COPEWELL

PREVENTION/MITIGATION
SELF-ASSESSMENT

Jurisdiction Name _____

PREVENTION/MITIGATION

Pre- and post-disaster measures—including those taken by government, private industry, non-governmental groups, and private citizens—that eliminate or minimize the chances for, and consequences of a future extreme event.

PREVENTION/MITIGATION:
Rules, Regulations, and Norms

RULES, REGULATIONS, AND NORMS INVOLVES	Standards of behavior—inherent in legal mandates, funding priorities, regulatory measures, best practices, and/or social ideals—that encourage developers and property owners to adopt habits and routines that protect against disaster-related losses.

WHAT COMMUNITIES MIGHT LOOK LIKE WITH...

LOW CAPACITY	Community leaders and residents maintain a reactive stance, facing disasters only after they happen. Broad awareness of mitigation's return-on-investment is lacking, so few to no public dollars are allocated to minimize disaster impacts. Local mitigation plan development is perfunctory, with no system for tracking progress. Comprehensive planning efforts do not incorporate risk assessment and hazard mitigation principles. Development occurs in an ad hoc, unregulated manner, with little concern over building in high-hazard areas or using construction materials that offer subpar hazard resistance. Developers and homeowners see little reason to prioritize mitigation; no tax incentives or other motivations for risk reduction activities exist. Few to no property owners have hazard insurance, and those with insurance rebuild in the same location without mitigating hazards/risks.
OPTIMAL CAPACITY	Aware of local hazards and thinking ahead, community leaders and residents take proactive steps to offset potential disaster impacts. Elected officials prioritize mitigation support: e.g., they set up a local reserve fund for public mitigation measures, allocate funds for a full complement of building inspectors, and bolster EM/PH budgets for engaging the community on mitigation benefits and techniques. A cross-sector committee monitors progress on the local mitigation plan which comprehensive planning efforts also complement. Land use regulations (e.g., restricted development in high-hazard zones) and building codes (e.g., resistant construction materials) reduce disaster risk. Incentives (e.g., tax breaks for development of low-risk parcels) prompt smarter development. Property owners see adopting mitigation measures and taking out hazard insurance as essential, routine investments.
RATIONALE Explain reasons for your rating; cite data, if possible	
NEXT STEPS Describe next action points	

PREVENTION/MITIGATION:
Engineered Systems

ENGINEERED SYSTEMS INVOLVES	Design, construction, relocation, and/or retrofitting of structures and critical facilities/infrastructure to withstand hazardous conditions such as wildfire, extreme wind events, and ground-shaking from earthquakes.

WHAT COMMUNITIES MIGHT LOOK LIKE WITH...

LOW CAPACITY	Major portions of critical infrastructure are exposed to potential hazards (e.g., power lines to major ice storms, low-lying bridges to flooding or storm surge). City managers have not retrofitted older public buildings (e.g., strengthen non-reinforced masonry in earthquake country), nor repositioned critical facilities and functions out of harm's ways (e.g, police stations out of flood zones; records and generators out of basements). Few newly built structures incorporate hazard-resistant materials (e.g., non-combustibles at wildland-urban interface). A significant portion of low income, rental housing is located in hazardous areas (e.g., floodplain). Most homeowners have not taken any mitigation measures, lacking knowledge (e.g., seismic zone: securing furnishings, anchoring bookcases, using flexible gas lines).
OPTIMAL CAPACITY	Critical lifeline systems are located, to the extent possible, in low hazard environments and constructed to withstand potential disaster damages as well as cascading failures. Public buildings, including schools, are at low risk of disaster damages having been re-/located to low hazard settings and hardened to hazardous conditions. Commercial building owners and operators have applied structural mitigation measures (e.g., anchored rooftop HVAC units against earthquakes). Most homeowners have adopted mitigation measures suited to local risks (e.g., elevated homes against flooding, removed flammable vegetation to protect against wildfire damage), and most renters know and have taken mitigation steps (e.g., secured furnishings and bookcases against earthshaking damage).
RATIONALE Explain reasons for your rating; cite data, if possible	
NEXT STEPS Describe next action points	

PREVENTION/MITIGATION:
Natural Systems

NATURAL SYSTEMS INVOLVES	Existence, preservation, and rehabilitation of ecological assets—e.g., open spaces, river corridors, wetlands, forests, vegetated sand dunes—that can reduce the risk of disasters.

WHAT COMMUNITIES MIGHT LOOK LIKE WITH...

LOW CAPACITY	Hazard-prone areas (e.g., low-lying coastal areas subject to tsunamis or hurricanes, unstable soils prone to mudslides) remain in active use, with no plan to convert to greenspace. At the coast, human activities that weaken ecosystem protections against storm surge continue unabated (e.g., driving over dunes; dredging and filling mangroves; release of pollution killing coral reefs). City managers view green infrastructure (e.g., permeable pavement, green roofs) as a luxury. Few residents living in periodic drought conditions conserve water: e.g., homeowners maintain thirsty lawns, farmers do not practice sustainable agriculture, building owners and operators eschew xeriscaping. Trees in community parks are poorly maintained, and new developments result in bulldozed tree stands and more asphalt roads.
OPTIMAL CAPACITY	Greenspace is abundant, because hazard zones have been acquired, set aside, and/or restricted from development. Near a coastal community, ecological barriers to storm surge (e.g., vegetated sand dunes) are vital and diverse. City managers maintain a robust parks' budget, keeping trees healthy and planting more, helping to offset heat islands and control storm run-off. Integrated into public property is a range of green infrastructure features such as bioswales, permeable pavement, and green roofs. Natural system mitigation is commonplace in rural communities experiencing periodic drought (e.g., sustainable agriculture) and in urban communities requiring better stormwater management (e.g., rain gardens, rainwater harvesting). Mitigation by natural means is promoted by EM, garden clubs, nurseries, parks outreach programs, environmental groups.
RATIONALE Explain reasons for your rating; cite data, if possible	
NEXT STEPS Describe next action points	

PREVENTION/MITIGATION:
Countermeasures

COUNTERMEASURES INVOLVES	Health-related policies, programs, and products that enable the community to counteract—through pharmaceutical and non-pharmaceutical means—the impact of emerging infectious disease threats as well as chemical, biological, radiological, nuclear, and explosive (CBRNE) agents.

WHAT COMMUNITIES MIGHT LOOK LIKE WITH...

LOW CAPACITY	EM, PH, EMS, and healthcare organizations meet infrequently and rarely exercise. A nascent healthcare coalition includes hospitals, but little of the wider system (e.g., mental/behavioral health, dialysis centers). Public health has limited capacity for laboratory testing, surveillance, and epi investigation, thus hampering ability to recommend and monitor countermeasures. Poor agency coordination, lack of outreach to trusted CBO/FBOs, and low priority on risk communication curbs ability to provide consistent, timely, and accurate information about countermeasures. Mass vaccination exercises show slow through-put. Misunderstandings about NPI efficacy and proper application abound. Pockets of public wariness toward health authorities exist, especially among underserved, at-risk groups. Vaccine hesitancy is emerging in some quarters.
OPTIMAL CAPACITY	The network for health emergencies is vibrant and expanding, from staid founders (EM, PH, EMS, hospitals) to home health, long-term care, methadone clinics, and beyond. Public health agencies are well-staffed, with adequate capacity (ie., laboratory testing, surveillance, epi investigation) to recommend, monitor, and analyze countermeasures. Mass vaccination exercises demonstrate high efficiency and social learning for further improvement. An ethical framework for allocating scarce medical resources exists and is socialized among all relevant groups. NPI decision-making processes are designed to be driven by science, ethics, and partner consultations. An exercise of the Community Reception Center plan for a rad/nuke incident is scheduled. Vaccination rates, vaccine literacy, and public trust are high.
RATIONALE Explain reasons for your rating; cite data, if possible	
NEXT STEPS Describe next action points	

ASSESSING OUR COMMUNITY

Low   Medium   High

1—10

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Rules, Regulations, and Norms 1—10	
Engineered Systems 1—10	
Natural Systems 1—10	
Countermeasures 1—10	
Domain Average **Take average of assessment rating for the above 4 sub-factors**	

PREVENTION/MITIGATION

Pre- and post-disaster measures—including those taken by government, private industry, non-governmental groups, and private citizens—that eliminate or minimize the chances for, and consequences of a future extreme event.

QUESTIONS TO CONSIDER IN RATING YOUR COMMUNITY (add others, as applicable)

FACTORS	AS APPLICABLE, TO WHAT EXTENT DOES YOUR COMMUNITY MANIFEST THE FOLLOWING CONDITIONS, QUALITIES, AND ACTIVITIES?
Rules, Regulations, and Norms Standards of behavior inherent in legal mandates, funding priorities, regulatory measures, best practices, and/or social ideals that encourage developers and property owners to adopt habits and routines that protect against disaster-related losses.	• Are there local funding mechanisms for hazard mitigation (e.g., local reserve fund for public mitigation measures)? • How robust is the local mitigation plan; is there a diverse steering committee (including neighborhood representatives, local businesses, local government) to monitor progress on local mitigation actions? • Has the community taken measures to restrict or prohibit development in high-hazard areas (e.g., use conservation easements to prevent development there; bar or limit public expenditures for capital improvements in said areas)? • Has the community adopted development regulations in hazards areas (e.g., setbacks from shorelines required)? • Do comprehensive planning efforts incorporate risk assessment and hazard mitigation principles? • Do land use regulations reduce risk (e.g., conditional use zoning that requires mitigation measures for private land development; landscape ordinances that include proper species selection, planting, and maintenance practices)? • Do building codes and inspections help ensure that buildings can sufficiently withstand hazard events? • Does the community have a hazard mitigation system of incentives and disincentives (e.g., tax incentives for development of low-risk parcels; permit fee waivers for home construction projects related to mitigation)? • Do outreach programs exist to advise homeowners of risks, enable mitigation technical assistance, and facilitate funding for mitigation measures? • Have property owners purchased hazard insurance in addition to undertaking hazard mitigation of their buildings?
Engineered Systems Design, construction, relocation, and/or retrofitting of structures and critical facilities/infrastructure to withstand locally hazardous conditions such as wildfire, floods, extreme wind events, and ground-shaking from earthquakes.	• What proportion of structures situated in hazardous areas have been or will be acquired, relocated, or retrofitted to reduce risk? • To what extent have infrastructure/critical facilities been made resistant to hazards (e.g., relocated/underground electrical infrastructure, retrofitted roads and bridges, hardened communication systems)? • Has the drought-vulnerable community developed new or upgraded water delivery systems to eliminate breaks and leaks, expanded water supplies, and introduced drinking water tanks and windmills to reduce impacts to livestock? • Have buildings vulnerable to earth-shaking been strengthened/retrofitted, their rooftop-mounted equipment (e.g., HVAC units, satellite dishes) anchored, and windows covered with film to prevent injuries from shattered glass? • In a flood-prone community, are the drainage systems and flood control structures regularly maintained and functional, vulnerable roads and bridges elevated and stabilized, and fire/police stations placed out of harm's way? • In a community vulnerable to severe damage, have residents modified homes (e.g., installed hurricane shutters and safe rooms) and city managers retrofitted public buildings and critical facilities (e.g., EOC) to reduce impacts? • Have owners (private and public) of property located in wildfire hazard areas adopted non-combustible materials and technologies and removed/reduced flammable vegetation to create defensible space? • Have city managers, community leaders, and citizens invested in engineered systems that can resist multiple hazards, as in a drought followed by the cascading effects of extreme heat, wildfires, land subsidence, and flooding?

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QUESTIONS TO CONSIDER IN RATING YOUR COMMUNITY (add others, as applicable)

FACTORS	AS APPLICABLE, TO WHAT EXTENT DOES YOUR COMMUNITY MANIFEST THE FOLLOWING CONDITIONS, QUALITIES, AND ACTIVITIES?
Natural Systems Existence, preservation, and rehabilitation of ecological assets e.g., open spaces, river corridors, wetlands, forests, vegetated sand dunes that can reduce the risk of disasters.	• What percentage of hazard prone areas in the community—e.g., active fault systems, unstable soils (prone to earth-shaking, liquefaction, or mudslides), and low-lying coastal areas (subject to tsunamis)—have been preserved as green space? • To what extent has the risk of storm surge been mitigated through ecosystem interventions (e.g, restoring dunes, planting sediment-trapping vegetation, preserving mangroves, protecting coral reefs)? • Have planners adopted a cost-effective combination of gray and green infrastructures to protect against future storms (e.g., restored marsh, mussel beds, rock groins, removable flood walls, and flood gates)? • In water-scarce communities, are residents using drought-tolerate or xeriscape practices and water saving low-flow toilets; are farmers implementing soil and water conservation practices and ranchers preventing overgrazing? • Is there a comprehensive fire management program: i.e., public preparedness, strategic development, land use planning to prompt fire-adapted neighborhoods, and hazard mitigation to manage forest conditions/fuel regimes? • Is green infrastructure being integrated at multiple scales to provide the most benefit to the community (e.g., individual household, neighborhood, site, entire watershed)? • Have city managers integrated green infrastructure (e.g., bioswales, permeable pavement, green roofs, trees, and/or planter boxes) within public property as a way to address localized flooding, poor drainage, and heat islands? • How many property owners have adopted green infrastructure practices for better storm water management (e.g., established rain gardens; re-routed rooftop drainpipes to direct rainwater to rain barrels)?
Countermeasures **Health-related policies, programs, and products that enable the community to counteract—through pharmaceutical and non-pharmaceutical means the impact of emerging infectious disease threats as well as chemical, biological, radiological, nuclear, and explosive (CBRNE) agents.**	• Does a vibrant cross-sector network—including public health, emergency management, health care coalitions, and community-based partners—exist to share information and marshal resources during a health emergency? • Are there provisions (e.g., ties to trusted intermediaries such as CBOs) to address the needs of at-risk individuals with access and functional needs, including practical barriers to their uptake of MCMs or compliance with NPIs? • Does a robust system exist that can develop, circulate, monitor, and update emergency public information and warnings to professionals and the public, enabling the community to employ countermeasures appropriately? • Does the community have sufficient capacity for laboratory testing, public health surveillance, and epidemiological investigation in order to recommend, monitor, and analyze the use of countermeasures (MCM, NPIs)? • Has the community developed and tested its ability to receive, prioritize, dispense/administer, and monitor the effects of, MCMs (e.g., vaccines, antivirals, antibiotics, antitoxins) in a health emergency? • Are policies and procedures in place so that decisions to use NPIs (e.g., isolation, quarantine, movement restrictions, travel warnings, social distancing) are driven by scientific evidence, legal/ethical analysis, and partner consultation? • Are childhood and adult vaccination rates high? Do local residents understand that vaccines offer protection for themselves and for the wider population? Is vaccine hesitancy rare, on the rise, or already widespread? • Are robust systems in place that could easily ramp up to mitigate an event's psychosocial impacts: e.g., case management, social support services, mental health support services, training in psychological first aid?