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## The Latest "R" Word

arketing pushes everything as "sustainable" these days—everything from diapers to home

construction materials. Living within our resources rather than trashing the future is where we should be headed, but too much "greenwashing" can dull the senses. The latest word to be used nearly to fanaticism is "resiliency", particularly in relation to the aftermath of flooding events. Considering how often this word is now thrown into discussions from infrastructure protection to open space preservation, I hope we do not become immune to its very critical message.

Certainly President Obama did not take "resiliency" lightly when he issued Presidential Policy Directive 8 in March 2011 regarding national preparedness. PPD-8 aims to strengthen our nation against terrorism, cyber attacks, pandemics and catastrophic natural disasters by "facilitating an integrated, all-of-Nation, capabilities-based approach to preparedness," a sharing of responsibilities between " all levels of government, the private and nonprofit sectors, and individual citizens."

He also issued Executive Order 13653 in November 2013 to confront national preparedness regarding impacts of changes in climate that include "prolonged periods of excessively high temperatures, more heavy downpours, an increase in wildfires, more severe droughts, permafrost thawing, ocean acidification, and sea-level rise"—all of which affect the health, safety, and welfare of private individuals, the environment, and the economy.

EO 13653 adds some terms to PPD-8's definition of "resilience" to round it out as "the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions." Key terms in both definitions address preparation and adaptation. Both of these are big factors in why some communities recover from disasters better than others.

Whether or not anyone reading this has a role in your local government, everyone should be aware of the characteristics of resiliency affecting all of us, from the individual to the business enterprise, from local government to non-profit organization, even to the state and federal government levels. We must first identify the hazards we face: what are they (earthquake, wildfire, flooding), how often are we likely to face them (what's the probability or risk of occurrence in a given time interval), how severe are their impacts likely to be (loss of critical infrastructure, shelter, or food), and where will we experience them? What is our vulnerability to these hazards: what assets are exposed, how sensitive are they, can they survive the impact of exposure to the hazard, and how do we prioritize their protection? Answers to these questions lead us to realistic risk assessment to better focus our efforts to bounce back from disaster.

Many excellent materials are available from many sources to help us all plan for resiliency. All of them note that the first line of defense is to try to avoid impacts in the first place, but inevitably we need to work on being able to absorb shocks and being flexible enough to adapt to some "new normal" conditions after the fact. FEMA Publication 386 is a three volume how-to guide for state and local mitigation planning that can also apply to organizing a plan for your own business or family. If you need specific steps to help plan for personal safety, a good place to start is in the tables within "National Disaster Recovery Framework" ("NDRF", FEMA Publication 508, September 2011), which follows up on directives in PPD-8 and the

National Response Framework (updated by FEMA May 2013). Appendix B of the NDRF starts with recommended activities pre- and post-disaster in the form of checklists for individuals and families, the private sector, non-profit sector, and various levels of government. Every one of these lists of actions to safeguard personal safety and property includes some kind of planning, education, and practice (survival can never be taken for granted)—and also carrying adequate insurance to cover the inevitable.

The rebuilding aspect of recovery and resilience requires us to pay attention to what happened and in some cases why it happened. Houses on barrier islands suffered during Superstorm Sandy because they were in vulnerable locations. Homes and businesses further inland suffered because no one ever anticipated the incredible amount of water being pushed by high winds from a storm approaching the coastline perpendicularly rather than the usual south to north direction, during high tide and a full moon. Recovering and planning for resiliency in the hardest hit areas have a huge emotional component, prompting New Jersey's governor to chant, "Stronger than the storm." But a better theme song is "Smarter than the storm." If we heed the advice in FEMA's post-disaster Recovery Advisories, we have a better shot at resiliency. How do we reduce flood risks (and flood insurance premiums) for existing structures in A-type zones? How far above Base Flood Elevation should we raise new and rebuilt buildings? We learn from experience, from each other, and adapt.

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