Dealing with Disaster Debris

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Almost all of us live in places where a natural disaster could seriously disrupt our lives. Be it fire, flood, tornado, hurricane, tsunami or any number of other events, our lives can be turned upside-down in minutes or hours, and we then face the daunting task of cleaning up and rebuilding our lives.

The crises that arise from these disasters are in two forms. The public safety emergency is focused on the protection of lives and the alleviation of human suffering. The public works emergency is focused on restoring the damaged or destroyed infrastructure and the re-establishment of normal routines and services. When disaster strikes, public and private sector professionals, as well as charitable and relief organizations are quickly mobilized to address the public safety and public works emergencies. The coordination of these efforts is the major challenge faced by emergency management professionals.

I am involved with just one aspect of emergency management—the cleanup and disposal of debris generated by natural or man-made disasters. A major disaster can generate enough debris to consume solid waste disposal capacity that would otherwise last decades. The cleanup activities from even a minor or localized disaster can last for weeks or months after the immediate public safety emergency has passed. Where I live in Florida, hurricanes are the events that draw almost all our attention, followed by floods or fires. But most of us have seen the damage caused by the floods on the Mississippi, earthquakes and wildfires on the west coast, and tornadoes in Oklahoma or Kansas or Texas. In all these areas the task of removing the debris quickly, cost effectively, and safely is essentially the same.

The debris management element of the public works emergency response system, and the planning and decision-making process that accompanies it, have been going through some significant changes in the past few years. These changes are in no small part related to some significant deficiencies seen in the response to disasters that occurred the 1980s and early 1990s. Hurricanes Hugo and Andrew taught many of us concerned with debris management that we were not as prepared as we should be. In most cases, the resources required to manage the debris generated by a major disaster greatly exceed those available locally, requiring local officials to either depend on direct Federal assistance with the cleanup, or quickly try to contract for services to conduct the cleanup. Other lessons we learned were that the system established by the Federal Emergency Management Agency (FEMA) for providing reimbursement for relief and cleanup efforts could be complicated if the applicants were unprepared. It can also be abused by the unscrupulous—under the guise of recycling disaster debris, significant environmental damage can be done. Inadequate planning and decision making often taking place in the frenetic circumstances of post-disaster cleanup and recovery were seen as leading to wasted time, wasted money, and long term environmental damage.

FEMA has worked to be more proactive and more responsive, and to encourage a greater level of planning and preparation for debris management. The process of applying for assistance from FEMA is simpler if a community has a debris management plan in place and if service contracts for debris management have been completed pre-event. Since local governments that may be the victims of disasters want to receive reimbursement from FEMA as quickly as possible, they have begun to look at debris management in a new way. These changes have lead to more pre-disaster planning and decision making in the management of disaster debris.

The sophistication of the models that predict the amount of debris generated by a disaster has improved considerably. The powerful tool embodied in GIS lets local emergency management officials and consultants who specialize in emergency management planning look down to the level of individual neighborhoods to predict how much debris might be generated. This in turn creates the opportunity to identify locations where this debris might be stockpiled for processing or transfer to a disposal site. This improvement in pre-disaster predictive capability allows local governments to assess their own capacity to handle the debris, and identify the needs that will have to be met through the use of private contractors who specialize in debris management. This change in approach to disaster and debris management planning has lead to a new level of private sector/public sector cooperation.

This cooperation has provided a new level of support for local emergency management officials in this significant planning effort, and allowed local public works departments to make their preparations with the confidence that adequate support will be available if needed. Many communities are now utilizing the services of consultants with expertise in disaster and debris management planning to help them in their pre-event preparations. These communities are also contracting with firms, typically large construction companies, with the expertise and equipment to manage debris. They are signing these contracts for debris management before a disaster occurs, to speed the response after disaster strikes. Communities are also using consultants to assist them in the oversight and administration of these debris management contracts, freeing more local government staff to focus on restoring and rebuilding infrastructure, rather than monitoring the cleanup activities. This oversight also facilitates the audit and reimbursement process for those seeking assistance from FEMA. The privatization of debris management services is a new phase in the ongoing effort to seek the most efficient means to provide services to the taxpaying public at the local level.

This effort in thinking in a new way about debris management has been extended beyond simply dealing with the consequences of disasters. With FEMA again taking a leadership position with state and local governments, programs that implement a Local Mitigation Strategy are being developed. These programs are intended to reduce the vulnerability of a community to impacts from natural or man-made disas-

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ters. By identifying hazards and vulnerabilities, and developing methods and priorities to address them, local governments can reduce the impact of disasters, reduce the cost of responding to an event, and speed the process of cleanup and recovery when a community is impacted.

In dealing with debris, the approach is to make plans and as many decisions as possible before you are faced with the daunting task of cleanup and recovery. All of us that live in vulnerable areas should probably do the same in our personal emergency planning for our families and homes.

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