayawada-10. Ph.2489599

7.10.17 List of Raitu Bazars

Sno	Raitubazar Nmae and Locatiobn	Person to be contacted	Contact Number
1	Singh Nagar	Tahsildar (Vij, Urban	9849903993
2	Kedarswar peta	Tahsildar (Vij, Rural)	9849903997
3	Swarajya Maidan	Tahsildar, (Vij, Urban)	9849903993
4	Patamata	Tahsildar, (Kankipadu)	9849903998
5	Kaleswar Rao market	Vegetablesmarket Association president,	KR market

7.10.18 List of caterers

Sl. No.	Name of Caterer Sarvasri;	Contact No.	Capacity of cooking (in persons)
1	P.RAMAKRISHNA Vasavi Seva Sangham, Krihanalanka	9948495916	5000
2	Ramisetty Prasad Laxmi durga Caterers, 1 Town, Vijayawada.	9966323381	7000
3	M.Ravi Kumar, Vijaya Durga Catering, 1 Town, Vijayawada.	9392710793	5000
4	M.Ravi Kumar, Annapurna Mess, Gandhinagar, Vijayawada.	986613717	5000
5	Jadda Nageswara Rao, Venkatakrishna Hotel, Hanumanpet, Vijayawada.	9989084876	5000
6	T.Surya Prakash, Vinayaka Mess, Gandhinagar, Vijayawada.	9908477906	5000
7	Turlapeti Nageswara Rao New India Hotel, Vijayawada.	9866375487	5000
8	Panduranga Rao, Indian Restaurant, 1 Town, Vijayawada.		3000
	TOTAL		40000 persons

Source : DSO Krishna

Vijayawada City Disaster Management Plan - 2011

7.10.19 Vijayawada municipal corporation Urban health centres and List of Doctors

List of Doctors of VMC Urban health centers				
Sl. No.	Name of the Urban Health Center	Name of the Staff	Designation	Phone Number
1	Karakatta South Community Hall, Abburu Sriramulu Community Hall, Near Punnam Hotel	Dr.Hari Priyanka	MO	9701771567
2	New Joji Nagar, Rotary Nagar, 4th line	Dr.Yashodar	MO	9985445112
4	Kothapet, Near Subrahmanyeswara Temple, Hill area	Dr.S.Kesavarao Babu	MO	9989877700
5	Wynchipet, Near Nizam Gate centre	Dr.William	MO	9848680534
6	Vombay Colony, Near Municipal UP School	Dr.Suseela	MO	8985061272
7	Kedareswarapet, Near House Road, Community Hall	D.B.Aruna Kumari	MO	9490113497
8	Singh Nagar Bagat Singh Park, Community Hall, Krishna Hotel road ending	Dr.Syed Rafi	MO	9949894460
9	Kandrika Community Hall	Dr.Krishna Prasad	MO	9989334099
12	Durgapuram, Pottisreeramulu Park	Dr.Zeenath Begum	MO	9949894461
15	Darsipet, Municipal Elimentary School campus	Dr.D.V.Raghavendra Rao	MO	9848123737
17	Krishna Lanka Municipal Maternity Home	Dr.Chiranjeevi Babu	MO	9440485112
18	New Rajarajeswaripet Community Hall	Dr.Rama Rao	MO	8985359091
19	Patamata Urban Family Welfare Centre	Dr.A.Ram Prasad	MO	
20	Prakash Nagar Community Hall	Dr.Murali Mohan		9440317845
21	Gulamohiddin Near Alluri Seetharama Raju Vanthana	Dr.Krishna Sai	MO	9494381697
22	Bhimanavaripe, Opp.Milk Project, Near V.M.Ranga Municipal Elementary School	Dr.G.Raja Rao	MO	9393398068

7.10.20 Private Hospitals

S.No.	DIV	NAME OF THE HOSPITAL / DR. NAME	ADDRESS
1	24	Dr. Gopala Rao Memorial nursing Home, Dr P. Sarth Babu, BA MS, 2514578	D.No. 5-3-3, BRK Raoad, Chittingar
2	24	Bhaviya Hospital, Dr. K.V.Lakshmi bMumari, MBBS, 2513806	D.No. 5-6-25, KT Road, Chittinagar
3	24	Sugar Waydih Chikista Kendram, Dr S. Kesiva Rao Babu, MBBS, 2516438	D.No. 5-6-12, KT Road, Chittinagar
4	24	S.S.P.M. Nursing Home, Dr. M.V. Mahalakshmi, MBBS	D.No. 5-6-59, Tammena Krishna St, KT Road, Chittinagar
5	26	Dr. B. Rama Rao Clinic, Dr. B. Rama Rao, MBBS, 9246417235	Guptha Center , Vidyadarapuram
6	26	Padma Nursing HomeDr. R. Venkateswara Rao, MBBS0866`2412331	Charuvu Center, Vidyadarapuram
7	28	Dr. C.V. Subba Rao, MD	D.No. 12-2-243, BRP Road
8	28	Aravinda Hospital, Dr. v. Santha Kumari, MBBS	D.No. 8-7-1, Peda Sattar road, Wynchipet
9	28	Karuna Polic Clinic, Dr. P.Venkateswarulu, MBBS	Singh Raju Varui St, Kothapet
10	28	Hope Hospital, Dr. Sk. Subhani, MBBS	D.No. 8-22-7, Eepu Vari St., Wynchipet
11	28	Dr. Hussain Skin Clinic, Dr. Hussain, MD	BRP Road
12	28	Rehaman Healthy Center, Dr Rehaman	BRP Road
13	28	Alshifa Children Hospital Dr. Nagula Meera, RMP	Near Gandhi Bomma Center, Wynchipet.
14	30	Eswareiah Bharatha Lakshmi Clinic, Dr. M.V.S. Krishna Rao, MBBS, BA & Dr. Bharatha Lakshmi, MBBS, DGO, 2565868	D.No. 11-6-3, Abdul Azim St

7.10.22 List of water tanker owners

Sl. No	Owner of Vehicle	Type of the Tanker	Nos	Capacity of Tanker	Contact Phone Nos/Cell No.
1	BHSV JANNA REDDY	Tractor	7	4000	9246473757
2	K. PANDU RANGA RAO	Lorry	1	12000	9394331628
		Tractor	2	4000	
3	A. SRINIVASA REEDY	Tractor	6	4000	9399936999
4	CH. VENKEATESWARA RAO	Lorry	1	12000	9866514777
4	CH. VENKEATESWARA RAO	Tractor	3	4000	
5	ADH / VMC (SINTEX TANK)	Tractor	1	4000	9866514154
6	ADH / VMC (PRAKASH ARTS)	Lorry	1	12000	
7	ADH / VMC	Tractor	1	4000	
8	SANTHAN KUMAR	Lorry	1	12000	
10	K. RAGEVENDERARAO	Tractor	1	4000	9848113667
11	ILAPURAM VENKAIAH	Lorry	1	12000	
12	T. LOKESWARA RAO	Tractor	1	4000	9392222227
13	V.V. RAMARAJU (10 TYRES)	Lorry	1	20000	
14	MALLADI VISHNU	Lorry	1	12000	
15	V.V. RAMARAJU	Lorry	1	12000	
16	ADH/VMC (RAMBABU)	Tractor	1	4000	
17	PVT VEHICLE (DRUMS)	Tractor			
18	Vamsi-Gannavaram		1	4000	9848022644
19	Chaitanya College(Ajay)		1	4000	9848304447
20	Kodali Nani,Gudivada/Yalaparthi Srinivasarao		1	4000	9848153333
21	Commissioner,Gudivada		2	4000	9849905821

7.10.23 List of Cattle shelters

Sl. No.	Vulnerable area/ Village	Livestock Population		Shelter Places Identified
		Bovine s	Shee p & Goat	
1	Ramalingeswara Nagar	356		Katta Road Area
2	Krishna Lanka	159		Katta Road Area
3	Singh Nagar	162		Main road to Nunna
4	Payakapuram	357	100	Main road are Nunna
5	Patamata lanka	512	300	1) Patamata Lanka Old Girls High School, Patamata.
6	Krishna Lanka	172		2) Vety Hospital, Vijayawada

Vijayawada City Disaster Management Plan - 2011

7.10.23 List of Gas Agencies

Sl.No	Name of the Gas Agency	Phone Nos.
1	Vijaya Enterprises	0866-2401919
2	Maruthi Gas Agencies	2530238
3	Ahmed Gas Agencies	2456788
4	Madhava Enterprises	2477733
5	Lalitha Gas Agencies	2555412
6	Hema Gas Agencies	9866247567
7	Dharam Gas Company	2521152
8	Vijayawada Gas Agency	2472727
9	Suman Gas Agency	2565858
10	Sri Sai Gas Agency	2482424
11	Raja Gas Agency	2471351
12	Jhonsi Rani Gas Agency	2482184
13	Naveena Gas Agency	2572020
14	Sri Bhavani Gas Agency	2412727
15	Captain Vijaya Prasad Agency	2552132
16	Vasanth Indane Gas	2523131
17	Royal Indane Gas	2570133
18	Kalpana Enterprises	2541151
19	Ramyakrishna Agency	6512094
20	Trinetra Indian Gas	2533888

Vijayawada City Disaster Management Plan - 2011

7.10.24 List OF Petrol Bunks

PETROL BUNKS DETAILS		
Sl. No.	Name of the Bunk	Residence
1	Chennupati service station, MG Road Vijayawada	2475945
2	Ramanjaneya Filling Station, MG Road, Vijayawada	2577904
3	Central Oil & Service Station, MG Road Vijayawada	9866137013
4	Motilal Roopchand, Vijayawada-I	2421542
5	J. Narasimha Rao & Sons, Bhavanipuram	2412149
6	Fill more Filling station, Vidyadharapuram	
7	Ambica Oil Agency, Besides e Seva centre, Vidyadharapuram	
8	Andhra Engineering Company, Opp e Seva, Vidyadharapuram	
9	Raghavendra Filling Station, Kummaripalem	
10	Ravi Filling Station, Chittinagar, Vijayawada	
11	Laxmi Narasimha Filling Station, Chittinagar	
12	Seth Mothilal Roopchand, kothapet	
13	Surya Filling Station, Ayodhyanagar	
14	Basaveswara Filling Station, Azithsingh Nagar	
15	Sri. Mata Filling Centre, Azithsingh Nagar	

7.10.25 Municipal Maternity Hospitals

1	Kothapet, Opp. Sreenivasa Mahal	Dr. Laxmi Kumari	2561768 9440174860
		Dr. Rama Devi	9346223827
		Dr. Nazeer	
2	Rama Rajya Nagar, Labour Colony	Dr. Ammani	
3	Krishna Lanka, Kodalipunnaiah M. Home, Potti Sreeramulu High School	Dr. Radha Rani	
4	CHC Rajeev Nagar, Water Tank, Opp. Rajeev Nagar bus stop	Dr. Balasubrahmanyam	9440036923
		Dr. Venkata Rao	9701483058
		Dr. Laxmaiah	9949377927

7.10.26 List of NGOs

ఎన్.జి.ఓ. పేరు	నైపుణ్యము	చిరునామ	ఫోన్ నంబర్
1. కేర్ & షేర్	విపత్తులలో పిల్లల సంరక్షణ	కేర్ & షేర్ కౌన్సిల్, విజయవాడ	9948646432
2. సంఘమిత్ర	ఉపత్తు నిర్వాహణ	santhagamitra.org@gmail.com విజయవాడ	
3. సోషల్ సర్వీసు సెంటరు	విపత్తు నిర్వాహణ కమిటీ పాత్ర	గుణదల, విజయవాడ	9949264162
4. వాసవ్య మహిళామండలి	విపత్తులతో మహిళా పాత్ర	బెంజీసర్కిల్, విజయవాడ.	
5. సీడ్స్	విపత్తులపై అవగాహన	PNV కౌన్సిల్, విజయవాడ	9290929927
6. వరల్డ్ విజన్	విపత్తులపై అవగాహన	బెంజీసర్కిల్	

7.10.27 List of Fire offices

16	Fire Officer, Vijayawada-I	25776999
17	Fire Officer, Krishnalanka	2521285
18	Fire Officer, Kothapet	2514851
19	Fire Officer, Azithsingh Nagar	2400085

Vijayawada City Disaster Management Plan - 2011

7.10.28 List of Officers Phone Numbers participating in cyclone relief		
Sl. No.	Name & Designation	Phone Numbers
1	Commissioner,Vijayawada Municipal Corporation	9000510345
2	Commissioner of Police,Vijayawada	9440796621
3	Dy.Commissioner of Police,Vijayawada	9440627219
4	Asst.Commissioner of Police,West Zone	9440627090
5	Asst.Commissioner of Police,Central Zone	9440627035
6	Asst.Commissioner of Police,East Zone	9440627051
7	Assistant Commissioner of Police,Head Quarters	9440796481
8	Dy.Director of Agriculture (FTC),Vijayawada	9440816731
9	Assitant Director,Agriculture (Inputs),Vijayawada	9440816729
10	Assistant Director,Horticulture	9490490310
11	Joint Director,Animal Husbandry	9440810746
12	Assistant Director,Animal Husbandry	9440810747
13	Superintendent,Excise Department	9440902452
14	Regional Fire Officer	9849906106
15	District Fire Officer,Vijayawada	9949991060
20	Range Officer,Vijayawada	9440810226
21	Social Forestry Divisional Officer	9440810131
22	Range Officer,Vijayawada	9440810498
23	Divisional Public Relation Officer,Vijayawada	9949351605

Vijayawada City Disaster Management Plan - 2011

24	Superintending Engineer,Irrigation	9490959666
25	Dy.Superintending Engineer,Irrigation	9490959627
26	Executive Engineer,K.C.Division	9440180480
27	Dy.Executive Engineer,Vijayawada HQ	9490759021
28	Assistant Executive Engineer (Town Works)	9704554333
29	Asst.Executive Engineer,Drianage Division	9490959676
30	R.C.Section-I,Drainage Division	9490959656
31	Executive Engineer,Spl.Division	9440814789
32	Deputy Director,Industries	0866-2555104
33	Dy.Commissioner,Labour Department	0866-2536185
34	Assistant Commissioner of Labour	0866-2534685
35	Assistant Controller,Legal Metrology Department	9490165669
36	D.M & H.O (Additional)	9849902333
37	Dy.DM & H.O,Vijayawada	9849902326
38	Deputy Executive Engineer,Panchayat Raj,Vijayawada	9346424446
39	Superentending Engineer,RWS,Vijayawada	9959020036
40	Executive Engineer,RWS	9441248048
41	Executive Engineer,R&B Vijayawada	9440818056
42	Assistant Social Welfare Officer,Vijayawada Urban	9849903598
43	Deputy Transport Commissioner,Vijayawada	9848045414
44	Depot Manager,PNBS	9959225467
45	Project Director,Women Development & Child Welfare Dept.,	9440814589

Vijayawada City Disaster Management Plan - 2011

46	Assistant Project Director,Vijayawada	9441324343
47	Child Development Project Officer,Vijayawada-I	9440814595
48	Child Development Project Officer,Vijayawada-II	9440814596
49	City Planner,Town Planning VMC	9866514209
50	Chief Engineer,VMC	9866514160
51	Chief Health Officer,VMC	9866514149
52	District Manager,Civil Supplies Corporation	9848990668
53	Assistant Supply Officer,Circle-I	8008301466
54	Assistant Supply Officer,Circle-II	8008301467

7.10.29 Numbers to be contacted in Emergencies

ఎంప్లాయిమెంట్ అధికారి	0866-2482054	9491046067	
డి.ఎస్.పి. ఇంటలిజెన్స్	0866-2475599	9440700159	0866-2475589
ఆరోగ్యశ్రీ పర్యవేక్షణ అధికారి	0866-2439666		
ఇరిగేషన్ సూపరిండెంట్ ఇంజనీర్	0866-2575276	942029999	0866-2575276
యూత్ వెల్ ఫేర్ అధికారి	0866-2452722	9849909069	0866-2452722
పరిశ్రమల శాఖ అధికారి	0866-2555104	9640909822	0866-2555104
ఎ.పి. టూరిజం, మేనేజర్	0866-2570761	9848007024	9848007025

ముఖ్యమైన కమ్యూనికేషన్ నెంబర్లు

ఎన్ఫీకల్ కమిషన్ హైదరాబాద్	040-27535858	040-27544500	040-27544580
మానవ హక్కులు కమిషనర్ హైదరాబాద్	040-24601574/72	040-23223381	040-24601573
మహిళా హక్కులు కమిషనర్	040-27542017	9440685505	040-27542017
సమాచార కమిషనర్, హైదరాబాద్	040-2329908	040-23230591	
ఎ.పి. లోకాయుక్త, హైదరాబాద్	040-23299098	040-23299098	
టి.టి.డి. ఇన్స్పెక్షన్, విజయవాడ	0866-2470377		
పిర్మిసాయి ఏకామిడేషన్, విజయవాడ	9849842131		
అంబుల్స్ మన్ (బ్యాంక్ సమన్యతకొరకు)	040-23210013	040-23210014	
ట్రాక్ ల్యాబ్, హైదరాబాద్	040-23390999	9489069022	

అదీవారం పనిచేసే బ్యాంకులు

ఎస్.బి.ఐ. సత్వస్థారాయణపురం	0866-2535832
ఎస్.బి.ఐ. ప్రజాశక్తి సగర్	0866-2472893
ఎస్.బి.ఐ. గురునాథక్ సగర్	0866-2540353

24 గం. ఫార్మ్స్

అపోలో	0866-2432333
శ్రీ సాయి	0866-2489599
విజయసాయి	0866-2436159

ప్రైవేటు అంబులెన్స్లు

సిటీ కారియాక్ సెంటర్	0866-2484822
మెడిపాల్ హాస్పిటల్	0866-2498200
నాగార్జున హాస్పిటల్	0866-2554701
రోటరీ అంబులెన్స్	0866-2577045
ఆంధ్రా హాస్పిటల్	0866-2575999
హెల్ప్ హాస్పిటల్	9246375553

ఎమర్జెన్సీ

అంబులెన్స్	1408
ఫైర్ సర్వీస్	101
స్టామర్ట్ అనాసియేషన్	9392121786
వెల్ ఫేర్ కంప్లెక్స్	155333
రోటరీ రెడ్ క్రాస్ ఇన్ బ్యాంక్	0866-2570082
మహాప్రస్థానం వెహికల్	0866-2573342
లార్ టెనర్ అనాసియేషన్	
మహాప్రస్థానం వెహికల్	0866-2477741
రోటరీ అనాసియేషన్	
మహాప్రస్థానం వెహికల్	0866-2521525

Vijayawada City Disaster Management Plan - 2011

రెలేవ్ ఎంక్విరీ	139, 0866-2577775	పోలీస్ కంట్రోల్ రూమ్ :100, 0866-2579999
రెలేవ్ రిజర్వేషన్ ఎంక్విరీ	135, 0866-2578955	క్రిం స్టావర్ : 1090
రెలేవ్ కంప్లెంట్స్	0866-2576143	చైల్డ్ లైన్ : 1098
ఆర్.టి.సి. ఎంక్విరీ	0866-2522200, 2521982	కృష్ణలంక పోలీస్ స్టేషన్ :
ఆర్.టి.సి. రిజర్వేషన్ ఎంక్విరీ	0866-2522400, 9848802483	2522320
పీయస్.యస్.యల్ డైరెక్టరీ ఎంక్విరీ	197, 0866-2423155	పటమట, పోలీస్ స్టేషన్ :
పీయస్.యస్.యల్ ఫాల్స్ కంట్రోల్	0866-2532198	2542333
పీయస్.యస్.యల్ ఇన్ఫర్మర్ సర్వీస్	1991	మహిళా పోలీస్ స్టేషన్ 2490934
ఇండియన్ ఎయిర్లైన్స్	0866-2470288	యాంటీగుండా పోలీస్ స్టేషన్
కింగ్ ఫిషర్ ఎయిర్లైన్స్	0866-2493436, 998982655	2575235
గవర్నమెంట్ హాస్పిటల్		2576027
లారీ సప్లయర్స్ అసోసియేషన్		939411318
మహిళా యువ్ నెట్ (వ్యక్తి మకుట)		2573342 (తాత్కాలికం),
ఎలక్ట్రిసిటీ		155333

7.10.30 Press Contact details

Press Bureau Chief Members 1			Press Reporter 2		
Venkat Reddy	Eenadu	8008535408	D.Satyanarayana	Eenadu	8008574653
Jaya Raju	Vaaritha	9848992299	Ramu	Eenadu	9966809399
Chalapathi Rao	Andhra Bhoomi	9849998071	Subhramanyam	Eenadu	9848732626
Ch.Rajendhra Prasad	Andhra Jyothi	9958411605			
Ganesh	Sakshi	9912199671	Srinivasa Rao	Vaaritha	9059364470
B.V.Ramana Reddy	Andhra Prabha	9441062152			
D.Venkateswara Rao	Surya	9603461337	Mohan	Vaaritha	9032307303
V.Suresh	Prajasakthi	9490099208			
Chava Ravi	Visalandhra	9848176099	U.Udaya Bhaskar	Andhra Jyothi	9912603719
Srimali	Hindu	9908690888			9985411628

Vijayawada City Disaster Management Plan - 2011

Ramakrishna	Indian Express	9246391111	Adaiah	Andhra Jyothi	9849368655
Ameen	DeccanChornicle	9849385490	Veru	Andhra Jyothi	9700255566
K.S.N.R.Sarma	Andhra Bhoomi	9290216337	Tata Srinivasa Rao	Surya	9440133253
T.Sriramamurthy	Andhra Prabha	9949905666	Ajay Kumar	Visalan dhra	9866247988
Syam Prakash	Sakshi	9848992229			

7.10.31 Nodal Agencies for getting information for Early Warning pertaining to Dsasters

Nodal Agencies for getting information for Early Warning pertaining to Dsaster	
Cyclone	Indian Meteorological Department
Tsunami	Indian National Centre for Oceanic Information Services
Floods	Central Water Commission
Land Slides	Geological Survey of India
Avalanches	Snow and Avalanche Study Establishment
Heat & Cold Waves	Indian Meteorological Department

PREPAREDNESS PLAN

(City Line Departments)

CHAPTER-8

Different Departments have different roles to play in the disaster period. The Police, Fire Fighting Force, Home Guards, Forest Department, Health Department, Local NGOs are ready to take up the rehabilitation measures, at short notice with the available resources. Therefore the line departments of the city is also necessary to know priorly.

The Line departments divided as 1. Affected and 2. Supporting functionaries. during calamities. The plans prepared accordingly

Sno	Effectible Functioneries	Sno	Supporting Functioneries
1	Revenue	1	APSRTC
2	Highways	2	Police
3	Roads and Buildings	3	Fire
		4	Civil supplies
4	Irrigation	5	NDRF/Paramilitary
5	Power	6	Medical/EMRI
6	Transport		
7	Communication		
8	Women and Child welfare		
9	VUDA		
10	Industries		
11	Power		
12	Fishery		
13	Agriculture		
14	Animal Husbandry		

8.1 Revenue Department

Measures to be taken during the time of Cyclone / Heavy Rains

On receiving the Cyclone warning message from the Cyclone Warning Center, Visakhapatnam and Flood warning from Irrigation Department the Tahsildar Vijayawada urban should be stay at the Head Quarters and open Control Room at their head quarters to get instructions from the

Vijayawada City Disaster Management Plan - 2011

District Administration and pass on the instructions to the field machinery to watch the situation from time to time. The Revenue Officer should be in their head quarters and record the Rain Fall time to time and to inform the same to the concerned Tahsildar. The Tahsildars should inform the rain fall time to time to the Revenue Divisional Officers without fail. During the time of Cyclone and heavy rains the following precautionary measures are to be taken up on war foot basis.

ROUND THE CLOCK CONTROL ROOM MANDAL WISE REVENUE OFFICE DURING BUDAMERU FLOODS IN VIJAYAWADA URBAN MANDAL				
Sl. No.	Name of the Mandal	Each Number and Timing	Designation of the staff	Duties to be performed
Vijayawada Urban Mandal Office				
1	Vijayawada Urban	6.00 A.M to 2.00 PM	P.V.V.Gopala Krishna,Special Deputy Tahsildar, (LP)	Should sit at Telephone wireless set and receive telephone calls and Communicate Message to Concerned
2	Vijayawada Urban	6.00 A.M to 2.00 PM	P.Sarojini,Senior Assistant	
3	Vijayawada Urban	6.00 A.M to 2.00 PM	K.Parasuramudu,Office Subordinate	
4	Vijayawada Urban	2.00 PM to 10.00 PM	Dasari Prasanthi,Deputy Tahsildar	Should sit at Telephone wireless set and receive telephone calls and Communicate Message to Concerned
5	Vijayawada Urban	2.00 PM to 10.00 PM	K.Raghava Rao,Junior Assistant	
6	Vijayawada Urban	2.00 PM to 10.00 PM	A.Nahemiya Office Subordinate	
7	Vijayawada Urban	10.00 PM to 6.00 PM	J.Srinivasu,Special Deputy Tahsildar (Encroachments)	Should sit at Telephone wireless set and receive telephone calls and Communicate Message to Concerned
8	Vijayawada Urban	10.00 PM to 6.00 PM	K.Ramesh,Junior Assistant	
9	Vijayawada Urban	10.00 PM to 6.00 PM	N.Seshagiri Rao,Village Revenue Assistant	

Duties of Revenue department during Disaster

Sno	Emergency Activity	Re sponsible officer	Phone Number
1	Evacuation	Tahsildar and Village Revenue Officer	9885789278/9701799321
2	Supply of Food and Water, Ration and Kerosin	Tahsildar and Village Revenue Officer	9885789278/9701799321
3	Medical Camp	Tahsildar incordinataion with DMHO and CMHO	9885789278/9866514149
4	Enumaration of People, property and cattle	Tahsildar will constitute the teams	9885789278/9701799321
5	Boats	Tahsildar in cordianation with Fisharies	9885789278/9701799321
6	Supply of Rescue material	Tahsildar	9885789278/9701799321

Financial assistance:- As per the G.O.Rt. No.48, dated 6-2-2010 of the Revenue (DM-III) dept, Andhra Pradesh, Hyderabad the relief Assistance has been enhanced as follows.

	Existing Relief Assistance In Rs.	Enhanced scale of Relief Assistance in Rs.
For loss of clothing per family	1000	1500
For loss of Utensils House hold goods per family	1000	1500
Fully Damaged Houses	4000	5000
Severely Damaged Houses	3000	4000

As per the instructions of the District Administration, the Tahsildars should draw the relief sanctioned amount under T.R.-27 in A.C. Bills under the following head of Account "2245-Relief on natural calamities, 02-Floods/Cyclones etc-M.H.101-gracious Relief -04-cash dole-310-Grant in aid -312-other Grants in Aid".

8.2. Irrigation Department

1st Warning:-

The First warning will be issued as and when the flow over the crest of barrage is 12 feet in clear condition and the corresponding discharge allowed is 3.97 lakh cusecs.

2nd Warning:-

The Second warning will be issued as and when the flow over the crest of barrage is 15 feet in clear condition and the corresponding discharge allowed is 5.69 lakh cusecs. The flood received 15 Feet and above will be treated as danger level and flood duty officers both of irrigation department and Revenue department should attend to the Flood duties in their respective Flood stations as per the Krishna River Flood contingency plan and as per G.O. 1155 – 1. Date: 9.4.1929. Issued on flood duties.

On receipt of the Flood Forecast and releases from the N.S. Dam authorities the Flood warnings were issued by the River conservator, of Krishna River. All the Flood precautionary arrangements were made by the department at vulnerable reaches along the Flood banks.

The Flood monitoring operations were carried out from 2.10.2009 onwards and up to 13.10.2009 along the Flood banks.

Vijayawada City Disaster Management Plan - 2011

Sno	Activity	Incharge	Phone Number
1	Control Room	Superintending engineer Dysuperintending Engineer	2575276
2	River flow information	Dam Incharge	2423623
3	Rescue and repair Operations of the area	Superintending engineer Dysuperintending Engineer	964200999

LIST OF STORES AND TOOLS TO BE KEPT IN EACH STORE SHEDS

1. Empty Cement Bags : 50,000 No.s
2. Casurina Bullies : 500 No. s
3. Bamboos : 1500 Nos
4. Sand : 250 Cum
5. Country Twin : 50 Kgs.
6. Coir Rope : 50 Kgs
7. Petromax Light : 10 Nos
8. Torch Light : 10 Nos.
9. Kerosene : 50Lts.
10. Hurricane Lanterns : 10 Nos.
11. Bill hooks with handles : 50n Nos.
12. Filling axes with handles : 50 Nos.
13. Crowbars : 100 Nos.
14. Mamooties with handles : 100 Nos.
15. Earth work Basket : 200 Nos.
16. Pricely pear Hooks : 50 No.s

8.3 . Roads and Buildings Department

On Receipt of 1 st warning

The field officers such as Executive Engineer/Assistant Engineers at Vijayawada Division directed to monitor the action plan during cyclones

1.Nos of power saws will be kept redy which are in department. In emergency private power saws will be utilized at head quarters

2. Action will be taken to engage inspection vehicles in addition to the vehicles available in in department.

The JCBs will be engaged as and when required to clear the fallen trees and to restore traffic at each sub division,

All the field officers will be instructed to verify the water levels of canals and drains in respect of over flows if occurs to guide the public and to avavoid traffic

Instructions will be given to report the damages for roads bridges, causes ways in form-20

On receipt of second dwarning

Flood contol rooms will be opend in division office and sub division offices duly given turn duties for monitoring the cyclone information

The field officers instructed to engagae men and material to attend the road clearance and repaires

The officers will be instructed to be in touch with all police stations and bus depots to get information for any interruption in traffic

Tippers will be engaged to mobilize the labour at different minaraable locataion to attaend damages

8.4 . Integrated Child Development Services Project

I.C.D.S.PROJECT-11,Vijayawada (U)was sanctioned in the year of 1990 at present 39 Anganwadi Centers functioning in Central Constituency 8

Centres are sanctioned in 3rd phase expansion which are to be established.

The following services have taken up in the constituency

- 1 Supplementary Nutrition Programme
- 2 Immunization
- 3 Health checkups
- 4 Referral Services
- 5 Nutrition and Health Education
- 6 Pre-School Education

The above services are implementing in the central constituency among the eligible beneficiaries of 0-6 years children , Pregnant and Lactating women.

- The field staff CDPOS, Supervisors, Angan wadi workers of ICDS will tech and guide the target people of the disaster prone areas about the precautions and during the disasters like floods, cyclone, etc.
- Suggest the people to vacate and stay in safe shelters which will be provided by the Corporation and other allied departments.
- Supply the food to Pregnants, Lactating women, children below 5 years in the shelters as per the guidelines.
- Staff will remain stay in shelters till the situation come to normal.

8.5 Animal Husbandry Department

Preparedness & Alertness:

Identified Highly Sensitive Vulnerable Areas:

The Livestock in these places have access to land and they can be moved to safer places in the event of flood or cyclone.

Vijayawada City Disaster Management Plan - 2011

Sl. S. N o.	Vulnerable area/ Village	Livestock Population		Shelter Places Identified
		Bovine s	Shee p & Goat	
1	Ramalingeswara Nagar	356		Katta Road Area
2	Krishna Lanka	159		Katta Road Area
3	Singh Nagar	162		Main road to Nunna
4	Payakapuram	357	100	Main road are Nunna
5	Patamata lanka	512	300	3) Patamata Lanka Old Girls High School, Patamata.
6	Krishna Lanka	172		4) Vety Hospital, Vijayawada

The following Teams have been formed in Alerting the farmers, rescuing and providing the relief like treatment of sick animals, fodder from time to time till the flood water recedes.

- 1) Ramalingeswara Ngar :
 1. V.A.S.V.D.Patamata
 2. J.V.O.R.L.U.Gunakala,
 - J.V.O.R.L.U.Nepalli
 - 3.O.S.S.Uppaluru,
 - Surampalli.
- 2) Krishna Lanka :
 1. V.A.S.V.D.Gudavalli
 - 2.V.A.V.H.Vijayawada,
 - J.V.O.Punadipadu
 - 3.O.S.S.V.H.Vijayawada,
 - Kesarapalli

- 5) V.H.Vijayawada : The Livestock form Krihanalanks and other Places by the side of the River Krishna will be moved to V.H.Vijayawada.

1. Deputy Director, SSVH, Vijayawada
2. V.A.V.H.Vijayawada.

Mitigation Plans:

Evacuation of Livestock form the sensitive areas / Lankas

- 24 Hour Flood monitoring and helpline will start functioning with the flood / cyclone warning, in the Officer of the Assistant Director (A.H.), Kanakipadu and O/O Joint Director (A.H), Vijayawada and this cell will be in constant contact with the Control room, Pakasam barrage and Flood Technical Officer at regular intervals throughout the Day and the staff will be alerted accordingly.

1. The farmers in the places of Ramalingeswar Nagar, Krishnalanka and other places nearby the River move their livestock to the shelter points.
2. The Farmers of the sensitive paces will be alerted and staff will be constantly be in touch with the farmers and the Cyclone / food cell

and help in the movement of the Livestock to the identified shelter points.

3. The feed, water supply to the animals sheltered in the camps will be taken care by the teams.
4. Philanthropic farmers, persons and NGOs are also identified in the relief measure like supply of feed, fodder on free cost.

By the effort of the Veterinary staff with the support of the farmers, no Livestock losses were reported during the last floods to River Krishna.

Joint Director
Animal Husbandry

Vijayawada

8.6 Civil supplies

There are Two Assistant Supply Officers with eight Checking Inspectors functioning in Vijayawada Urban under the control of Collector (Civil supplies), Krishna and District Supply Officer, Krishna. If any natural calamities like Krishna River floods, Budameru floods etc., occurred in Vijayawada, these two officers along with their staff are ready to supply food packets to the victims by preparing food by various caterers at Vijayawada. There are eight (8) caterers in contact with the civil supplies officials and they shall supply food to relief camps as ordered by the higher officials.

The in-charge of Relief camp will place the indent and the Asst. Supply Officers with their staff shall look after the food preparations. The cooked food will be handed over to the Sanitary Inspectors of V.M.C for delivery at relief camps. Generally for lunch & dinner, white rice with Sambar, Dal, Vegetable curry shall be ordered to the caterers to feed the victims and rates shall be fixed basing on the open market prices of the commodities at that time.

Apart from this, some sponserers such as LPG Dealers Association, Rice Millers Association, Hotels Associations, Dall Mills Associations, Corporate Educational Institutions, Businessmen, Lorry Owners Association etc., will also come forward to supply food at relief camps.

There are 243 Fair Price shops existing in Vijayawada Town and one M.L.S. point situated at Autonagar. PDS Rice is available in sufficient manner at any time at M.L.S. Point, Autonagar. If any flood occurs, immediately rice shall be positioned at all F.P. Shops for distribution to the victims.

This is submitted for information.

ASSISTANT SUPPLY OFFICER,

8.7 Police Dept

Following steps are the appropriate resource operations during pre disaster

Keeping in view of the past experiences the following brief plan prepared to face the Krishna river flood and in view of release of lakhs of cusecs of flood water from Nagarjunasagar Dam, an advanced survey of all low lying areas in Vijayawada City Police Commissionerate has to be conducted by the Police, Revenue and other concerned Departments.

Kotikalapudi (V), Mulapadu, Ferry, Ibrahimpatnam, Gollapudi, swathi Center, Punnam Ghat, Brahmarambapuram. Ranidivenagar katta, Ranigarithota, Tarakaramanagar, Bhupesh Gupta Nagar, Kalanagar, Ramalingeswaranagar, Siva Parvathi Ngar, Eenadu Colony, Yenadula Colony, Madduru, 8 Island Villages of Thotlavalluru & Vuyyauru Mandals, were identified as low-lying areas in Vijayawada City.

Immediately, wide publicity has to be given through media and through public addressing systems in the above areas to evacuate the houses, whenever there is a heavy inflow to Prakasam Barrage from upstream.

In emergency Police will co-ordinate with District Administration for evacuation of the public from low lying areas to the rehabilitation camps.

All weak River Bund points has to be identified and got them strengthened with sand bags in co-ordination with Municipal & Irrigation Authorities. Army & Navy Boats & Country boats has to be engaged in all flood hit areas for rescue Operations.

Necessary Police personnel and Officers will be deployed in flood hit areas.

Monitoring the inflow on hourly basis, the public in all the areas abutting Krishna River Bund has to be put on high alert.

Necessary wireless sets will be erected at all necessary points. The Police Control Room which works round the clock monitor the flood situation and co-ordinate the entire Police work.

The Commissioner of Police and Dy. Commissioner of Police will continuously monitor the entire Police force by moving personally in flood affected areas. The Police Department will work in co-ordination with Revenue, Irrigation and all other connected departments in flood hit areas in the rescue and rehabilitation activities.

Commissioner of Police,
Vijayawada
City

8.8 A.P.State Disaster Response And Fire Services Department

1. The main function of A.P. State Disaster Response and Fire Services Department are to save life and property from fire and other emergencies like natural calamities and other disasters.

The following Fire Stations are functioning in Krishna District.

1	Vijayawada	Multi Unit Fire Station (one out post at Krishnalanka)
2	Krishnalanka	Single Unit out post
3	Kothapeta	Single Unit Fire Station
4	Ajithsinghnagar	Single Unit Fire Station
5	Auto Nagar	Single Unit Fire Station

2. Each fire unit is having about 15 staff members with minimum rescue equipment viz., life buoys, life jackets, ropes, crow bars, shovels, pick axes, munties, ceiling hooks and a portable pump for baling/pumping water with a discharge capacity of 100 Liters/Minute
3. In addition to the above the fire station, Vijayawada is having the following rescue equipment at present
 1. Iron Cuter 1 No
 2. ASKA Lights 2 No.s
 3. Hydraulic spreader 1 No
 4. Rescue ram 1 No
 5. Lifting Bag assembly 1 No
 6. Hydraulic Jackey 1 No
4. Kruthivenu, Bantumilli, Machilipatnam, Koduru, Avanigadda and Nagayalanka are the cyclone prone Mandals in the District and Kaikaluru, Nandivada, Mopidevi, Vuyyuru, Vijayawada and Ibrahimpatnam are the flood prone Mandals in the District as per previous experiences.

5. On receiving local warning signal No.3 from the District Administration all the personnel and appliances will be kept on alert at their respective Fire Stations.
6. On receiving Warning signal No. 6 the District Fire Officer, Krishna (Cell : 9949991060) shall be stationed at fire control room, Vijayawada (Phone Nos 101 / 2578877) to mobilize the fire service personnel and equipment to the required places in consultation with control rooms at the collectarate and Police.
7. The Asst. District Fire Officer, Krishna (Cell No. 9949991061) shall be stationed at Machilipatnam Fire Station (Phone No. 101/222299) on receiving warning signal No.6, to mobilize the fire service personnel and equipment in the area in consultation with District Fire Officer, Krishna, Revenue and Police Authorities.
8. All the fire service personnel working in Krishna District shall be kept on continuous duty on receiving warning message No. 6 or any other emergency.
9. Each Fire Station shall be maintained with two parties containing not less than 5 members in each team to respond fire and emergency calls round the clock. One team of 5 members shall be deputed with the equipment for evacuation and rescue purpose, by attaching to the local Mandal Revenue Officer/Police Officer. The team shall move along with Police/Revenue officials to carry out the assigned job. The other team consisting of 5 members shall be stationed at their station along with fire unit for additional mobilization if any.
10. The District Fire Officer, Krishna who shall be stationed at Vijayawada City and the Assistant District Fire Officer, Krishna who shall be camped at Machilipatnam shall be vested with the powers to mobilize any fire station unit or staff to the

actual requirement place under intimation to the Regional Fire Officer, Eastern Region, Hyderabad.

11. The District Fire Officer, Krishna shall supervise personally the operations and he shall deploy additional forces from out side District if necessary to the District. With thje permission of the Director General of Fire Services, Andhra Pradesh, Hyderabad.
12. I request the Collector & District Magistrate, Krishna Machilipatnam to purchase 4 Nos of large trailor pumps with a capacity of 2400 Litres discharge per minute from the Cyclone / Flood relief fund. The trailor pumps shall be stationed at Revenue Divistional Head Quarters Fire Stations i.e., Vijayawada, Machilipatnam, Gudivada and Nuzvid. Each pump costs approximately Rs. 8 Laks.

I also request the Collector & District Magistrate, Krishna to purchase 2 Nos Mechanized boats (of the type available with the Navy) which shall be stationed at Vijayawada and Machilipatnam

8.9 NDRF

NDRF is a special Response Force to tackle disasters. This is a a multi-disciplinary, multi-skilled, high-tech force which will respond for all types of disasters.

This Force is constituted of eight battalions, two each from the BSF, CRPF, CISF and ITBP.. Each battalion consisting self-contained specialist search and rescue teams of 45-65 personnel each including engineers, technicians, electricians, and medical/paramedics.

These NDRF battalions are located at 10 different locations in the country based on the vulnerability profile of the area.

S. No.	Paramilitary force	Places to look after
1	BSF	Calcutta
		Gauhathi
2	CISF	Cuttack
		Arkonam (Kerala)
3	CRPF	Gandhi Nagar
		Pune
4	ITBP	Noida
		Punjab
	Special response	
1	BSF	Patna
2	CRPF	Guntur

Where as at present CISF personal of NDRF from Cuttack are looking after response activities till CRPF take over happen at Mangalgiri, Guntur District. Presently There are two Teams at RRC Vijayawada each team consisting of 30 personal & 32 personal including administrative supporting staff staying at indoor stadium, Patamata, Vijayawada under control of Collector, Revenue division.

NDRF having 12 motorized OBM Boats (inflatable's) and their accessories in two teams. A part from above, , inflatable tower light, sound proof generator, and other equipment related to LSSR. Keeping in view of the preparedness plan of RRC Vijayawada. The teams are ready at any movement.

RESPONSE MECHANISM

CHAPTER-9

9.1 Response Mechanism

9.1.1. Duties of Rescue / Evacuation Teams

- Mike announcement of flood discharge and awareness of people to evacuate the people to be submerged houses.
- Watching the effected area round the clock.
- Evacuation of people from submerged houses.
- Arrange the transportation vehicles for Flood effected people.
- Marking the Flood effected area houses (as per release of flood water).
- Message passed for No. of people evacuated people to Control Room and Rehabilitation centers for arranging the food and accommodation at relief centers.
- Provide Barricading to road cross at end points for entering the people to water.
- Observing the bunds where the additional strength is required i.e., sand bags.
- Procuring the sand bags for protection of bund at weakest points.

9.1.2. Team Members (2 Teams Day & Night time):

1. Rescue Supervisor.
2. Deputy Executive Engineer / Assistant Engineer and their assistants.
3. Town Planning Supervisor / Building Inspector and their assistants.
4. Sanitary Inspector and their assistants.

9.1.3. Duties of persons in Rehabilitation Centers

- List out the Rehabilitated people time to time.
- Information pass on to Control Room for No. of people joint in the Rehabilitation Centers.
- Arrange the food, water and accommodation to Rehabilitated people.

- Sanitation to the Rehabilitation Centers and need for the additional requirement of temporary toilets.
- Arrange the sufficient lighting in Rehabilitation centers.

9.1.4. Team Members (2 Teams Day & Night time):

1. Rehabilitation Supervisor – Assistant Commissioner
2. Staff under the control of Assistant Commissioner
3. Concerned school H.M.'s (Rehabilitated center).

Responsibilities

9.2 Division of work among the VMC Functionaries

9.2.1 Engineering personnel

9.2.1. Duties of Municipal Corporation Wings:

Engineering

Water Supply

1. Identify the effected areas substitute with good and quality of water.
 2. Keep the stock of Chlorine.
 3. Identify and keep ready the list of sources of water in unaffected areas.
 4. Check and Identification of low lying areas in the ward.
 5. Check the water samples for residual chlorine, microbial substitutes and treat accordingly.
-
1. There shall one AE/DyEE in charge of rescue operations The EEs to have an exclusive team for flood operations.

2. The SE2 shall be responsible for the electrical wing which consists of illuminating the bund, relief centers and rescue operations. The EE2 and DyEE (Electrical) shall assist the SE2 .
3. The SE1 shall be responsible for all material procurement viz

Duties of Medical Teams in Rehabilitation Centers

- List out the below 5 years age children's and supply the milk and food (medicated).
- List out the pregnancy ladies and take sufficient medical treatment.
- List out the old / unhealthy people and take sufficient medical treatment.
- Arrangements for fogging to control the mosquitoes and fly's.

Team Members (3 Teams for 24 hours):

1. Medical Officer
2. A.N.M
3. M.N.O
4. F.N.O

9.2.2. Health Section

Pre Disaster Phase:

1. Prepare a list of precautions to be taken by the public before, during and after the disaster.
2. Keep observe what are the normal diseases situated in the area and take precautions to prevent them.
3. CMOH to prepare a list of precautions to be taken by the public before, during and after the disaster and circulate in vulnerable areas to ensure that they maintain normal health under adverse conditions.
4. Plan methods for quick transportation of seriously injured and sick persons from disaster areas to specialty hospitals for effective treatment.

During Disasters

1. After receiving the first flood/cyclone warning, CMOH in association with District/Division Medical Officers to plan and keep in readiness mobile hospitals, emergency field medical teams, Para medical teams, surgery facilities, first aid kits, drugs, disinfectants, vaccines, inoculations and chlorination equipment etc., with sufficient equipments and medicines at Municipal Hospitals and PHCs.
2. Ensure availability of adequate doctors, trained personnel, medical stores and equipment for movement at short notice to vulnerable areas. Make provision of sufficient number of ambulances and transport vehicles. Plan additional space for extra beds in hospitals/PHCs.
3. Plan for establishment of field medical centers, mobile clinics, emergency operation centers and trauma counseling centers at vulnerable areas and in relief shelter on short notice.
4. Plan for stocking sufficient quantities of blood of different groups at near by Blood banks. Update the list of Govt. / private doctors and supporting staff whose services can be utilized during emergencies. Instruct them to be in readiness to move at short notice.

During Disasters

1. Keep communal diseases record and conduct medical camps in flood affected areas.
2. Deploy the medical staff from the unaffected areas for medical assistance in effected areas.

After Disasters

1. Utilize the services of private doctors, Allopathy, Ayurveda and Homeopathy in the disaster-affected areas. Organize mobile health

units and temporary hospitals for providing medical relief and for preventing break of epidemics.

2. Obtain information on the medical relief provided at disaster areas, quantities of medicines used, the quality of services provide by medical and Para medical staff, the adequacy of medical facilities available at vulnerable areas and forward to District/State for future action.
3. Take care of Vector borne diseases like malaria, filarial, dengue, chikungunia, Japanese encephalitis.
4. Sprinkling of bleaching powder and lime on the drains and roads to prevent gastro enteritis.
5. Arrange the Post disasters immunization like Polio, Measles and Vitamin.

CMOH

1. The CMOH shall be responsible for food supply to all relief centers with the food inspectors at each hotel/supply point.
2. The CMOH shall place SS-1 in the Central control room for Co-ordination.
3. The CMOH shall keep stock of "Emergency material/Equipment" for Flood sanitation.
4. The CMOH shall keep stock of "Emergency Medicines/drugs " for all the relief Centers.
5. The Medical teams shall be constituted as per action plan ,in advance and necessary training to be given to meet any urgency/Eventuality.
6. The CMOH shall keep the current rates from the food supply hotels and, food requirements at each relief Centers/Shelters.

9.2.3 Town Planning

1. Provide the maps to help the evacuation teams.
2. Prepare a list of equipments used during emergencies such as tractors, bulldozers, transport vehicles, communication equipments, pump sets, power generators etc., their availability with Govt. and private agencies and ensure that they are in operational condition.
3. Identification of suitable higher places for construction of Helipads. And plan for construct shelters in any newly identified vulnerable areas. Town planning department has to ensure that the existing shelters are maintained in fit condition.
4. Ensure that line departments mainstream into DM activities in their department plans and also review the progress made during the year.
5. The CP is responsible for the relief centers assigned to him.
6. The rescue operations shall be done in-coordination with Engineering, Health and revenue.
7. The road cuttings ,divider cuttings shall be coordinated with the Engineering wing.
8. The CP shall have a mobile team for food distribution

The Mobile teams of CP

Team1:

1. ACP-1
- 2) Encroachment squad-1
- 3) Chainman of TPBO-X1

Team2:

1. ACP-2
- 2) Encroachment squads 3 and 4
- 3) Chainman of TPBO-XII

9.2.4 Revenue

- 1) The DCR is responsible for the relief centers assigned to him.
- 2) The rescue operations shall be done in-coordination with Engineering, town planning and health.
- 3) The field staff of the revenue shall work in the concerned relief centers.
- 4) The DCR shall have a mobile team for food distribution

The Mobile teams of CP

Team1:

1. ACR-1 2) EBC2 and 3) EBC4

Team2:

1. ACR-2 2) EBC 10 and 3) EBC 12

sand bags, Generators lighting, sirens2nos, motors for bailing out water, relief material.

1. The SE1 shall maintain the list of suppliers and their contact details for the Pumpsets, Water Tankers, WS Tankers and Vehicles.
2. The CE shall be responsible for continuously monitoring the flood levels from the irrigation dept. The CE shall brief the position to the Commissioner on the rising of water levels.
3. In addition the CE shall be responsible for the Vehicles for evacuation, relief and restoration except the water supply tankers which shall be taken care of by the SE2. The EE4 and the DyEE (Vehicles) shall assist the CE.
4. The SE2 is responsible for the water supply.
5. The EE6 with his DyEEs shall be responsible for procurement of boats and operation of the boats.

9.2.5. Central Control Room

A central control room is to be established at VMC office during emergency with Following staff Revenue, Fire, Police, ICDS, Electricity and Civil supplies.

9.2.6. Shelter Management

1. Departments Women and Child welfare, Revenue, Civil supplies and Municipal Corporation must play a major role in Shelter management.
2. Adequate numbers of buildings or open space shall be identified where relief camps can be set up during emergency and updated in the plan.
3. The relief camps should provide with adequate provision of drinking water and bathing, sanitation and essential health-care facilities.
4. Adequate securing arrangements shall be made by local police.
5. Adequate lighting arrangements shall be made in the camp area including at water points, toilets and other common areas by the Municipal Engineering Department.
6. Explore the possibility of provision of food through community kitchens, provision of education through the restoration of schools and anganwadis in effected areas.

9.2.7 Co-ordination meeting with City Disaster Management

There shall be a co-ordination committee consisting of

The committee shall meet twice in a year and discuss on the preparedness for any contingency.

1. In the month of May before 15th.
2. In the month of September before 15th

The committee shall meet as frequently as possible in case of floods/contingency.

9.2.8 Ward Level Disaster Management Committee

15 Ward level Disaster Management Committees are being formed in each ward with the following objectives:

- To monitor and manage the volunteers activated for disaster preparedness.
- To update the database or information of their respective ward
- To refer the timely guidance to the ward level disaster management club.
- To coordinate with govt. functionaries with regard to vulnerability and hazard risk reduction.

9.2.9 Ward disaster Response groups

A Quick Response Team (QRTs) or **ward disaster Response groups were formed in 15 vulnerable** wards they will be trained with first aid and search & rescue skills. Also there will be a back up force which will be assist in emergencies. The back up force will be useful during a major disaster where search and rescue operation will continue for 24 hours

9.3 Duties of line Departments :

9.3.1 Duties of Civil Supplies

Pre Disaster

1. Keep maintain list of all hotels/traders and make their availability.
2. Keep all Private cooks list and their contact address.
3. List out the open places for establishing mass kitchens.
4. Identify vehicles for transportation of food to the relief points.
5. Coordinate with Municipal officials and shelter management teams.

During Disasters

1. Necessary free distribution of food shall be made to those who ever need in the shelter and effected areas.
2. Wherever possible dry rations shall be provided for home cooking.
3. Community Kitchen for mass feeding shall be organized only for an affected people do not have the means to cooks.
4. While providing food assistance, local food practices shall be kept in mind and commodities being provided must be carefully chosen, in consultation with the affected population.
5. Food must be of good quality, safe to consume, and appropriate and acceptable to recipients.
6. Food distributed should be of appropriate quality and fit for human consumption.

7. NGOs CBOs and other social organizations should be involved with association of Municipal Authorities for supplementing the efforts of the Government.

9.3.2. Duties of Police Department

Pre Disaster

1. Plan and execute sub division/ ward wise training programs for Police personnel with improved techniques (Search & Rescue and Evacuation) for better management of disasters.
2. Ensure Mock drills are carried out periodically. Plan and organize training programs, mock drills etc.

During Disasters

3. City Police officer will make arrangements for providing adequate number of mobile VHF sets up to sub-division/ward Police stations for meeting the exigencies.
4. List out trained persons responsible at sub division and ward level Police stations for disaster management activities with details of address and phone numbers. Provide this list to Dist Collector and Municipal Commissioner and concerned line departments.
5. Adequate security arrangements shall be made by local police at the shelters and vulnerable areas.

9.3.3. Duties of Irrigation Department

1. Flood preparedness plan for the city is to be prepared.
2. Update and inform about the floods at higher reaches.
3. Check your stores keep ready Inventory and instruments.
4. Keep ready the emergency material which ever required at the out falls at Krishna lanka river bank.
5. A report on activities and work status of Budameru drain should be submitted immediately and an office of concerned work must be attended to the next meeting.

9.3.4. Duties of Fire Department

1. Instruments should be procured immediately.
2. Check the material at VMC and coordinate with fire officers.
3. Take assistance from fire wing.
4. Fire department officials shall deploy the personnel with equipment to support police/town planning staff in search & rescue operations.

9.3.5. Duties of Electricity Department:

1. List of available locations for Generators should be informed.
2. Person must be stay at central control room round the clock after opening.
3. Restore the power supply for bailing out of the Sullage water at balaji Nagar.

9.3.6. Duties of NDRF Team:

Avail base set to the NDRF and connect with local network for easy contact.

9.3.7. Duties of Fisheries Department:

Fisherman families to be identified.

Prepare the list of available boats and trained swimmers.

9.3.8. Duties of Transport Department:

1. Prepare the Water tankers, mini vehicles, for transport of water packets.
2. Catch the vehicles on road and procure for transportation of water, food, milk and people.

9.3.9. NGO:

1. Participate and assist in relief and rescue measures which have been providing by the Municipal Corporation and other departments.
2. Psycho-social support and mental health services shall be provided in relief camps.

REHABILITATION MEASURES

Chapter-10

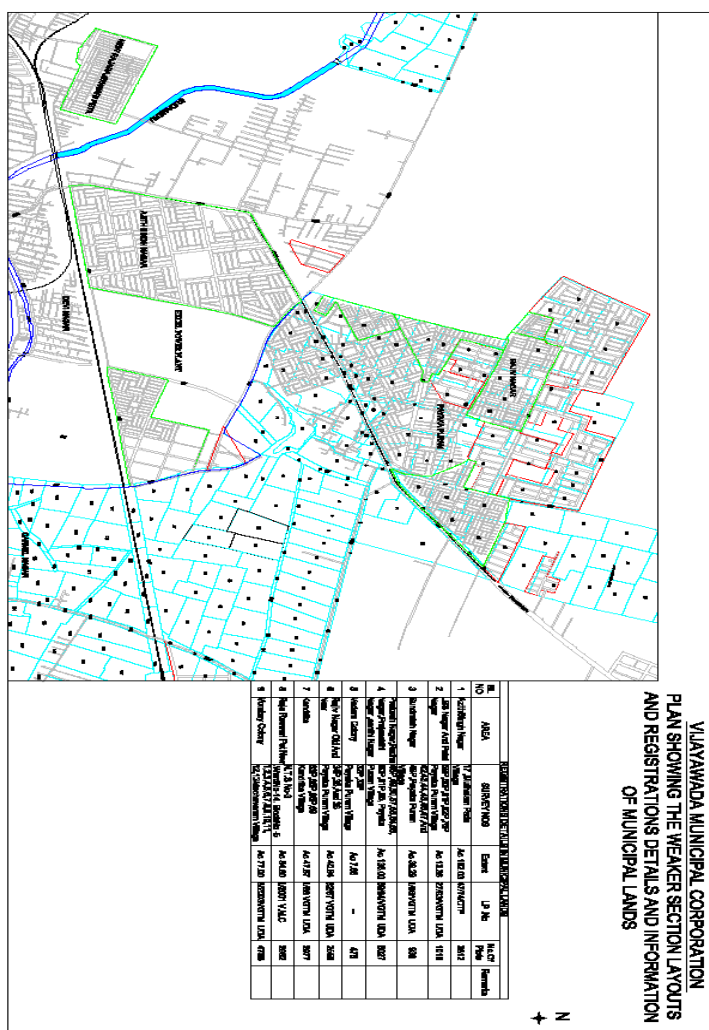
After disaster, rehabilitation and reconstruction measures are most important requirements for the society. VMC is implementing many rehabilitation measures to uplift the vulnerable communities. But it is suggested that these schemes should be reached to the people affected with first and fast basis.

Sno	Assistance	No of Beneficiaries	Amount (Lakhs)/ Units(Nos) disbursed	Remarks
1	Housing	50000	50000 houses	Preference should be given to hazard affected areas/persons
2	SHG Bank Linkage	4073 Groups,	7562.20	-do-
3	Pavala Vaddi	6941 Groups,	437.00	-do-
4	Dr.Y.S.R.Abhayaasthan Scheme	166	20.40	-do-
5	Janasree Beema Yojana	1995	-	-do-
6	National Family Benefit Scheme	492	24.60	-do-
7	SJSRY	135.80		-do-
8	Social Security Pensions	OAP (13444)	26.88	-do-
		Widow (12809)	25.61	-do-
		Disabled (4113)	20.56	-do-
		Weavers (33)	0.66	-do-
9	Formation Of New Special Deprived Groups(poosalu,gujaraathis, rag pickers)	7 groups with		-do-
10	SJSRY To Street Vendors	700 nos linked		-do-

Vijayawada City Disaster Management Plan - 2011

		to banks		
11	Deepam Pathakam (LPG)	9068		-do-
12	Universal Health Insurance Scheme (Launched By Vmc	10112	1500919	-do-
13	Placement linked trainings	975		-do-

Housing Allocation sites in the city



Coordination and Implementation of the City Disaster Management Plan :

Corporation (Disaster Management) at the city level is the city nodal agency for disaster management. Setting up of City Disaster Management Authority in the city, overall coordination of disaster management will be streamlined. The CDMA acts as central coordination agency at the city level. After the plan is adopted by the city authority, it is mandatory and incumbent on departments to identify specific roles and prepare action plans to cover activities identified as disaster management specific to the departments. Net working among the departments and coordination among department will lay a strong foundation in achieving the goal of mitigating disaster and managing them efficiently in the Vijayawada City.

STANDARD OPERATION PROCEDURES FOR CITY DISASTER MANAGEMENT

CHAPTER-11

11.1 EARLY WARNING

Nodal Agencies for Early Warning:

Cyclone	Indian Meteorological Department
Tsunami	Indian National Centre for Oceanic Information Services
Floods	Central Water Commission
Land Slides	Geological Survey of India
Avalanches	Snow and Avalanche Study Establishment
Heat & Cold Waves	Indian Meteorological Department

These agencies shall be responsible for keeping track of developments in respect of specific hazards assigned to them and inform the designated authorities/agencies at National, State and District/Municipal levels about the impending disasters. All these agencies have developed guidelines for Early Warning of disasters.

Responsible Department : Revenue(Collectorate)/Municipal Engineering Department
Responsible Person : Municipal Engineer/EOC In charge

Responsibilities:

CYCLONE:

Indian Meteorological Department (IMD) has a developed detailed procedure for Four Stage Warning of Cyclone:

1. Pre-Cyclone Watch

Pre-cyclone watch is an early warning issued about 72 hrs. in advance of the commencement of bad weather. This is issued by the IMD HQrs. to all designated authorities including the Cabinet Secretary and other senior officers of Govt. of India and the Chief Secretaries of concerned Maritime States, media and all Cyclone Warning Centre's (CWS) of IMD.

1. In this stage Municipal Engineering officials/EOC Operator) hast to alert and send proper orders to concern departments and officials.
2. Open and maintain Municipal Control Room / Sub-division/ward level Control Rooms round the clock.
3. Ensure passage of warnings and precautions to the people in affected areas of wards and V Police Communication network. Alert teams and arrange to deploy them at risk points.
4. Shall obtain sufficient maps from the Commissionarate regarding vulnerable ward's areas/habitations. These maps shall be distributed to the ward/divisional officer on required basis.

2. Cyclone Alert

Cyclone Alert is issued to be all designated authorities/Agencies as far as possible, 48 hours before the expected commencement of adverse weather.

1. EOC station to be kept round the clock if necessary emergency stations to be set near the wards. And keep the officers standby.
2. Send messages to all the responsible officials to initiate their activity

3. Release news items/bulletins to the vulnerable people through all mass media

3. Cyclone Warning stage

1. Cyclone warnings are issued to all designated Authorities/Agencies and immediate interior municipal areas expected to be affected by the cyclone.
2. Cyclone Warning is also issued to the designated railway officials and defence personnel.
3. Issue warnings to the effected people

4. Post Landfall Outlook

1. Post landfall outlook is issued at least 12 hours in advance of the landfall by concerned CWCs.
2. On the basis of this outlook, the concerned Meteorological Centre will also issue cyclone warnings for the interior areas.
3. Continue to pass warnings and precautions to the people in the affected areas. Introduce latest transport and communication facilities.
4. Continue to Coordinate with DCs for rescue, relief and rehabilitation. Police Dept.
5. Should provide maximum services by getting additional persons from Police stations of unaffected Wards.
6. They should further coordinate and assist NCC, Scouts, Guides, Army, Navy and Air force personnel in all rescue, relief and rehabilitation activities.

Cyclone Warning Dissemination System (CWDS)

1. Cyclone Warning Dissemination System (CWDS) receivers have been established in vulnerable coastal areas using INSAT/METSAT. The system is being used extensively on operational basis during cyclone.
2. The cyclone warning message is originated from Advanced Cyclone Warning Centres (ACWC) Chennai, Visakhapatnam, Kolkata and Mumbai whenever a storm is observed. Warning messages are received in local languages directly by CWDS receivers located in areas likely to be affected by the cyclone.

In addition Cyclone Warning is disseminated through the following Means:

- Police Wireless
- Warnings through All India Radio (AIR) Bulletins
- Doordarshan News
- Press Bulletins
- Aviation Warning

FLOOD:

Central Water Commission has developed a network of flood forecasting stations and issues Daily Flood Bulletins to all designated Authorities/Municipalities during the South East Monsoon season for all the major river basins in the following categories:

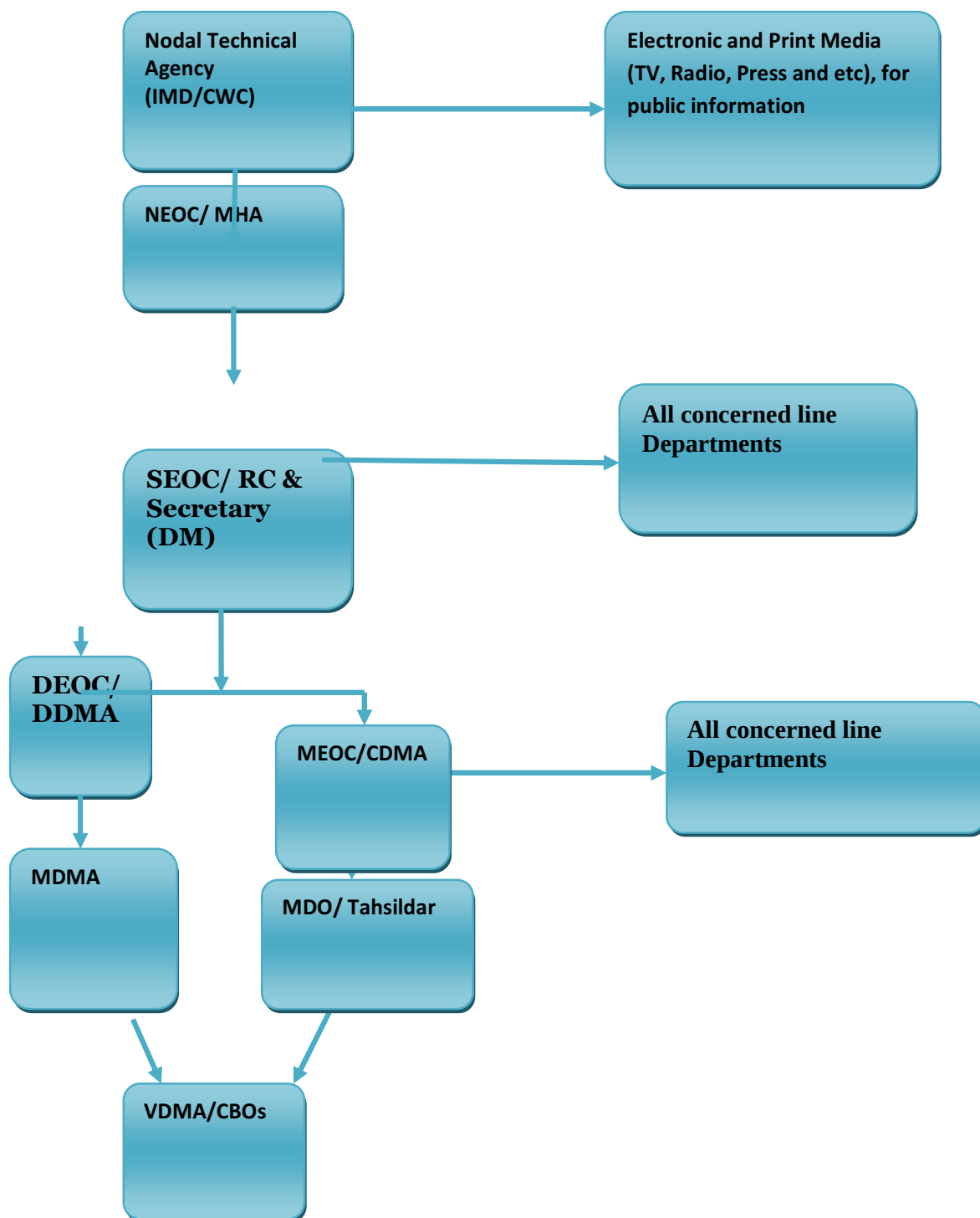
Category IV	Low Flood (Water level between Warning Level and Danger Level)
Category III	Moderate Flood (Water Level below 0.50m. less than HFL and above Danger Level)
Category II	High Flood (Water Level less than Highest Flood Level but still within 0.50m. of the HFL)
Category I	Unprecedented Flood (Water Level equal and above Highest Flood Level (HFL))

DISSEMINATION OF DISASTER WARNING:

1. Municipal EOC/ Engineering department shall be responsible for collection, assimilation and dissemination of information in terms of issuing alerts when a disaster is likely to occur or is imminent, or when it has actually taken place.
2. Once information is received of an imminent disaster or a disaster having occurred, MEOC/Engineering department will generate alert messages/disaster warnings to the concerned authorities as per this SOP.
3. Warnings of impending, imminent or actual disaster situations may reach SEOC, MHA from various sources in a number of ways. Mpl EOC/Engineering department will confirm the exact position in this regard from the nodal officers of official sources/agencies before issuing Alert messages.
4. Upon receipt of weather warnings or reports of actual disasters, MEOC/Engineering department will activate "call up actions". Each disaster situation will have different parameters in terms of severity, early warning and time available for response. Therefore, different stages for different events shall be standardized for issuance of Alert messages.
5. In the case of a sudden onset of a disaster situation like earthquake, there will be no early warning or watch period; whereas for other disasters such as cyclones, floods etc. there would be an early warning and a watch period.
6. The dissemination of warning and other messages/information will be made through different mediums of communications. Both the latest technology and conventional methods will be used for dissemination of information up to the user levels.

7. CDMAAs shall periodically review the radio network system particularly of coastal areas for effective dissemination of warnings for cyclone and floods.
8. CDMAAs shall review the capacity of the Radio Station Transmitter and take steps in association with the concerned authorities to enhance its capacity to the maximum extent .
9. CDMAAs shall also ensure that radio network system in the Municipalities has back up of powerful transmitters through generator sets for uninterrupted daily warnings of forecasting.

Early Warning Information flow Chart:



11.2. SEARCH & RESCUE and Evacuation

Responsible department : Police/Fire/A&H/Town Planning

Responsible Person : SI/RFO/AD/TPO

Roles:

Pre Disaster phase:

1. Municipal administration has to set up City Disaster Management Authority (CDMA) headed by Municipal Commissioner to oversee the situation when disaster hit to the municipality premises.
2. Concern Municipal Town planning authority has to coordinate the formation of Ward Level Disaster Management Committees (VDMC's) covering with all CBOs, NGOs and local representatives to participate preventive and mitigation activities.
3. The City Police Officer has to review the situation and ensure the task force teams shall placed in affected areas. Identify any additional requirement of equipment and operating personnel.
4. Keep update the list of ward wise information about vulnerable people i.e children, pregnant women, widows, old age persons, and handicapped people.
5. Ensure Mock drills are carried out periodically. Plan and organize training programs, mock drills etc. for improving community awareness and preparedness for facing the disasters till the other agencies step in.
6. Prepare an exhaustive list of equipments used during emergencies such as tractors, bulldozers, transport vehicles, communication equipments, pump sets, power generators etc., their availability with Govt. and private agencies and ensure that they are in operational condition.

7. Updating the list of Voluntary Organizations and NGOs their contact addresses in the Municipality, and provide them to MROs and Wards members.
8. Identification of suitable higher places for construction of Helipads. And Plan for construct shelters in any newly identified vulnerable areas. Town planning department has to ensure that the existing shelters are maintained in fit condition.
9. Ensure that line departments mainstream into DM activities in their department plans and also review the progress made during the year.
- 10 Maintain coordination with District Revenue Officials/SDRF/NDRF

Responsible department : Police Department/Town Planning/Animal Husbandry
Responsible Person : CP/ACP/TPO/AD (AH)

Responsibilities:

1. City Police Commissioner has to coordinate with the EOC/CDMA to oversee the situation over flood/cyclone/earthquake, etc affected areas.
2. City Police officer will make arrangements for providing adequate number of mobile VHF sets up to sub-division/ward Police stations for meeting the exigencies.
3. Ensure that Police stations are equipped with sufficient number of cars/jeeps fitted with wireless sets and trained personnel to handle them.
4. List out trained persons responsible at sub division and ward level Police stations for disaster management activities with details of address and phone numbers. Provide this list to Dist Collector and Municipal Commissioner and concerned line departments.

5. Prepare a sub division and ward wise list of retired/reserve constables/drivers/ other use-full personnel. Their services could be used during future emergencies. The lists will be kept in all Police stations in vulnerable areas and this list can be updated every six months.
6. Plan and execute sub division/ ward wise training programs for Police personnel with improved techniques (Search & Rescue and Evacuation) for better management of disasters in future.
7. Keep ready alternative routes/maps to evacuate people, where the situation is highly sounded. The Town Planning Officer has to provide the maps and help the evacuation teams with his ward staff.
8. Fire department officials shall deploy the personnel with equipment to support police/town planning staff in search & rescue operations.

During the Disaster

1. The Officer in-charge of the Control Room/EOC should maintain a record of incoming and outgoing messages. All the incoming messages should be sent to Commissioner and Additional Commissioner.
2. All the warnings should be communicated immediately to all the Municipal officers, Divisional officers, Tahasildar by-e-mail, wireless, Telephone etc. Record of the messages sent should be maintained.
3. The Commissioner of police shall convene a meeting with all the Officer at the earliest and issue instructions to all the Nodal Officers or Special Officers to proceed to the areas allotted immediately and report to the same that they have reached their headquarters, allotted to them and should not leave the area till the clearance is received from the warning centre
4. Evacuate marooned and stranded people to safer places such as flood shelters, high raise buildings, schools etc.

5. Monitor and rescue people continuously by organizing search through Army, Navy, Air force, Voluntary and youth organizations by deploying navy boats and helicopters. Make arrangements for moving such affected people to the nearest relief camps.
6. CDMA to Keep details of availability of equipment such as power generators, tractors, bulldozers, transport vehicles, communication equipments, pump sets etc; their availability with Govt. and Private Agencies, for evacuation and ensure that they are in operational condition. (Wards, Wards)
7. City Planning officials Keep adequate number of vehicles ready at the nearest possible point/area to evacuate people in time before the hazard strikes. (Wards, Wards)
8. City planning officials Keep adequate number of floats like tyres, inflated rubber tubes, wooden planks, bamboos tied as small platform for people to use for floating during flood situation.(Community, ward and Wards)
9. Municipal Health officials shall Keep in touch with medical department to provide first aid and medical assistance for injured and sick people. Special care should be taken for the aged and disabled people, children and pregnant women.
10. Finalize the safest shelter places in the wards as per the inventory and identified locations in the map, and arrange temporary shelters using tents, Tarpaulins, Plastic sheets etc. Provision of electricity to the identified shelters.
11. Deploy Police personal and Volunteers for law and order and provide medical help, if needed transport cases to nearby PHCs/Medical Aid-posts. Liaise with Railways, APSRTC and RTA to provide rescue and relief to stranded passengers.
12. Identify safe elevated places for animals and advise cattle owners to move them as soon as the order for evacuation is given. And provide fodder & water to the animals where feasible, Carcasses of dead

animals should be done quickly to prevent outbreak of infection. AD (Animal Husbandary) to coordinate the activities

POST DISASTER:

1. Huge relief material stocks would be arriving from out side of the affected area and this requires advance planning, provision of staff for receiving, sorting, distribution and dispatch to the areas needing the material. Municipal Revenue Officer has to take up the responsibility to streamline and allocate the material.
2. Restoration of Road and tele-communication, Electricity, Drinking Water Supply and House construction to the effected people on priority basis by the respective departments.
3. The District Revenue department maintains record (with the support of Police/fire/and AH) proper should be made for the dead and missing persons and notify to the concerned authorities for providing compensation on short and long term basis.
4. Ensure Mass inoculation and vaccination programs in the affected areas to prevent out break of epidemics by coordinating with Medical & Health Department. Additional medical facilities, hospital and PHCs may be planned and built for meeting increasing requirements. The Municipal Health department shall coordinate the activities.
5. Continue Search and disposal of the dead bodies and the carcasses. Ensure sanitation of highest order is maintained at relief camps and affected wards.
6. Municipal Revenue Officer/ Tahasildar to arrange for documentation/ record of relief items received from various agencies, distributed and remaining and remaining balances. Reports to be sent to the Municipal administration

7. Enumeration of Losses and Damages in a systematic manner, documenting and reporting the same by District Revenue Department and Town Planning department .

Ward level:

1. Convening of the meetings of the Ward Committees under the Chairmanship of the concerned elected body member during the first week months of April and September to discuss about the preventive steps.
2. Formation of Ward Level Teams for assisting evacuation, patrolling etc.,
3. Identification of area from which people are like to be evacuated to safer places in case of cyclone or floods.
4. Identification of low lying areas in the ward.
5. Identification of areas which people are likely to be evacuated to safer places in case of cyclone or floods.
6. Preparation of list of phone numbers of Officials concerned Ward level.
7. List of fishermen families and particular of boats with addresses of owners, if it is a fishermen ward.
8. Identification of Relief Centers and the areas tagged and on to the Relief Centers. Preparation of the list of BPL families in the ward.
9. List of fishermen families and particulars of boats with addresses of owners, if it is a fishermen ward.
10. Identification of storage facilities.
11. Availabilities of cooking vessels.
12. List of private vehicles such as Tractors, Jeeps, etc., in the ward.
13. List of nearby private hospitals with phone numbers of Doctors etc.,

14. List of tanks affecting Railway, if any, in the ward.
15. Identify higher places for the standing for the cattle in the case of flooding.
16. List of cyclone shelters, other public & Private buildings, temples, churches etc.,

11.3. First Aid

HEALTH

During disasters many factors increase the risk of diseases and epidemics. These include poverty, insecurity, overcrowding, inadequate quantity and quality of water, poor environmental and sanitary conditions, inadequate shelter and food supply.

Medical Response

Medical response has to be quick and effective. The execution of medical response plans and deployment of medical resources warrant special attention at the District and Municipal level in most of the situations. The following measures shall be taken by the Municipalities.

- 1) Municipal Health Officer/Medical Superintendent shall prepare a Hospital Disaster management Plans under their jurisdiction to deal with mass causality management and emergencies.
- 2) Take precautionary measures for hospital safety during disasters since hospitals are life line buildings. All structural and non-structural measures shall be taken up to make hospital safe.
- 3) Conduct mock drills in normal times to have an idea about hospital preparedness.
- 4) To identify the requirements of equipment and medical stocks that is needed during various kinds of emergencies.
- 5) To build network with referral hospitals, blood banks, ambulance services, etc.

- 6) To prepare a contingency plan as a part of Hospital DM Plan to handle specialized emergencies during Chemical, Industrial, Nuclear Disasters, etc.

PRE DISASTER PHASE:

1. Prepare a list of precautions to be taken by the public before, during and after the disaster to ensure that they maintain normal health under adverse conditions during the disasters and arrange for propagation in the Municipality.
2. Keep observe what are the normal diseases situated in the area. And take precautions to prevent them.
3. MHO to prepare and circulate in vulnerable areas, a list of precautions to be taken by the public before, during and after the disaster to ensure that they maintain normal health under adverse conditions.
4. Plan methods for quick transportation of seriously injured and sick persons from disaster areas to speciality hospitals for effective treatment.
5. MHO will have arrangements for providing funds to Dist./Mandal/Wards medical centers during emergencies.
6. MHO will nominate a nodal officer from his Deptt.to be with MRO to assist and coordinate all the medical relief activities during the disaster.
7. After receiving the first flood/cyclone warning, Municipal Health Officer (MHO) in association with District/Division Medical Officers to plan and keep in readiness mobile hospitals, emergency field medical teams, Para medical teams, surgery facilities, first aid kits etc. with sufficient equipments and medicines at Municipal Hospitals and PHCs. They should be in a position to move to the affected areas at short notice.
8. Keep medical teams/doctors ready with stocks of medicines required for relief to move to vulnerable areas in short time. Stock adequate quantities of medicines, life saving drugs, disinfectants, vaccines,

inoculations and chlorination equipment.

9. Ensure availability of adequate doctors, trained personnel, medical stores and equipment for movement at short notice to vulnerable areas. Make provision of sufficient number of ambulances and transport vehicles. Plan additional space for extra beds in hospitals/PHCs.
10. Plan for establishment of field medical centers, mobile clinics, emergency operation centers and trauma counseling centers at vulnerable areas and in relief shelters on short notice.
11. Plan for stocking sufficient quantities of blood of different groups at near by Blood banks. Update the list of Govt. /private doctors and supporting staff whose services can be utilized during emergencies. Instruct them to be in readiness to move at short notice.
12. MHO to prepare and circulate in vulnerable areas, a list of precautions to be taken by the public before, during and after the disaster to ensure that they maintain normal health under adverse conditions.

DURING DISASTER PHASE PHASE:

1. MHO will be in regular touch with Municipal Commissioner and Control room to know the severity of situation and extend medical services accordingly in the affected areas.
2. A medical control room at municipality and division levels shall be established with help lines.
3. Where ever necessary seriously injured and sick persons are to be shifted to Dist./State/Referral hospitals for specialist services.
4. Provide first aid and medical assistance for injured and sick people. Special care should be taken for the aged and disabled people, children and pregnant women.
5. MHO in association with District/Division Health Officer will move maximum number of medical and Para medical teams, ambulances and mobile hospitals with adequate equipments, medicines etc. to the affected area and provide medical assistance round the clock to the people. Each team should be allotted specific place in the

disaster area and specified relief centers.

6. MHO should take all measures to ensure that replacements are made continuously. MHO will requisition the services of medical teams from unaffected Municipalities.
7. MHO will liaise with District/State for providing additional specialists teams and equipments from District headquarters.
8. Ensure that sufficient numbers of temporary medical camps are set up in the affected areas and in relief camps. MHO will take maximum precautions to prevent outbreak of epidemics/water borne diseases in the disaster areas.
9. Utilize the services of private doctors, Allopathy, Ayurveda and Homeopathy in the disaster-affected areas. Organize mobile health units and temporary hospitals for providing medical relief and for preventing break of epidemics.
10. Teams of specialist doctors will tour affected areas with adequate medicines and equipments for providing on the spot specialist services.

POST DISASTER PHASE:

1. Ensure that MHO and other medical authorities at municipality. and ward levels are in constant touch with Control rooms, know the latest situation and expand medical facilities accordingly. Ensure continuation of educating people on precautions to be taken for maintaining hygiene and health in adverse conditions.
2. MHO to continue provision of medical facilities at the affected areas and relief camps till the people return to their places. Ensure adequate measures to continue for preventing break of epidemics by using disinfectants and chlorination.
3. MHO will obtain information on the medical relief provided at disaster areas, quantities of medicines used, the quality of services provide by medical and Para medical staff, the adequacy of medical facilities

available at vulnerable areas and forward to District/State for future action.

4. Maintain a record of persons treated with full details and particulars for reference at later date. Update and send plans for additional requirement of facilities, infrastructure to be created at vulnerable areas. Prepare a document on the event and send to District/State authorities for reference in future.
5. Ensure that MHO and other medical authorities at municipal and ward levels are in constant touch with Control rooms, know the latest situation and expand medical facilities accordingly.
6. Ensure continuation of educating people on precautions to be taken for maintaining hygiene and health in adverse conditions. MHO to continue provision of medical facilities at the affected areas and relief camps till the people return to their places.
7. Ensure adequate measures to continue for preventing break of epidemics by using disinfectants and chlorination.
8. MHO will obtain information on the medical relief provided at disaster areas, quantities of medicines used, the quality of services provide by medical and Para medical staff, the adequacy of medical facilities available at vulnerable areas and forward to State for future action.
9. Maintain a record of persons treated with full details and particulars for reference at later date. Update and send plans for additional requirement of facilities, infrastructure to be created at vulnerable areas. Prepare a document on the event and send to State authorities for reference in future.
10. Vector borne like malaria, filarial, dengue, chikungunia, Japanese encephalitis, sprinkling of bleaching power and lime on the drains and

roads to prevent gastro enteritis with the help of Sanitation team.

11. During the natural calamities the immune states of the children will reduce naturally. Hence there is need of Post disasters immunization like Polio, Measles and Vitamin- A.

11.4. TRAUMA COUNSELLING

Disasters cause tremendous mental trauma to the survivors. Psychosocial support and mental health services should be made available immediately in the aftermath of disaster so as to reduce the stress and trauma of the affected community and facilitate speedy recovery. The following measures shall be undertaken by Municipal Health and District Health Department.

1. A Nodal Psycho social care Officer shall be designated for each affected Municipality.
2. Rapid needs assessment of psycho-social support shall be carried out by the Nodal Officer/ Health Department.
3. Trained man power for psycho-social and mental health services shall be mobilized and deputed for psycho-social first aid and transfer of critically ill persons to referral hospitals.
4. Psycho-social first aid shall be given to the affected community/ population by the trained community level workers and relief and rescue workers.
5. Psycho-social first aid givers shall be sensitized to local, cultural, traditional and ethical values and practices.
6. Psycho-social support and mental health Services shall be arranged in relief camps set-up in the post disaster phase.
7. Where large number of disaster victims have to be provided psychosocial support a referral system for long term treatment shall be followed.

8. The services of NGOs and CBOs may be requisitioned for providing psycho-social support and mental health services to the survivors of the disasters.

11.5 SHELTER MANAGEMENT

The following steps shall be taken for setting up Shelter Management in the affected areas:

Responsible Department : Municipal Revenue/Women &Child welfare/Civil Supplies

**Responsible person : Municipal Revenue Officer/
PO/Supervisor/Asst.Supply Officer**

Responsibilities:

1. Adequate numbers of buildings or open space shall be identified where relief camps can be set up during emergency and updated in the plan.
2. The members of the Shelter management Teams of the municipality trained in running and management of relief camps will be deputed for management of relief camps as per the plan.
4. The requirements for operation of relief camps shall be worked out in detail in advance.
5. Agencies to supply the necessary stores will be identified in the pre disaster phase by the civil supplies and municipal revenue department.
6. The temporary relief camps will have adequate provision of drinking water and bathing, sanitation and essential health-care facilities.
7. Adequate security arrangements shall be made by local police
8. Adequate lighting arrangements shall be made in the camp Area including at water points, toilets and other common areas by the municipal engineering department.

9. Wherever feasible, special task forces from amongst the disaster affected families will be set up to explore the possibility of provision of food through community kitchens, provision of education through the restoration of schools and anganwadis.

11.6 Food & Nutrition

FOOD & NUTRITION

People affected by disasters may be deprived of food and therefore food aid shall be provided to sustain life. The following measures shall be taken:

Responsible department : Civil Supply/Women & Child welfare

Responsible persons : ASO (Civil Supplies)/ PD (W&C welfare)

Responsibilities:

Pre Disaster:

1. Keep maintain list of all hotels/traders list and make their availability at that movement.
2. Keep all Private cooks list and their contact address.
3. List out the open places for establishing mass kitchens.
4. Identify vehicles for transportation of food to the relief points
5. Coordinate with Municipal officials and shelter management teams.
6. The Women & Child Welfare Department has to prepare a list of Children & Pregnant women in the vulnerable areas .
7. Make arrangements for procuring Milk, Bread and other nutritious food at the time of disasters
8. Arrange to supply to the affected children and pregnant women in needy times.

During the disaster:

1. Where necessary free distribution of food shall be made to those who need the food most.
2. Wherever possible dry rations shall be provided for home cooking.
4. Community Kitchen for mass feeding shall be organized only for an initial short period following a major disaster particularly where affected people do not have the means to cook
5. While providing food assistance, local food practices shall be kept in mind and commodities being provided must be carefully chosen, in consultation with the affected population.
6. Food must be of good quality, safe to consume, and appropriate and acceptable to recipients.
7. Rations for general food distributions shall be adopted to bridge the gap between the affected population's requirements and their own food resources
8. Food distributed should be of appropriate quality and fit for human consumption
9. Food should be stored, prepared and consumed in a safe and appropriate manner at both household and community levels
10. Food should be transported and distributed in a responsive, transparent, equitable manner
11. NGOs CBOs and other social organizations should be involved with association of Municipal Authorities for supplementing the efforts of the Government.
12. The nutritional needs of the population should be met and malnutrition and micronutrient deficiencies of identified at risk groups addressed.

11.7 Water & Sanitation

Water supply is invariably affected in natural disasters. Safe drinking water might not be available particularly in hydro-meteorological disasters. The following measures shall be taken by the Municipal administration:

Responsible department : Engineering (Water supply)

Responsible person : DEE/AEE

Responsibilities:

1. The Municipality authority (DEE/AEE) shall identify alternative sources of water and make necessary arrangements for supply to the affected population.
2. The State Governments shall ensure that affected people have adequate facilities and supplies to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene.
3. It shall be ensured that drinking water supplied conforms to the prescribed quality standards
4. It shall be ensured that water made available for personal and domestic hygiene should not cause any risk to health.

PRE DISASTER PHASE:

1. DEE/ AEE will identify the non – functioning schemes or Hand Pumps, repairs to platforms and Tap fountains including municipal surroundings in coordination with the GP level teams and action is to be taken to get them repaired.
2. The Ward level engineering officials shall be suitably instructed to utilize the funds for restoration of Water Supply sources on top priority
3. The DEE/AEE will identify the vulnerable water sources which are to be chlorinated before and after the Disaster with the help of ward teams.
4. The Hand pumps existing in the low lying area shall be raised to the expected maximum flood water level by raising the casing pipes and plat forms to avoid possible contamination.

5. Keeping ready stock of Liquid Chlorine / Bleaching power with the Ward and to observe proper chlorination being done regularly
6. Ensure that identify the Safe sources in the ward area and adjacent areas where safe water can be brought in case of submergence of the area.
7. The unsafe sources if any shall be suitably marked and shown to concern team members.
8. The safe source including private sources are to be identified with proper testing for portability using the field testing kits available.

DURING DISASTER PHASE:

1. Keep ready stock of all relevant material with the department
2. The team has to observe the required stock of H₂S vials availability with municipality to check bacteriological contamination. Chloroscopes are to be kept available with the all vulnerable areas in order to verify the residual chlorine in the drinking water.
3. Ensure that the list of tankers are to be ready by the AEE/AE/ MPDO along with capacity of tankers , their address, contact members and distance from a vulnerable areas.
4. Availability of generators and their owners along with contact address and distance to the vulnerable area are too ascertained by the assigned team members.
5. Ensure that in the time of relief potable water is provided to affected areas and relief camps.

POST DISASTER PHASE:

1. The list of damages occurred during cyclone/ floods are to be identified by the DEE/ AEE with the Team along with required budget for temporary / permanent restoration.
2. Ensure that permanent restoration may also be taken with local funds if the amounts required are small.
3. Monitoring of water quality should be restored or initiated immediately. Post disasters daily determination of the chlorine residual in public water supplies is sufficient.
4. Ensure that Chlorine and chlorine – liberating compounds are the most common disinfectants. Chlorine compounds for water disinfection are usually available in solid forms.
5. Chlorinate lime or bleaching powder, which has 25% by weight of available chlorine when fresh, its strength should always be checked before use.
6. If the damage for water is urgent, or the repaired main cannot be isolated, the concentration of the disinfecting solution may be increased to 100 mg/ liter and the contact period reduced to 1 hour.

SANITATION

Responsibility department : Health/Sanitation

Responsibility person : Municipal Health Officer

Responsibilities:

1. Municipal health Officer has to deploy the team of sanitation where the clean & washed away places, in particularly wards.
2. Health officer has to oversee the Drainage cleanliness and coordinate municipal employees.
3. The removal of debris following a natural/manmade disaster or conflict is a priority to enable the provision of shelter and the establishment of appropriate settlement solutions.
4. Health officer should have a proper drainage plan, addressing storm water drainage through site planning and wastewater disposal using small-scale, on-site drainage should be implemented to reduce potential health risks to the disaster-affected population.
5. Special care is needed to protect toilets and sewers from flooding in order to avoid structural damage and leakage
6. Appoint special care-takers of young children and infants are provided with the means for safe disposal of children's feces.
7. In order to ensure a timely distribution of hygiene items, it may be necessary to distribute some key generic items (soap, jerry cans, etc.)
8. Health Officer should coordinate carcass disposal team members, and give clear guidance to the team where the suitable to its disposals.
9. Health Officer should coordinate with Municipal Engineering department to address the infrastructure related things.
10. Health officer has to take attention on dead bodies' burial places, and select the site for the same at outside of the Wards/Villages.

11.8 Damage Assessment

Rescue & relief operations shall be based on ground assessment of damage and losses. Preliminary assessment shall be carried out immediately within 24 hours for planning the response. Teams shall be constituted of officials drawn from various sectors like District Revenue, Town Planning, Engineering, Municipal revenue, Animal Husbandary, etc to make assessment on the basis of on the spot visits, aerial surveys and information collected from primary and secondary sources.

The objective of Rapid Assessment is to determine the precise nature and extent of damage so that Rescue and Relief measures are undertaken in the affected people.

The following are the major components to be included in the rapid damage assessment:

- Geographical area impacted
- Loss of Life
- Structural damage to buildings, Housing stocks,
- Damage to roads & bridges, public buildings shops, workshops, stalls etc.
- Damage to water supply lines, electricity supply lines, public utilities
- Damage to agricultural crops, livestock, etc.

Responsible departments : Revenue and all Line departments.

Responsibilities:

1. Proper record should be made for the dead and missing persons and notify to the concerned authorities for providing compensation on short and long term basis.
2. The Municipal authorities and Line departments should provide comprehensive loss reports to the visiting State and central Govt. teams for arranging compensation. Record all the relief measures taken
3. Addl. Commissioner/ Tahasildar to arrange for documentation/ record of relief items received from various agencies, distributed and remaining and remaining balances. Reports to be sent to the district administration
4. Enumeration of Losses and Damages in a systematic manner, documenting and reporting the same.
5. Ward level team should visit the vulnerable cropped area(if any) and give suitable technical advices received from MAO's. (Mandal Agriculture Officers)
6. Develop data base Ward wise crop wise, irrigation, source wise, insurance details, credit facilities tec., with an objective of forecast of damages due to disasters.
7. Municipal authorities to assist District Revenue department in the assessment for dead persons, livestock and damages to houses and properties of individuals, agriculture, community assets

CHAPTER - 12

12.1 Study Recommendations

- The hazard risk of the region cannot be mitigated completely but the vulnerability of the region can be reduced by proper planning and implementation of disaster management
- Ensure that suitable hazard management mechanisms have been included in all investment projects
- Enforce legislation, restrictions and grading regulations pertaining to flood mitigation including restriction of housing in flood and land sliding zones for people safety
- Apply and enforce realistic, risk complaint building regulations and land use planning principles. Identify safe land for low income citizens and develop upgrading of informal settlements, wherever feasible.
- Allocate adequate financial resources for hazard mitigation measures in long term.
- Involve the private sectors like NGO/CSO/Universities in the vulnerability reduction programs.
- Review and Updating of CDMP annually
- Collect the hazard data continuously and document the information for planning and emergency preparedness agencies.
- Invest in and maintain critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change.
- Assess the safety of all schools and health facilities and upgrade them as necessary.
- Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.
- Install early warning systems and emergency management capacities in your city and hold regular public preparedness drills.

ANNEXURES

Annexure No-1

Photographs of Hazard prone areas of Vijaya wada

A pictorial view of Krishna Floods on in 2009





Vijayawada City Disaster Management Plan - 2011

Shots of accidents happened in this year

Weak base- Lambadi peta c-1



Rolldown of retainig wall c-I



Krishna flood effected area



house bellow road level-cI



Land slide c-3



Budameru out fall c-2



Annexure No-2

FORMAT PRELIMINARY REPORT ON THE DISASTER

(To be sent by the Collector immediately on the receipt of the occurrence of the Disaster Event to State Level Disaster management Committee)

Details	Y/N	Remarks
Name of the District Nature of disaster event		
Estimates of number of villages/towns affected: Overall assessment of impact * Estimated persons affected * Estimated loss of lives * Estimated number of injury * Estimated loss of crops * Estimated loss of houses * Estimated loss of livestock		
Damage to Infrastructure: * Road transport * Power supply * Water supply * Telecommunication * Irrigation systems		
Immediate requirements: * Assistance for search and Rescue * Food * Clothing * Water * Medical Assistance * Ambulances * Fire Brigades * Police * Transport * Manpower		

Name :
 Designation:
 Date:

Vijayawada City Disaster Management Plan - 2011

PROFORMA-I VIJAYAWADA MUNICIPAL CORPORATION INFORMATION REGARDING EVACUATION/ REHABILITATION on 09-09-2011 at 8.00 PM												
Sl. No .	Name of the Ward	Shelter	No of Rehabil itation Center s opened	No of Perso ns evacu ated	No of persons accomodated				No of Houses damaged (if any fully / Partly)	Human loss if any (names & age)	Cattle Loss	Remarks
					Adult	La cta tin g W om en	Children					
		Belo w 6 Year s	Abov e 6 Years									
1	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	PNBS Shirdi, Kanaka Durga Ghat	Opened	Nil	Nil			Nil	Nil	Nil	Nil	Lighting to be provided
2	Krishna Lanka, (Ranadhiv nagar)	APSRMCH School HM,	Opened	12	11			1	Nil	Nil	Nil	
		VM Ranga School HM, 9885729319, SI- 9866584601	Opened	49	27			22	Nil	Nil	Nil	
3	Ranigarithota (Tarakarama nagar)	TSRMCE School, Cement Godown HM 9603124751	Opened	363	256	7	27	73	Nil	Nil	Nil	Lighting and temporary toilets to be provided

Vijayawada City Disaster Management Plan - 2011

		IGMC	Opened	0	0			0	Nil	Nil	Nil	Lighting and temporary toilets to be provided
4	Ranigarithota (Bhupesh Gupta Nagar)	ODA Community hall	Opened	300	267	3		30	Nil	Nil	Nil	Lighting and temporary toilets to be provided
		Health Centre	Opened	0	0			0	Nil	Nil	Nil	Lighting and temporary toilets to be provided
5	Balaji nagar, Police colony, from Gethanagar katta to 10MGD Plant	VMC Ele.School, Darsipet HM 9701114343	Opened	0	0			0	Nil	Nil	Nil	Nil
		R.C.M.Ele.School Krishnalanka	Opened	0	0			0	Nil	Nil	Nil	Nil
6	Ramaligeswara Nagar, from 10MGD Plant to Border	VMC High School, Patamata lanka HM, 9649750420 S1-19-9866996395	Opened	500	412	15		73	Nil	Nil	Nil	Nil

Vijayawada City Disaster Management Plan - 2011

		G.D.E.T.M.C.School, Patamata 9441041081 SI- 9866996400	Opened	350	218	4	60	68	≡	≡	≡	
7	Bhavanipuram, lanchi Revu, Karkatta upto HWW	SMA Kuddus Urdu High School, Bhavanipuram HM, 9441283720	Opened	0	0			0	≡	≡	≡	
		DSM High School, Vidyadharapur am HM, 9849777087	Opened	0	0			0	≡	≡	≡	
				1574	1191	29	87	267				
			Control Room Incharge					Additional Commissioner (G)			COMMISSIONER	

Police Desk		
Arrangements for staff and Volunteers: * Tents, bedding etc. * Transport * Rest and recreation facility * Space for office work * Personal kits * Sanitation blocks		
Records to be kept: * Expenses on administration and management * Cash and credit vouchers * Issue of relief tickets * Issue of gratuitous relief * Cash disbursements * Issue of relief materials * Receipt of cash * Receipt of rations * Inventory of Valuables with families * Missing persons * Persons requiring special assistance * Births and deaths * New arrivals * Departures * Inventory of non-consumables (dead stock register)		

Vijayawada City Disaster Management Plan - 2011

PROFORMA-II
VIJAYAWADA MUNICIPAL CORPORATION
INFORMATION REGARDING EVACUATION/ REHABILITATION on 07-09-2011 at .00 AM

Sl. No.	Name of the Ward	No of persons to be rescued	Name of the Rehabilitation Center	Numbe of persons o be rehabilitated
1	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	200	PNBS Shirdi, Kanaka Durga Ghat	200
2	Krishna Lanka, (Ranadhiv nagar)	800	APSRMCH School HM, 9347577857	500
			VM Ranga School HM, 9885729319	300
3	Ranigarithota (Tarakarama nagar)	2300	TSRMCE School, Cement Godown HM 9603124751	300
			IGMC	2000

Vijayawada City Disaster Management Plan - 2011

4	Ranigarithota (Bhupesh Gupta Nagar)	1500	ODA Community hall	750
			Health Centre	750
5	Balaji nagar, Police colony, from Gethanagar katta to 10MGD Plant	200	VMC High School, Patamata lanka HM, 9649750420	200
6	Ramaligeswara Nagar, from 10MGD Plant to Border	300	VMC High School, Patamata lanka HM, 9649750420	150
			G.D.E.T.M.C.School, Patamata 9441041081	150
7	Bhavanipuram, lanchi Revu, Karkatta upto HWW	500	SMA Kuddus Urdu High School, Bhavanipuram HM, 9441283720	250
			DSM High School, Vidyadharapuram HM, 9849777087	250
	TOTAL	5800	TOTAL	5800

Vijayawada City Disaster Management Plan - 2011

PROFORMA-II VIJAYAWADA MUNICIPAL CORPORATION INFORMATION REGARDING EVACUATION/ REHABILITATION on 07-09-2011 at 5.00 AM				
Sl. No	Name of the Ward	Name of the Rehabilitation Center	No of persons Rehabilitated	
			Adult	Children
1	Krishna Lanka (Metla Bazar, Kodandaram ghat) from Padmavathi Ghat to Reservoir	PNBS Shirdi, Kanaka Durga Ghat	Nil	Nil
2	Krishna Lanka, (Ranadhiv nagar)	APSRMCH School HM, 9347577857	Nil	Nil
		VM Ranga School HM, 9885729319	Nil	Nil
3	Ranigarithota (Tarakarama nagar)	TSRMCE School, Cement Godown HM 9603124751	27	Nil
		IGMC	Nil	Nil
4	Ranigarithota (Bhupesh Gupta Nagar)	ODA Community hall	270	30
		Health Centre	Nil	Nil
5	Balaji nagar, Police colony, from Gethanagar katta to 10MGD Plant	VMC Ele.School, Darsipet HM 9701114343	Nil	Nil
		R.C.M.Ele.School Krishnalanka	Nil	Nil
6	Ramaligeswara Nagar, from 10MGD Plant to Border	VMC High School, Patamata lanka HM, 9649750420	46	12
		G.D.E.T.M.C.School, Patamata 9441041081	Nil	Nil
7	Bhavanipuram, lanchi Revu, Karkatta upto HWW	SMA Kuddus Urdu High School, Bhavanipuram HM, 9441283720	Nil	Nil
		DSM High School, Vidyadharapuram HM, 9849777087	Nil	Nil

Vijayawada City Disaster Management Plan - 2011

FLOOD LEVEL DETAILS FROM 06.09.11 TO TILL NOW								
DATE	Time	PRAKASAM BARRIAGE			NAGARJUNA SAGAR		SRI SAILAM	
		Level	Gates	Discharge (cs)	Level	Discharge (c s)	Level	Discharge (c s)
06.09.11	6.00 AM	11.5	NIL	NOT STARTED	584.1	3,30,344	883.9	4,83,513
06.09.11	7.00 AM	11.5	NIL	NOT STARTED				
06.09.11	8.00 AM	11.5	NIL	NOT STARTED				
06.09.11	9.00 AM	11.8	10 X 1 60 CLOSED	7,200				
06.09.11	10.00 AM	12.0	20 X 1 50 CLOSED	14,400	584.4	3,30,249	884.4	3,48,974
06.09.11	11.00 AM	12.0	50 X 1 20	36,250				

Vijayawada City Disaster Management Plan - 2011

			CLOSED					
06.09.11	12.00 NOON	12.0	70 X 1	50,750	584.2	3,29,398	884.6	3,48,974
06.09.11	1.00 PM	12.0	10 X 2 60 X 1	57,500				
06.09.11	2.00 PM	12.0	20 X 2 50 X 1	64,250				
06.09.11	3.00 PM	12.0						
06.09.11	4.00 PM	12.0	70 X 2	98,000	584.1	2,95,536	884.6	3,51,790
06.09.11	5.00 PM	12.0	70 X 7	1,45,250				
06.09.11	6.00 PM	12.0	70 X 4	1,87,50				
06.09.11	7.00 PM	12.0	10 X 5 60 X 4	1,92,000	584.2	2,67,015	884.6	3,51,790
06.09.11	8.00 PM	12.0	50 X 4 20 X 5	1,96,750				
06.09.11	9.00 PM	12.1	50 X 4 20 X 5	1,97,690				
06.09.11	10.00 PM	12.3	30 X 4	2,09,440	584.2	2,66,852	884.4	3,50,149

Vijayawada City Disaster Management Plan - 2011

			40 X 5					
06.09.11	11.00 PM	12.3	70 X 5	2,24,140				
06.09.11	12.00 AM	12.3	70 X 5	2,24,140				
07.09.11	1.00 AM	12.3	70 X 5	2,24,140				
07.09.11	2.00 AM	12.3	70 X 5	2,24,140				
07.09.11	3.00 AM	12.4	35 X 60	2,42,375				
07.09.11	4.00 AM	12.4	35 X 5 35 X 6	2,49,650				
07.09.11	5.00 AM	12.3	20 X 5 50 X 6	2,48,290				
07.09.11	6.00 AM	12.2	70 X 6	2,56,550				
07.09.11	7.00 AM	12.1	10 X 6 60 X 6	2,59,950	584.3	1,97,138	884.6	2,67,284
07.09.11	8.00 AM	12.1	70 X 6	2,55,150				

Vijayawada City Disaster Management Plan - 2011

Annexure No3

2.5.4 : Rainfall particulars of last 50 years (1958-59 to 2008-09)																	
S. No.	Year	(In MMs)															
		SOUTH-WEST MONSOON			NORTH-EAST MONSOON			WINTER PERIOD			HOT WEATHER PERIOD			ANNUAL TOTAL			Dist. Average
		Actual	Normal	% Devia- tion	Actual	Normal	% Devia- tion	Actual	Normal	% Devia- tion	Actual	Normal	% Devia- tion	Actual	Normal	% Devia- tion	
1	1958-59	934	612	53	345	245	41	9	17	-47	17	68	-75	1305	942	39	218
2	1959-60	1005	612	64	179	245	-27	1	17	-94	53	68	-22	1238	942	31	206
3	1960-61	802	612	31	135	245	-45	19	17	12	13	68	-81	969	942	3	162
4	1961-62	773	612	26	260	245	6	6	17	-65	69	68	1	1108	942	18	185
5	1962-63	840	619	36	292	251	16	0	17	-100	51	72	-29	1183	959	23	197
6	1963-64	669	619	8	309	251	23	0	17	-100	14	72	-81	992	959	3	165
7	1964-65	896	619	45	111	251	-56	2	17	-88	53	72	-26	1062	959	11	177
8	1965-66	501	619	-19	19	251	-92	10	17	-41	36	72	-50	566	959	-41	94
9	1966-67	727	619	17	192	251	-24	7	17	-59	14 2	72	97	1068	959	11	178
10	1967-68	737	619	19	51	251	-80	10	17	-41	48	72	-33	846	959	-12	141
11	1968-69	472	619	-24	236	251	-6	0	17	-100	36 0	72	400	1068	959	11	178
12	1969-70	524	619	-15	594	251	137	13	17	-24	11 1	72	54	1242	959	30	207
13	1970-71	671	622	8	171	246	-30	13	17	-24	14 3	72	99	998	957	4	166
14	1971-72	517	622	-17	172	246	-30	28	17	65	12	72	-83	729	957	-24	122
15	1972-73	437	622	-30	384	246	56	0	17	-100	22	72	-69	843	957	-12	141
16	1973-74	534	622	-14	256	246	4	0	17	-100	53	72	-26	843	957	-12	141
17	1974-75	560	622	-10	238	246	-3	0	17	-100	34	72	-53	832	957	-13	139
18	1975-76	834	622	34	282	246	15	0	17	-100	29	72	-60	1145	957	20	191
19	1976-77	638	622	3	409	246	66	0	17	-100	90	72	25	1137	957	19	190
20	1977-78	530	622	-15	328	246	33	26	17	53	8	72	-89	892	957	-7	149
21	1978-79	1178	622	89	134	246	-46	20	17	18	83	72	15	1415	957	48	236
22	1979-80	395	622	-36	207	246	-16	0	17	-100	46	72	-36	648	957	-32	108
23	1980-81	648	622	4	174	246	-29	6	17	-65	83	72	15	911	957	-5	152

Vijayawada City Disaster Management Plan - 2011

24	1981-82	670	622	8	162	246	-34	1	17	-94	34	72	-53	867	957	-9	145
25	1982-83	558	622	-10	211	246	-14	10	17	-41	23	72	-68	802	957	-16	134
26	1983-84	941	622	51	197	246	-20	4	17	-76	20	72	-72	1162	957	21	194
27	1984-85	481	622	-23	162	246	-34	46	17	171	13	72	-82	702	957	-27	117
28	1985-86	544	622	-13	275	246	12	58	17	241	61	72	-15	938	957	-2	156
29	1986-87	658	622	6	131	246	-47	12	17	-29	55	72	-24	856	957	-11	143
30	1987-88	433	622	-30	416	246	69	3	17	-82	48	72	-33	900	957	-6	150
31	1988-89	1112	672	65	89	277	-68	0	8	-100	63	72	-13	1264	1029	23	211
32	1989-90	1071	672	59	64	277	-77	48	8	500	39 7	72	451	1580	1029	54	263
33	1990-91	622	672	-7	260	277	-6	9	8	13	30	72	-58	921	1029	-10	154
34	1991-92	844	672	26	257	277	-7	3	8	-63	17	72	-76	1121	1029	9	187
35	1992-93	528	672	-21	275	277	-1	0	8	-100	69	72	-4	872	1029	-15	145
36	1993-94	420	672	-38	234	277	-16	27	8	238	24	72	-67	705	1029	-31	118
37	1994-95	564	672	-16	499	277	80	35	8	338	12 2	72	69	1220	1029	19	203
38	1995-96	623	672	-7	369	277	33	2	8	-75	15	72	-79	1009	1029	-2	168
39	1996-97	869	672	29	273	277	-1	17	8	113	58	72	-19	1217	1029	18	203
40	1997-98	623	672	-7	198	277	-29	7	8	-13	41	72	-43	869	1029	-16	145
41	1998-99	793	672	18	351	277	27	2	8	-75	86	72	19	1232	1029	20	205
42	1999-00	571	672	-15	177	277	-36	40	8	400	35	72	-51	823	1029	-20	137
43	2000-01	879	686	28	95	250	-62	3	15	-80	60	83	-28	1037	1034	0	173
44	2001-02	593	686	-14	247	250	-1	25	15	67	47	83	-43	912	1034	-12	152
45	2002-03	394	685	-42	153	250	-39	2	15	-87	23	83	-72	572	1033	-45	95
46	2003-04	632	685	-8	308	250	23	26	15	73	71	83	-14	1037	1033	0	173
47	2004-05	591	685	-14	130	250	-48	5	15	-67	70	83	-16	796	1033	-23	133
48	2005-06	775	686	13	297	250	19	0	15	-100	16 7	83	101	1239	1034	20	207
49	2006-07	553	686	-19	465	250	86	9	15	-40	10	83	-88	1037	1034	0	173
50	2007-08	780	686	14	166	250	-34	58	15	289	15 2	83	83	1156	1034	12	193
51	2008-09	906	686	32	186	250	-26	0	15	-100	96	83	16	1188	1034	15	198
SOURCE: CHIEF PLANNING OFFICE,																	

Annexure No: 4

List of shools

S.No.	Division No.	Existing Municipal CorporataSchools	Strength
1	1 st DVN	NIL	
2	2 nd DVN	NIL	
3	3 rd DVN	VMC Ele. School, Gunadala.	132
		MCES, Gunadala Power House	32
4	4 th DVN	VMC Ele. School, Machavaram.	298
		TMRCMCH School, Machavaram.	604
5	5 th DVN	NIL	
6	6 th DVN	CHVRMC Ele. School, Brahmanandareddy Nagar, .	69
		SBSRMC Ele. School, Gulammohiddin Nagar.	67
7	7 th DVN	NIL	
8	8 th DVN	BJJRMCM Ele. School, Pittenglepet.	98
9	9 th DVN	JAWCMC Ele. School, Jawahar Autonagar.	207
10	10 th DVN	37 th Division Ele. School, New RTC Colony,	112
		VMC (Urdu) Ele. School, Farooqnagar	55
		DSMC Ele. School, Harijanawada.	146
11	11 th DVN	NIL	
12	12 th DVN	GDETMCM Ele. School, Patamata	519
		GDETMCH School, Patamata	645
		VMC Ele. School, Darsipet	54
		VMC Ele. School, Patamatalanka	225
		VMCH School, P.Lanka.	414
13	13 th DVN	MARMC Ele. School, Pakeergudem.	51
14	14 th DVN	VMC Ele. School, Ramalingeswaranagar.	141
15	15 th DVN	NIL	
16	16 th DVN	TSRMC Ele. School, Ranigarithota.	89
17	17 th DVN	AMTMC Ele. School, Labbipet.	48
		VMC (U) Ele. School, Labbipet.	33
18	18 th DVN	BSRKMCM Ele. School, Mogalrajapuram.	206
		BSRKMCH School, Mogalrajapuram.	485

Vijayawada City Disaster Management Plan - 2011

19	19 th DVN	SKRMRMCH School	251
		SKRMRMC Ele. School	148
20	20 th DVN	VMC(U) Ele. School, Arundalpet	31
		VMC (U) H School, Arundalpet	105
		SKVRMCUP School, Arundalpet,	52
		VMC Ele. School, Dasuvari Street.	45
21	21 st DVN	CVRGMCH School, Governorpet.	120
22	22 nd DVN	VMC Ele. School, Nehru Nagar.	143
23	23 rd DVN	APSRMCH School, Krishnalanka.	410
		VMRRMC Ele. School, Krishnalanka.	68
		VMRRMCH School, Krishnalanka.	217
24	24 th DVN	SVRMC Ele. School, Sivasankarapuram	141
		SVRMCH School, Sivasankarapuram.	232
		MAMC(U) Ele. School, Brahmarambapuram.	67
25	25 th DVN	ADRMCH Ele. School, Mallikarjunapet.	160
		BKMMC Ele. School, Brahmin Street.	100
26	26 th DVN	SMPMC Ele. School, V.D.Puram	119
		SSBSMC(U) Ele. School, V.D.Puram	106
		DSMCH School, V.D.Puram	466
		SMBRMC Ele. School, Kamakotinagar.	127
27	27 th DVN	SMAKMC (U) Ele. School, Bhavanipuram.	151
		SMAKMC(U) H School, Bhavanipuram.	161
		SKSRMC Ele. School, Bhavanipuram.	94
28	28 th DVN	MLCBMC Ele. School, HB Colony.	74
		HSGMC (U) Ele. School, Darga, Bhavanipuram.	62
29	29 th DVN	SKRMC Ele. School, Urmila Subbaraonagar,	129
		GNRMCH School, Ramarajyanagar, Labour Colony.	328
30	30 th DVN	VMRRMC Ele. School, Bhimanavaripet.	68
31	31 st DVN	PLSMC Ele. School, K.L.Rao Nagar.	68
32	32 nd DVN	VMC (U) Ele. School, Idga Mahal.	90
33	33 rd DVN	GNRMC Ele. School, R.R.Nagar.	291
34	34 th DVN	ADMC Ele. School, Kothapet,	383
		ADMCH School, Kothapet,	350
		KRMC Ele. School, Anjaneyavagu.	79
35	35 th DVN	SMLMC Ele. School, Tailorpet.	241
36	36 th DVN	SMHRMC Ele. School, Frizerpet,	133

Vijayawada City Disaster Management Plan - 2011

		SNMCUP School, (U), Wynchipet.	263
37	37 th DVN	SMC Ele. School, Mahanthipuram.	239
38	38 th DVN	SBASMC Ele. School, Fish Market.	50
39	39 th DVN	GMCH School	644
		PSM(G)H School	260
		DSMC Ele. School	54
		VMC Ele. School, Rajakapet.	53
40	40 th DVN	MD. Alipuram MC Ele. School, Wynchipet	112
		MD. Alipuram MCH School, Wynchipet.	128
		SKSRMC Ele. School	108
		VMC (U) Ele. School, Islampet.	91
41	41 st DVN	SKSRMC Ele. School	90
		SKSRMCH School	167
		VMC (U) Ele. School, Poornanandampet.	61
42	42 nd DVN	SPRMC Ele. School, Seethannapet.	74
43	43 rd DVN	STVRMC Ele. School, Durgapuram.	265
		STVRMCH School, Durgapuram.	468
44	44 th DVN	NIL	
45	45 th DVN	STRDMC Ele. School, Madhuranagar.	138
46	46 th DVN	GSRMC Ele. School, Mutyalampadu.	192
		GSRMCH School, Mutyalampadu.	274
47	47 th DVN	AKTPMCH School, S.N.Puram.	1025
		Prasanthi MC Ele. School, S.N.Puram.	505
		STRNSMC Ele. School, S.N.Puram.	
48	48 th DVN	VMC Ele. School, Baptistpalem.	104
49	49 th DVN	NMMC(U) Ele. School, R.R.Pet	93
		TPRMC Ele. School, Old. R.R.Pet.	157
50	50 th DVN	SVLDMC Ele. School, Kedareswarapet.	51
51	51 st DVN	NIL	
52	52 nd DVN	Care & Share MC Ele. School, New R.R.Pet.	658
		Care & Share MCH School, New R.R.Pet.	496
53	53 rd DVN	MK Baig MC Ele. School, A.S.Nagar.	423
		MK Baig MCH School, A.S.Nagar.	484

Vijayawada City Disaster Management Plan - 2011

		STDRMC Ele. School, Vijayadurganagar.	162
54	54 th DVN	23 rd Division Ele. School, A.S.Nagar.	32
55	55 th DVN	VMC Ele. School, Prakashnagar (South)	161
		CHSPRMC Ele. School, Prakashnagar (North)	364
56	56 th DVN	Dr.JDMMC Ele. School, Vambay Colony.	620
		Dr.JDMMCH School, Vambay Colony.	452
57	57 th DVN	SPSMC Ele. School, L.B.S.Nagar.	385
		SPSMCH School, L.B.S.Nagar.	678
58	58 th DVN	RGMC Ele. School, Rajeevnagar.	273
		RGMCH School, Rajeevnagar.	317
59	59 th DVN	SBVSRMC H School,	526
		SBVSRMC Ele. School	423
			22660

Annexure No:5

5.25 Strength of transport vehicles

TRANSPORT VEHICLES			NON-TRANSPORT VEHICLES		
Sl. No.	Class of Vehicle	Count	Sl. No.	Class of Vehicle	Count
1	Ambulance	155	1	Construction Equipemnt vehicle for Commercial Use	2
2	Articulated Vehicles	2052	2	Crane For Privte Use	28
3	Auto Rickshaw	20115	3	Crane Mounted	149
4	Auto Rikckshaw Private	55	4	Dumper / Excavator	77
5	Contract Carriage	479	5	Dumper / Excavator For Private Use	2
6	Crane Mounted	149	6	Fork Lift	13
7	Education Institute Bus	1133	7	Invalid Carriage	48
8	Fire Fighting Vehicles	6	8	Jeep	1194
9	Fire Tenders	9	9	Library Vans	1
10	Five Wheeler Goods Vehicle	1	10	Mail Carrier	3
11	Goods Carriage	30946	11	Mopeds and Motorised Cycle	36325
12	Luxory Tourist Cab	176	12	MOTOR CAR	36392
13	Maxi Cab	764	13	MOTOR CYCLE	295364
14	Mobile Clinic	11	14	Omnibus for Private Use	1630
15	Motor Cab	4860	15	Power Tiller	7
16	Ominibus	124	16	Road Roller	95
17	Other Vehicle	22	17	Station Wagon for Private Use	2
18	Private Service Vehicle	196	18	Tractor Driven Combined Harvester	55
19	Recovery Vehicle	20	19	tractor For Private Use	6220
20	Rig Mounted	25	20	Tractor for Commercial Use	4779
21	Stage Carriages	1207	21	Vehicle Fitted with Construction Equipment	182
22	Three Wheeled Goods Vehicle	6272	TOTAL		382568
23	Tourist Vehicle	4			
24	Trailer for Agriculture Purpose	5232			
25	Trailer For Commercial Use	5248			
	TOTAL	79261			

Vijayawada City Disaster Management Plan - 2011

AnnexureNo:7

OLUNTEER ORGANISATIONS IN VIJAYAWADA URBAN MANDAL			
Sl. No	Name & Address of the NGO/ Trust/ Charitable Trust/ Donor/ Other Agency	Mail Address	Phone No's
1	P.Venkateswara Rao, Prajapragathi Seva Sangham	ppssmtm@gmail.com psdvs_org@yahoo.com	9440173615
2	J.Jayaraju, Programme Coordinator Care & Share Charitable Trust, Vijayawada.		9948661381
4	A.Prakash The Cloth Merchants Association, Vijayawada.		0866-2424729
5	M.Vasu VHEEDU (Voluntary Health, Education and Economic Development Unit), Bhavanipuram.	vheedu@rediffmail.com	9441958650
6	Missionaries of Charity		2521460
	Prathi Spandana Swachanda Seva Samstha		
10	Taj Baba Mahila Podupu Sangham, Vijayawada.		9441177473
11	G. John Ravi Habitat For Humanity, 40-7-12A, 3rd floor, Mogalarajapuram, Vijayawada520010	www.hfhap.org , habitatvijayawada@yahoo.co.in	08662471782, 9440000000
15	P.S.Varakumar CASA		9885459365
17	Earthline, Vijayawada.	earthline@sify.com	9177701500
18	Sivaji Sanghamitra Service Socieity, Krishna Nagar, Vijayawada-7	sanghamitra.ankita@gmail.com	9848128886
19	IMA, Vijayawada.	drmarahman@gmail.com	9848245786
	"Sangham" Federation, Nali Village, Nagayalanka Mandal		
21	Ch.Satyanarayana ARITHIK SAMATA MANDAL, Vijayawada.	orthiksamata@yahoo.com	9848458850 0866-2476264
22	A.Vasubabu, PO LEPRA Society		9885619590 9849868225
24	Prajapragathi Seva Sangham, Machilipatnam		9849860252
			9490743191
25	Viswahindu Parishad, Vijayawada.		

Vijayawada City Disaster Management Plan - 2011

26	"KYRD", Machilipatnam.	kyrd_rao@yahoo.com	9908009406
	Mrs. Ch.Vidya, President		
30	Vasavya Mahila Mandali	vasavyamm@sify.com	9848122121
31	Furniture Dealers Association, Vijayawada.		9985144519
39	Y.Rajaroo PRAGATHI	pragathingorural@yahoo.com	9346642454
40	The Krishna District Ameture Radio Society, Vijayawada.	vuzvja@gmail.com	9441714294
41	S.Bhanu Prasad Varun Motors (P) Ltd., Vijayawada.	bhanusajja@hotmail.com	9885443366
42	Sri Dharmaparishat Mahasamsthan, Vijayawada.		9393796003
45	T.Vijaya Kumar Association of Relief Voluntern, Vijayawada.		9866250635
53	RAKSHA, Vijayawada.	vaksha.servicess@gmail.com	9963224949
54	Jesus Prayer Fellowship, Vijayawada.		9848380184
55	Bharathiya Kisan Sangh		9440127151
56	Sadasiva Janasamkshema Samithi, Vijayawada.		9492484871
57	Avala Tirupathi Mathyakara Samkshema Samithi		9849878830
58	Adarsa Mahila Mandali, Telaprolu		9441747972
59	N.V.L.Narasimha Rao Sri Satyasai Seva Samithi		9440524353
60	Kranthi Welfare Society		9705784274
63	K.V.R.Kumar, Social Service Centre, Gunada, Vijayawada.		9849694803
64	P Suresh Babu Association of Mercy Organziation		9393111234 9390099579
65	M.A.Khali Auto Mobile Tech- Asso Autonagar, Vijayawada.		9848015876 9440013849
66	N.Srihari Rao SAI PADAM, Vijayawada.		9392101817
67	LIONS CLUBS international.		9866266196
68	K.V.Narayana, Secretary Dallmills Association		9848111390
69	Maninder Singh Kandhari	bharatindustrial@gmail.com	9885435943

Vijayawada City Disaster Management Plan - 2011

	Vijayawada Round Table-68	<u>com</u>	
70	K.Anjana Devi, Santhi Mahila Mandali, Nandigama		9949252293
71	R.Nageswara Rao Navayuga Welfare Society		9440486409
72	Denny.V. LYNY Society, Rajendranagar, Vijayawada.	<u>denny_vij@yahoo.com</u>	
73	Sadhana Rural Development Society, Kaikaluru		9949419116
74	Sri Vatsa Rural Development Society, Vijayawada.		9177571129
75	ARHEDS, Vijayawada.	<u>arhds_org@yahoo.com</u>	9440777075
76	ALERT, Vijayawada.	<u>alert_sorg@yahoo.co.in</u>	9885012240
77	P.Raju ALIVE Service Society, Vijayawada.	<u>paul_service@yahoo.co</u> <u>m</u>	9866201319
78	G.Muralikrishna Bharat Scouts & Guides, Vijayawada.		9246472131
82	AMG India International, Chilakaluripet-522616, M. Ravikumar		9441194554
83	World Vision, Premadhara, 27-16- 75, Adilakshmi Estate, 4th floor, Besant Road, Vijayawada- 520002		0866-2570866, 9848319317
84	LIC of India, P&GS Unit, Besant Road, Vijayawada		9985715756
85	Academy of Gandhian Stuies, Tirupathi	<u>ags76@rediffmail.com</u>	9849491225
86	Society for Environment and Education Development society	<u>usha_01@rediffmail.com</u>	9705528498

Vijayawada City Disaster Management Plan - 2011

Annexure No-9

FP SHOP DEALERS PHONE NUMBERS IN BANDAR DIVISION					
Sl.No	Name of the Mandal	F.P.Shop No.	Name of the Area	Name of the F.P. Shop dealer	Cell Number
1	Vijayawada Urban	278	Krishna Lanka-I	P.Yesuratnam	0
2	Vijayawada Urban	279	Krishna Lanka-I	A.Malleswari	9347990555
3	Vijayawada Urban	280	Krishna Lanka-I	M.Khasim	9908477589
4	Vijayawada Urban	281	Krishna Lanka-I	M.Prabhakar	9290805449
5	Vijayawada Urban	282	Krishna Lanka-I	K.Suguna Rao	9848670189
6	Vijayawada Urban	283	Krishna Lanka-I	B.Koteswara Rao	9908477658
7	Vijayawada Urban	284	Krishna Lanka-I	K.Raja Rao	9885442638
8	Vijayawada Urban	285	Krishna Lanka-I	K.Damodar	9704345666
9	Vijayawada Urban	286	Krishna Lanka-I	P.S.No.Murthy	9290773944
10	Vijayawada Urban	287	Krishna Lanka-I	M.V.Subrahmanyam	9866556625
11	Vijayawada Urban	288	Krishna Lanka-I	D.Syamala Devi	9848734014
12	Vijayawada Urban	289	Krishna Lanka-I	V.Seetaramaiah	9494505378
13	Vijayawada Urban	290	Krishna Lanka-I	S.K.Meravalli	9866907993
14	Vijayawada Urban	New	Krishna Lanka-II	V.Adilaxmi	9347735447
15	Vijayawada Urban	New	Krishna Lanka-II	Ch.Khayum	9989847101
16	Vijayawada Urban	206	Krishna Lanka-II	K.Koteswara Rao	9290646425
17	Vijayawada Urban	205	Krishna Lanka-II	Ch.Philips	0
18	Vijayawada Urban	227	Krishna Lanka-II	Ch.Narasimha rao	9346606436
19	Vijayawada Urban	228	Krishna Lanka-II	J.Yesupadam	9347265299
20	Vijayawada Urban	265	Krishna Lanka-II	S.Kanaka Durga	9885179789
21	Vijayawada Urban	New	Krishna Lanka-II	Ch.Guravaiah	8096190377

Vijayawada City Disaster Management Plan - 2011

22	Vijayawada Urban	New	Krishna Lanka-II	D.Rajyalaxmi	9441714403
23	Vijayawada Urban	224	Krishna Lanka-II	P.Venkateswara Rao	9490365909
24	Vijayawada Urban	223	Krishna Lanka-II	S.Kanaka Durga	9885553297
25	Vijayawada Urban	221	Krishna Lanka-II	D.Venkateswara Rao	9440101189
26	Vijayawada Urban	222	Krishna Lanka-II	P.Ramakrishna	9948495916
27	Vijayawada Urban	230	Krishna Lanka-II	K.Krishnamurthy	9290535975
28	Vijayawada Urban	219	Krishna Lanka-II	MD.A.Vaseema	9966997622
29	Vijayawada Urban	220	Krishna Lanka-II	Sk.Mymunnisa Begum	9246499172
30	Vijayawada Urban	218	Krishna Lanka-II	P.Radhakrishna Murthy	9948793100
31	Vijayawada Urban	266	Krishna Lanka-III	S.Thanamathi	9396203911
32	Vijayawada Urban	217	Krishna Lanka-III	T.Mohana rao	0
33	Vijayawada Urban	267	Krishna Lanka-III	G.Laxmi rajyam	0
34	Vijayawada Urban	213	Krishna Lanka-III	K.S.D.V.Bhanu	9440103444
35	Vijayawada Urban	211	Krishna Lanka-III	M.Sai Narayana Babu	0
36	Vijayawada Urban	209	Krishna Lanka-III	UV Ramayogi	0
37	Vijayawada Urban	207	Krishna Lanka-III	G.Subhashini	9848177005
38	Vijayawada Urban	212	Krishna Lanka-III	P.Parameswari	9866201567
39	Vijayawada Urban	208	Krishna Lanka-III	G.Thirupathi Reddy	9393707297

Vijayawada City Disaster Management Plan - 2011

Annexure no 10

Ward Disaster Management Committee Representatives:

Sl. No	Name	Designation	Male / Female	Age	Phone No.
Guptha Nagar					
1	Sri Bahadur	Ex-Corporator	M	42	9848120059
2	Sri Appala Naidu	Ex-Corporator	M	43	9347766677
3	Sunkara Venateswara Rao	Community Leader	M	49	8897379243
4	Sri Vannemreddy Panduranga	Community Leader	M	48	9849959760
5	Sri Nasetti Srinivasa Rao	Community Leader	M	45	9912166295
6	Smt.Marupu Lakshmi	SHG	F	36	
7	Smt. Baby Sarojini	SHG	F	38	9490513329
8	Sri Marekenapalli Nageswara Rao	Leader	M	40	9701506005
9	Sri Padmakar Prasad	AE-3	M	35	9959444097
10	Sri Koteswara Rao	D.E.	M	38	9866514167
11	Sri Kurapati Raghu Babu	R.I	M	32	
12	Sri Dr.Mangeswara Rao	PHC	M	40	
13	Sri N.Balaji Srinivas Murthy	Sanatary Inspector	M	44	9866996377
Moyinudden Nagar					
	Sri Vejjada Appala Raju	Councilar	M	43	9848631283
	Sri Rajanikant	Leader	M	42	
	Sri Venkateswara Rao	Leader	M	40	
	Sri Rajesh	Leader	M	41	
	Sri Nageswara rao	AE-3	M	35	9866514192
	Sri Rama Krishna	Sanatary Inspector	M		9866996398
	Sri Krishna Sai	Madical Officer	M		9494381697
Lambadi Pet					
	Sri Vejjada Appala Raju	Ex-Councilar	M	43	9848631283
	Smt.B.Punyavathi	Sai M.D.G	F	42	9642003171
	Smt.Ch. Bujji	Leader	F	40	9989713307
	Smt.Ch.Lalitha	Leader	F	41	9912070245
	Smt.P.Kurmari	Leader	F	35	9502873656

Vijayawada City Disaster Management Plan - 2011

Lanchi Revu					
	Sri Appala Naidu	Ex-Corporator	M	43	9347766677
	Sri Garikapati Nancharaiah	Leader	M	41	9347822779 949054624
	Sri Arambaka Ravi Chandra	Leader	M	44	9032080647
	Sri Tummepalli Pulla Rao	Leader	M	43	9391631695
	Sri Peddanaidupalem Ponnuranga	Leader	M	40	998993873
	Sri Dasari Srinivasa Rao	Leader	M	38	9505548930
	Sri Arambaka Ponnuranga	Leader	M	41	9618663652
	Sri Ganugala Ganga Raju	Leader	M	42	9292902177
	Pullanti Sesha Rao	Leader	M	45	9989248418
	Chikkala Rama Krishan	Leader	M	46	9891249491
	Sri J.Phane Srinivasa Rao	AE-1	M	35	9866514152
	Sri K.Srinivasa Rao	AE-1	M	38	9866514175
	Sri B.V.Surendranad	Sanatary Inspector	M	44	9866996403
LBS Nagar					
	Smt.Palnati Lakshmi		F		
	Smt.Manna Parvathi		F		
	Smt. Senha Swarajyam	Leader	F		9985098451
	Smt.Sandya	Leader	F		9963572212
	Sri Asirvadham	Leader	F		9392171402
	Smt.Leelabari	Leader	F		9966447357
	Smt.Reena	Leader	F		9640702325
	Jana Cheitanya	Leader	F		9440702625
	Chandra Rani	Leader	F		
	Sunil	Leader	M		9618207454
	Jahera	Leader	F		
	Radha	Leader	F		
	Sarat	Leader	M		
	Rajani	Leader	F		
	VMC Staff				
NEW RR NAGAR					
	V.Ramana	Ex-Corporator	M	45	9347123777
	D.Ramana	Leader	M	45	9399962528
	G.Durga Rao	Leader	M	42	9966397492
	P.S.Khan	Leader	M	35	9966454434

Vijayawada City Disaster Management Plan - 2011

	Dr.Ramanaraju	A.M.O.H-2	M	46	9866514151
	M.Rambabu	D.S.O	M	46	9701999649
	K.V.Subba Reddy	Sanatary Inspector	M	46	9866996383
	P.Srinivasa Rao	Teacher	M	46	9849491863
	Ch.Venu	Varta Velekari	M	46	9396404804
	P.Ravendra Babu	M.G.O	M	46	814229997
	Rama Krishna	T.P.B.O	M	46	9866514212
	A.Sivabrahmam	A.E-2	M	45	9866514172
	Suvarna Raju	S.I	M	45	9490619634
	stiphen	Community Organegar	M	45	9949621988
	Smt.Durgamma	SHG	F	45	
	Smt.Kantamma	SHG	F	45	
	Smt.Prameela Devi	SHG	F	45	
Rajiv Nagar					
	Smt.Purapalaka Satyavathi	Ex-Corporator	F	35	9396498999
	Anji Reddy	Leader	M	40	9542383171
	Venkata Reddy	Leader	M	37	8977119288
	Suresh	Leader	M	39	9951897674
	Smt.Durga	Leader	F	35	8897696651
	Smt.Satyavathi	Leader	M	38	9248591337
	Fancy	SHG Leader	M	35	9440653137
	Dr.Krishna Prasad	HO.VMC	M	36	9948166509
Ramalingeswara Nagar					
	Sri Bahadur	Ex-Corporator	M	35	9848120059
	M.D.Munni	SHG	F	40	970459596
	Arajala Lakshmana Rao	Retd. Police Officer	M	65	
	M.Sarweswara Rao	Welfer Presedent	M	45	
	Lakshmana Rao	D.S.P	M	42	9885441620
	Tatineni Subba Rao	Retd. B.S.S.R	M	68	
	Radha Krishna Murthy	D.M.P.Retd.	M	64	
	Smt. Padmaja		F	40	
	K.K.D.V.Prasad		M	38	
	Durga Maheswara rao		M	45	
Ranadheevi nagar					
	Adapa Seshu	Ex-Corporator	M	43	9885653924
	Puppala Kumari	Ex-Corporator	F	39	9849394445
	Paladugu Rama Krishna	Leader	M	44	9346221041
	Rachmalla Rambabu	Leader	M	43	9848033601

Vijayawada City Disaster Management Plan - 2011

	Buragayela Srinivas (Bujji)	Leader	M	40	9948193527
	Pulla Rao (Purushottam)	Leader	M	45	9849132544
	Padala Babu	Leader	M	41	9440923666
RR Pet					
	V.Ramana	Ex-Corporator	M	45	9347123777
	D.Ramana	Leader	M	45	9399962528
	G.Durga Rao	Leader	M	42	9966397492
	P.S.Khan	Leader	M	35	9966454434
	Dr.Ramanaraju	A.M.O.H-2	M	46	9866514151
	A.Rambabu	D.S.O	M	46	9701999649
	K.V.Subba Reddy	Sanatary Inspector	M	46	9866996383
	P.Srinivasa Rao	Teacher	M	46	9849491863
	Ch.Venu	Varta Velekari	M	46	9396404804
	P.Ravendra Babu	N.G.O	M	46	814229997
	Smt.Durgamma	SHG	F	45	
	Smt. Kantamma	SHG	F	45	
	Smt.Prameela Devi	SHG	F	45	
Tannor Pet					
	Sri Vejjada Appala Raju	Ex-Councilar	M	43	9848631283
	Smt.B.Punyavathi	Sai M.D.G	F	42	9642003171
	Smt.Ch. Bujji	Leader	F	40	9989713307
	Smt.Ch.Lalitha	Leader	F	41	9912070245
	Smt.P.Kurmari	Leader	F	35	9502873656
Taraka Rama nagar					
	Sri Appala Naidu	Ex-Corporator	M	43	9347766677
	Sri Garikapati Nancharaiah	Leader	M	41	9347822779 949054624
	Mesala Rama Rao	Leader	M	44	9299205755
	Chowdari Prasad	Leader	M	43	9391631695
	Nadakudeti Venkateswara Rao	Leader	M	40	9491590833
	Gadu Surappadu	Leader	M	45	9885565388
	Pandrajula Venateswara Rao (Chanti Babu)	Leader	M	41	
	Kumari	Leader	F	39	




GOI-UNDP పట్టణ ప్రాంత విపత్తు నివారణ ప్రాజెక్ట్

మొగ్గుపర్ కార్పొరేషన్, విజయవాడ.

విపత్తులు - జాగ్రత్తలు



విపత్తులు అనగా ప్రకృతిలో జరిగే మార్పులు. ఇవి విపరీతమైన అది మానవునికి విపత్తుగా మారుతుంది. వీటినే ప్రకృతి విపత్తులు (Natural Disasters) అంటారు. ఉదాహరణకు భూకంపాలు, వరదలు, తుఫానులు మరియు కొండ చరియలు విరిగిపడుట. మానవుని ప్రయత్నంతో జరిగే విధ్వంసాలను మానవుడు సృష్టించే విపత్తులు (Man Made Disasters) అంటారు. ఉదాహరణ అగ్నిప్రమాద, విద్యుత్ ప్రమాదము. మానవ తప్పిదం వల్ల కలిగే ప్రకృతిలో కలిగే మార్పులను సంకరణ విపత్తులు (Hybrid Disasters) అంటారు. ఉదాహరణకు వాతావరణ, శబ్ద, వాయువు, జల కాలుష్యములు.

1. భూకంపాలు

భూ అంతర్భాగంలో భౌగోళిక ఫలకాల రాపిడి వల్ల ఏర్పడే ప్రకంపనలను భూకంపాలు అంటారు. అవి తీవ్రత పెరిగే కొద్దీ వనశ్శు పెరుగుతుంది.

ముందుస్తు జాగ్రత్త చర్యలు :-

1. దారి ఉండేందుకు దృఢమైన బల్ల లేదా బిడ్డ వంటి సురక్షిత ప్రదేశాన్ని ఇంటిలో ప్రతి గదిలోను గుర్తించాలి.
2. ఇంటిలోపల అత్యవసర మార్గాన్ని గుర్తించి ఆ మార్గానికి ఎటువంటి అటంకాలు లేకుండా చూడవలెను.
3. పిల్లలు, పెద్దలు, వికలాంగులు ప్రాధాన్యతను బట్టి సురక్షితంగా తరలించేలా చూచుకోవాలి.
4. ప్రతి ఇంటి నందు ప్రథమ చికిత్స పేట్స్, అత్యవసర మందులు, నగదు, టాల్కీ, అదనపు బ్యాటరీలు, ట్రాన్సిస్టర్, డ్రైఫుడ్ ఐటిమ్స్, తాగునీరు, విజిల్, బట్టలు, స్లీపింగ్ కిట్ మొదలైనవి సమకర్తనాలోవాలి.
5. ఇంటిలో హెల్మెట్స్, త్రాడు, గడ్డపాక, గొడ్డలి, అగ్ని మాపక సాధనాలు అందుబాటులో ఉంచుకోవాలి.

2. భూకంపం వచ్చినపుడు :-

1. లోపల ఉంటే గ్రౌండ్ ఫ్లోర్లో అయితే వెంటనే ఖాళీ స్థలంలోకి వరిగెత్తాలి. ఇతర అంతస్తులో ఉంటే భవనం లోపల ఉండటం సురక్షితం, ప్రతిష్టమైన ఫర్నిచర్ క్రిందదాగి ఉండి తమకు తాము రక్షించుకోండి.
2. ఫాక్ట్ సీలింగ్, గ్లాస్ విండో ప్రేమ్లకు దూరంగా ఉండండి.
3. మెట్లగారి, లిఫ్ట్ గారి ఉపయోగించకండి అవి సురక్షితంకాదు, కూలిపోవచ్చు.
4. భవనాలు బయట ఉంటే ఓవర్హెడ్ పవర్ లైన్స్ కు మరియు వంతెనలనుండి దూరంగా పారిపోయి ఖాళీస్థలంలో ఉండాలి.
5. వాహనం నడుపుతుంటే రోడ్ ప్రక్కన తీసుకొచ్చి నిలిపి ఉంచండి.
6. ఫ్లై ఓవర్స్, ఎలక్ట్రిక్ లైన్స్ స్థంబాలు, ప్రకటన పోస్ట్స్ మొదలగు వాటికి దూరంగా వెళ్లండి.
7. వదంతులు వినకండి, వ్యాప్తి చేయకండి, అధికార వర్గాల నుండి వచ్చే సమాచారం పొటించండి.

3. భూకంపం వచ్చిన తరువాత :-

1. భూకంపం వచ్చిన తరువాత భవనాలలో చిక్కుకుంటే ఈల వేయండి లేదా జగ్గరగా అరవండి. దీని ద్వారా మీ ఉనికి బహిర్గతం అవుతుంది తద్వారా సహాయ సహకారాలు త్వరగా అందగలవు.
2. ఎలక్ట్రిసిటీ మెయిన్ స్విచ్ ను ఆఫ్ చేయవలెను.
3. ఇలాంటి సమయంలో గ్లాస్ బీక్ అయి ఉండును కావున పాగతాగుట, స్పిచ్ లను వేయుట చేయరాదు.

2. వరదలు

వరషము ద్వారా గానీ నదుల ద్వారా గానీ తాత్కాలికంగా లేదా శాశ్వతంగా ఒక నిర్వాహిత ప్రాంతం మునిగిపోవడాన్ని వరద అంటారు.

ముందుస్తు జాగ్రత్త చర్యలు :-

1. లోతట్టు ప్రాంతాలను ముందుగా గుర్తించవలెను.
2. లోతట్టు ప్రాంతాల ప్రజలకు సమాచారాన్ని త్వరగా అందించాలి.
3. రవాణా వ్యవస్థను అందుబాటులో ఉంచుకోవలెను.
4. ఆహార నిల్వలు, కిరోసిన్ మరియు మందులు ఉంచుకోవాలి.
5. అధికారులు గుర్తించిన ప్రాంతాలనుండి సురక్షిత ప్రాంతానికి వెళ్లడానికి సిద్ధంగా ఉండాలి.

2. వరదలు వచ్చినపుడు :-

1. ఆలస్యం చేయకుండా ప్రజలు లోతట్టు ప్రాంతాల నుండి సురక్షిత ప్రాంతాలకు వెళ్లవలెను.
2. గృహాలని వదిలేముందు పెంపుడు జంతువులు తగినంత ఆహార పదార్థాలు సురక్షిత ప్రాంతాలకు తీసుకొని వెళ్లవలెను.
3. అందుబాటులో ఉన్న పరికరాలు ఉపయోగించుకొని, సురక్షిత ప్రాంతాలకు వెళ్లవలెను.

3. వరద వచ్చిన తరువాత :-

1. కాచి వడపోచిన మరియు క్లోరినేషన్ చేసిన నీటిని ఉపయోగించవలెను.
2. కలరా, మలేరియా మరియు అంటువ్యాధులు రాకుండా జాగ్రత్తలు పాటించవలెను.
3. నిల్వ ఉన్న ఆహార పదార్థాలను తీసుకొనరాదు. పాడి మరియు వేడి ఆహార పదార్థాలను భుజించవలెను.
4. అంటురోగాలు ప్రబలకుండా మృతి చెందిన కర్రబరాలను గృహాలకు దూరంగా నానాజిక దహనం చేయవలెను.
5. లోతట్టు ప్రాంతాల నీటిని, దోమలు వృద్ధి చెందకుండా ఆ నీటిని తొలగించవలెను.

3. తుఫానులు

సముద్రంపై ఏర్పడే ఉష్ణోగ్రత మరియు పీడనంలోని తేడాలు వలన వాతావరణంలో మార్పులు సంభవించి తుఫానులు ఏర్పడతాయి.

1. ముందస్తు జాగ్రత్త చర్యలు :-

1. ఇంటిపై కప్పనందలి చెడిపోయిన పెంకులను, విరిగిన తలుపులను, కిటికీలను పూర్తిగా మరమ్మత్తులు చేయవలెను.
2. ఏమైనా గ్లాస్ కిటికీలు ఉన్నట్లయితే తుఫాను సమయంలో వాటికి అడ్డుగా చెక్కను ఉంచవలెను.
3. ఎల్లప్పుడూ కిరోసిన్, లాంతరు, బ్యాటరీ లైట్స్, బ్యాటరీలను దగ్గర ఉంచుకోవలెను.
4. రేడియో, ట్రాన్సిస్టర్ను పనిచేయు విధంగా ఉంచుకోవలెను.
5. ఇంటికి సంబంధించిన చెక్క భీమలు, బోర్డ్, వదులుగా గానీ లూజుగా గానీ ఉన్నట్లయితే మరమ్మత్తులు చేయించవలెను.
6. మంచినీటిని, అదనపు ఆహార నిల్వలను, మెడిసిన్ కిట్లను ఉంచుకోవలయును.



2. తుఫానులు వచ్చినపుడు :-

1. తుఫానులు వచ్చిన సమయంలో రేడియోలను, టీ.వి.లను ఆన్ చేసి ఎప్పటికప్పుడూ వాతావరణ శాఖ వారు జారీచేసే హెచ్చరికలు ప్రజలందరూ తెలుసుకోవలెను.
2. తుఫానుల సమయంలో సముద్రం/నది తీరానికి ఈత కొట్టుటకు గానీ చేపలు పట్టుటకు గానీ వెళ్ళరాదు.
3. తుఫానుల సమయంలో వ్యాప్తి చెందే వదంతులను నమ్మరాదు. వ్యాప్తి చేయరాదు. అధికారులు ఇచ్చే సూచనలను మాత్రమే విగ్రహించుకోవలెను.
4. తుఫాను కారణంగా వచ్చే వరదలు లోతట్టు ప్రాంతాల ప్రజలు సురక్షిత ప్రాంతాలు అనగా కొండలు, ఎత్తైన ప్రదేశాలకు వెళ్ళవలెను.

3. తుఫానులు వచ్చిన తరువాత :-

1. నిర్దేశించిన ప్రదేశాలను లోతట్టు ప్రాంత వాసులు అధికారులు చెప్పిన తరువాత మాత్రమే వెళ్ళవలయును.
2. విద్యుత్ స్తంభాల వైర్లు వ్రేలాడుచున్నట్లయితే తగిన జాగ్రత్తలు వహించవలెను.
3. దొంగతనాలు జరగకుండా సామాజిక వాలంటీర్లు ప్రహారీ కార్యకర్తలుగా పనిచేయవలెను.
4. రోడ్లకు అడ్డంగా పడివున్న చెట్లను తొలగించాలి.
5. సమాచార వ్యవస్థను అభివృద్ధి చేసుకొనవలెను.

4. కొండచరియలు విరిగిపడుట

ఎత్తులో ఉన్న భూస్థానం లేదా కొండచరియల నుండి భూ ప్రవ్యర్త మరియు రాళ్ళు కదిలి కింద పడుట

1. ముందస్తు జాగ్రత్త చర్యలు :-

కొండ చరియలు విరిగిపడటాన్ని అన్ని వేళలా ఆపుట సాధ్యం కాదు కాదని ముందస్తు జాగ్రత్త చర్యలు పాటించవలెను.

1. కొండచరియలు విరిగి పడే ప్రాంతాన్ని గుర్తించు దాని నుండి దూరంగా ఉండుట.
2. వాలుగా ఉన్నప్రాంతాలలో ఇళ్ళు నిర్మించుకుండా ఉండుట.
3. ఇంటి పునాది లోతుగా తీసి గోడలు సాధారణ స్థాయి కన్నా దృఢంగా నిర్మించవలెను.
4. పై కప్ప దృఢంగా ఉండవలెను. బల్లలు ఉన్నట్లయితే వాటిని రక్షణ సామగ్రిగా వాడుకోవలెను.
5. తరలుటకు వీలుగా తక్కువ సామగ్రి కలిగి ఉండాలి.
6. ప్రమాదం జరగకుండా ఎప్పుడూ విద్యుత్తు వాల్వులు, స్విచ్లులు బిగించవలెను.
7. ఇంటిలో హెల్మెట్స్, క్రాడు, గడ్డపాక, గొడ్డలి, అగ్ని మాపక సాధనాలు అందుబాటులో ఉంచుకోవాలి.



2. కొండచరియలు విరిగిపడినపుడు :-

1. లోపల ఉంటే గ్రౌండ్ ఫ్లోర్లో అయితే వెంటనే ఖాళీ స్థలంలోకి వరిగెత్తాలి. ఇతర అంతస్తులో ఉంటే భవనం లోపల ఉండటం సురక్షితం, ప్రతిష్టపైన ఫర్నిచర్ క్రిందదాని ఉండి తమకు తాము రక్షించుకోండి.
2. ఫాల్ట్ సీలింగ్, గ్లాస్ విండో ప్రేమలకు దూరంగా ఉండండి.
3. మెట్లుగానీ, లిఫ్ట్ గానీ ఉపయోగించకండి అవి సురక్షితంకాదు, కూలిపోవచ్చు.

5. అగ్ని ప్రమాదాలు

అక్సిజన్ మరియు మండి ఇంధనం సుదృఢ ఆవిరేగంగా రసాయనిక చర్య (మంట ఏర్పడి) జరిగి వేడిని కాంతిని విడుదల చేయుట

1. ముందస్తు జాగ్రత్త చర్యలు :-

1. వెలిగించిన కిరోసిన్ మరియు గ్యాస్ దీపాలను, స్టాన్లను దుస్తులకు, పై కప్పకు దూరంగా ఉంచుట.
2. సిగరెట్లు, బీడిలు ఇంటిలో కాలాటకుండుట.
3. మండించే ద్రవాలు (నూనె, కిరోసిన్, కెమికల్) దూరంగా ఉంచుట.
4. ఇంటిలో చెత్త లేదా ఎక్కువ సామాన్లు పేర్చరాదు.
5. మందుగుండు సామాన్లు ఇళ్ళకు దగ్గరగా కాలరాదు.
6. అగ్నిపెట్టెలు, లైటర్లు పిల్లలకు అందుబాటులో ఉంచరాదు.
7. అగరబత్తీలను వెలిగించి వదిలిపెట్టరాదు.
8. గాలి తీవ్రంగా ఉన్నప్పుడు నిప్పును వెలిగించరాదు.
9. పని అయినవెంటనే గ్యాస్ రెగ్యులేటర్ ఆఫ్ చేయవలెను.

2. అగ్నిప్రమాదం జరిగినప్పుడు తీసుకోవలసిన చర్యలు :-

1. అగ్ని ప్రమాదం జరిగిన వెంటనే అగ్ని మాపక సిబ్బందికి సమాచారం అందించవలెను.
2. అగ్ని మాపక దళం వాహనం అలారం విన్న వెంటనే దారి ఇవ్వవలెను.
3. అగ్ని ప్రమాదం సంభవించిన ప్రాంతంలో జనం గుంపులు గుంపులుగా ఉండరాదు.
4. అగ్ని మాపక అధికారి పనిలో ఉన్నప్పుడు అటంక పరచరాదు.
5. అగ్ని ప్రమాదానికి గురైన వ్యక్తిని వెంటనే హాస్పిటల్ కి తరలించవలెను.



SAFE CONSTRUCTION PRACTICES

GOI-UNDP URBAN RISK REDUCTION PROJECT
MUNICIPAL CORPORATION VIJAYAWADA

The rate of natural disasters have increased in last few decades; they are threaten to human kind irrespective of race religion and geography making lives, property, livelihood and infrastructure worse as the world's population has grown and people have started residing in areas that are vulnerable to natural hazards. The most successful way to mitigate loss of life and property, is to construct buildings that are disaster resistant.

The features to be considered at the stage of architectural planning and structural design of buildings for protection against Natural disasters are:

- Building configuration
- Foundation
- Control on openings in walls
- Reinforced concrete bands in masonry buildings.
- Vertical reinforcement.

Therefore the UNDP-GOI creating awareness for some of the structural safety measures that needs to be taken up for constructing disaster resistant buildings.

1. EARTHQUAKES

The ground movements caused by earthquakes can have several types of damaging effects. As the vibrations and waves continue to move through the earth, buildings on the earth's surface are set in motion. Each building responds differently, depending on its construction.

Taller buildings also tend to shake longer than short buildings, which can make them relatively more susceptible to damage.

PROTECTION MEASURES

- The building should have a simple rectangular plan.
- Long walls should be supported by Reinforced Concrete columns as shown on the right side.
- Large buildings having plans with shapes like Y, U and X should preferably be separated into rectangular blocks by providing gaps in between.
- Buildings which are structurally strong to withstand earthquakes sometimes fail due to inadequate foundation design.
- Tilting, cracking and failure of structure may result from soil liquefaction.

Depending on the type of soil

- Conditions the depth of the foundation has to be decided.

- Door and window openings in walls should preferably be small and more centrally located.

- Install Reinforced concrete bands in masonry buildings

- One or more of the following bands may be necessary in a building. Plinth band, lintel

- band, roof band, and gable band

- Vertical reinforcement should be provided at corners and junction of walls. Shall be passing through the lintel bands and floor slabs or floor level bands in all storey

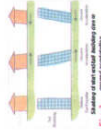


Fig-1



Fig-2



Fig-3

LEGEND
1. Lintel Band
2. Plinth Band
3. Gable Band
4. Floor Band
5. Roof Band
6. Vertical Band
7. Reinforced Concrete Band
8. Reinforced Concrete Band
9. Door
10. Window



Fig-4

- Foundations
- Symmetric building are more stable

- Where building is constructed on silts, it is necessary that stilts are properly braced on both the directions

- Openings just below roof level are avoided except that two small vents without shutters are provided in opposite walls to prevent suffocation in case room gets filled with water if people try to climb up on lofts.

- Doors and windows should have strong dosing/latching arrangements and glass/wooden panels be securely fixed.

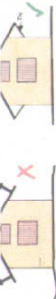


Fig-5

- Roof Architecture

- The roof projections should be kept minimum, and tied down adequately.

- For the purpose of reducing wind forces on the roof, a hipped or pyramidal roof is preferable

- to the gable type roof as shown in figure above.

- It is advisable to have shelterbelts plantation across the wind direction, in all areas and in all large establishments

- to check the wind speed and reduce damage.



Fig-6



Fig-7



Fig-8



Fig-9



Fig-10



Fig-11



Fig-12



Fig-13



Fig-14



Fig-15



Fig-16



Fig-17



Fig-18



Fig-19



Fig-20



Fig-21



Fig-22



Fig-23



Fig-24



Fig-25



Fig-26



Fig-27



Fig-28



Fig-29



Fig-30



Fig-31



Fig-32



Fig-33

5. FIRE HAZARD

A fire hazard is any situation in which there is a greater than normal risk of harm to people or property from Fire. hazards include things which pose a hazard to people, toxic fumes when heated or objects that block fire exits.

PROTECTION MEASURES

- Install stucco, fiber cement, and other noncombustible cladding materials that are designed to resist flames long enough for firefighters to arrive.
- Build eaves and roof decks that are boxed in and never made from wood. Open eaves can trap embers and firebrands.
- Omit windows from exterior walls that sit close together.
- Add an extra layer of gypsum or another fire-resistant material beneath the siding on facing walls.
- Install double- or triple-pane windows. Intense heat from a fire will break the windows and speed the fire to the house next door, so the more layers, the better.
- Choose noncombustible materials for fences.
- Install sprinkler systems or at least offer them to buyers as an upgrade.
- Design lawns that feature high-moisture, drought-resistant plants—but don't locate them too close to the house.
- Build the driveway at least 12 feet wide so firefighters can get their equipment through.
- Build houses with 30 feet separating space

6. PRECAUTIONARY MEASURES AT CONSTRUCTION SITE

In addition to the above, to avoid man-made disasters, the following precautionary measures need to be taken up by the builder / owner / site engineers in the construction site.

- Children must not play in the construction site.
- Foot protection must be worn.
- No unauthorized persons shall be allowed in the site.
- High visibility jackets must be worn.
- Child labour must be prohibited.
- Use of tobacco & Alcoholic products shall be prohibited.
- Boards of Fire & Alcoholic products shall be prohibited.
- U/L 417 of HMC Act 1955, required to erect board with details of construction.
- U/L 417 the construction site shall be screened / fenced to prevent pollution of surrounding air or injury or damage caused by following debris, bricks and other materials.
- In emergencies like building collapse, workers trapped inside, accidents at construction site, contact fire department and NDRF (National Disaster Response Force).

IMPORTANT PHONE NUMBERS

Important Entity	Contact Number
Police	100
Fire	101
Hospital	2574027
CCC (Emergency Operating Cell)	2573242
Electricity	155333
Water	108
Andhra Pradesh	2577945
Nagaraj Hospital	2576999
Nagaraj Hospital (Emergency)	2577070
Nagaraj Hospital (Emergency)	2577342
Nagaraj Hospital (Emergency)	2573388

2. LAND SLIDES

Landslides are among the major natural disasters in the world. In hilly terrains of India, including Himalayan mountains landslides have been a major and widely spread natural disasters that strike life and property almost perennially and occupy a position of major concern. These landslides, year after year, bring about untold misery to human settlements. Landslides, debris fall, debris slide, debris flow, rock toppling etc. cause destruction of slope and ground surface, initiating the change of uncontrolled erosion in the mountain terrains.

FACTORS THAT CAUSE LANDSLIDES

The natural factors responsible for landslides are:

- If slopes are steep.
- If there is high intensity of rainfall.
- Rock layers are highly weathered.
- Soil layers formed under gravity.

Vulnerable homes for landslides are those which are situated on:

- Below hills with outcrops of fractured rock.
- Developed hillside where septic-tank, soil absorption systems are used and land-scapes are irrigated.
- Steep construction-related cut or fill slopes.
- Areas in or at the mouths of drainages such as canyons.
- Existing landslides area.

You can detect possible slope failure if you watch for these signs:

- * Doors or windows stick or jam for the first time.
- * New cracks appear on plaster, tile, brick or foundations.
- * Outside walls, walks or stairs begin pulling away from the building.
- * Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.
- * Underground utility lines break.
- * Fences, retaining walls, utility poles or trees tilt or move.
- * Water or bulging ground appears at the base of a slope.

PROTECTION MEASURES FROM DAMAGE TO BUILDINGS

Landslides generally happen where they have occurred in the past, and in identifiable hazard locations. Areas that are typically considered safe from landslides include areas:

1. that have not moved in the past;
2. relatively flat areas away from sudden changes in slope;
3. and areas at the top of or along ridges.
4. Houses built at the toe of steep slopes are often vulnerable to slides and debris flow
5. Keep surface drainage water away from vulnerable areas, such as steep slopes, loose soils and non-vegetated surfaces
6. When surface water flows onto your property, and where a discharge point is available, dig shallow, gently sloping ditch to intercept the water and direct it into a natural water course

3. FLOODS

Most vulnerable homes for floods are:

- If biomass materials like bamboo, leaves, thatch are used to construct huts then they are easily destroyed in floods and washed away.
- Buildings which are constructed with earth-based material or using stone and brick in mud mortar.
- Flood plains attract poor urban dwellers because of inexpensive land values.
- Occupation of areas within the flood plains of rivers especially in areas of high population has increased the vulnerability.



Fig - 3 Site Selection

EFFECT ON BUILDINGS

The damage to buildings due to floods are as follows:

- 1) Houses are washed away due to the impact of the water under high stream velocity. The houses are commonly destroyed or dislocated so severely that their reconstruction is not feasible.
- 2) Houses constructed out of light weight materials like wood float when they are not anchored properly.
- 3) Damage caused by inundation of house. The house may remain intact on its foundation, but damage to materials may be severe. Repair is often feasible but may require special procedures to dry out properly.
- 4) Undercutting of houses. The velocity of the water may scour and erode the foundation of the house or the earth under the foundation. This may result in the collapse of the house or require substantial repair.
- 5) Damage caused by debris. Massive floating objects like trees, electric poles, etc. may damage the standing houses.

THE MOST EFFECTIVE MEASURES FOR PREVENTION AGAINST FLOOD

1. To avoid residing on river banks and slopes on river sides and the sides of gorges. ?
2. To build at least 50 meters away from the sea coasts/river banks as per municipal Building Bylaws
3. To build proper drainage system in all flood prone areas, so that the water can be drained off quickly to prevent accumulation
4. To construct the building with a plinth level higher than the known high flood level.
5. To construct the whole village or settlement on a raised platform high earthen the high flood level.
6. To construct buildings on stilts or columns with wall-free space at ground level permitting free flow of water (inundation or flowing), provided that columns are circular and strong. In dry weather condition the ground area could be fenced and used for cattle, sheep poultry farming, or storage etc.

4. CYCLONES

Cyclones pose a major threat to life and property in many parts of the world. Every year these sudden, violent cyclones bring widespread devastation to coastlines and islands lying in their erratic paths. A windstorm's destructive work is done by the high wind; flood producing rains and associated storm surges.

Effects of cyclones on buildings are:

- i) Punching and blowing off of corrugated iron roofing sheets attached to steel trusses.
- ii) Brittle failure of asbestos-cement sheeting of the roofs of industrial sheds; failure of these sheets is generally ridges and gable ends.
- iii) Failure of large industrial buildings with light weight roof coverings and long/tall walls due to combination of internal and external pressures.
- iv) Failure of roofing elements and walls along the gable ends particularly due to high internal pressures.
- v) Overturning failures of compound walls of various types.
- vi) Failures of improperly attached or constructed parapets.
- vii) Damage to roof/lintel projections.
- viii) Damage to improperly attached windows or window frames

The damage due to cyclones can be minimised by adopting the technologies and procedures mentioned

PROTECTION MEASURES FOR DAMAGE TO BUILDINGS

1. Site selection

Cyclonic windstorms commonly generate storm tides leading to coastal inundation. In cyclonic regions close to the coast, a site above the likely inundation level should be given preference. In case of non availability of high elevation natural ground, construction should be done on stilts with no masonry or bracing up to maximum surge level, or raised earthen mounds as shown to avoid flooding/inundation.

2. Platforms and Orientation
- (a) For individual buildings, a circular or polygonal plan shape is preferred over rectangular or square plans.
- (b) A symmetrical building with a compact plan-form is more stable than an asymmetrical building with a zig-zag plan, having empty pockets as the latter is more prone to wind/cyclone related damage.

THANK YOU