A Guide for Village Disaster Management Plan: Community Resilience





ZONE4SOULTIONS

#DisasterFreeIndia

PREFACE

One of the most important components in minimizing people's vulnerabilities and limiting loss is community engagement and ownership in disaster risk reduction programmes. Communities, as the first responders, are in a better position to plan and execute immediate rescue and relief actions because they are more contextually familiar with hazards and resources at the local level. Therefore, the most critical component in establishing Village-level Disaster Management Plan. It provides sets of tasks that a community commits to undertake in the event of a disaster to prevent loss of life, livelihood, and property. It also highlights actions for community preparedness with or without early warning. The major goal is to make the community self-reliant. All of the operations in the emergency response plan are meticulously planned, prepared, rehearsed, and synced to minimise the time and effort.

Zone4Solutions being one of the prominent organizations working in the subject field of Disaster management consider disaster management planning as one of the key actions for overall safety. This tool has been designed resources provided during different consultations with our client and experts of different backgrounds. The guide is designed to help the relevant stakeholders the to identify hazards, risks the village community is facing or might face and its capacity to mitigate the impacts of the hazard. It will be necessary that the users of this manual understand the disaster management concepts and put them in use suitably under their local conditions under the guidance of a qualified Disaster Management Expert. Users are also encouraged to share their feedback and comments on how to improve the guide for the future.

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GLOSSARY

- 1. Capacity: The combination of all the strengths, attributes, and resources available within a community, society, or organization that can be used to achieve agreed goals. Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership and management. Capacity also may be described as capability. Capacity assessment is a term for the process by which the capacity of a group is reviewed against desired goals, and the capacity gaps are identified for further action.
- 2. Capacity Development: The process by which people, organizations, and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through the improvement of knowledge, skills, systems, and institutions.
- 3. Disaster: A catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of environment and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.
- 4. Disaster Risk: The potential disaster losses, in lives, health status, livelihoods, assets, and services, which could occur to a particular community or a society over some specified future time period.
- 5. Disaster Risk Management: The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.
- 6. Disaster Risk Reduction: The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.
- 7. Emergency services: The set of specialized agencies that have specific responsibilities and objectives in serving and protecting people and property in emergency situations. Emergency services include agencies such as civil protection authorities, police, fire, ambulance, paramedic and emergency medicine services, Red Cross and Red Crescent societies, and specialized emergency units of electricity, transportation, communications and other related services organizations.
- 8. Hazard: A dangerous phenomenon, substance, human activity, or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

- 9. Mitigation: The lessening or limitation of the adverse impacts of hazards and related disasters. Non-structural Measures: Any measure not involving physical construction that uses knowledge, practice, or agreement to reduce risks and impacts, through policies and laws, public awareness-raising, training, and education.
- 10. Resilience: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to 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. Comment: Resilience means the ability to "resile from" or "spring back from" a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.
- 11. Preparedness: The knowledge and capacities developed by governments, professional response and recovery organizations, communities, and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent, or current hazard events or conditions.
- 12. Prevention: The outright avoidance of adverse impacts of hazards and related disasters.
- 13. Response: The provision of emergency services and public assistance 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.
- 14. Risk: The combination of the probability of an event and its negative consequences.
- 15. Risk Assessment: A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods, and the environment on which they depend.
- 16. Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- 17. Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time.

1 INTRODUCTION: COMMUNITY-BASED DISASTER MANAGEMENT (CBDM)

Due to climate change, we have increasingly been exposed to climate-induced disasters that damage our property, socio-economic infrastructure, and threaten the health of our institutions. This is due to increased community vulnerabilities. Therefore, community-level planning is needed to ensure preparedness, mitigation, and response to reduce disaster risks to enable everyone to be capable enough.

India is one of the most affected countries from climate change induced disasters such as floods, droughts, cyclones, urban floods, etc affected agriculture and food security. Cyclone Amphan hit the Sundarbans (May 2020) displacing approx. 2.4 million people in India. As a result, significant number of people are becoming homeless due to partial or total destruction of house, especially in sub-urban and rural India. States like Assam, Bihar, Karnataka, Maharashtra, Odisha and Andhra Pradesh are a few of the vulnerable states due to extreme climatic events)Climate Vulnerability Index, 2020). To a large extent, the reason is lack of awareness about disaster management, lack of infrastructural planning, unsustainable landscape and human-induced microclimatic change. Therefore, the Government of India has adopted multi-dimensional approach to reduce the vulnerabilities in multi-hazard prone regions. This acknowledges disaster resilient development through cost-effective investments in the preparedness and mitigation phase than relief and rehabilitation expenditure.

Table 1: Policy Framework for community capacity building in India

Disaster Management Act, 2005	Provides the institutional, legal, financial and coordination mechanisms for Disaster Management (DM) at the national, state, district and local levels.				
National Policy on Disaster Management, 2009	Provides roadmap for handling disasters in a holistic manner and addresses the concerns of all the sections of the society; Provide provisions for grant for rehabilitation.				
PM 10-point agenda (Point 8)	Build on local capacity and initiative to enhance disaster risk reduction				
73 rd and 74 th Amendments	Empowering local governments for enabling community resilience				

However, the government alone cannot manage all types of disasters with the institutional machineries without active participation by the people. Thus, it seeks community participation which is the effective and central element to achieve sustainability while dealing with development and disaster risks. The community resilience and risk-informed coordinated participation are must in any disaster resilient development initiatives as the communities are the best judge of their own vulnerabilities and capabilities. This involves the local influences, community leaders, and community itself to provide essential services to the affected population pre and post disasters. In order to build the community resilience, it is essential to empower the community and community-based facilities through awareness, knowledge broadcasting, partnerships, and ownership of planning. To convert this realization into action, the community need assistance and guidance to prepare customized community-based disaster management plans.

2 COMMUNITY BASED DISASTER PREPAREDNESS (CBDP)

As mentioned earlier, government cannot reach out to each household/village during disasters. Preparedness is required at all levels right from the household to the state and national governments to minimize the direct and indirect impacts of the disasters. The prime aim of the Community Based Disaster Preparedness is to reduce the community's susceptibility to disasters and increase its current disaster-resilience capabilities to address the issues collectively. In doing so, CBDP is incorporates components of disaster prevention and mitigation into a community's resilience and capacity development.

Any disaster's first responder is the community, and they have certain pre-existing coping mechanisms to decrease their vulnerability. They can be recognized as Child care professionals, teachers, students, Resident Welfare Associations, Below Poverty Line (BPL) houses, fishermen, shopkeepers, Youth service organizations, Cultural organizations, Transport service providers, schools, Food service providers, etc.

In this sense, the Community Based Disaster Preparedness is:



A prepardness tool that uses community resources to rescue lives, livelihoods, animals, and properties.

Commuity-owned disater managment plan to addess the root casue of vulnerbility, becoming self-reliant disaster proof community.



Figure 1: Community Inclusive Disaster Preparedness

CBDP approach aims to actively engage communities in identification, analysis, assessment, monitoring, implementation and evaluation of disaster risks as well as reducing their vulnerabilities and enhancing capacities. In order to generate preparedness and response within the community village level disaster management plans (VDMP) has to be developed. The VDMP is a list of activities a community performs to prevent massive loss and damage. It identifies the actions and responsibilities that need to be taken beforehand by the community members. Additionally, it provides the opportunity for community training to make them aware about the surrounding risks, vulnerabilities to strengthen their capacities for pre, during and post disaster actions.

2.1 VILLAGE LEVEL DISASTER MANAGEMENT PLANS (VDMP): WHY IT IS NECESSARY?

WHY VDM PLAN?

- Appropriate planning and designing
- Capacity Building for Safe Public Infrastructures
- Awareness on Disaster Management
- Community Risk perception
- Culture of Safety: Capacity Building for Safe Schools
- Institutional strengthening
- Disaster management and disability
- Regular monitoring of risk and revision of plan

An emergency is defined as any unforeseen phenomenon or event resulting in an urgent call for immediate response and relief. Emergencies are the temporary disruption however, large scale emergencies which affects the region are considered to a disaster. The destruction caused by disasters and community-based emergencies are irrecoverable. For instance, loss of direct source of livelihood and loss of lives of dear ones during Bhuj Earthquake, Bihar Floods, Cyclone Amphan, etc. Therefore, in a case of disasters or emergency a well-prepared community as an institution can design and initiate preventive and mitigation measures to substantially reduce the damage.

As part of the Village Disaster Management Plan (VDMP), the village community prepares a list of activities and responsibilities of the Village Disaster Management Committee (VDMC), Task Force Members, and the community during normal times, before, during, and after a disaster based on their own hazard, vulnerability, risk, resource, and capacity analysis. The plan also includes a village profile with maps, an emergency response plan, and a disaster risk reduction plan.

2.1.1 Stakeholders for preparation of the plan

Community	Political groups	Formal/informal common interest groups including Agricultural Products Market Committee (APMC)/Women's Self Help Groups (SHGs)
RWA Members	Community based organizations/NGOs	Community leaders/ local authority/ Education Institution/ Financial Institution.
Government	Corporate sectors	Response agencies – Fire, Police, MCD, Medical etc.

The manual's goal is to assist facilitators from various governmental, non-profit, and community-based organisations in assisting community members in developing their own community/village disaster management plans (VDMPs). To guarantee maximum involvement from all elements of the society, regardless of class, caste, sex, or vocation, efforts must be taken to establish ownership and sustainability of the process of Disaster Risk Reduction.

2.1.2 Purpose of the Plan

Disaster management is a cyclic process, and efficient disaster management requires the integration of local disaster management plans. The major objective of the VDMP is to reduce risk level through collective and collaborative preparedness. This VDMP specifically help the community to:

- Understand multi-hazard scenarios affecting the country, state, and region;
- Have a better understanding of basic DRR concepts;
- Acquainted with community safety, risk mitigation, and preparedness requirements;
- Identify and evaluate community-specific vulnerabilities, risks, and capabilities;
- Understand non-structural vulnerabilities, determine the action to minimize the impact, and be able to utilize their knowledge and skills during emergencies;
- A community-driven, panchayat-owned plan articulating the needs of the community;
- Ascertain each and every community member's role and responsibility in disaster readiness;
- Having the ability to develop a Village Disaster Management Plan, including evacuation routes and mock drill plans, guided by qualified Disaster Management experts; and
- To have response system in place to face any contingency.

Why Community?

First responder;

Early warning dissemination;

 $Familiar\ with\ local\ coping\ mechanism,\ hazards\ and$

resources;

Would be better prepared through pressure groups and advocacy;

Sharing disaster preparedness costs; and

A prepared community is safe community!

3 COMPONENTS OF VILLAGE DISASTER MANAGEMENT PLAN

The purpose of preparation of Village Disaster Management plan (signed by and DM Expert) is to provide opportunities for the local community to evaluate their own situation based on their own experiences initially. Under this approach, the local community not only becomes part of creating plans and decisions, but also becomes a major player in its implementation. The community must identify and map its own risks, fragile parts, vulnerable assets, structures, services available, and safe evacuation procedures as part of the village disaster management plan. In this sense, the planning process incorporates:

- > Identification of community units and community profiling;
- ➤ Identification of vulnerable areas, resources and evacuation routes labelling of community map with the assistance of DM expert; and
- ➤ Formation of task forces and village disaster management committee.

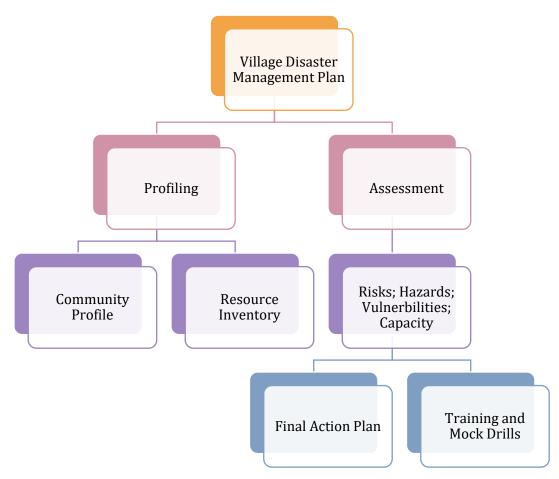


Figure 2: Components of VDMP

Community Profile: This includes the characteristics like demography, topography, administration and infrastructure of the village.

Resource Inventory: Analysing and mapping the available resources within the community. This comprises of trained community members, occupations for livelihood, health services, transportation services, education services, water resources, community property resources, communication services, etc.

Risk, Vulnerability Map: Identifies the areas where natural disasters occur, people, and assets in the community that are most at risk and vulnerable to the effects of natural disasters.

Mock Drills: Training and capacity building of the community; List of dates and actions taken during periodic mock drills; list of community volunteers

Final Village Disaster Management Plan: A document incorporating all the above-mentioned details along with village disaster prevention and response actions.

Tool	Tool Description
Hazard and Vulnerability Mapping	Identifies the locations where the potential hazard risks lie, the areas, persons, and assets most at risk and vulnerable to the impacts of hazards.
Hazard Ranking	Community centric identification and ranking of all from most to least disruptive to their life and education.
Seasonal Calendar	Documents seasonal variation of factors linked to hazards.
Resource Mapping	Identifies the community-based resources that can be utilize during emergencies.
Institutional Mapping	Identifies the role of various stakeholders within the community and relation between them for preparedness, planning, and response to emergencies.
Transect Walk	Direct observation about the landscape features, structures, and resources along a given transect walked throughout the village area.

Table 2: Tools to be used in VDMP

3.1 Sensitisation Meeting for Awareness Amongst Community Members

A meeting should be organized with the community representatives to understand the current condition of the village community. It is important to notify the community members and involve them in the planning process. This step is essential to drive the importance of the subject to all members up-to the lowest level so as the implementation of the plan can be made effective. During the sensitization meeting following points may also be covered:

- Presentation on the potential hazards a community can face; Dos and don'ts for all types of disaster;
- Some basic materials that should be distributed within the community the DM expert interact with the community;
- · Preparation a community should do for Disaster Management and reasons for CBDP;
- Process for designing of VDMP.

3.2 Formation of the Village Disaster Management Committee (VDMC)

The Village Disaster Management Committee is the institution for Community Based Disaster Management (CBDM) in rural areas at the Village level. VDMC can be named using local language and shall be the village institution anchoring CBDP intervention. VDMC would work for the issues/ problems with respect to disaster management and risk reduction without any bias of caste, creed and gender etc. The size of VDMC is based on the village demography, area and need of the community. Suggested members may be considered:

Head of community Chairman – Management Committee	RWA members of the area	NGOs/CBOs Representatives
Members of Civil Defence, NSS, Nehru Yuva Kendra Sangatan (NYKS), women groups, youth club members	Representatives of Police, fire services and near by hospital/St. John Ambulance brigae or dispensary	Representatives of grass-root level government functionaries.

VDMC shall be made in the village consultation meeting through nominations. VDMC shall represent men and women from a cross section of the village. Membership in VDMC shall vary from 15-25 members depending on the size of the village. The composition must provide adequate representation of women and socially excluded (SC and ST) population. Adequate representation of the vulnerable groups including specially-abled persons are also essential.

Key VDMC Functions

- 1. Social mapping of the village
- 2. Village level hazard mapping.
- 3. Conducting village level risk assessment.
- 4. Analyses of disaster risk based on the assessment and prioritize the key activities to be undertaken for disaster risk mitigation measures.
- 5. Identification and prioritization or critical community infrastructure that should be taken up for disaster risk mitigation measures
- 6. Formulation of project implementation committees.

Preparedness functions of VDMC

- 1. Share VDMP with all members of the community
- 2. Conduct disaster preparedness training with VDMC members
- 3. Raise community awareness on what to do before, during and after a disaster
- 4. Monitor disaster threats, conduct drills and draw lessons to improve the plan
- 5. Expand membership and involvement in disaster risk management activities

Emergency functions of VDMC

- 1. Communicate warnings in case of emergencies issued by district administrator.
- 2. Manage evacuations in village
- 3. Organize search and rescue with community participation at village level
- 4. Support /conduct damage assessment and report damages and needs to government and disaster management agencies for assistance as per Government designed reporting formats and criteria.
- 5. Coordinate, plan and implement emergency relief delivery operations with DDMA, Block and Gram Panchayat

Recovery functions of VDMC

- 1. Ensure that risk reduction measures are integrated during construction and repairing of critical community infrastructures.
- 2. Evaluate the performance of BMT/ Task Forces capacity and effectiveness to promote community safety
- 3. Coordinate with DDMA, Block and Gram Panchayat for the implementation of different recovery measures.

Additionally, the VDMC also coordinate and supervise the other task forces/teams mentioned below:

- Early Warning and Dissemination Team
- Evacuation, Search and Rescue Team
- Water & Sanitation Team

- Shelter Management Team
- Medical and First Aid Team
- Damage & Loss Assessment Team

3.3 Preparation of Community Profile

The first and most important stage in any planning process is to gather baseline information about the neighbourhood. The main components of the selected location include population factors, socioeconomic qualities, and physical characteristics.

Such data aids in the analysis of the area's socioeconomic situation and the determination of the level of vulnerability.



Figure 3: Community based Village Map

A rough estimate of the total number of families is included in population characteristics. The overall population should be further separated into males, females, children, and disabled people. The VDMC should conduct the social profiling, the template for the data collection is table 3.

Table 3: Demographic Profile

	Age group and Gender wise distribution of population							
Population	0-5 years	6-14 years	15-35 years	36-60 years	More than 60 years			
Male								
Disabled male								
Female								
Disabled female								
Total								

	BPL	APL	Total
Total Household			

Literacy							
	Male Female Total						
Primary School Students							
Secondary School Students							
Higher secondary School Students							

Graduates/Post Graduates		
Dropouts		
College Dropouts		
Professional Course		
Illiterate		

The collection of information on the area, land utilization, soil type, and land ownership pattern are called Physical Characteristics.

Table 4: Physical Characteristics of the village

Total Area of the Village	
Type of Soil	
Tye of Vegetation	
Type of Crops	
Type of Irrigation Method	
Water Bodies	
Months of Rainfall	
Land Ownership	

The type of housing, the technique of construction, whether it is flatted or single-family homes, and so on are all part of the housing typology. The VDMC should conduct the infrastructure profiling, the template for the data collection is table 5.

Table 5: House Type

House Type	C	Remarks			
	No. of houses	Poor	Average	Good	
Concrete Houses					
Wood houses					
Bamboo Houses					
Wood and Bamboo Houses					
Clay and mud houses	11				

Good= strong, Average= partially strong, Poor= Not strong enough for > 35mph windy and heavy flooded.

Major income categories and the sort of dominant economic activity in which the community participates are examples of economic features. It is important to understand the direct and indirect sources of livelihood along with seasonality of income generation because the household income is the major resources to estimate the socio-economic vulnerability and capacity of each household. This can be done by focused- group discussions with different section of community. The VDMC can use the below table for detail list of livelihood and number of households.

Table 6: Livelihood and Employment status

	Livelihood Status	
Type of livelihood	No. of households	Remarks
Farming		
Fishing		
Small Trade		
Daily Wager in construction		
Government employee		
Transportation services		
Factory Worker		
Total Households		

Employment Seasonality											
Months	Farming	Fishing	Small Trade	Daily Wager in construction	Government employee	Transportation services	Factory Worker				
Jan											
Feb											
Mar											
Apr											
May											
Jun											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											

3.4 SITUATIONAL ANALYSIS

3.4.1 Analysis of Past Disasters

It refers to the process of prioritising disasters based on their frequency and the projected damages. This may be accomplished with the assistance of the village's old folks. The villagers examine the losses they have suffered as a result of numerous catastrophes and learn about the best practises that have been implemented. It is important to prioritize disasters based on its frequency and analysis of the estimated losses. This will be carried out by taking the losses that had incurred during various disasters. This is a crucial task since it serves as the foundation for disaster prevention and response measures. It is important to have a participatory hazard assessment. This includes:

Hazard Mapping

It is done to locate the area and specific locations which are vulnerable to various hazards or which has been hit by disasters in the past.

When it comes to potential hazards, there are a few that might affect within the community. The following list of risks is not exhaustive, but it is intended to assist VDMC. The majority of natural hazards are linked to natural processes and events. Anthropogenic risks, often known as human-caused hazards, are caused solely or mostly by human actions and decisions. Disaster risk varies from country to country, area to area.

Table 7: Types of Hazards

Biological hazards	Physical Environmental hazards	Geological/ Geophysical hazards	Hydro- meteorological hazards	Technological hazards
 Infectious diseases Contaminated food problems 	 Structural hazards Maintenance hazard Grounds hazards 	EarthquakesLandslidesVolcanoes	 Severe wind and heavy precipitation Cyclone Floods Wildfires Tsunami Extreme Temperature 	 Electrical fires Power outage Transport accidents

Hazard Timeline

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It tells about what happened in the past. It helps in getting an insight in past hazards, changes in their nature, intensity and behaviour.

Table 8: Hazard Occurrence

Hazard	Year of Occurrence	Type of Loss						
		Human	Economic	Livestock	Houses	Infrastructure		
Flash Flood								
Cyclone								
Landslide								
Lightning								
Earthquake								
Fire								
Building								
Collapse								
Accidents								
Others								

Seasonal Calendar



It is prepared showing different events primarily the time of occurrence of hazards throughout the annual cycle.

The hazards and community-based emergencies that are threatening to strike the community should be identified through discussion. The members of the Village Disaster Management Committee will have knowledge and experience of the dangers faced by the village. Specify the threat level of the danger as High (H), Medium (M), Low (L), or zero (0). The level of threat is a combined assessment of the frequency and damage potential of danger. Listing the past disasters will be useful to address the most recurring danger. The seasonality of hazards is essential to be listed so that the community is prepared to face it. The table below is an example to showcase the seasonality calendar for the village.

Table 9: Seasonality Disaster Calendar

Hazards	Months											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Flood							—			-		
Cyclone										←		
Household			-			-						
Fire Earthquake	-											
Forest Fire	,			+	-							
Heatstroke				-		-						
Field Fire			-			-						

After understanding the potential hazards of village, it is important to prioritize the hazard risks. The multi-hazard survey will require to understand each identified hazard along with Frequency, Magnitude, Severity, and Risk Priority.

- 1. Frequency: What are the chances that this type of hazard may occur and have an impact on the village communities? How often does the hazard occur if it does occur?
- 2. Magnitude: What kind of harm would this hazard do to the village property if it happened?
- 3. Severity: What impact would this have on the community's essential functions?
- 4. Risk priority: Determine the likelihood of such a hazard occurring on village. Is there a high, medium, or low chance that this threat will happen?

Table 10: Hazard Assessment Matrix

		Fr	eque	ncy		ľ	Magn	itud	е		S	ever	ity		R	lisk P	rofile	•
Type of Hazard	Highly Likely	Probable	Possible	Remote	Unlikely	Catastrophic	Critical	Limited	Negligible	Catastrophic	Critical	Limited	Negligible	Not Applicable	Acceptable risks	Tolerable risks	Undesirable	Intolerable risks
Natural																		
Earthquake																		
Floods																		
Extreme Temperature																		
Landslides																		
Cyclone																		
Wildfires																		
Sanke Bites																		
Anthropogeni	c																	
Building Fire																		
Drowning																		
Power outage																		
Water system failure																		
Transportati on Accidents																		
Medical emergency																		
Bomb threat																		
Civil disorder																		
Weapons Assault																		
Biological																		
COVID-19																		

Note: The Level of Intensity (Colour Code) has been provided as 5.2.

After understanding and prioritizing the potential hazard, the next step will be to identify vulnerabilities and put together an action plan to address these issues.

3.4.2 Risk and vulnerability

The community would identify categories of individuals who are most endangered, such as the elderly, disabled people, pregnant women, widows, and young children, families living in jungles, slums, and low-lying places, based on prior disastrous experiences. Cattle and animals, as well as weak structures, standing crops, and livelihood assets, should all be documented. Within their specific region, the community also identifies susceptible spots such as juggles, explosive factories, go-downs, accident-prone zones, and other susceptible locations. On the community base map, the community should find and highlight any vulnerable and hazard-prone places.

Vulnerability is characterised as a threat rooted in physical, social, economic, and environmental variables that must be analysed and controlled on a regular basis. These issues and the causative factors can be recognized through problem tree analysis. The tool entails sketching a tree that depicts the link between several dimensions of vulnerability. It entails identifying key issues and vulnerabilities, as well as the underlying causes and their consequences. The trunk symbolises the issues, the root represents the causes, and the leaves reflect the outcomes.

Vulnerability assessment, for example, employs formal methods such as monitoring of hazards and vulnerability variables, mapping, and social survey methodologies. The following templates can be referred to identify the vulnerable human elements and resources.

	Children >5 years	Disabled Person	Senior Citizen	Pregnant Women	Lactating Mother	Chronic Diseases affected
Male						
Female						
Total						

Table 11: Vulnerable Human Population

To identify the vulnerable spots and infrastructure, the VDMC team is suggested to consider Transect Walk throughout the village. The other method can be Venn diagram (On the Venn diagram each institution is represented by a circle. The size of the circle represents the importance, significance, or power of that institutions may be developed with the support of community members); Household Interview method: Individual, group, key informant interview also be used to get vulnerability data; Focused Group discussion (To ensure views and experiences of all stakeholders are involved in focused group discussion collectively and individually which shall be organized).

Table 12: Physical Vulnerability and resources

Type of Resource	Vulnerabilities: Expected loss and damages
Concrete House	Low probability during floods, but hight probability during fires, earthquake
Farms	High probability during floods, fires, cyclone, drought
Wooden House	High probability during floods, fires, earthquake
Clay and Mud House	High probability during floods, fires, earthquake

School Buildings	School is located in low land which submerges with flood with surface water.
Village road	Need a concrete road as it can be submerged/ damaged during heavy rainfall
Community water body	
Deep Well/Tank	
River Embankment	
Village Bridge	
Power House	
Panchayat Office	
Primary Health centre	
High Voltage Transformer	
Petrol Pump	
Mobile Tower	
Others	

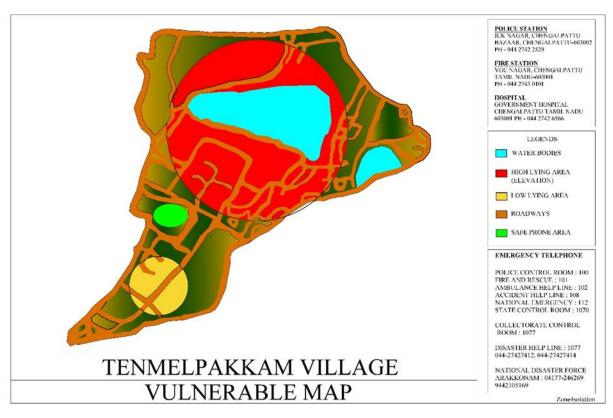


Figure 4: Community Vulnerbility Map

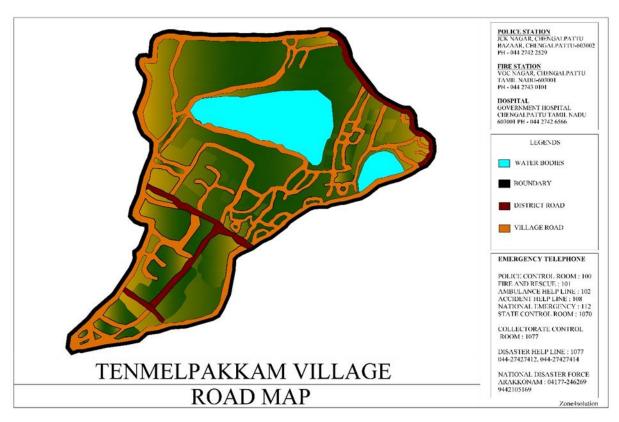


Figure 5: Road Map to estimate the condition of village road

3.4.3 Resource Inventory & Capacity Analysis

The goal of resource analysis is to identify locally accessible assets and resources that may be used to help communities strengthen their capabilities during and after an emergency. The community possesses a great deal of inherent knowledge and aptitude to deal with misfortunes. Therefore, in resource analysis, it is critical to capture the community's capability and strength. Individuals with specialised talents, local institutions, and people's knowledge, in addition to infrastructure and funding, all have the potential to raise awareness and effect change in the community.

As a result, resource analysis entails not only a map representing the available resources, but also charting of their distribution, access, and usage while taking into account the village's current sensitiveness. Thus, assessment of resources would involve two components:

- a) Human Resource Assessment
- b) Material Resource Assessment

The compilation of a resource inventory and resource mapping, which would evolve, would be the next step. While looking for accessible resources the inventory would comprise the following items:

- **Open spaces**: Parks, sports playground for temporary shelters, helicopter landing and safe routes;
- **Medical Facilities**: Number of hospitals, clinics, dispensaries, pharmacy and trained medical professionals within the reach
- **Communication Facilities**: Radios, televisions, telephone exchange, mobiles, public telephone services etc.

- **Transportation Facilities**: Buses, tempos, boats, cars, trucks, other three-wheelers and two wheelers and pucca roads etc.
- **Water Facilities**: Water storage tanks, overhead tanks, bore wells, hand pump, community water posts, government or private tankers, sources of bottled water and tube wells, river, pond, artificial lake, other natural and artificial aquifers etc.
- **Temporary Shelters**: Schools and college buildings, community halls, panchayat office, anganwadi, police station, religious places etc.
- **Sanitation Facilities**: Power stations, substation, generators, torches and invertors etc. for electricity supply, public toilets, community bathrooms, solid waste disposal sites and cremation sites etc.
- **Search and Rescue Operation facilities**: Fair price shops, kerosene depots, CNG depots, cooking gas depot etc. for food and supply purpose and Bulldozers, RCC Cutters, Ropes, lamps, and ladder etc.
- **Human Resource**: Driver, Boat drivers; medical and paramedical service providers; police, community volunteers, fire service providers, masons etc.

A base map depicting sensitive locations should include all of this information. Following the mapping of these resources, the community would decide on the quickest and safest means/routes for evacuation in the event of an emergency. Following the data collection, a Resource Matrix tool will be created. This tool collects and presents broad information on material and human resources in the form of a matrix (refer to 5.4.). The community can flag critical caution points, needs and provide crucial recommendations after analysing the risk involved and the resources available within a community.

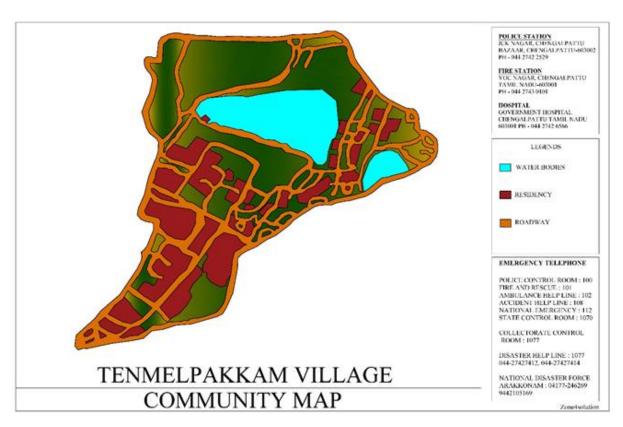


Figure 6: Community Map

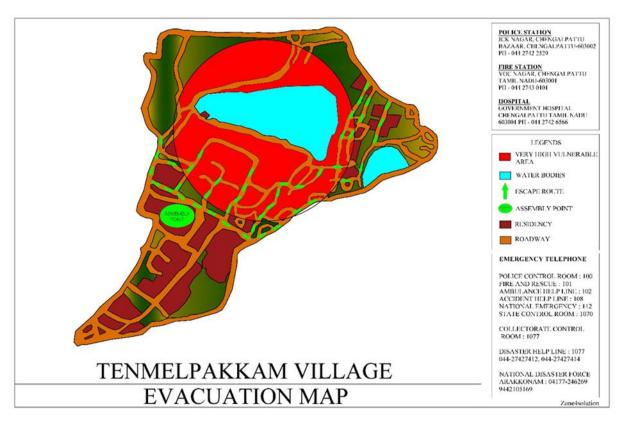


Figure 7: Evacuation Map

3.5 PREPARATION OF VILLAGE DISASTER MANAGEMENT PLAN (VDMP) DOCUMENT

In the case of an emergency or disaster, a Village Disaster Management Plan comprises of rules and procedures created to enhance community safety, preserve common property, or control response operations. Before, during, and immediately after a threatened/real emergency or disaster, the Plan ensures the safety and protection of community and personnel. It is also essential to endorse the village disaster management plan by local administration, police department or fire department

3.5.1 Characteristics of the Village Disaster Management Plan

- 1. The Plan should include explicit instructions for immediate action while being flexible enough to allow for adjustments and alterations when new circumstances arise.
- 2. The Plan must be evaluated and updated to reflect demography, changes in physical plans, technical and technology improvements, and changes in community norms and regulations.
- 3. Straightforward, step-by-step processes that are clear and simple to implement should be included in the plan.
- 4. A standard process for specific emergency response should be assigned in the plan.
- 5. Backup instructions should be included in the plan, along with a clear chain of command (for example, if the emergency committee leader, Sarpanch is missing, the next person in control should be designated).

3.5.2 Components of the Village Disaster Management Plan

- 1. All members of the village disaster preparedness committee's complete contact information, including office, home, and cell phone numbers, as well as e-mail addresses if any. Additionally, emergency and assistance telephone numbers should also be included.
- 2. Important community facility site plans that provide decision makers with a summary of building features in shelter areas, evacuation routes, locate gas, water, and electricity shut-off devices, and fire extinguishing equipment.
- 3. For certain emergencies, an evacuation route map outlining the location and route within and outside the village should be developed.
- 4. The plan should include Disaster Management drills plans for orientation of all community trained personnel, focused groups and even the community.
- 5. The plan should clearly define the procedures for notifying the district level governance in the event of an emergency.
- 6. It should notify emergency transportation.
- 7. An alternative warning system to notify the whole village in the event of a power outage should also be mentioned.
- 8. In case of emergency or disasters, SOPs for the continuation of education and health services should be included.
- 9. Lastly, it should have measures to backup of key village records.

Suggested content of the village disaster management plan is given below:

- Basic details of Village
- List and contact information of Village Disaster Management Committee
- Demographic Details
- Objectives of Village Disaster Management Plan

- Methodology of developing the Plan considering phases of disaster management
- Hazards, Vulnerability, Capacities, Risks Map
- Mitigation Plan
 - o Problems within the village & solution.
 - o Structural and non-structural problems & solution
- Preparedness Plan
 - o Facilities within the village
 - o Evacuation Routes
 - o Action Plan for equipment and tools, awareness materials, capacity building
- Review of Village Disaster Management Plan
- Roles and responsibilities of stakeholders

3.6 PREPARATION OF VILLAGE DISASTER MANAGEMENT TEAMS AND EMERGENCY DIRECTORY

Communities have devised the plan. Therefore, a Community Disaster Management Committee should be formed by the community. In addition, these members would be responsible for regularly practising the plan and updating it. Besides the task forces, they would also prepare the plans that would be implemented during disasters and also approve the implementing plans. These individuals might be community representatives' teachers, community leaders, social workers, or members of non-governmental organisations (NGOs). 6 to 7 task forces should be planned and formulated. These include Search and rescue, damage assessment, trauma counseling, first aid, early warning and communication, relief coordination, and water and sanitation supplies will all be covered by these taskforces. Each task force should have between 3 and 7 members (refer to 5.1.)

Volunteers with the requisite skills should be identified and selected by the community, for example, members of Community youth clubs, female members of the Community, self-help groups, literate youth of the Community, school teachers, health workers. A key component of the plan is the participation of women. It is also recommended to amend the Standard Operating Procedure (SOP) as needed.

Last, but not least, the step of the process, we have the **Emergency Directory**. The directory would include phone numbers and contact details of district-level administration including District collector Deputy Commissioner, Additional District Magistrate, Chief District Medical Officer, Chief Fire Officer, Deputy Commissioner of Police, Deputy Commissioner of Municipal Cooperation, Food and Supply Officer, Transport Authority Officers and District Liaison Officer etc. NGOs in the area should also be listed here. The names and contact information of all committee members, as well as the training and resource personnel, should be included in the directory. All of this information would be useful in developing a complete strategy for hazard-specific pre-disaster planning, response, and recovery.

3.7 CONDUCTING MOCK DRILLS

This plan should also include a mock drill. Without practice, these safe routes would be impractical to employ in an emergency. Such simulated exercises should be held on a regular basis by committee members with the assistance of the local fire station and Civil Defence based on the scenario of local hazards. People should practise coming out of their buildings and dwellings in 3-4 minutes to the open places marked on the community maps during the mock drills. Taskforces should also rehearse their core tasks, such as Search and Rescue, Damage Assessment and Early Warning System, First Aid, and Trauma Counselling, among others. Experts would write a community plan after gathering all of this information (refer to 5.5 for the template). A copy of the full plan should be made accessible to community members, NGOs, and anybody else who has a relationship with it.

Drills and exercises are critical components of any disaster management plan and must be done after preparation of DM plan because it:

- Educate the community on how to respond to the complexities of a real crisis collectively,
- Allows the community to assess how effectively all sections of the plan are working together
- Evaluate and Update of the Plan to improve effectiveness



Figure 8: Steps in the drill

4 CONCULSION

Past experiences during cyclones, floods, landslides etc have affirmed the effectiveness of community participation in preparedness. However, the community alone cannot face the disasters. As a result of a disaster, all vulnerable areas are affected at the same time - whether it is a school, hospital, or community. It would therefore be wise to use all available resources to prevent widespread devastation. VDMP is not only a base tool for mapping the threats, causes of dangers and apt solutions but also a way for community awareness. It enhances community safety and awareness by analysing present levels of understanding and readiness, identifying needs, and sharing the findings. If resources are insufficient, the necessary contingency measures may be made with Village Disaster Management Plan.

The provision of a constant source of money is critical for community-level hazard preparedness initiatives to continue. Families and community groups will be able to carry out disaster risk reduction and preparedness measures listed in the village disaster management plan. Local governments might also assist the most disadvantaged communities in establishing a fund by contributing money. The creation of this fund would also allow the local community to strengthen its capacities. The purpose of establishing a community contingency fund is to: sustain existing community-based disaster reduction activities; strengthen the resilience of the most vulnerable social groups; develop a sense of ownership over disaster reduction activities; and organise immediate relief and recovery efforts.

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6.1 ROLES AND RESPONSIBILITIES OF DIFFERENT COMMITTEES UNDER VDMC

Warning Team

Evacuation, Search and Rescue Team

Medical and First Aid Team

Pre-Disaster

- Monitoring of weather forecasts through radio bulletins and television without fail.
- 2. Update the contact details of the local offices

Post Disaster

Cross checking of the warnings received on the radio or from any other source with the DEOC (District Emergency Operation Centres) 1077.

Pre-Disaster

- 1. Identify safe routes to reach the vulnerable population and plan their evacuation.
- 2. Prepare a rescue kit which contains a rope, iron hooks or tow belongings, rafts, container to bail out water, torches, transistor, a first aid kit, life jackets, tyres and other floatable objects.

Post Disaster

- 1. Help the vulnerable people to get in to their respective shelters with minimum important belongings.
- 2. Village inspection and rescuing stranded and injured people.

Pre-Disaster

- 1. Maintaining a list of pregnant women, infants, physically and mentally challenged and ensuring their medical needs.
- 2. Keeping a first aid box with disinfectants, water purifying tablets, antiseptics, medicine, bandages, splint, scissors, blades, iodine, ointments, ORS, safe delivery kits, clean cloth etc well in advance.

Post Disaster

Support government/ external (NGO) medical team to attend the patients. Inform regarding serious cases.

Shelter Management Team

Pre-Disaster

Identify Shelter and safe houses and ensure that those places are repaired and maintained

Post Disaster

- 1. Make necessary arrangement to have community kitchen
- 2. Make necessary arrangements to clean shelters immediately after the event is over.

Water and Sanitation Team

Pre-Disaster

- 1. Stocking bleaching powder in large quantities from the nearest Public Health Centre and other sources well in advance.
- 2. Ensuring cleaning of drains and its maintenance.

Post Disaster

- 1. Spray bleaching powder and other disinfectants in the village to prevent the spread of infectious disease.
- 2. Carry out the task of purifying water by chlorinating it.
- 3. Ensuring trenches and lavatories are cleaned and disinfected.
- 4. Check the quality of water with the water testing kit.

Damage & Loss Assessment Team

Pre-Disaster

- 1. Stocking bleaching powder in large quantities from the nearest Public Health Centre and other sources well in advance.
- 2. Ensuring cleaning of drains and its maintenance.

Post Disaster

- 1. Spray bleaching powder and other disinfectants in the village to prevent the spread of infectious disease.
- 2. Carry out the task of purifying water by chlorinating it.
- 3. Ensuring trenches and lavatories are cleaned and disinfected.
- 4. Check the quality of water with the water testing kit.

6.2 OVERVIEW OF THE VILLAGE

Village Profile

	Village Profile
Name of Village:	
Block:	
District:	State:
Sarpanch:	
Centre, Anganwadi Centre, S	rillage/locality indicating Roads, Hospitals, PHC, Sub- chools, Open Spaces, Water Bodies, Fire Stations, Police Community Halls, Price Shop, etc.

Add the important/key contact names and details.

6.3 HAZARD ASSESSMENT MATRIX: LEVEL OF INTENSITY

	Highly Likely: Occurs repeatedly/event only to be expected
	Probable: Not surprised. Will occur several times.
Frequency	Possible: Could occur sometime.
	Remote: Unlikely, though conceivable.
	Unlikely: So unlikely that probability is close to Zero.
	Catastrophic: Cause sudden great damage or suffering.
Magnitude	Critical: Have the potential to become disastrous.
Magintuue	Limited: Have limited potential to become disastrous.
	Negligible: Have no or very less potential to affect the community.
	Catastrophic: Cause sudden great damage or suffering.
	Critical: Have the potential to become disastrous.
Severity	Limited: Have limited potential to become disastrous .
	Negligible: Have no or very less potential to affect the community.
	Not Applicable: Have no impact on the community safety.
	Acceptable risks: Acceptable and have tend to little or no much effect
	on the regular function of the community.
Risk Profile	Tolerable risks: Risks will affect the community but can be managed
KISK FTOILLE	without much loss.
	Undesirable risks: Serious impacts on the community safety.
	Intolerable risks: Substantial or total breakdown of the community.

6.4 Resource Inventory

Resource	Number	Owner Details	Remarks
	Transp	ortation	
2-wheeled vehicle			
3-wheeled vehicle			
4-wheeled vehicle			
Boats			
Bulldozer			
	Sh	elter	
Tents			
School			
Nets			
Pumps Post Office			
Generator			
Water Containers			
Tarpaulins			
Gas Light			
Solar Light			
Bamboo			
Polythene			
	Welding	Equipment	
Garage			
Electric Shop			
Manufacturing			
Equipment Shop			
Kitchen Utensil			
Shop			
Blacksmith Shop		I vay a cov	
C CI	Food at	nd WASH	
Grocery Shops			
Community Warehouse			
Agricultural			
implements			
Food Grains, Seeds			
Water Resources			
Pharmacy			
	Human	Resource	
Paramedical			
Medical			
Practitioners			
Retired Police/Fire			
service/ Civil			
Defence personnel			
Drivers			
Boat Driver			
Counsellors			

HAM				
Radio/Community				
Radio broadcasters				
Village Disaster				
Management Team				
Livestock				
Dairy Farming				
Poultry				
Domestic Pet				

6.5 MOCK DRILL REPORTING FORMAT

Details				
Village Name:	State:	Date:		
District:	Person In-charge:	Day:		
Drill Detail				
Time Alarm Sounded	Time Drill Conducted	Time to Evacuate		
Type of Drill	Alert Method	Weather Condition		
Details of Participants				
List of Participants:	Person In-charge:	Participants have acquired training before? Yes No		
Issues Faced				
Problem Encountered	Lesson Learnt	Actions for Improvement		