

Simulation Exercise in Cuttack City



USAID-GoI-UNDP Partnership Project on 'Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change' in Cuttack, Odisha



Resilience Innovation Knowledge Academy Pvt Ltd

108 A, K-3, Mohan Garden, Uttam Nagar, New Delhi- 110059

Email: www.rikaindia.com

Phone: 011 40623151

Name of Project: Simulation Exercise under USAID-GoI UNDP Partnership Project on ‘Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change’ in Cuttack, Odisha

Name of Organization: Resilience Innovation Knowledge Academy Pvt. Ltd.

Team Leader: Prof. Rajib Shaw

Deputy Team Leader: Dr. Ranit Chatterjee

Project Team: Ms. Ambika Dabral and Mr. Vipul Nakum

Mock Drill and Training Experts: Brig. (Dr.) B.K.Khanna and Dr. Nina Khanna

Photography and Videography Team: Mr. Ajinkya Patil, Mr. Rohan Wankhade and Mr. Pratik Gawande



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Executive Summary

The City of Cuttack has been exposed to vagaries of Nature from time to time. The city is exposed to hazards like cyclones, floods, fire among others. In 2019, Cyclone Fani lead severe flooding and caused physical and economic loss in Cuttack. The management and control of any adverse consequences of future hazard events will require coordinated, rapid and effective response systems at the city level. Actionable Standard Operating Procedures (SOPs) and their internalization by the stakeholders through regular simulation exercise become an important tool to bring synergy among the various stakeholder at the city level. It further provides a platform to test and strengthen the coordination and collaboration with the district and the state line departments and disaster management authority.

In its efforts of building a disaster resilient Cuttack, Cuttack Municipal Corporation (CMC) in support of UNDP and RIKA India Pvt. Ltd. conducted simulation exercise for cyclone and the triggered hazards of floods and fires in different vulnerable pockets of the city. The entire process of planning, conducting and evaluating the simulation exercise was participatory in nature and included all the key line departments and response agencies. To test the adequacy and management of resources available with different stakeholders in a real time situation, the exercise was conducted simultaneously at the selected locations of the city. This brings the simulation exercise very close to the ground reality as even during a real disaster situation, events would happen simultaneously; thus making the stakeholders better prepared for efficient resource deployment of available resources in such a situation.

Another significant feature of the simulation exercise conducted is that unlike, many common such exercise, the exercise was not limited to only response by specialized agencies but it focused on the critical aspects of last mile dissemination of early warning right from the control room to the areas likely to be affected i.e. the low lying wards. The exercise goes further to emphasise the real challenge of mobilizing the community for evacuation to safe shelters. Thus, at one of the selected locations, the ward level squad practiced the same through different mode of communication locally available and also sensitized the community on what and how to pack essential items for evacuation. At the second location, real evacuation of the vulnerable population to safe shelter was undertaken along with the critical aspects of shelter and relief management. CMC decided to initiate the wave of simulation exercise right from their own building and staff first, so a scenario of fire triggered by strong cyclonic winds was practiced for the CMC building involving evacuation, fire-fighting and search and rescue operation by specialized agencies. Simultaneously, the designated staff practiced and tested the functioning of control room, IT cell, staging area and medical post for the management of cascading hazards occurring in multiple situation.

The simulation exercise tried to include and address various local level challenges of the city during a disaster situation and thereby contributed in building capacities of stakeholders in being better prepared for effective and prompt response. One of the key observation and feedback by various stakeholders is to conduct similar exercises more frequently so that communities from different vulnerable areas could be involved and the line departments and response agencies at city, district and the state are better familiarized with their roles and most synergized for timely and efficient response.



Abbreviations

ABC	Airways, Breathing and Circulation
ACP	Assistant Commissioner of Police
BA	Breathing Apparatus
BSNL	Bharat Sanchar Nigam Limited
CDMP	City Disaster Management Plan
CESU	Central Electricity Supply Utility of Odisha
CMC	Cuttack Municipal Corporation
CO	Community Organiser
CPR	Cardio-pulmonary Resuscitation
DCP	Deputy Commissioner of Police
DEO	District Education Officer
DEOC	District Emergency Operation Centre
DIPRO	District Information and Public Relations Officer
DM	Disaster Management
GoI	Government of India
HRVA	Hazard Risk and Vulnerability Analysis
HRVC	Hazard Risk Vulnerability and Capacity
IMD	Indian Meteorological Department
IT	Information Technology
MC	Municipal Commissioner
NDRF	National Disaster Response Force
NGO	Non-Governmental Organisation
NSS	National Service Scheme
NUHM	National Urban Health Mission
OBM	Outboard Boat Motor
ODRAF	Odisha Disaster Rapid Action Force
OSD	Officer on Special Duty
OSDMA	Odisha State Disaster Management Authority
PHED	Public Health Engineering Department
RIKA	Resilience Innovation Knowledge Academy
RTO	Regional Transport Officer
SEOC	State Emergency Operation Centre
SIO	Slum Improvement Officer
SOP	Standard Operating Procedures
SP	Superintendent of Police
UNDP	United Nations Development Programme
USAID	United States Agency for International Development



1. About the Project

Over the last few decades, India has experienced an exponential urban growth leading to ever expanding concentration of population and activities in cities. The impacts of climate change further aggravate the existing risk profile of vulnerable urban areas. This calls for integration of disaster risk reduction into development plans along with enhanced local level preparedness & awareness, efficient early warning systems, building capacity of community and stakeholders for timely and effective first response.

The umbrella project of GoI-UNDP-USAID for ‘Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change’ is being implemented in six Indian cities namely, Cuttack (Odisha), Navi Mumbai (Maharashtra), Shillong (Meghalaya), Shimla (Himachal Pradesh), Visakhapatnam (Andhra Pradesh) and Vijayawada (Andhra Pradesh). The two key outcomes of the umbrella project are:

- i. Reduced disaster risks in urban areas by enhancing institutional capacities to integrate climate risk reduction measures in development programs and undertake mitigation activities based on scientific analysis; and
- ii. Urban communities better prepared with increased capacities to manage climate risks

Amidst others, one of the key activities under the umbrella project is to develop hazard specific standard operating procedures (SOPs) and to conduct simulation exercise. To plan and execute this, the current project was undertaken by UNDP and RIKA India Pvt. Ltd. in Cuttack Municipal Corporation.

1.1 Objectives of the Current Project

With the overall objective of conducting simulation exercise in Cuttack city, the current project has the following key objectives:

- Prepare hazard specific SOP for the cyclone, floods and fire for the stakeholder departments
- Identify the major stakeholders (government and non-government) for the simulation exercise
- Conduct a preparatory planning meeting with all stakeholders prior to the simulation exercise
- Conduct training & simulation exercise for a triggered disaster involving stakeholder departments
- Conduct a detailed debriefing with the municipal officials
- Identify the bottlenecks and areas for improvement as observed in the simulation exercise
- Prepare a detailed report on the conducted simulation exercise along with the recommendations
- Document the entire simulation exercise in the form of a ten-minutes video



2. Understanding Cuttack City

Cuttack is the commercial capital of Odisha and one of the oldest cities located at the confluence of two big rivers- the Mahanadi and Kathajodi. The city is vulnerable to cyclone, flood, fire, and heat wave. It has braved various recent disasters including cyclone Fani which has caused major setback to the state with total losses to the tune of Rs 24,176 crores.

2.1 City Profile and Administrative Boundary

As per census 2011, Cuttack is the second biggest city in the state of Odisha. It is one of the most urbanised city with population of around 6,00,000 and an annual growth rate of around 1.22%. Population is distributed among 59 wards in a spatial spread of 82.43 sq km. It has a population density of about 7,823 people per sq km with trade and commerce as the key economic activities. Though basically and traditionally agrarian, Cuttack is also the business hub for the numerous places around it. There are many renowned industries in and around Cuttack. Apparels, shoes, handicrafts, silver ornaments and animals are also significant contributors to Cuttack economy. Being an important commercial hub for the entire Orissa and neighbouring states, Cuttack city attracts a lot of migrants mostly from rural areas resulting in high increase in population. Over 50 per cent of the city's workforce is engaged in manufacturing, trade, commerce and transportation-related activities.

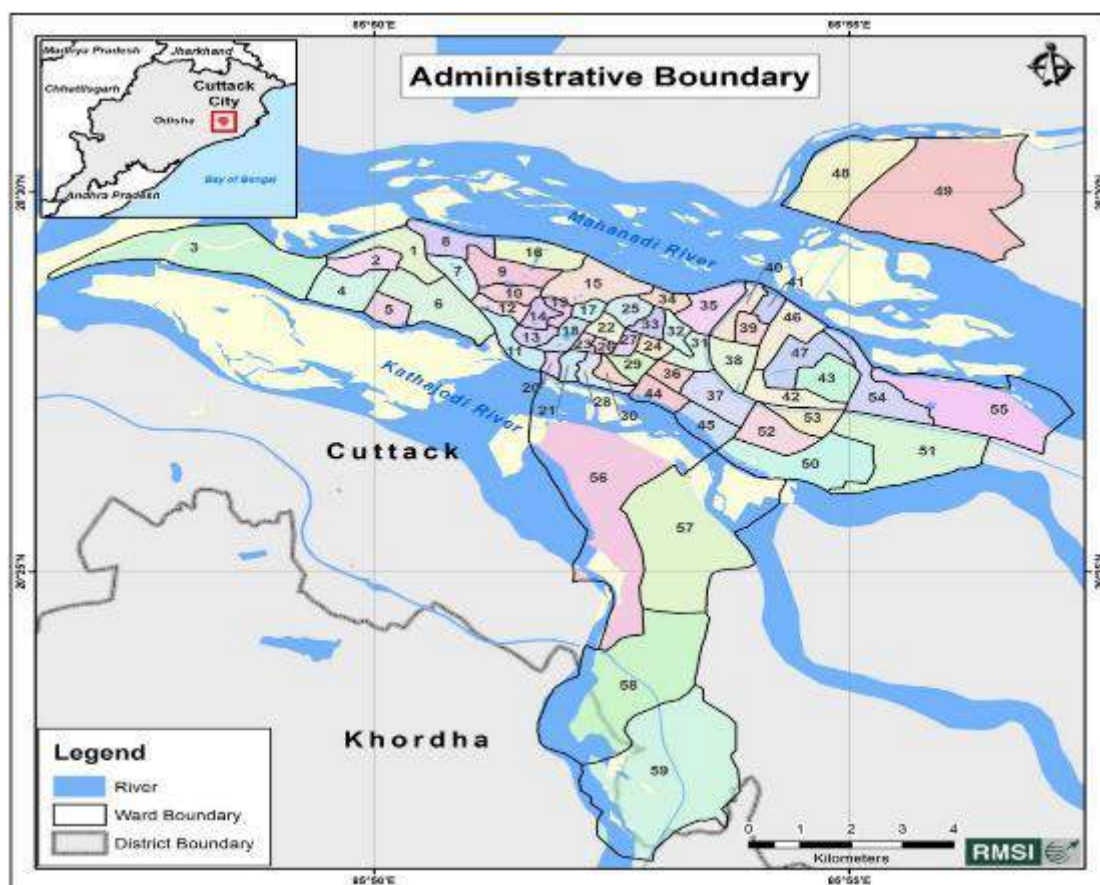


Figure 1.1: Administrative Boundary of Cuttack; Source: City Disaster Management Plan, Cuttack City- 2019-20

2.2 HRVC of Cuttack City

The city is vulnerable to cyclone, flood, earthquake, and heat wave that affect the socio economics of the city. The city was impacted severely by the 1999 super cyclone and the floods of 1982, 2008 and 2011. The historical cyclone event data shows that 142 cyclonic disturbances passed within 100 km of the city of which the maximum wind speed experienced was 258 km/h. The recent cyclone that affected the city was the Phailin cyclone of 2013 when the city experienced a wind speed of 215 km/h. The impact was mostly in terms of damage to assets, particularly infrastructure and houses.

Considering the location of the city in the delta area, the city is vulnerable to flooding. Flooding is due to heavy localized rainfall as well as discharge of water from the Hirakund dam located 330 km upstream. The topography of the city is saucer shaped with unplanned urban development and choking of the narrow drains with solid waste causing frequent water logging problems in many parts of the city. The flood analysis shows that Ward Nos. 2, 3, 9, 14, 17, 20, 26, 33, 40, 43 are especially vulnerable to water logging. The city operates pumps to pump out water during rainy season to avoid water logging. The city, under various development projects, is also developing drains to reduce the impact of flood and water logging. Climate change can intensify rainfall, which can influence the runoff thus increasing flood vulnerability.

Extremely high-rise in annual average maximum temperature, continuous increase in the number of hot days and rising temperature difference between Cuttack and the nearby cities provides an impression of the gradual emergence of the city as an urban heat island.

Cuttack city is located in seismic zone-III, which is moderately vulnerable to earthquakes.

Considering the high-density of population, traditional houses, and high temperatures in the summer months, the city is vulnerable to fire accidents. Historical fire accident data shows that the occurrence of fire hazards is higher in residential buildings compared to commercial and industrial buildings.

The current document focuses on three keys hazards faced by Cuttack city; namely, cyclone, floods and fire. As per the CDMP, Cuttack City, the seasonal hazard analysis for cyclone, floods and fire is as below:

Hazards	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flood/water logging							←→	←→	←→			
Cyclone				←→	←→	←→				←→	←→	←→
Fire	←→	←→	←→	←→	←→	←→				←→	←→	←→

Further, while all wards are vulnerable to fire hazards, wards number 1, 4, 5, 6, 7, 9, 12, 13, 15, 16, 17, 18, 21, 23, 24, 25, 27, 30, 38, 40, 44, 46, 47, 58 and 59 are identified as vulnerable to floods. Cuttack normally receives an average annual rainfall of about 144.39 cm. About 75% to 80% of rainfall is received from June to September. Heavy rainfall is experienced by the city in the months of July and August (peak monsoon season). The heavy rains and floods over vast areas of the delta region of Mahanadi river system are common during the monsoon season. In Cuttack (situated on the delta formed by Mahanadi and its subsidiaries), more than 50% of the city is exposed to



extreme flood risk basically due to urban flooding, which is due to poor drainage facilities including narrow channel exits, encroachment of flood plain areas, and choking of drains due to dumping of solid waste. Due to climate change, occurrence of flash floods during the post monsoon season cannot be ruled out.



3. Simulation Exercise in Cuttack City

Simulation exercise was conducted in Cuttack city in an over-arching approach which not only aimed at testing and evaluating the laid down plans and SOP but also targeted inculcating the culture of awareness and preparedness, supporting cooperation among all stakeholders and assessing the functioning of existing resources. Some of the key functions fulfilled through the simulation exercise in Cuttack are depicted in figure 3.1.

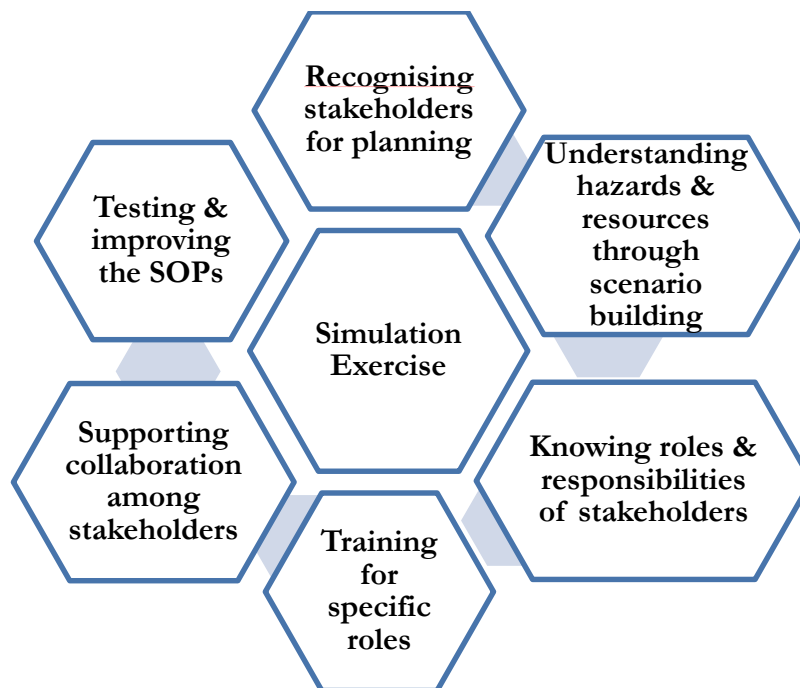


Figure 3.1: Functions of Simulation Exercise

The entire process of planning and conducting the simulation exercise was inclusive, participatory and well-coordinated with an aim of building ownership among all stakeholders. The critical steps involved in planning, execution and evaluation of simulation exercise are as mentioned in figure 3.2.

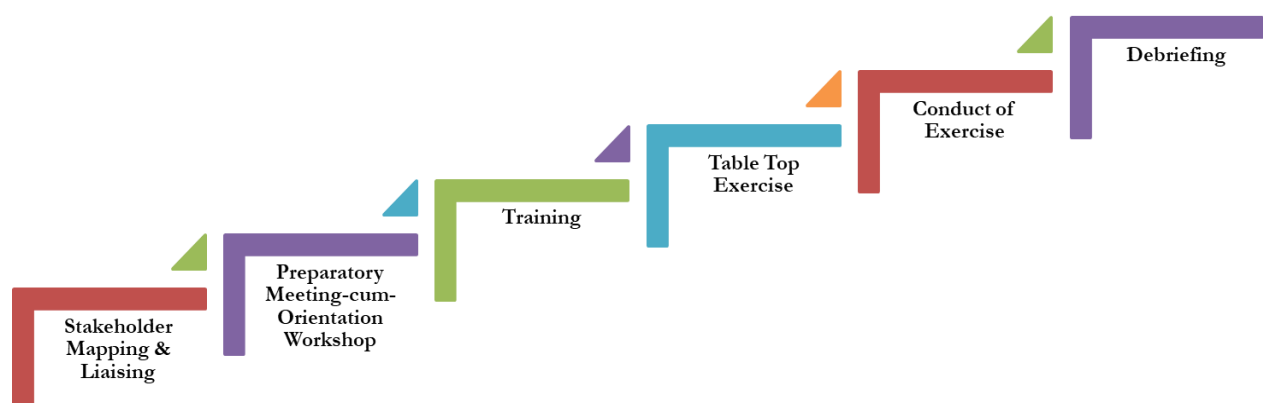


Figure 3.2: Process of Planning, Execution and Evaluation of Simulation Exercise

3.1 Stakeholder Mapping and Liaising

To ensure that the simulation exercise is inclusive of interests and concerns of all stakeholders, the first crucial step undertaken was stakeholder mapping. Stakeholder mapping was initially done by studying various documents existing at city, district and state level. These included studying administrative set up of Cuttack Municipal Corporation, Multi-Hazard Risk and Vulnerability Assessment for City of Cuttack, Cuttack City Disaster Management Plan, Cuttack Urban Resilience Baseline study, Cuttack District Disaster Management Plan, Odisha State Disaster Management Plan, etc. At a subsequent level, one to one meetings were conducted (between 3rd December to 8th December, 2019) with heads/ representatives of various line departments to better understand their roles and responsibilities, the nature of their engagement with local community, internal working of their departments and their past experiences in management of disasters. The comprehensive stakeholder mapping exercise assisted in identifying, analysing and prioritising the line departments and response agencies and thus ensured the participative planning and execution of the simulation exercise. Based on this exercise, the key stakeholders were identified and liaised with in subsequent planning and execution. The same are listed in table 3.1.

Table 3.1: Key Stakeholders for Simulation Exercise

Government- Cuttack Municipal Corporation Level
• Municipal Commissioner, CMC • Joint Commissioner-cum-OSD, Cuttack Development Authority • Secretary-cum-Nodal Officer, CMC • Deputy Commissioner-cum-Slum Improvement Officer, CMC • Deputy Commissioner (Tax Collection), CMC • City Health Officer, CMC • City Engineer, CMC • Incharge, Control Room, CMC
Government- Cuttack District Level
• DCP, Cuttack • SP (Signal), Cuttack • Divisional Forest Officer, Cuttack • District Urban Public Health Officer, National Urban Health Mission (NUHM), Cuttack • Chief District Veterinary Officer, Cuttack • Sub-Collector, Sadar Cuttack • ACP (Traffic), Cuttack • Emergency Officer, Cuttack • Executive Engineer, Central Electricity Supply Utility of Odisha (CESU), Cuttack • Executive Engineer, Mahanadi South, Cuttack • Executive Engineer, Barrage Division, Cuttack • Executive Engineer, Drainage Division, Cuttack • Executive Engineer, Sewerage Board, Cuttack • Executive Engineer, R&B, Cuttack • Executive Engineer, Public Health Engineering Department (PHED), Cuttack • Project Director, District Urban Development Authority, Cuttack • PGM, BSNL, Cuttack • Fire Officer (Central Range), Cuttack • District Information and Public Relations Officer (DIPRO), Cuttack



- Civil Supply Officer, Cuttack
- Regional Transport Officer (RTO), Cuttack
- Commandant, Home Guards, Cuttack
- Commandant, Civil Defense, Cuttack
- Incharge, District Emergency Operation Centre (DEOC), Cuttack

Government- Odisha State and Regional Level

- Commandant, Odisha Disaster Rapid Action Force (ODRAF), 6th Battalion, Cuttack
- State Project Officer, Odisha State Disaster Management Authority (OSDMA)
- Incharge, State Emergency Operation Centre (SEOC), Odisha
- Commandant, National Disaster Response Force (NDRF), 3rd Battalion, Mundli, Cuttack

Non-Government

- Coordinator, National Service Scheme (NSS), Cuttack
- Head, Biju Yuva Vahini
- Head, Utkal Sevak Samaj
- Ward level volunteers
- Community at large

3.2 Preparatory Meeting-cum-Orientation Workshop

A preparatory planning meeting-cum-orientation workshop was organised on December 04, 2019 with all key stakeholders under the chairmanship of Municipal Commissioner, CMC for planning the simulation exercise in Cuttack City. The schedule of the same is as per annexure 1. During the preparatory planning meeting, a participative scenario building exercise was undertaken involving cascading hazards of flood and fire triggered by cyclone in Cuttack city. Various location for the same were brainstormed by stakeholders based on the HRVA of Cuttack city and considering the ground level challenges faced in vulnerable wards of the city. The key aspects discussed and finalised during the scenario building exercise are depicted in figure 3.3.

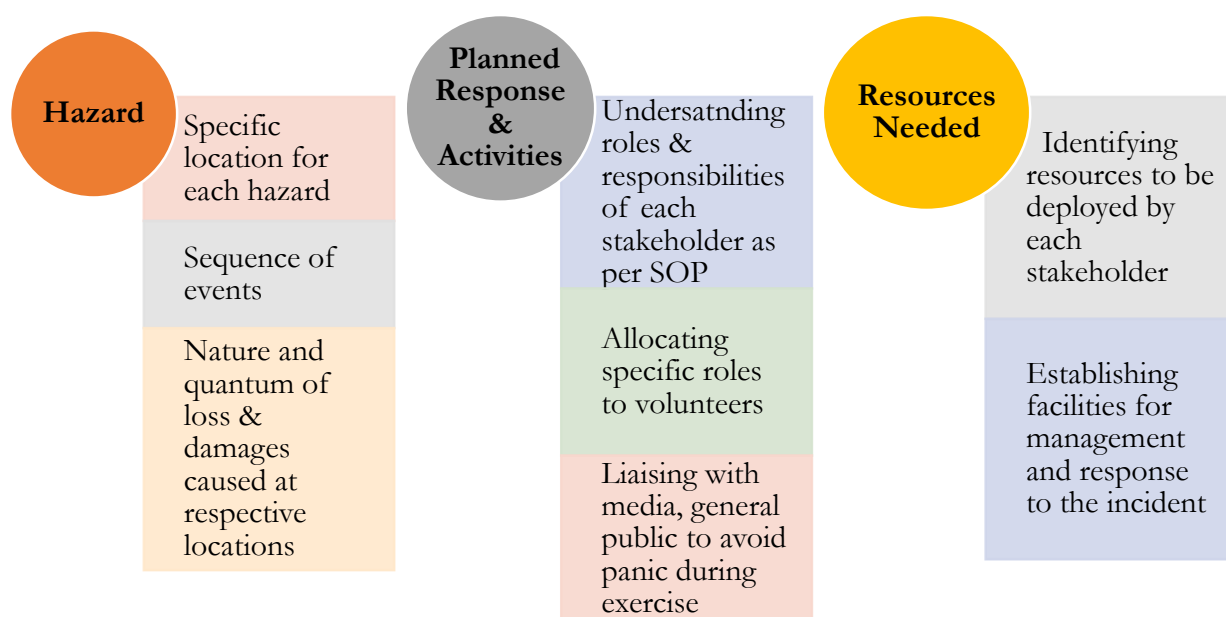


Figure 3.3: Key Aspects of Scenario Building Exercise



Accordingly, it was decided that the scenario of simulation exercise would include a severe cyclonic storm with landfall on the coast of Odisha leading to strong winds and heavy rainfall in the Cuttack city. It was decided to test the last mile dissemination of early warning from the control room to the slum pocket of Kathajodi Vihar (located in the river bed of Kathajodi River) and thereby the process of community mobilisation for evacuation. Heavy rainfall would lead to flooding and water logging in low lying slum area of Pattapole requiring evacuation of people to temporary shelter. Further, the strong winds would trigger a fire incident in CMC building due to short circuit. The selected location for the simulation exercise are depicted in figure 3.4. The outcome of the scenario building exercise and detailed activities planned are tabulated in table 3.2 and table 3.3. To better understand the real time challenges on ground during actual disaster and management of the same through deployment of the limited available resources, it was decided to conduct the simulation exercise simultaneously at the three locations.

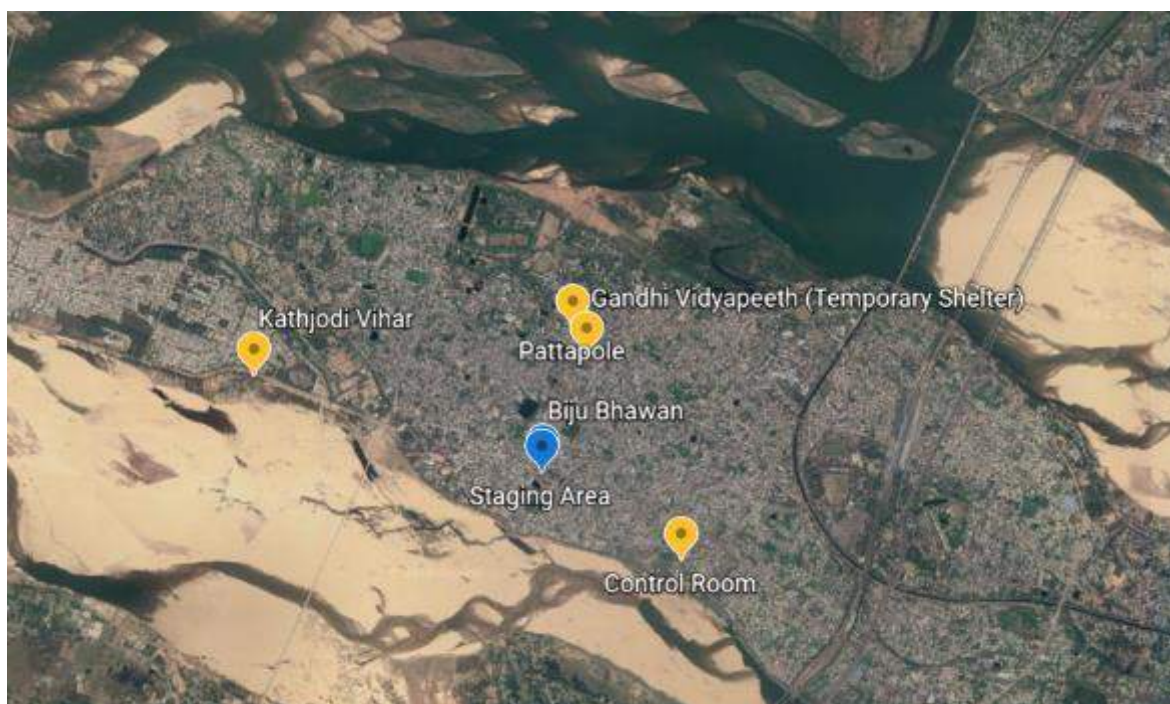


Figure 3.4: Locations Selected for Simulation Exercise

Table 3.2: Outcome of Scenario Building Exercise

Hazard	Impact	Activities
Severe Cyclonic Storm- Landfall on coast of Odisha	Strong winds leading to fire incident in CMC building Heavy rainfall leading to flood and water logging in low lying areas of the city	- Functioning of control room (receiving & dissemination of early warning) Coordination with stakeholders at CMC office Last mile dissemination of early warning and community mobilisation at Kathajodi Vihar - Functioning of staging area at Kalyan Mandap
Heavy rainfall	Heavy rainfall leading to flooding and water logging in Pattapole area requiring evacuation of around 100 persons including old aged, children and differently abled persons	Evacuation of around 100 persons from Pattapole to Gandhi Vidyapeeth by community organisers, local volunteers, ODRAF and NDRF - Functioning of temporary shelter at Gandhi Vidyapeeth (recording the inmates, crowd management, relief distribution) Medical post by NDRF
Fire at first floor (License Section), Biju Bhawan due to short circuit	- Furniture, partition, files caught fire - Stampede-like situation due to single exit - Burns and injury to 10-15 persons - Smoke suffocation to 2-3 persons	Fire evacuation by occupants of Biju Bhawan Fire-fighting by Fire Department Search and rescue by Fire Department Medical response (triage & first aid) by teams of City Health Officer, Fire Department and volunteers trained in first response Medical Post by NDRF at Kalyan Mandap

Table 3.3: Detailed Activities Planned under Scenario Building Exercise

Location	Key Activities
IT Cell, CMC Office, Biju Bhawan	1. Monitoring the IMD website for regular updates 2. Received IMD's cyclone warning of severe cyclonic storm with speed of around 89–117 km/h likely to make landfall along the coast of Puri district. Heavy to very heavy rainfall is expected for next 24 hours in Cuttack 3. Makes record of the warning in the log book and promptly informs Municipal Commissioner (MC) about the same 4. Monitor the situation and regularly informs MC for any updates from IMD 5. Makes record of instructions received from MC and disseminate the same to Control Room and those concerned and vice versa 6. Get feedback on the disseminated instructions and upraise MC on regular interval 7. Make record of the activities performed
CMC Office, Biju Bhawan	1. MC takes stock of situation on ground from different line departments 2. Instructs Slum Improvement Section and Police for evacuation of people from Pattapole slum area to temporary shelter at Gandhi Vidypith with help of squad (Sanitary Inspectors, Tax Collectors and Community Organisers) of respective wards and volunteers 3. Instructs Slum Improvement Section and Police for last mile dissemination and community mobilization preparing for evacuation at Kathajodi Vihar slum area with help of squad of respective ward and volunteers 4. Instruct and issue letters to all line departments for necessary support. 5. Instructs and issue letter to DEO for closing down schools in the areas likely to be affected and sparing identified schools for temporary shelter – Gandhi Vidyapeeth for simulation exercise 6. Orders for pre-positioning/ standby of NDRE, ODRAF, Medical Team, emergency vehicles, tractors, earth movers, and equipment such as branch cutters, dewatering pumps, etc. at staging area at Kalyan Mandap for prompt deployment 7. Instructs CMC staff for prompt arrangement of dry snacks and drinking water for persons evacuated to shelters 8. Instructs each line department and response agencies to depute their representatives for control room for better coordination 9. Make record of the activities performed
Control Room, Bikash Bhawan	1. Makes record of instructions and message received from IT Cell, CMC in the log book and disseminates the information to all concerned line departments and filed officers. 2. Keeps on thereafter and informs the IT Cell for any updates from the field on regular interval 3. Representatives of line departments will coordinate with their respective



Location	Key Activities
	departments for the deployment of necessary resources such as manpower, equipment, vehicles etc. 4. Make record of the activities performed 5. Apprise the control room about completed tasks
Staging Area, Kalyan Mandap	1. Pre-positioning/ standby resources and teams such as NDRF, ODRAF, Medical Team, dewatering pumps, tractors, vehicles etc. for prompt deployment if required 2. Maintaining log book of incoming resources, deployment of resources to required location and demobilisation of the same after completion of operation 3. Establish Medical Post
CMC Office, Biju Bhawan	1. On the detection of fire, inform everyone in the office through fire alarm or shouting 'fire, fire, fire' 2. Promptly informs MC about the situation 3. Immediately evacuate office staff in a systematic manner, avoiding stampede like situation 4. Immediately inform fire brigade for fire fighting 5. Immediately inform Control Room, Bikash Bhawan for other necessary support from medical, NDRF and ODRAF 6. Assemble at the designated assembly point at CMC premise 7. Headcount and inform to the Incident Commander and inform if anyone is missing 8. Firefighting will be conducted by Odisha Fire Services 9. Search and rescue will be conducted by Odisha Fire Services, NDRF and ODRAF 10. Medical response (triage & first aid) will be provided by 108 Emergency Services, NDRF and ODRAF 11. Make record of the activities performed 12. Apprise the control room about completed tasks
Pattapole	1. On the receipt of information from control room, mobilise concerned COs and community volunteers for last mile dissemination and community mobilization 2. Inform community precisely about the early warning, need of evacuation, belongings to be carried, etc. and make them ready for the evacuation 3. Inform DEO and school authority to establish temporary shelter at Gandhi Vidypith 4. Evacuate people to Gandhi Vidypith 5. Establish registration desk to record the details of people at temporary shelter 6. Establish medical post at temporary shelter 7. Distribute relief to the evacuated people 8. Demobilize resources and people, on receipt of information from the control room



Location	Key Activities
	9. Make record of the activities performed 10. Apprise the control room about completed tasks
Kathajodi Vihar	1. On the receipt of information from control room, mobilise concerned COs and community volunteers for last mile dissemination and community mobilization 2. Inform community precisely about the early warning, need of evacuation, belongings to be carried, etc. and make them ready for the evacuation, if required 3. Make record of the activities performed 4. Apprise the control room about completed tasks

Further, as part of the scenario building exercise, resources (human and equipment) of different stakeholders were mapped to estimate the pool of resources available for the simulation exercise. Table 3.4 lists down the details of resources committed by different stakeholders for the purpose of simulation exercise. The resource mapping exercise assisted in identification of various human resources including volunteers available for playing different roles and functions during the simulation exercise and would be subsequently trained for the same during the two days training program on different aspects of disaster management.

Table 3.4: Mapping of Resources Available with Stakeholders

Department/ Agency	Nodal Person, Designation, Contact Details	Resources (Equipment + Human) Available for Deployment	Quantity
CMC	Smt. Latashree Bag, Secretary-cum-Nodal Officer, CMC 9556256600	1. Incharge, IT Cell	2-3 persons
		2. Incharge of Control Room	1 person
		3. Staff of Biju Bhawan (for evacuation and dummy victims of fire incident)	Around 100 persons
ODRAF	Shri Sunil Kumar Nayak, Dy. Subedar 8249377834	1. Human resource	1 team of 10 persons
		2. Boat with accessories	2 sets
		3. Cutting equipment	2 sets
		4. First aid kit	1 set
		5. Breathing apparatus (B.A.) set	2 sets
		6. Fire extinguisher	2 nos.
NDRF	Shri A.K. Patnayak, Asst. Commandant 9437516227	1. Human resource	1 team of 25 persons
		2. Boat + OBM (Outboard Boat Motor)	03 sets
		3. Cutting equipment	03 sets
		4. First aid team	05 persons
Odisha Fire Service	Shri. Abani Swain, Asst. Fire Officer 7978035233	1. Human resource	4 persons
		2. Fire-fighting team and equipment	As per requirement



Health and Sanitation	Dr. Umesh Chandra Panigrahi, City Health Officer 9437020650	1. Medical team	10-15 persons
		2. Ambulance	2
Slum Improvement Section, CMC	Shri Debasish Mohanty, SIO 9437164605	Human Resource	16 persons
Control Room, CMC	I/C, Control Room 9238828127	1. Human Resource	3 persons
		2. Landline	2 sets
Cuttack Development Authority	Shri Narad Chanan Rath, Executive Engineer, CDA 9437180346	1. JCB	1
		2. Tractor	1
Utkal Sevak Samaj, NGO	Er. Anwoya Avinab 7008967838 9437004821	Human Resource (3 women volunteers, 2 for control room, 5 for exigencies)	10 persons
Biju Yuva Vahini	Shri Shibananda Sanantaray 7735230020	Human resource	3 persons
Cuttack R&B Division-II	Shri Rabinarayan Salu, A.E. 9437331626	Human resource	1 person
CESU, CDD-I	Asst. General Manager, CDD-I 9437011302	1. Human resource	1 line man
		2. TPP material	1 set
P.H. Division-1	Executive Engineer 9937306616	1. Water tanker	1 no
		2. Human resource (Driver, Helper, Fitter Mistry, Khallasi)	4 persons
Odisha Water Supply and Sewerage Board (OWSSB)	Shri Dillip Kumar 9438912712	Human resource	1 person
PWD Division-I, Cuttack	Shri Ashok Kumar Behara, Asst. Engineer 9938998489	Human resource	1 person
DCP, Cuttack		Human resource	10-15 persons

As part of orientation workshop, the draft SOPs on cyclone, flood and fire were discussed with the stakeholders for their feedback and suggestions based on their understanding of the ground situation, functioning of their departments/ agencies and the challenges/ bottlenecks, they faced during management of past disasters in the city. The exercise assisted in further streamlining of the SOPs and supported the development of a participatory and dove-tailed SOPs for Cuttack City.

3.3 Training of Stakeholders

Based on the scenario developed and roles and responsibilities laid down in SOPs, a two-day training program was conducted on 9th-10th December, 2019 for staff and volunteers of different



line departments, agencies and NGOs. The detailed schedule of the training program is as per annexure 2. The training program was conducted to develop the capacity of human resources to efficiently and effectively play their role not only during the simulation exercise but also during real disaster situations. The two-day training program ensured that all stakeholders and volunteers were apprised of respective roles and duly trained on the same. The volunteers playing dummy victims were also sensitized for their respective roles during the simulation exercise to ensure the seriousness and discipline during the conduct of the exercise. The sensitization and training of all the stakeholders of the simulation exercise is an essential step to mitigate any chances of happening of any untoward incident during the exercise. Further, due to this, it was assisted in ensuring that no personnel/ volunteer was made to execute a task which they are not trained to do.

The training program comprised of both theoretical understanding and practical demonstration of different critical aspects of disaster management. Some of the key aspects covered during the training program are as below:

Non-structural hazards and their mitigation: It focused on different non-structural elements inside a building like offices, schools, houses which can cause injuries or disrupt the evacuation process during an incident of fire, floods and cyclone. Participants were also shown photos and videos of real disaster situations demonstrating the need of mitigating these non-structural elements. Various cost effective and easy to implement mitigation measures of anchoring and bracing of these non-structural hazards were also discussed with the participants.

Fire safety: Participants were informed of the basics of fire and fire-fighting. Different types of fires and fire extinguishers were discussed in detail, along with demonstration on how to use fire extinguisher using a dummy extinguisher. A detailed demonstrative session on fire safety was also later conducted by Assistant Fire Officer and his team at Biju Bhawan involving for all its occupants.



Evacuation: Participants were informed of the procedure for evacuation including identification of safe route for evacuation, identification of assembly area, process of head count and other do-s and don't-s to be followed during the evacuation process to avoid any stampede-like situation.

Since the simulation exercise was to include community mobilization for evacuation and actual evacuation of community to safe shelter, the community organisers were also sensitized on conveying clear and concise message to the community for evacuation purposes and on how to train the community on what to pack and carry with them in case of evacuation to safe shelters. Participants were also trained in various improvised techniques of making stretchers out of locally available material like bamboo, blankets, t-shirts, sack, ropes, etc. for the purpose of evacuation of old, sick, differently abled or pregnant women to safe location.

Search and rescue: Various techniques of search and rescue in case of fires, floods and cyclones were practically demonstrated to the participants by team of NDRF, 3rd Battalion. These included different kinds of lifts to be used depending on the nature of hazard and type of injury to the affected person. The participants got the hand-on training on the some of the commonly used emergency lifts and on handling of injured persons.

First aid: The NDRF, 3rd Battalion and Civil Defense personnel explained and demonstrated process of triage, different kind of injuries during road accidents, earthquakes, fires, floods and cyclones, etc. and procedure of handling them depending on the nature of injuries. The participants were trained on importance and basics of first aid and different techniques of first aid including checking airways, breathing and circulation (ABC), cardio-pulmonary resuscitation (CPR), head to toe inspection of the injured person, different kinds of bandages for different kind of body parts, etc. Sensitisation on basics of psychological first aid to reduce the trauma and stress of affected persons was also touched upon.





Functioning of control room: Participants were oriented on detailed functioning of the control room including receipt of warning and alerts, monitoring the ground situation, dissemination of warning to IT cell and departmental control rooms and response agencies, recording of the information received, coordination with ward level staff and response teams, etc.

Crowd and rumour management: Participants were sensitized on various aspects of management of crowd at time of evacuation, at temporary shelter and during relief distribution. They were made to play the game of Chinese Whisper to demonstrate the possible reasons of gaps and distortion in communication/ flow of information that may give rise to rumours and panic. The importance of disseminating clear and concise messages was further emphasized to mitigate the chances of spread of rumour

Shelter and relief management: The participants were sensitised on various aspects of shelter and relief management including maintain records of the inmates at the entry of the shelter with data segregated to identify age, gender and disability/ special considerations of the inmates, if any. They were further trained in management of basic facilities of food, drinking water and sanitation at the shelter; management of waste and do-s & don't-s during relief distribution and management to ensure dignity of the inmates and to avoid incidents of stampede or panic in the shelter.

3.4 Table Top Exercise

Table top exercise, as a precursor to the final exercise, provided a platform to all the identified stakeholders to undertake a theoretical simulation of the decided scenario without involving actual stress and panic. It involved dry run of all planned activities right from early warning to relief management. It was guided by the facilitator from the project team who was providing the regular update in the ground situation of the main scenario and allowed a timed deliberation by the stakeholders on the possible action to be done at their end. It allowed the stakeholders with an opportunity to acknowledge, brainstorm and discuss the unforeseen challenges and gaps in the internal planning or availability/ management of resources or alike. Some of the situations under the main scenario that were deliberated on during the table top exercise are as below.





Situation 1 (As on 1300 Hrs. on 11th December, 2019): Heavy inflows and overflowing of rivers Mahanadi and Kathajodi, due to incessant rains, as a prelude to Severe Cyclone ANI, landfall in afternoon of 12 Dec between Puri and Paradeep area, has inundated all 294 identified low lying areas in jurisdiction of CMC. The situation is grim as these areas are knee deep water logged, affecting thousands of families. These areas have become isolated pockets. Several subways and water outlets are blocked/choked severely.

Deliberation: What action would you take as response agencies and in what time-frame. What additional help, if any, would you urgently seek from various stakeholders in Municipal Corporation and from the Cuttack district? Discuss details of plans for such contingencies that are in place?

Situation 2 (As on 1900 Hrs. on 11th December, 2019): Reports from IMD, State DM Department and CWC indicate occurrence of heavy rains associated with the cyclone located about 150 Km southeast of Puri in coming 24 hrs. Cyclone is expected to cross between Puri and Paradeep, in afternoon of 12 Dec 2019 and damaging winds ranging 150-170 Km/Hr from approaching cyclone would start blowing from mid night of 11/12 December 2019. Storm Surge of about 4-6m is expected in most coastal areas between Puri and Paradeep associated with the Cyclone landfall on 12 Dec 2019.

Deliberation: As CMC, what action, if any would you like to take, in respect of Preparedness Planning for Cuttack city. Discuss actions envisaged as heads of various civic authorities in Cuttack Municipal Corporation

Situation 3 (As on 0800 Hrs. on 12th December, 2019): The flood situation in the Cuttack City turned grim today, with both rivers running on both sides of the City and other water sources overflowing, following incessant rain and discharge from several dams. Storage in the area's minor reservoirs went up by about one thousand million cubic feet (tmcft) by now, and the water managers expect to add another one tmcft in a day or two, with reservoirs and catchment areas recording heavy rain due to approaching Cyclone ANI. In the past 24-hour period that ended 8-30 a.m. today morning, the Mahanadi and Kathajodi rivers are in spate as upper catchment areas have received 10-30 cm of rainfall. All the minor/medium reservoirs, that are at full storage level (FRL) already have started over-flowing due to release of heavy outflows downstream and flooded the low lying areas.

Deliberation: Actions by Flood Control Cell of Water Resources Department and Engineering Department of CMC as per Safety Norms and the coordination carried out with/by CMC.

Situation 4 (As on 0800 Hrs. on 12th December, 2019): Although mercifully, the rainfalls have receded (but not totally stopped) and cyclone crossed in the afternoon and weakened considerably the quantum of releases downstream of the minor/medium storage reservoirs is continuing and is likely to last next 8 to 10 hrs. The Kathajodi river, carrying about 1 lakh cusecs of water caused havoc at Kathajodi Vihar and from Pattapole to Gandhi Vidyapeeth. The river was getting an inflow of over 10,000 cusec from the upstream areas due to past heavy rains. About 8,000 cusecs of water was overflowing from the local tanks and flooding 30 downstream villages.

1. Areas around Kathajodi Vihar

Casualties/Losses:

About 50 temporary houses were partially damaged, and about 40 persons were marooned. 8 persons were drowned and 15 injured.

Affected:

According to a conservative estimate, about 500 persons have been affected and many of them are refusing to get evacuated as there is no security of their belongings.

2. Pattapole to Gandhi Vidyapeeth

About 58 huts were damaged completely and 25 partially. 2 children drowned in the nala flowing in the area. 25 persons including 5 women and 5 children were injured. 3 persons are missing.

Affected:

The water level is 3-5 feet. Almost all families in the three localities of the low lying area have been affected. Here too, fearing theft of their belongings, some of them are not ready to shift to shelters. Almost every family is keeping one to two family members in their houses in flooded area.

Deliberation:

- How will the evacuation take place? Who will be responsible at the ward and affected low level area level?
- Does the community know about the personal kit/s they should prepare and carry and what are the contents of the family kit/s that has been planned? Will it be one or two kits per family?
- How would persuade the community to move from their flooded houses to the safe shelters?

Situation 5 (As on 1300 Hrs. on 12th December, 2019): While the cyclone and flood relief work was going on and the CMC and other stakeholders were fully occupied, a fire broke out due to short circuit in the License Section of CMC on the second floor of Biju Bhawan. The temporary wooden partition walls and files being inflammable caught fire easily and soon it became a major fire. There were approximately 125 persons in the Biju Bhawan at that time. A stampede like situation arose as everyone wanted to get out through single entry/exit staircase. Due to fire and smoke, 15 persons including 4 women staff suffered from burn injuries and 12 including 3 women got smoke related injuries. 15 staff personnel are stranded in the Bhawan.

Deliberation:

- Actions at the CMC Office level, before the arrival of Fire Department
- Action by IT Cell, CMC and Control Room
- Sequence of action by the Fire Department

3.5 Conduct of Exercise

For the overall supervision of various activities conducted at the locations of the simulation exercise, nodal officers were designated for each of the locations by Municipal Commissioner. Similarly, for ensuring coordination among all response personnel and volunteers at a particular location, team leaders were designated. This streamlined the flow of communication and information to and fro the control room and the locations of the exercise. Sequence of activities undertaken at different locations during the simulation exercise are listed in table 3.5.





Table 3.5: Time-wise Activities Performed during Simulation Exercise at Various Locations

Control Room, CMC at Bikash Bhawan

Resources deployed:

Representatives of NDRF, ODRAF, Biju Yuva Vahini and other line Departments

Landline phone - 2 sets

Mobile phones - 10 sets

VHF – 1 set

Activities performed:

S. No.	Time	Activities
1.	11:32 am	Early warning for cyclone and heavy rainfall received along with instructions from Municipal Commissioner regarding the dissemination of the same to all stakeholders
2.	11:33 am- 11:38 am	Communicated the warning to ODRAF team, NDRF team, Community Organisers (Pattapole and Kathajodi Vihar), City Health Officer, Slum Improvement Officer (SIO) and concerned ward Tax Collectors, volunteers of Utkal Sevak Samaj and Biju Yuva Vahini
3.	11:40 am	Call received from IT Cell, CMC regarding fire incident at Biju Bhawan
4.	11:42 am- 11:49 am	Communicated the information of fire incident to Fire Department, ambulance, NDRF team, ODRAF team, Electricity Department
5.	12:10 pm	Information received from Community Organiser regarding water logging situation at Pattapole
6.	12:11 pm- 12:15 pm	Communicated the information to NDRF team, ODRAF team, concerned Sanitary Inspector, JE for prompt deployment
7.	12:15 pm	Request received from Community Organiser for arranging relief food material for around 100 persons at the temporary shelter established at Gandhi Vidhyapeeth, Pattapole
8.	12:32 pm	Communicated the information to SIO, concerned Tax Collector for activation of teams for relief distribution

Biju Bhawan

Resources deployed:

Fire Department- 26 fire staff including 20 firemen, fire-fighting tender, rope, ladder, stretchers, fire extinguishers, BA sets and fire-fighting suits

ODRAF- BA sets, scene tape for cordoning off the area, rescue team with stretchers

NDRF- BA sets, medical team with medical kits and oxygen cylinders, rescue team with stretcher

Utkal Sevak Samaj- 2 volunteers

Activities performed:

S. No.	Time	Activities
1.	11:45 am	Volunteers of Utkal Sevak Samaj reached the site to assisted in search and rescue and first aid of the affected persons
2.	11:40 am - 11:50 am	Evacuation of staff of Biju Bhawan to assembly area followed by head count to estimate missing persons
3.	11:50 am	Fire-fighting and fire search and rescue teams reached and initiated fire-fighting and rescue operation
4.	11:52 am	ODRAF team reached and undertook rescue operation of missing persons (12-15) trapped in the building and transported them to medical post safely
5.	11:53 am	NDRF team reached for providing first aid to evacuated and rescued persons

Staging Area at Kalyan Mandap

Resources deployed:

NDRF- Search and rescue equipment and medical equipment and kits for establishing medical post at Kalyan Mandap

ODRAF- Search and rescue equipment

Kathajodi Vihar

Resources deployed:

Ward level squad of CMC- Staff, portable loudspeaker

Utkal Sevak Samaj- 6 volunteers

Biju Yuva Vahini- Volunteers

Civil Defense- Volunteers

ODRAF- Walkie talkies, life jackets, life buoy, rope, power boat with accessories, 4 ODRAF personnel

NDRF- Sub-team for assisting in community mobilization and evacuation, if required

Activities performed:

S. No.	Time	Activities
1.	11:33 am	Received early warning regarding heavy rainfall from Control Room, CMC
2.	11:40 am	ODRAF and NDRF personnel reached for assisting in community mobilization for evacuation
3.	11:50 am	Volunteers of Utkal Sevak Samaj, Biju Yuva Vahini, Civil Defense reached the area and conducted community mobilization for evacuation
4.	11:55 am-12:15 pm	Volunteers conducted door to door dissemination of the warning and mobilization for evacuation, counselling of children and pregnant women for evacuation and sensitised on how and what to pack



5.	12:00 pm- 12:30 pm	Ward level squad undertook mike announcement of the warning for the community using auto, rickshaws and conducted group meeting with the community for convincing them for evacuation along with sensitisation on how and what to pack
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Pattapole

Resources deployed:

Ward level squad of CMC- Staff,

Utkal Sevak Samaj- 2 volunteers

Biju Yuva Vahini- Volunteers for registration at medical post

Civil Defense- Volunteers

ODRAF- Tea, vehicle and megaphone

NDRF- Rescue equipment and medical kits

Activities performed:

S. No.	Time	Activities
1.	11:35 am- 11:45 am	Community Organiser called Utkal Sevak Samaj, Biju Yuva Vahini for providing local volunteers for management of medical post and patient management
2.	11:45 am- 12:15 pm	Volunteers undertook community mobilization through door-to-door visits and ensured crowd management during evacuation process and at temporary shelter by managing them in queues
3.	11:50 am	NDRF and ODRAF personnel along with ward level volunteers assisted in safe evacuation of old aged, sick and differently-abled persons to temporary shelter through stretchers, spine board, etc.
4.	11:55 am	Record making of evacuated persons (98) at temporary shelter at registration desk and medical post by volunteers
5.	11:57 am	NDRF, ODRAF and Civil Defense personnel provided first aid to incoming injured or sick persons (22)
6.	12:20 pm	Distributed relief items (biscuits and water pouch) to inmates of temporary shelter





3.6 Debriefing

Debriefing meeting was conducted under the chairmanship of Municipal Commissioner to evaluate the actions of various response personnel, ability of departments & agencies to implement the SOPs and effectiveness of the SOPs. Observers for the simulation exercise were drawn from different line departments, agencies and NGOs to include diverse perspective in evaluation of the simulation exercise. The observers provided an overall evaluation of the entire process with the help of pre-defined format for evaluation (annexure 3). The criteria for evaluation of simulation exercise was based on timeliness, appropriateness and due procedure of the actions taken. Further, the debriefing meeting allowed all the stakeholders to evaluate the exercise, flag the challenges/ gaps faced during execution of their respective roles and responsibilities. On the basis of debriefing meeting, observations of various stakeholders including volunteers and observers which participated in the simulation exercise were recorded. The gaps identified during the simulation exercise and recommendations for the are discussed in brief in table 3.6.



Table 3.6: Key Observation and Suggestions

Locations	Key Observations/ Suggestions
Control Room, CMC at Bikash Bhawan	- Besides landline phone, explore and install other mode and equipment of communication - Procure VHF sets and satellite phone for prompt deployment in affected areas to provide immediate connectivity with control room, in case of failure of traditional mode of communication like landlines and mobiles - Explore and install alarm system/ siren for warning the community at large - TV sets switched to local and national news channels for regular monitoring of ground situation - Display of demographic details of the city, district and state along with online copy of the same - Display of map of the City at Control Room, CMC depicting vulnerable areas for easy understanding of the affected areas, location of facilities like Incident Command Post, Incident Base, temporary shelters, relief camps, helipads, etc.

	• Keep a copy of Odisha State Disaster Management Plan, Cuttack District and Cuttack City Disaster Management Plan, HRVC study of Cuttack City • Keep a copy of telephone directory having contact details of all response services and line departments • Keep a copy of database of NGOs, community based voluntary organisations working in different wards of the city
Biju Bhawan	• Fire evacuation of staff was completed in ten minutes • Siren system should be installed in the building for prompt communication of emergency/ warning to the occupants • Ambulance is necessary for immediate transportation of victims to nearest hospitals. Due to unavailability of ambulance, troop carrier of Fire Services was used to transfer injured persons to medical post • Better coordination with District Health Department may be ensured for similar exercises in future • Biju Bhawan situated in Chaudhary Bazar where lanes are narrow for quick movement of fire tenders
Kathajodi Vihar	• Resource mapping of the community and nearby areas should be done for prompt mobilization of resources • Similar exercises should be conducted regularly with the community for developing better understanding of the community and other stakeholders about the procedures
Pattapole	• Local NGOs and local resources should be mapped and utilized for similar evacuation and shelter management operation • Key challenge during evacuation is panic and chaos management among the community • Registration of evacuated persons at the temporary shelter is challenging task and is better done with the help of volunteers for crowd managements • Nearby medical staff should be mapped and utilized during similar operations



4. Media Coverage



କଟକ ନଗର ୧୧

ସିଏମ୍‌ସିରେ ମକ୍ତୁଲ୍ କାର୍ଯ୍ୟକ୍ରମ



ସିଏମ୍‌ସି ଅଫିସ ପରିସରରେ ଅନୁଷ୍ଠିତ ମକ୍ତୁଲ୍।

କଟକ ଅଫିସ, ୧୨।୧୨

କଟକ ସହରବାସୀଙ୍କୁ ବନ୍ୟା, ବାତ୍ୟା, ଭୂମିକମ୍ପ, ଅଗ୍ନିକାଣ୍ଡ ଭଳି ବିପର୍ଯ୍ୟୟର ସମ୍ମୁଖୀନ ହେବା ଉପାୟ ଶିଖାଇବା ପାଇଁ ଗୁରୁବାର କଟକ ମହାନଗର ନିଗମ(ସିଏମ୍‌ସି) ଓ ମିଳିତ ଜାତିସଂଘ ତେଜଲପମେଞ୍ଚ ପ୍ରୋଗ୍ରାମ ମିଳିତ ସହଯୋଗରେ ମକ୍ତୁଲ୍ କାର୍ଯ୍ୟକ୍ରମ ଅନୁଷ୍ଠିତ ହୋଇଥିଲା। ସିଏମ୍‌ସି ବିଜୁ ଭବନ ପରିସରରେ ଅନୁଷ୍ଠିତ କାର୍ଯ୍ୟକ୍ରମରେ ଅଗ୍ନିକାଣ୍ଡରୁ ରକ୍ଷା ପାଇବା ପାଇଁ ଲୋକଙ୍କୁ ସଚେତନ କରାଯାଇଥିଲା। ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ସିଏମ୍‌ସି କମିଶନର ଅନନ୍ୟା ଦାସ, ସଚିବ ଇଡାଣ୍ଡା ବାଗ, ଏଣ୍ଟାଡ୍‌ସମେଞ୍ଚ ଅଫିସର

ବିଜିତ୍ରାନନ୍ଦ ନାୟକ, ସ୍ବାସ୍ଥ୍ୟ ଅଧିକାରୀ ଡ. ଉମେଶ ପାଣିଗ୍ରାହୀ, ତେପୁଟି କମିଶନର ଡା. ଅବିନାଶ ରାଉତ ପ୍ରମୁଖ ଉପସ୍ଥିତ ଥିଲେ। ସେହିପରି ଏନ୍‌ଡିଆର୍କଏଫ୍, ଓଡ୍ରାଫ, ଟ୍ରାଫିକ ପୋଲିସ, ସିଭିଲ ଡିପେଟ୍ଟ, ଅଗ୍ନିଶମ, ପୋଲିସ, ଫିରକ୍ତି, ଆର୍ ଆଣ୍ଡ ବି'ର ଅଧିକାରୀ ଓ କର୍ମଚାରୀମାନେ ମକ୍ତୁଲ୍ ମାଧ୍ୟମରେ ଲୋକଙ୍କୁ ବିଭିନ୍ନ କୌଶଳ ଶିକ୍ଷା ଦେଇଥିଲେ। ଏଥିରେ ବିଜୁ ଯୁବବାହିନୀ, ସ୍ବାସ୍ଥ୍ୟ ବିଭାଗ, ଖାର୍ତ୍ତ ଭଲେଞ୍ଜିଅର, ଟ୍ୟାବ୍ କଲେକ୍ଟର, ଏନ୍‌ଜିଓର ସଦସ୍ୟ ସହଯୋଗ କରିଥିଲେ। ସେହିପରି ବିକାଶ ଭବନ ପରିସର, କାଠଯୋଡ଼ି ବିହାର ବସ୍ତି ଓ ପଟ୍ଟାପୋଲ ବସ୍ତିରେ ମକ୍ତୁଲ୍ ଆୟୋଜିତ ହୋଇଥିଲା।

Annexure 1: Schedule of Preparatory Meeting-cum-Orientation Workshop

4th December, 2019, Grand Residency, Cuttack

Session	Time	Methodologies	Session Components
Registration of participants and invited guest (s)	10:30 am-11:00 am	-	Registration
Inauguration of the Workshop	11:00 am-11:30 am		• Inaugural Address
Introduction, Objective	11:30 am-12:00 pm	Interactive session	• Outline of the Planning Meeting-cum- Orientation Workshop
Planning of simulation exercise	12:00 am-01:45 pm	Presentation and discussion	• Finalization of scenario for simulation exercise • Identification of stakeholders including volunteers for simulation exercise • Planning for video documentation
Lunch 01:45 pm – 2:30 pm and Group Photo			
Orientation of stakeholders on SOPs	02:30 pm-04:00 pm	Presentations, and scenario based group exercise	• Finalizing key activities and identifying responsible department/ agency and designations for different roles and responsibilities in the SOP
Open discussion	04:00 pm-04:15 pm	Interactive session	• Way forward



Annexure 2: Schedule of Training of Stakeholders/Volunteers for Simulation Exercise in Cuttack City

Date 09th & 10th December, 2019

Venue: Grand Residency Hotel, Cuttack

Day 1

Session	Time	Methodology	Session Components	Facilitated by
Registration of participants	10:00 am-10:30 am	-	Registration	
Inauguration of the Training, Introduction and Objective	10:30 am-11:00 am	Interactive session	- Inaugural address - Outline of the training	- CMC - UNDP
Introduction to scenario	11:00 am-11:30 am	Presentation and discussion	Understanding scenario for simulation exercise	Ms. Ambika Dabral
Non-structural hazards	11:30 am-12:15 pm	Presentation and discussion	- Identification of non-structural hazards - Mitigation measures for non-structural hazards	Ms. Ambika Dabral
Evacuation	12:15 am-01:15 am	Presentation and discussion	- Identification of safe routes and assembly area - Evacuation procedure - Do's and don'ts during evacuation	Dr. Nina Khanna
Psychosocial care	01:15 pm-01:45 pm	Presentation and discussion	Introduction to psychosocial care	Ms. Ambika Dabral
Lunch 01:45 pm – 2:30 pm				
Fire Safety	02:30 pm-03:15 pm	Presentation and group exercise	- Types of fire - How to use fire extinguisher? - Dos and don'ts	Mr. Vipul Nakum
Crowd and Rumour Management	03:15 pm-04:00 pm	Presentation and discussion	Different aspects of crowd management	Dr. Nina Khanna
Open discussion	04:00 pm-04:15 pm	Interactive session	Way forward	All participants

Day 2

Session	Time	Methodology	Session Components	Facilitated by
Recap of day 1	10:00 am-10:30 am	Interactive session	-	Mr. Vipul Nakum
Search and Rescue	10:30 am-12:30 pm	Presentation and group exercise	- Introduction to search and rescue - Techniques of search and rescue	- Dr. Nina Khanna - Mr. Vipul Nakum - Supported by



Session	Time	Methodology	Session Components	Facilitated by
				Civil Defense
Relief management	12:30 pm-01:00 pm	Presentation and discussion	Different aspects of relief management	Ms. Ambika Dabral
Media management	01:00 pm-01:30 pm	Presentation and discussion	Different aspects of media management	Dr. Nina Khanna
Lunch 01:30 pm – 2:15 pm				
First Aid	02:15 pm-03:15 pm	Presentation and group exercise	- What is first aid? - Key first aid techniques - CPR	- Dr. Nina Khanna - Mr. Vipul Nakum - Supported by NDRF
Functioning of control room and emergency communications	03:15 pm-03:30 pm	Presentation and discussion	- Control room procedure - Emergency communication with stakeholders	Dr. Nina Khanna
Documentation the disaster	03:30 pm-04:00 pm	Presentations, and group exercise	Formats of documentation	Ms. Ambika Dabral
Open discussion and Valediction	04:00 pm-04:15 pm	Interactive session	Way forward	- All participants - CMC



Annexure 3: Formats

Record of Activities Performed during Simulation Exercise

Date: 12/12/2019

Name of the Location: _____

Name of the Department/Agency: _____

Type of Support Function (Eg. Early Warning & Communication, Evacuation, Search & Rescue, Fire Fighting, Medical, Law and Order, Relief Distribution, etc.):

Name of the Team Leader: _____

Designation & Department/Agency: _____

Role assigned for Simulation Exercise: _____

Message/Communication Received			
Time	Received From	Mode of Communication	Details of Message

Action Taken	
Time	Details of Actions Taken by Team Leader, Recipients & Stakeholders along with details of resources deployed (manpower, equipment, vehicles etc.)

Key Challenges, if any:

Suggestions, if any:

Signature



FORMAT FOR REPORT BY OBSERVERS

Date: 12/12/2019

Name of the Location: _____

Name of the Nodal Officer & Department: _____

Name of the Observer: _____

Designation & Department/Agency: _____

1. What was the first reaction of the Nodal Officer/ Department/Agency on receipt of information?
2. What was their initial & subsequent assessment of the situation/s?
3. Duties undertaken by the Team Leader (Give details of duties).
4. Resources Available and carried for the specific tasks.
5. Was the organization able to carry out its assigned task? How would you assess their performances

100 % Success / 75 % Success / 50 % Success / 25 % Success
6. Observers Comments (Frank opinion, good practices and weakness/shortcomings noticed).

Signature



Glossary

Affected: People who are affected, either directly or indirectly, by a hazardous event. Directly affected are those who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets. Indirectly affected are people who have suffered consequences, other than or in addition to direct effects, over time, due to disruption or changes in economy, critical infrastructure, basic services, commerce or work, or social, health and psychological consequences.

Capacity: The combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience.

Capacity development: It is the process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals. It is a concept that extends the term of capacity-building to encompass all aspects of creating and sustaining capacity growth over time. It involves learning and various types of training, but also continuous efforts to develop institutions, political awareness, financial resources, technology systems and the wider enabling environment.

Disaster: A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

Disaster damage occurs during and immediately after the disaster. This is usually measured in physical units (e.g., square meters of housing, kilometres of roads, etc.), and describes the total or partial destruction of physical assets, the disruption of basic services and damages to sources of livelihood in the affected area.

Disaster impact is the total effect, including negative effects (e.g., economic losses) and positive effects (e.g., economic gains), of a hazardous event or a disaster. The term includes economic, human and environmental impacts, and may include death, injuries, disease and other negative effects on human physical, mental and social well-being.

Disaster management: The organization, planning and application of measures preparing for, responding to and recovering from disasters.

Disaster risk reduction: Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.

Early warning system: An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events.

Evacuation: Moving people and assets temporarily to safer places before, during or after the occurrence of a hazardous event in order to protect them.



Hazard: A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.

Mitigation: The lessening or minimizing of the adverse impacts of a hazardous event.

Preparedness: The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.

Resilience: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

Response: Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

Structural and non-structural measures: Structural measures are any physical construction to reduce or avoid possible impacts of hazards, or the application of engineering techniques or technology to achieve hazard resistance and resilience in structures or systems. Non-structural measures are measures not involving physical construction which use knowledge, practice or agreement to reduce disaster risks and impacts, in particular through policies and laws, public awareness raising, training and education.

Vulnerability: The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.







Resilience Innovation Knowledge Academy Pvt Ltd

108 A, K-3, Mohan Garden, Uttam Nagar, New Delhi- 110059

Email: www.rikaindia.com

Phone: 011 40623151

