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Learning from the Katrina Crisis: A Global and International Perspective with Implications for Future Crisis Management

Part III—The Future: Hindsight, Foresight, and Rear-View Mirror Politics

The study of crisis and emergency management—or mismanagement—during Hurricane Katrina will continue to proliferate in the near future. This article presents a global and international perspective on Katrina as a case of "grand failure" in crisis and emergency management, with lessons and implications for future crisis management. Benefiting from empirical data collected from international interviews, the essay presents a theoretical analysis of emergency governance and crisis management, discusses a detailed global perspective on Katrina crisis management as "management and leadership crisis," offers a number of key lessons learned from Katrina, and draws policy and administrative recommendations for future crisis and emergency management through a theory of "surprise management" that is adaptive, collaborative, and citizen engaging and draws on chaos and complexity theories to cope with hyper-uncertainties and unknowns.

Throughout history, governments have been tested for their competence in governing crises and managing emergencies, preventing or managing catastrophic disasters, saving lives and property, and providing security for their citizens. Failure in such a test has brought down governments and triggered regime-changing revolutions. This test of competence is much more significant today than ever before, as modern governments seem to be better equipped technologically and must rely on "legitimacy" and the trust of their people in order to govern.

Failure to respond to and govern effectively during crisis situations and to manage disaster-driven emergencies may result in the loss of legitimacy and cause system breakdown; it can create chaos and lead to crises with far-reaching consequences and uncontrollable outcomes. For example, political crises led to the collapse of the French government several times from the 19th century well into the mid-20th century. This also caused the fall of the Soviet Union at the height

of its global position as a superpower, and a similar political crisis—of both legitimacy and performance—led to the Revolution of 1979 and the fall of the shah's absolutist regime in Iran. A vivid illustration of this test of government competency failure is the conduct of the Iraq War by the George W. Bush and Tony Blair administrations, which has caused a lingering legitimacy crisis for both that has forced Blair to step down and has sunk the Bush presidency to the lowest level in U.S. public opinion and in the eyes of the world. Similarly, the failure of the Israeli army—one of the largest in the world—in its 33-day war against a small Hezbollah organization in Lebanon in 2006 caused a deep crisis of legitimacy in Ehude Olmert's government and a broken image of one of the world's most formidable armies.

Thus, no government is immune to the chaotic crises that can cause system breakdown and transformation or regime change. Managing natural disasters and coping with "inconceivability and hyper-uncertainty" in modern public management are keys to the test of competency in sound governance and public administration. Sudden floods, earthquakes, and tsunamis illustrate disasters that, unless managed effectively, can lead to crises that have serious consequences. Similarly, hurricanes, terrorist attacks, and violent revolutions can produce crises with potentially chaotic dynamics and far-reaching consequences, unpredictable outcomes, or even system breakdowns. But they usually give plenty of warning signals, time in which response planning and preparation can be organized; they may be causal outcomes of earlier ill preparation, poor governance, and mismanagement or maladministration. They are consequential crises, whereas the former are chaotic, sudden, and nonlinear crises with hypercomplexities and potentially unknown outcomes. A central feature of all these crises is the sense of *urgency* demanded in managing them. Yet if this is the story of yesterday and

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today's emergency and crisis management systems, tomorrow's will be a much tougher, much more complex one, as we will be facing a world of much more "inconceivable" (Dror 2001), "unthinkable" (Handy 1998), and "unknowable" challenges (Stacey 1992).

Crises are borne out of short chains of events, often unpredicted and unexpected, but they develop with dynamic and unfolding events over months, days, hours, or even minutes. They disrupt the routine events of life and governance, disturb established systems, and cause severe anxieties; they produce dynamics that no one can predict and control. This is the case with most popular revolutions, and certainly it was the case with the Hurricane Katrina crisis, a crisis borne of a grand failure of emergency management and governance that led to mismanagement and a leadership crisis of mega-magnitude. Once elevated to the crisis level, disaster management during Katrina shifted into chaos, requiring a set of knowledge, skills, and sense of urgency that had been absent in the preparation and response stages of crisis management in New Orleans.

> ...what lessons can be learned from Katrina for the research and practice of emergency and crisis management worldwide?

This essay presents a global and international perspective on Katrina crisis management— or rather, its leadership and management crisis—with implications and lessons for future crisis governance and management. Hurricane Katrina produced a catastrophic disaster that caught the focused attention of the entire world with sympathy, concern, and shocked amazement. In this age of information technology and globalization, peoples and governments of the global community watched live 24-hour television reports as the appalling events of the crisis unfolded. As horrifying as these images were, what really shocked the world was the miserable failure of the city, state, and federal governments of the United States in their preparedness and response systems and their leadership failure in managing the crisis that engulfed New Orleans and the nation. Hardly anyone missed seeing such a grand failure of the most advanced nation on earth in coping with a chaotic crisis within a fairly defined geographic area. They all observed through real-time and report coverage how an advanced nation such as the United States was caught by surprise and unprepared to deal with a sudden, chaotic, large-scale system crisis that seemed to paralyze all administrative and governance capacities. This failure of leadership burst the bubble of belief that the United States was a great nation, let alone a global leader; where leadership had stood as an example to be emulated, it was now a case study in failure. And then the situation worsened.

This grand failure has raised many questions for scholars, experts, citizens, policy makers, and practitioners worldwide, not only in public management and administration but also governance and international relations, as well as the private and nonprofit sectors. Knowing New Orleans' elevation was under sea level, why were the levees not built for a Category 5 hurricane in the first place? Why was the entire emergency response system not prepared for unexpected events? Why was an unexpected management system not developed for such an emergency and crisis situation? Why did the leadership at all levels of government fail to act in time? Why did it take five days for the federal government to respond? Why were people not evacuated when plenty of warnings had been issued in advance? How does this affect America's image and prestige as a superpower in the eyes of the 21st-century world of nations and their peoples? What would America do if faced with multiple crises and simultaneous popular revolutions challenging its global hegemony and dominance around the world? How reliable is its capacity and willingness to help friends and foes in other crises around the world? What would this mean to future crisis and emergency management in developed and developing nations? And finally, what lessons can be learned from Katrina for the research and practice of emergency and crisis management worldwide?

These are big questions in need of book-length investigations. No doubt, there are many implications beyond administrative and policy questions that would affect our way of thinking about management and governance of the increasingly unknowable world of hyper-uncertainty and inconceivability and about crisis management theory and practice.

This essay addresses a global perspective, from the outside in, on the Katrina crisis and emergency management, presents several key lessons learned from the Katrina crisis, and offers some global implications with recommendations for future crisis and emergency management. The essay argues that crisis and complex situations require new ways of thinking and a new mind-set, a complexity-driven management system that can accurately read chaos and crisis situations with unfolding dynamics and surprises and manage crises through what I call a "surprise management system." This is a prescription for survival in the age of rapid globalization, hyperchange, hypercomplexity, and an "unknowable world" (Stacey 1992). This study benefits from 47 informal interviews conducted after Katrina with international scholars; ordinary people, including taxi drivers, teachers, shopkeepers, and government officials; and crisis and emergency experts representing more than 13 countries (France, Germany, Netherlands, Iran, India, England, South Korea, China, Japan, Chile, Venezuela, Trinidad and

Tobago, and South Africa). The next section presents a theoretical analysis of emergency governance and crisis management. This is followed by a detailed discussion of Katrina as a "global case of crisis governance and management failure" with a global perspective and several international implications, identifying the key areas of failure as evidenced in post-storm investigations, scholarly studies, and reports. The next section offers several important lessons learned from Katrina—good, bad, and ugly—that may help us understand the mistakes and prepare better for the future. The final section offers recommendations for capacity building—through an "anticipatory surprise management"—in emergency governance and crisis management theory and practice, education and training in the age of globalization, and chaotic uncertainty.

Theories of Emergency Governance and Crisis Management

Theories of crisis governance and management offer rich knowledge of what needs to be done in the case of emergencies and crises facing modern governments. Some ancient great powers such as Rome and the world-state empire of Achaemenid Persia had in place elaborate and highly flexible emergency management systems throughout their far-flung territories as part of their "strategic" public management systems. The proactive effort was to create an efficient bureaucracy and administration to deal with floods, storms, earthquakes, and political or military emergencies (Cook 1983; Farazmand 2001; Olmstead, 1948). Today's modernist theories of emergency and crisis governance inform us with fresh knowledge of how "sound governance" (see Farazmand 2004) may and should perform in such situations (Allison and Zelikow, 1999; Balke 1996; Dror 2001; Leng 1990; McCormick 2000; Schumpeter 1942; Schmitt 1963).

In public administration, there is a growing body of literature on the twin fields of crisis and emergency management that spans nations, cultures, and areas of security administration, terrorism, disasters, and catastrophes (Comfort 1988; Farazmand 2001, forthcoming; Haddow and Bullock 2006; Mitroff 2004; Perrow 1984; Pinsdorf 2004; Rosenthal, Boin, and Comfort 2001; Sagan 1993; Schneider 1995, 2005; Steinberg 2000; Waugh 2000; Wise 2006). In emergency and crisis governance, a crucial mandate appears to separate the functions of governance from those of management of public organizations across the board, ranging from those considered "extraordinary" and emerging situations, such as political riots and upheavals, revolts and revolutions, foreign military threats, to economic breakdowns with potential consequences that threaten political system collapse. Although common among underdeveloped or developing countries, such destabilizing forces of crisis and chaos are becoming common threats to modern democracies of the West as well (Dror 2001). Global

transformations may inevitably produce major breakdowns in social systems and engulf major countries and regions and "constitute a major challenge to capacities to govern in the foreseeable future" (Dror 2001, 204).

While some breakdowns may be "birth pangs of a better future," constituting what Schumpeter (1942) called "creative breakdowns," we still have very little knowledge of the transformation breakdowns, and this we can learn from chaos theory (Dror 2001; Farazmand 2004; Kiel 1994; Prigogine 1984). What we do know, however, is that catastrophic and chaotic breakdowns can become very disruptive, brutal, and result in much human suffering with aggressive behaviors. Thus, emergency and crisis-driven breakdown situations require "extraordinary" governance and politics on a transient basis, demanding an "emergency governance and management regime" to cope with and manage the situations (Balke 1996; Schmitt 1963). The authority of a sovereign power to declare a state of emergency is recognized in governance theory (Schmitt 1963) as a viable method to cope with emergency situations (McCormick 2000). This must, of course, be done with care and stop far short of becoming a dictatorial regime—including imperial presidencies or constitutional dictatorships—that threatens democracy and civil liberties. Emergency regimes are dangerous and no one likes them—nor should they—especially when they adopt many unnecessarily harsh policy measures (Gomien 1993; Leng 1990), tend to become aggressive, and seek to perpetuate themselves. However, also very harmful and devastating are situations in which "no government can be maintained, law and order breaks down and societies approach total collapse" (Dror 2001, 206). Thus, crisis and emergency governance arrangements must be instituted and constantly upgraded to respond to the needs of the time, especially by global institutions such as the United Nations in the age of rapid globalization and global threats of violence, terrorism, conflicts, war, poverty, and insecurity (Bartholomew 2006; Hoffmann 2006; UN 2001).

What emergency governance regimes do in crisis situations is a subject for many studies beyond this short essay, but a few comments are necessary here. The key purpose of emergency government is to first arrest the evolving emergency or crisis situation that may transform into a chaotic one with unfolding dynamics. The sense of being in charge through a central command system alone provides the structure necessary in all emergency situations. Steps following this stage may vary from response strategies to recovery and normalcy plans that help reduce the extraordinary situation, making it possible to pass through the transient stage of emergency governance and learn from the experience. Obviously, not all emergencies produce crises, and not all crises demand a state of

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emergency, but all crises and emergency situations give signals for *urgency* in action before rising to higher levels of criticality. Despite the effectiveness of emergency and crisis regimes from time to time, there is no guarantee that such governance measures will always succeed, especially when the political legitimacy of the regime is questioned. Examples include the revolutions in France, Russia, Iran, Nicaragua, and elsewhere around the world. In all these cases, the emergency regimes trying to stop the revolutionary movements failed because of a legitimacy crisis, but such measures did seem to work in situations such as the social upheaval in Los Angeles in 1980s and France in 2006. Key to emergency governance is application of a "specialized" expertise outside the bureaucratic structure of government, one that is flexible, robust, upgraded constantly, and well informed. Yet it is still bureaucratic capacity that provides mass power to the state in crisis situations.

In military emergencies, it is the army bureaucracy that is behind the flexible central command structure with special forces, but in social crises and emergencies, bureaucracy is too slow to act as a leader and must be supplanted by a central command system that can mobilize the forces of government (the bureaucracy), along with a host of other organizations such as networked systems, voluntary forces, and foreign assistance contingents. An important aspect of crisis and emergency governance is a sharp and timely recognition and definition of a situation as an emergency or crisis, as opposed to routine functions in disturbance. Such distinction is not often easy, as there may not be an immediate consensus among key actors or leaders as to what constitutes a crisis. Nevertheless, governance theories do inform us of the necessity for emergency regimes and crisis governance systems. The leaders and peoples of the United States and the Soviet Union experienced this unpleasant situation during the Cuban missile crisis of the 1960s, and both countries came to a realization of the possibility for mutual destruction in the face of a thermonuclear conflict and agreed to a collaborative working relationship by the 1970s (Allison and Zelikow 1999).

The twin fields of crisis and emergency management in public administration have been growing slowly but steadily, though they have a long way to go to reach a level of intellectual and practical maturity. Recent national and global events, including the 9/11 attack in New York, the Oklahoma City bombing, the London and Madrid train bombings, and potential threats of nuclear, biological, and hazardous challenges, seem to have established an *urgent* need for such a body of knowledge in crisis and emergency management. Today, this issue has become a global challenge, as the threat of terrorism has threatened global security and peace. At the global level, this imperative has already been addressed by the United

Nations and its member states through plans and programs to mitigate risks to societies, prepare for natural and man-made disasters, and respond with better capacities in crisis and emergency situations. The Asian tsunami disaster of 2004 affected several nations, took more than 200,000 lives, and involved the entire global community in coping with the crisis that devastated economies and social systems. Today's other global crises include Darfur and Palestinian–Israeli conflicts, the Iraq War, refugee crises, genocides, poverty, and floods and earthquakes that afflict nations and demand global solutions.

In public administration, the body of knowledge in crisis and emergency management is now expanding beyond its traditional scope and parochial parameters to embrace new concepts, approaches, and capacity building through chaos and complexity theories, adaptive and flexible system designs, and global or international dimensions as the world enters new stages of rapid globalization. Traditionally, crises were considered the manifestation of "unness" (Hewitt 1983), with natural disasters viewed as acts of God that were "unwanted, unexpected, unprecedented, and almost unmanageable, causing widespread unbelief and uncertainty" (Rosenthal, Boin, and Comfort 2001, 5). Today's concepts of crisis and emergencies are no longer mainly externally oriented; they are everywhere with us, and they have become part of our lives.

Modern crises are characterized by complexity, interdependence, and politicization. "Tomorrow's crisis, in turn, will look different from today and yesterday's crises" (Rosenthal, Boin, and Comfort 2001, 6). Yet this reality is not widely understood, as assumptions and perceptions about emergency and crisis management are still rooted in traditional ground. For example, Schneider (1995, 36–37) identifies five major assumptions—all false—that hinder today's effective crisis and emergency management. These include the location of natural disasters in a limited geographic area asking for local response only; close cooperation of all levels of government (May and Williams 1986); the existence of administrative capacity and resources to handle disasters or crises; public officials' awareness and understanding of crises and their ability to handle them; the ability of the Federal Emergency Management Agency (FEMA) to hold states and localities responsible for their response systems; and people outside the response system understanding how it operates. These are reasonable assumptions. However, according to Schneider (1995, 38–39), reality presents a different picture. First, different levels of government and their officials have different perspectives pointed toward their own advantages. Second, crisis and emergency officials have coordination problems that often render them unable to "coordinate" the actions of "other participants in the process." Third,

emergency relief operations are generally underfunded and do not take top priority on the government's agenda (Waugh 1990). Finally, the credibility of the emergency management operation is generally low, suffering from low respect in the overall government system and contributing to the perception that people working in the area are untrained and unprepared for the job, inept, and unprofessional, and are dumped in from "old military personnel or political hacks who can not find other employment" (Schneider 1995, 39; Wamsley 1993). Unfortunately, Katrina mismanagement reinforced most of these assumptions and misperceptions in the eyes of the global community.

Against these perceptual and reality backgrounds, however, we must search for new ways of thinking about crisis and emergency management. More recent studies shed some light and point to the complexity and imperative of developing the twin fields of crisis and emergency management in theory and practice, and through education and training. Today, the fields are growing, and a new body of knowledge is emerging that can guide theory and practice in crisis public management (see, e.g., Farazmand, 2001, forthcoming; Haddow and Bullock 2006; Waugh 2000; Wise 2006). What is emerging is an understanding that effective management of crises and emergencies requires serious preventive planning and preparation, institutionalized response systems with a strong central command structure, a well-coordinated network of response and recovery systems, a specialized crisis management team along with decentralized field commands armed with flexibility, and the presence of a functioning expertise in distinct areas of crisis situations (Farazmand 2001, 2–5).

Increasingly important to this new way of thinking and capacity building is taking a *global* perspective to guide nation-state governments and administrative systems, learning lessons from each and every crisis and emergency incident that afflict countries, and bringing these understandings to the forefront of theory and practice to help mitigate and manage future crises.

Katrina: A Global Case of Grand Failure in Governance and Emergency Management

If there is any single phrase to characterize Katrina crisis management, it is "grand failure." This grand failure was manifest in every dimension of governance and public administration at all levels. However, what is most disturbing about this catastrophic disaster is the "global perspective and international implications" that this grand failure produced for governance and public administration worldwide. Scholarly and governmental studies have examined the Katrina crisis

extensively, and there is a growing body of literature on what went wrong during that disaster and what can be done to prevent similar crises in the future. Katrina studies will continue to cover areas of governance and public administration, emergency and crisis management, and the capacity to manage crises and emergencies for the foreseeable future. Sadly, there are few, if any, success stories coming out of the Katrina case. Thus, this short essay will not detail what went wrong during Katrina and how the ensuing crisis was mismanaged. This has been documented by others (e.g., in U.S. congressional hearings, published articles, and books; see, in particular, Brennan and Koven, forthcoming; Farazmand, forthcoming; Kiefer and Montjoy 2006; Schneider 2005; Wise 2006), as well as in this special issue of *PAR*.

What is missing in most of these studies, however, is the global and international perspective of this grand failure in governance and public management and the serious implications it may have produced for global crisis management, international peace and security, and future emergency management theory and practice worldwide. As part of this study, this author has conducted more than 47 personal interviews with ordinary people, professional administrators and public managers, academic scholars, and crisis and emergency managers from 13 countries. This brief section addresses—through a positive lens—a short list of the critical failures that were identified by respondents, with the hope of articulating several major "global lessons" learned from the Katrina crisis that may serve as principles central to effective crisis and emergency management in the future. Finally, to advance knowledge and improve the practice of emergency governance and crisis management, a suggestive "theory of anticipatory surprise management" is offered.

Global observations and perspectives of the Katrina crisis management may be grouped into three major areas: (1) the governance capacity to manage Katrina-like emergencies and crises by advanced countries such as the United States; (2) the ability of nation-states to cope with chaotic crises and extreme emergencies and the United States' role in the global community; and (3) the strategic global and international implications of this grand failure for the United States as a superpower.

Regarding the first, the entire world of global institutions, peoples, and governments watched with unbelievable shock how the world's most advanced nation was caught by complete surprise, unprepared and unable to cope with the Katrina crisis. The world observed with disbelief a disaster mismanagement system quickly

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turning into a profound management and leadership crises. The capacity to govern under extreme crisis is paralyzing no matter how powerful and resourceful a country is. The situation in New Orleans looked like an extremely underdeveloped African nation, hopelessly trying to get the attention of the world, and yet nothing was happening. This was an ugly picture the world took notice of; it was not just bad governance but "ugly" governance. Sadly, this ugly picture also translated, in the eyes of the global community of friends and foes alike who followed its development with sympathy and disbelief, into more implications for democratic governance, human rights, and the role of race, color, and minority status in American society.

In response to this author's inquiry about what they thought of the crisis situation, the vast majority (45 out of 47) of interviewees seemed to wonder, "If this is what happens to American people on their own land, what would the people of the world in developing countries expect of America in similar situations?" This is a devastating observation with far-reaching implications for modern governance and international relations. Undoubtedly, the image of the United States was tarnished in the global community. But perhaps a more disturbing impact of the Katrina crisis has focused on its "capacity to cope with and manage multiple crises and emergency situations." What would happen if two or three Katrina crises hit a country like the United States, a country that stages wars on other nations and extends its military forces through more than 737 bases to at least 100 nations worldwide? (Bartholomew 2006; Hoffmann 2006).

Katrina crisis mismanagement and governance failure also affected the ability of nation-states to cope with crises and emergencies in two ways, negative as well as positive. Sadly, the negative impact was a psychological one, reinforcing the traditional perspective of viewing disasters and crises as acts of God—unexpected, unprepared, and unbelievable, and therefore something about which little or nothing can be done (Hewitt 1983; Rosenthal, Boin, and Comfort 2001). The inability of the United States to cope with the Katrina crisis has produced a fatalistic and helpless attitude in many poor and developing countries toward the management of serious disasters. Paradoxically, at the same time, the positive impact of the Katrina crisis has also been observed across the globe—that is, a stronger feeling of self-reliance, self-confidence, and self-capacity building for future crisis management. "Actually, we have not been doing bad at all, we have done even better in many cases," is the sentiment that many interviewees shared with this author. This attitude has a motivational effect on promoting confidence and building capacity among developing nations. We may therefore consider the ability of nation-states to cope with serious crises to be positively or negatively affected by other nation-states'

success or failure in coping with and managing disasters and crisis situations. We may also expect a greater role for the United Nations in promoting crisis prevention, preparation, and response systems across the world as globalization accelerates, with differential consequences affecting nation-states unequally.

Perhaps the most important long-term impact of Katrina crisis mismanagement is to be found in its implications for the United States as a superpower in the global community. This is the least considered and most highly neglected scholarly subject, and yet it is the most important global perspective on the Katrina crisis. Great powers, mighty empires, and strong governments are often tested by small and unexpected or sudden crises and chaotic incidents. This is a test of history, and most great powers have failed—with far-reaching consequences. In chaos theory, this is called a "butterfly effect": A small but chaotic change may produce large-scale changes by sending severe shock waves into the nerve systems of an empire, an organization, or an organism, pushing the system to the edge of chaos and breakdown, with unpredictable outcomes.

The ability of the system to survive a potential breakdown is highly dependent on its quality of self-reorganization and self-renewal, that is, its ability to return the system to a state of *autopoiesis* (Farazmand 2004; Morgan 2007; Prigogine 1984). Katrina crisis management failures sent a shock wave throughout the world, especially among developing and less developed nations, their people, and revolutionary organizations worldwide regarding the ability and capacity of the United States as a globally hegemonic superpower acting as a "global empire" and claiming to dominate the entire world (Freeman and Kagarlitsky 2004; Hoffmann 2006; Johnson 2002). The Katrina grand failure broke the myth of U.S. global power in the eyes of millions of people worldwide, and certainly in the eyes of the people and revolutionary organizations or governments feeling dominated and exploited by the United States.

The motivation to challenge this global hegemony has certainly become stronger after Katrina than before, as the weakness of this superpower has been exposed through Katrina and the Iraq War. What would happen if the United States faced several simultaneous crises of revolution across the globe challenging its hegemonic dominance, say, in Latin America, Africa, and Asia? How would the U.S. government cope with two or three Katrina crises and perhaps more 9/11 situations? These are serious questions with long-term implications for the United States among its allies and adversaries. International relations are shaped by power positions and the ability of nation-states to exercise diplomacy and politics in regional and global affairs, and this ability is tested by time, crises, and the capacity to govern during extreme emergencies (Dror 2001). A global perspective on this observation is that the United States' image as a

superpower seems to have been seriously eroded by the administrative response to Katrina, a perspective that has been reinforced by the Bush administration's deepening failures in Iraq and the broader Middle East.

As a global case of grand failure, the Katrina crisis revealed a number of failures that can inform future crisis and emergency management theory and practice. Evidence shows there was prior knowledge that, as a result of land erosion, New Orleans was unprepared for—and the levees would not stand—a large Category 4 or 5 hurricane, and yet nothing was done about it (Carter 2005); that the U.S. Army Corps of Engineers' estimate of $2.5 billion to upgrade the levees against a Category 5 hurricane was ignored, and lesser amounts were spent on special interest projects (Carter 2005); that the poor preparation to mitigate the disaster or its severe impacts was a major cause of the catastrophic result, and this was evidenced during the 2004–05 simulations, with major problems of evacuation task that never got corrected (Glasser and Grunwald 2005); and that despite several days of warnings, local and state government leaders failed to evacuate the local population, most of whom were poor and stranded, and when they did evacuate just before landfall, it was either too late or the poor mobilization activities hampered the task, with most transportation facilities useless under the water.

Leadership failure was also evident at the federal level: Despite requests by Louisiana governor Kathleen Babineaux Blanco for President Bush to declare a state of emergency under the provisions of the National Response Plan, which gives the president the authority to bypass state and local governments in catastrophic situations, that power was "not used during Katrina" (Wise, 2006, 305). The federal government leadership waited five days after landfall to take coordinated action by putting the federal military and Coast Guard on assignment, far too late and a glaring failure of crisis leadership. FEMA and its director, Michael Brown, failed miserably at coordinating a multi-institutional network of organizations and volunteers during the response process. Appointed on a patronage basis, the FEMA director had no experience or specialized expertise in crisis or emergency management, and he was more interested in his media images than in responding to the crisis (Schneider 2005). Volunteer forces from across the country were ordered by Brown to take a two-day pre-response training in Atlanta instead of taking them into the field, where their assistance was desperately needed. There was also lack of central command structure to provide leadership and to coordinate state and local efforts, with hundreds of network organizations and volunteers unable to work together in a

flexible and collaborative way. The Superdome and convention center became death traps for tens of thousands of people, with the local homeland security officials and Brown either claiming not to know about it, despite published communications to the contrary, or failing to provide victims there with help (Cooper 2006). And there was the total communications failure among the police and other government agencies—a total system collapse resulting in complete chaos and costly misunderstandings, a crisis situation that no one was trained or prepared to cope with (Baum 2006).

Finally, there was a total intergovernmental management failure: This failure was at the local, state, and federal levels, in addition to horizontal coordination failures in coordinating nongovernmental, nonprofit, and volunteer organization networks present on the scene; in fact, coordination and leadership constituted the biggest failures during Katrina crisis mismanagement (Brennan and Koven, forthcoming; Wise 2006). Socially and politically, Karl Marx is an apt figure to include here, as what happened constituted his philosophy made reality. He would have admonished the ruling-class bourgeoisie at all levels of government for its failure to manage a crisis that did not touch that class and only affected the working-class poor. One can hear his voice claiming that the image of a global war on terrorism was more important for the national governing elite than an act of caring for the working-class citizens trapped in the disaster— hence the fallacy of bourgeois democracy in capitalism. The stakeholders were poor, black, and underclass, and they had no power to influence the governing elites. Watching the drama on television screens across the globe, international observers could and did easily agree with Marx's assessment of the situation during and after the Katrina crisis.

Lessons Learned, With Implications for Future Crisis Management

Lesson 1: Never compromise the long-term strategic goals of a nation, system, or organization with short-term political or economic benefits. Building and upgrading the hurricane protection infrastructure for Category 5 storms, an expense of $5 billion, would have saved the city of New Orleans in the first place and would have saved more than $200 billion in damages, plus the inestimable cost of human lives. This means that *sound governance matters.*

Lesson 2: Build capacity; preparation is key to the mitigation and response system in disasters and crises. Never compromise on prevention and response preparation plans, and

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never leave specialized crisis and disaster management tasks to generalist politicians who are interested in image making rather saving lives and property. This is a lesson learned more than 2,500 years ago, when the Persians under King Darius the Great organized "specialized emergency task forces" on the side of the efficient bureaucracy to deal with trouble spots and disaster-driven crises across the far-flung empire (Cook 1983; Olmstead 1948). Capacity building requires education, training, exercises, technological capacity, and financial resources, as well as competent human resources with expertise, upgraded constantly to meet the challenges of an increasingly unknowable world.

Lesson 3: Coordination is a key to response systems. Vertical coordination through intergovernmental organizations and horizontal coordination through interstate and network-based organizations are key structural features, to be matched by process and cultural coordination systems, and this requires serious cultural unlearning and relearning for tomorrow's crisis management. This was a big failure in Katrina.

Lesson 4: Leadership and central command structures are the most important elements in crisis and emergency governance and management. There is no substitute for sound leadership through a central command structure that is positioned well in advance and provides flexible and well-coordinated command systems in the field that are capable of adapting to changing conditions as they unfold. Taking timely and decisive actions during the unfolding dynamics of a crisis situation is a key characteristic of effective crisis leadership.

Lesson 5: Traditional emergency management techniques are no longer useful. Prepare with advanced, nonlinear, and chaos management systems that can be applied beyond tomorrow. Prepare for an unknowable world (Stacey 1992) and manage crises effectively—train and develop crisis expertise with inconceivability scenarios.

Lesson 6: Learn from past experiences and build capacity for the future; learn from other nations and global best practices. The experiences in flood control in the Netherlands and England can teach us quite a bit; the successful earthquake preparation and response systems, as well as the effective crisis management system, of Iran can shed light on future crisis and emergency management around the world. Iran evacuated more than a million people without a single loss of life in the face of the Category 3 Hurricane Guno that hit the southern coastal cities and towns of the country in the Persian Gulf on June 7, 2007; it took more than 50 lives in Oman (*Hamshahri Daily*, June 9, 2007).

Lesson 7: Governments are tested for their competency in saving lives and property during disasters and crises; they are the institutions that are ultimately responsible for the failures that affect their legitimacy, an element necessary for survival and governance. Democracy matters, but failing to act in time during an extreme emergency or national crisis can have far-reaching adverse consequences for citizens, governance, and democracy. Bureaucracy may be too slow and unsuitable in crises and emergencies, but its institutional capacity to provide a reservoir of expertise to crisis leaders and managers is immense and should not be overlooked.

Lesson 8: Engage people and be honest with them. Partnership with people during crisis situation is essential to reduce anxiety and opportunities for panic and chaos. They are in the trenches and know the place better than anyone else. Local institutions and community and neighborhood organizations are essential partners in crisis and emergency management. People "who know the culture and speak the language, whom locals consider 'one of us'" should be a main part of the process (Schmitdt, 2006, 10).

Lesson 9: Prepare for simultaneous and multiple crises or disasters, and institutionalize a new way of thinking about crises as sudden, unexpected, and inconceivable events that may happen any time and any place. This capacity needs to be institutionalized to avoid surprises. Continually upgrade your capacities.

Lesson 10: The adage "Success has a thousand fathers, failure but one" (Pinsdorf 2004, 107) may apply to many cases but not to Katrina. Every official, and even the Red Cross, failed during Katrina. The director of the Red Cross was more interested in protecting and promoting her "personal friend George W. Bush" than in doing her job during Katrina; she did not survive the mounting criticisms and soon was out of the job.

Conclusion: Building Capacity with Anticipatory Surprise Management

There is generally a big gap between the routine tasks of governance and administration, on one hand, and the emergency, nonroutine tasks that demand urgency in attention and action, on the other hand (Schneider 1995). Bureaucratic expertise may be suitable for routine tasks, but bureaucracies are no match for crisis and emergency-driven events with chaotic and unfolding dynamics. The latter requires a different set of institutionalized ways of thinking, a new mind-set out of the traditional box filled with rules, control, and procedures; it demands new knowledge, skills, and attitudes that can read inconceivability and unthinkable impossibilities. This is beyond the realm of ordinary management and governance capacity.

A key characteristic of all chaos and dynamic crisis situations—such as spontaneous revolutions, Katrina-type crises, and the like—is the presence of a high number of inconceivables and upexpecteds that surprise everyone. All officials and organizational actors were totally caught by surprise—surprise that paralyzed the entire response system and produced more chaos and further surprises, triggering disaster after disaster. This could have been avoided had there been capacity building for "chaos and surprise management" in advance. We simply cannot manage chaos with routine administration and governance. Surprise management is what we need in order to develop a new capacity to manage emergency governance and crises, as globalization tends to produce more crises worldwide because it is concerned with short-term profits while neglecting the long-term strategic issues of our planet (Regester and Larkin 2005, 70).

In this age of rapid globalization and nonlinear chaotic changes, "surprise" may be the "most commanding dimension of uncertainty" (Hermann 1969, 29), but in order to manage surprises, one must acquire the knowledge, skills, and experience of surprise management. Surprise may cause discomfort to policy makers and planners with sudden ignorance and serious consequences, but to an intelligent analyst, everything is expected and "nothing will outdo the impact of the full-fledged surprise attack" (Kam 1988; Rosenthal, Boin, and Comfort 2001, 7), and most damaging forces of nature—tornadoes, earthquakes, and sudden floods—strike unexpectedly with surprise. An anticipatory crisis management must integrate "surprise" as a key element of effective governance and public administration. The lack of such capacity building—planning, preparation, response flexibilities, and so on—will surely lead to a total paralysis in the face of surprise.

Crises and emergencies produce complexities, and complex systems require complex management systems that are adaptive, skilled in extraordinary capacities, and responsive to the harshest possible conditions. They carry a changing degree of chaos and unfolding dynamics with unpredictable outcomes, resulting in disorder, but an anticipatory capacity can mitigate many such manifest behaviors and reduce the level of criticality by arresting the chaos in the early stage while managing crisis elements.

This is exactly what happened in December 2004 during the massive earthquake that destroyed the southeast ancient city of Bam (including its 2,500-year-old standing citadel) in Iran before dawn, collapsing the entire system of governance and administration hundreds of miles in every direction and killing more than 50,000 of the city's 80,000 residents. By 3:00 p.m. the same day, a centralized national command structure had already been set up and was operational in Tehran, giving information and coordinating multiple vertical and horizontal network structures of organizational and voluntary response systems. In less than 24 hours, chaos had been arrested, and the response system was so effective that international response teams, including the Red Cross and FEMA, found themselves with little to do upon arrival. Key to such effective emergency and crisis management was a surprise management system coupled with a "five-step forward-reading strategy" that had anticipated all possibilities and impossibilities beyond five levels, including sudden desert sand storms, potential foreign invasion by the United States, and more.

Concept and principles of surprise management theory. Surprise management draws on chaos and complexity theories (Kiel 1994; Pascale 1990; Prigogine 1984; Stacey 1992; Waldrop 1992; Weick and Sutcliffe 2001). As a social and political construction, the theory of surprise management is based on at least four principles. First, it rejects anything that is routine and expected. Second, by extension, it is fluid and constantly changes in its nature, degree of flexibility, and adaptability. Third, it demands certain preconditions to qualify as surprising and chaotic, nonlinear and unexplainable, as distinct from linear and predicable causal behaviors. Fourth, surprise management demands cutting-edge knowledge, skills, and attitudes beyond the comprehension of most people in routine environments of governance and administration. Finally, it requires extraordinary and yet disciplined authority and power with unrestrained resources. Surprise management thrives on chaos and crisis situations; therefore, the more ambiguous the conditions, the better the capacity building in surprise management.

Strategic conditions for surprise management. Short-term thinking bores surprise managers and their teams, and thus strategic thinking is what makes up the essence of the concept. Yet surprise management takes on small and short-term crisis conditions as bites for sharpening its teeth. It is expensive to develop and maintain, but it is a national asset with no substitute. Democracy needs surprise management systems more than any other systems, but the idea must be nurtured to institutionalize its values. Strategic conditions refer to four key points of attention: foci, loci, positions, and who's. *Foci* refer to the areas of focus or stress in crisis situations (political, social, disaster, international relations). *Loci* refer to locations, organizational level, and governance areas (local, state, federal, global) on which the focus is placed or the crisis is happening. *Position* means the strategic positioning and repositioning of key players, actors, and participants in the crisis or surprise management process. Finally, the *who* refers to individual and institutional actors in strategic positions making crucial decisions and acting accordingly.

Requirements for surprise management. Surprise
management requires ample resources to operate, with
no constraints but clear accountability. It also requires
critical opportunities to practice surprise management.
It demands full attention, talent, language, and com-
munication as well as personality skills, mostly uncom-
mon ones, to engage extreme, unthinkable conditions
and circumstances, people, and dynamics. Surprise
management also requires specialized and rigorous
training and development for various foci, loci, and
dynamic positioning purposes in crisis management.
Surprise management requires autonomy and author-
ity in performance, but it is also accountable to
democracy. Nothing comes as a surprise to
its players.

Capacity building in surprise management.
Educational and training programs, formal and infor-
mal, periodic and continuous, are required to train
and develop surprise management teams, leaders, and
managers for crisis management in the age of rapid
and nonlinear changes. Weick (1995) reminds us that
most managers make the mistake of trying to solve
organizational problems through linear thinking; they
must get out of this mind-set and think both strategi-
cally and in nonlinear ways to manage the "unex-
pected" (Weick and Sutcliffe 2001). Managing
complexity on the "edge of chaos" (Pascale 1990)
requires a different set of organizational learning, a
learning to learn and surprise management capacity
(Waldrop 1992). Recent studies suggest imperatives
of "adaptive management" in coping with crises and
disasters (Wise 2006), but others argue for
"collaboration over adaptability" (Jenkins 2006),
while still others argue for a network-based
organizational system to crisis management.

A theory of surprise management integrates all fea-
tures of the authoritative, collaborative, participative,
and adaptive models with a quality of self-organizing
fluidity and hyperflexibility; it possesses an un-
matched capacity for crisis and emergency manage-
ment. It is suggested here that universities and
institutions of higher education across the globe de-
velop and offer academic degrees and professional
courses in chaos and surprise management as part of
capacity building for future emergency governance
and crisis management in an age of increasing global
insecurity, risks, disasters, and inconceivable surprises.

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