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QUICK RESPONSE REPORT

Examination of the American Red Cross and FEMA following Hurricanes Charley and Ivan

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Introduction

After most disasters, first responders (police, fire, and emergency medical services) are usually on the scene within minutes. Emergency management agencies are also coordinating the various emergent multiorganizational networks as identified by Drabek (2003). The National Volunteer Organizations Against Disasters has 34 members, including national organizations, such as the Salvation Army, American Red Cross, Catholic Charities USA, Mennonite Disaster Services, United Jewish Communities, and Volunteers of America, to name a few (Haddow and Bullock 2003). Additionally, there are often disconnected volunteers, including friends, neighbors, and others in the area. Other organizations offer assistance to both victims and responders. The federal government has established the U.S. Department of Homeland Security (DHS) with the Federal Emergency Management Agency (FEMA) under its organizational umbrella. Also, individual states and counties have their own emergency management agencies.

There are local chapters of the Red Cross whose volunteers are trained in emergency response in order to cooperate with local emergency management agencies and the immediate necessities of victims. Some of the assistance consists of food, clothing, and shelter (Haddow and Bullock 2003).

The Red Cross has been under more scrutiny since September 11, 2001. CBS News reported about their financial accountability, or lack of it, in 2002. Record donations in the millions of dollars flowed into local chapters nationwide following the terrorist attacks (Attkisson 2002a, 2002b, 2002c). According to the Red Cross, the Disaster Relief Fund is now at its lowest level in 11 years. The Red Cross spent $114.3 million in aid from June 30, 2002, to June 30, 2003, and received $39.5 million in donations for the same temporal period (Booth 2003).

Observations of the Red Cross response vary in different regions. For example, following the tornadoes of September 20, 2002, in Indianapolis, Indiana, there were positive comments regarding the actions of the Red Cross (Ogren 2003). However, there were different opinions after the La Plata, Maryland, tornado that occurred on April 28, 2002 (Schwartz 2003).

FEMA has also been controversial regarding the quality and timing of assistance from various disasters, such as the Loma Prieta earthquake, Hurricane Hugo, Hurricane Andrew, and the La Plata, Maryland, tornado (Cherry and Cherry 1997; Schwartz 2003). FEMA is the federal agency responsible for coordinating disaster relief with state and local agencies. Since the formation of DHS, there is now another level of bureaucracy.

The objective of this research was to examine the performance of both the Red Cross and FEMA following a major disaster. Different organizations play specific roles, but the Red Cross and FEMA are usually in the community to offer assistance. This project utilized direct observations of response and recovery efforts by these two agencies. Florida's active hurricane season in 2004 fit the criteria for the research objective. Two Florida counties were examined for this project, Charlotte County (Hurricane Charley) and Escambia County (Hurricane Ivan).

Hurricane Climatology

Hurricane season in the North Atlantic basin begins on June 1 and runs through the end of November with the peak of hurricane season around mid-September (Neumann 1993). Tropical cyclones are named after tropical storm status is reached at 39-73 miles per hour

Table 1: Saffir-Simpson Hurricane Scale

Table 1. Saffir/Simpson Hurricane Scale [Simpson, R.H. (1974)].

Scale Number (Category)	Central Pressure (Millibars)	Central Pressure (Inches)	Winds (Mph)	Surge (Feet)	Damage
1	>979	>28.91	74-95	4 to 5	Minimal
2	965-979	28.50-28.91	96-110	6 to 8	Moderate
3	945-964	27.91-28.47	111-130	9 to 12	Extensive
4	920-944	27.17-27.88	131-155	13 to 18	Extreme
5	<920	<27.17	>155	>18	Catastrophic

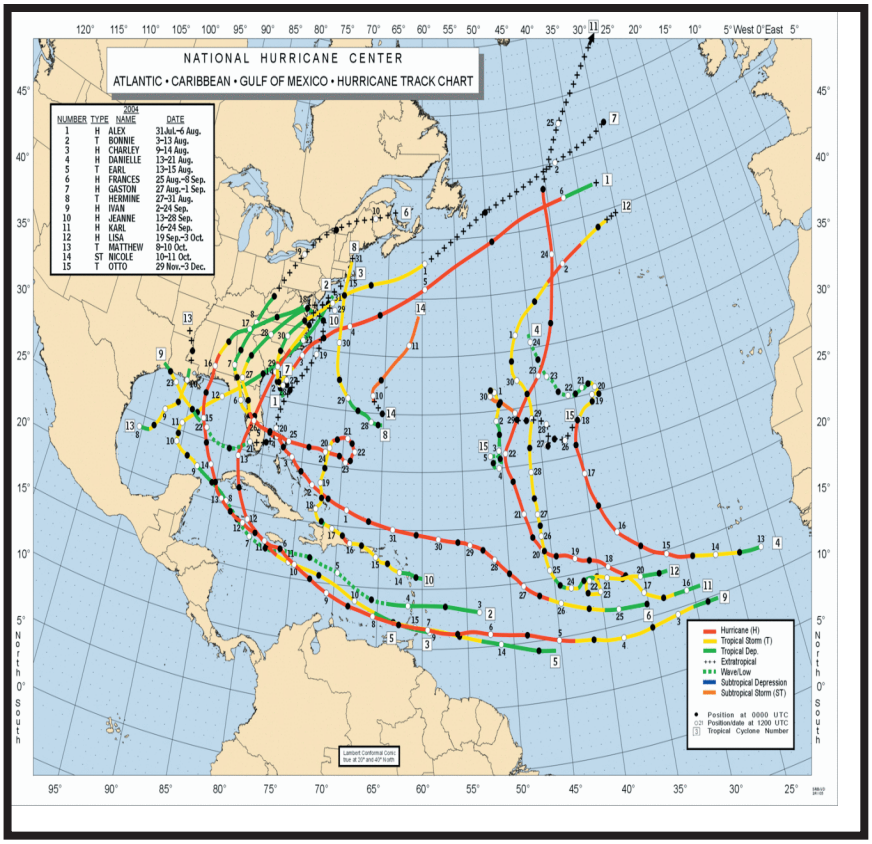
Source: Simpson and Riehl 1981

(mph) or 34-63 knots (kts) and become hurricanes when sustained winds over 64 knots (74 mph) are reached. Storms are classified as a major hurricane if the intensity is category 3 (96 kts or 111 mph) or higher on the Saffir-Simpson scale, which is used to classify hurricanes by the wind velocity, storm surge, and atmospheric pressure (Table 1) (Simpson and Riehl 1981).

A typical hurricane season has approximately 18 named storms, which includes 11 tropical storms and 6 hurricanes, of which, 2 become major hurricanes (Padgett 2004). In 2004, there were 15 named storms consisting of 6 tropical/subtropical storms and 9 hurricanes, of which, 5 were major hurricanes (Figure 1) (National Hurricane Center 2005).

From 1900-2004, 64 hurricanes made landfall in Florida with 27 categorized as major hurricanes (Barnes 1998; National Hurricane Center 2005). Statistically, this is 0.6 hurricanes making landfall per year. Between 1910 and 1950, Florida experienced several major hurricanes per decade with the 1940s being very active (Landsea 2004). However, the 1960s-1980s were relatively quiet with few major hurricanes making landfall (Barnes 1998; Landsea 2004). Still, 36 percent of all hurricanes affecting the United States hit Florida, and 76 percent of category 4 or 5 hurricanes have hit either Florida or Texas in the twentieth century (Jarrell et al. 2001).

Figure 1: 2004 Hurricane Season



Source: National Hurricane Center, http://www.nhc.noaa.gov/

Synopsis of 2004 Florida Tropical Cyclones

2004 was an active year for Florida with one tropical storm and four hurricanes, of which, three were major hurricanes (National Hurricane Center 2004). These storms were Bonnie (tropical storm), Charley (category 4), Frances (category 2), Ivan (category 3), and Jeanne (category 3).

Tropical Storm Bonnie made landfall near St. Vincent Island on August 12 with winds of 40 kts (46 mph) and a barometric pressure of 1,002 millibars (mb). Societal impacts were minor in Florida (Avila 2004).

The following day, Friday, August 13, Charley made landfall as a category 4 hurricane near Cayo Costa with winds near 130 kts (149 mph) and pressure of 941 mb. Punta Gorda reported 145 mph winds, and Charley maintained hurricane strength as it crossed the Florida peninsula and exited near Daytona Beach (Pasch et al. 2005).

Hurricane Frances struck the Atlantic Coast near Hutchinson Island as a category 2 storm with winds of 90 kts (105 mph) and pressure of 960 mb on September 5. It made a second landfall in the Big Bend region as a tropical storm with winds of 50 kts (58 mph) and pressure of 980 mb. There were also 101 tornadoes associated with Frances, of which 23 were in Florida (Beven 2004).

Hurricane Ivan struck Alabama and the Florida Panhandle on September 16 with winds of 105 kts (121 mph) and pressure of 946 mb as a category 3 hur-

ricane. The storm eventually merged with an extratropical low over the Delmarva Peninsula and still had an identifiable circulation pattern. As the low moved south in the Atlantic Ocean, it regained tropical characteristics and made landfall as a tropical depression September 24 near Holly Beach, Louisiana, with winds of 30 kts (35 mph) and pressure of 1,004 mb. There were 113 hurricane-spawned tornadoes between September 15-17 with 20 tornadoes in Florida (Stewart 2004).

Florida experienced its fifth tropical cyclone 10 days after Ivan made landfall when Hurricane Jeanne struck Hutchinson Island on September 26 as a category 3 storm with winds of 105 kt (121 mph) and pressure of 950 mb. Jeanne had a similar path to Frances but did not leave the Florida peninsula as its track traveled west of Orlando and Gainesville (Lawrence and Cobb 2005).

Hurricane Charley

A tropical wave came off western Africa on August 4 and continued a westward direction over the Atlantic Ocean. Organization continued and the wave developed into a tropical depression on August 9 near Trinidad. The storm became tropical storm Charley on August 10 and a hurricane on August 11 near Jamaica. Charley reached category 2 status on August 12 near Grand Cayman as it headed towards Cuba (Gray et al. 2004; Pasch et al. 2005).

After exiting Cuba, Charley weakened over the Straits of Florida and turned northward in the eastern Gulf of Mexico near the Dry Tortugas. A strong trough from the east-central United States to the eastern Gulf of Mexico changed the steering currents, and Charley's path turned north-northeastward away from the Tampa Bay area, where it had been predicted to hit, and toward southwest Florida (Pasch et al. 2005)

Besides changing direction, Charley's eye shrank, and winds increased from 95 kts (109 mph) passing Dry Tortugas at 1200 UTC (Universal Coordinated Time) to 110 kts (127 mph) at 1400 UTC. Intensification continued with winds reaching category 4 in three hours at 125 kts (144 mph). A U.S. Air Force reconnaissance plane measured the central pressure at 1522 UTC at 964 mb and 941 mb at 1957 UTC, a deepening of 5 mb per hour. Charley made landfall north of Captiva near Cayo Costa with sustained winds of 130 kts (150 mph) and a barometric pressure of 941 mb. When the eye passed Punta Gorda one hour later, winds were reported at 145 mph (Pasch et al. 2005).

Based on the Saffir-Simpson scale, a category 4 hurricane can produce a storm surge of 13-18 feet. However, the surge associated with Charley was approximately six feet due to the smaller eye and the forward speed over the Gulf of Mexico. It was also near low tide as Charley made landfall (Thompson 2004).

Charley continued to cross the Florida peninsula with hurricane force winds as it exited the state near Daytona Beach. There was a slight reintensification before making additional landfalls on the South Carolina coast with winds of 70 kts (80 mph) and then 65 kts (75 mph). Continuing its path, Charley weakened to a tropical storm over North Carolina and merged with the same trough that pushed it into southwestern Florida. On August 15, Charley lost its tropical identity and became extratropical (Pasch et al. 2005). Charley's path through Florida was very similar to category 4 Hurricane Donna in 1960 (Neumann et al. 1987).

Hurricane Ivan

A large tropical wave moved off the western African coast on August 31, strengthened to a tropical depression on September 2, and became Tropical Storm Ivan on September 3. Ivan became a hurricane two days later in the southern Windward Islands near Tobago. The hurricane intensified rapidly and became a major hurricane, the southernmost major hurricane on record. After the rapid intensification, Ivan began to weaken as dry air in the midlevels of the troposphere entered the center. However, Ivan began to intensify and became a category 3 hurricane near Grenada. Ivan reached category 5 status three times before reaching the United States with maximum winds measured at 145 kts (167 mph) and barometric pressure of 910 mb. Besides Grenada, Ivan caused extensive damage in Jamaica and Grand Cayman (Gray et al. 2004; Stewart 2004).

Ivan entered the Gulf of Mexico on September 14, first turning north-northwest and then north. The storm encountered a trough, which increased wind shear and advected dry air into the core. Ivan only slightly weakened when it made landfall as a category 3 hurricane near Pine Beach, Alabama, with winds of 105 kts (121 mph) and a barometric pressure of 946 mb on September 16. However, the eye had increased in size to 40-50 nautical miles with some of the strongest winds near the southern Alabama-western Florida panhandle border (Stewart 2004).

After landfall, Ivan continued over Mobile Bay and dissipated into a tropical storm after 12 hours. Once in central Alabama, it turned more northeast and became a tropical depression, which eventually merged with a frontal system over the Delmarva Peninsula on September 18. Ivan continued to produce heavy rainfall and 113 tornadoes along with flash floods. Once classified as an extratropical low, Ivan still had an identifiable circulation on the surface and upper levels. The low moved south and crossed the southern Florida peninsula on September 21. After moving into the warm waters of the Gulf of Mexico, it reacquired tropical characteristics and became a tropical depression. It further intensified, becoming a tropical storm, and made landfall on September 24 as a tropical depression near Holly Beach, Louisiana, with winds of 30 kts (35 mph) and a pressure of 1,004 mb. Ivan finally dissipated northwest of Beaumont, Texas. Ivan existed for more than 22 days (including the extratropical phase), and its track was greater than 5,600 nautical miles (Stewart 2004).

Methods

In order to achieve the research goals of assessing the response performance of the Red Cross and FEMA, this project used several methods that were qualitative in nature. These included field observations in both Charlotte

and Escambia counties following Hurricanes Charley and Ivan. Besides direct observations, interviews were conducted with emergency management personnel and directors, FEMA workers, Red Cross volunteers and employees, law enforcement officials, personnel from various agencies, citizen volunteers, and survivors.

The interviews were tailored to the interviewee's specific role within the disaster, such as first responder, victim, Red Cross worker, or FEMA employee. The methods engaged were mostly conversational and open-ended to allow interviewees to discuss their duties and experiences. Interviews were conducted in various settings, such as emergency operations centers (EOC), comfort stations, disaster resource centers, distribution centers, and neighborhoods.

Two trips were made to each county following the hurricane. The first site visit to Punta Gorda and Charlotte County for Hurricane Charley was August 20-22 and the second visit was October 18. After Hurricane Ivan, the first visit to Pensacola and Escambia County was September 23-26. The second visit was December 27-28. These provided different perspectives with a two-to-three month period between visits.

Besides interviews and field observations, archival data was used. This included newspapers from the local and regional areas, press releases, television reports, and several online sources. A total of 70 individuals were interviewed during the four visits.

Study Areas

Charlotte County

Charlotte County is located in the southwest part of the Florida peninsula between the Tampa Bay metropolitan area and Naples. It consists of approximately 694 square miles of land area and 166 square miles of water (Gazetteer 2005). There are 219 miles of waterfront and 12 miles of beaches in the county (Charlotte County Geography 2005).

The 2004 population estimate was 157,134 compared to the 2000 census of 141,627 (Population Estimates 2005). There were more females (52.2 percent) than males (47.8 percent). The median age was 54 with 84 percent of the population 18 or older and 34 percent over the age of 65. Ninety-three percent of the population was classified as white, four percent as African American, and the remaining three percent as other races (Charlotte County Fact Sheet 2005).

Average household size was 2.2 persons with a median household income of $36,379. Per capita income was $21,806 and 8 percent of individuals were below the poverty level (Charlotte County Fact Sheet 2005).

There are 63,864 occupied housing units, of which, 84 percent were owner-occupied and 16 percent were rented. The median value of owner-occupied home was $97,000. Mobile homes accounted for 12 percent (7,475) of housing units (General Demographic Characteristics 2005).

Escambia County

Escambia County is the westernmost county in Florida and is located in the panhandle adjacent to Alabama. Land area consists of 662 square miles with 213 square miles of water (Gazetteer 2005). There are 30 miles of beaches, including the Gulf Islands National Seashore (Great Place to Visit 2005).

Population in 2004 was estimated at 298,859, while the 2000 census listed 294,410 (Population Estimates 2005). Gender was close to even, as 50.3 percent are females and 49.7 percent are males. The median age was 35 with 76 percent of the population over 18 and 13 percent 65 or older. Racial composition was 72 percent white, 21 percent African American, and 2 percent Asian (Escambia County Fact Sheet 2005).

Average household size was 2.5 persons with a median household income of $35,234. Per capita income was $18,641 and 15 percent of individuals were below the poverty level (Escambia County Fact Sheet 2005).

The county had 111,049 occupied housing units, of which, 67 percent were owner-occupied and 33 percent were rented. Owner-occupied homes had a median value of $85,700. Mobile homes made up 9 percent (10,268) of the housing stock (General Demographic Characteristics 2005).

Societal Impacts Overview

Hurricane Charley

Until Hurricane Katrina in 2005, Charley was the strongest hurricane to hit the United States since Andrew made landfall in Dade County, Florida, in 1992. There were 10 direct fatalities in the United States, of which, nine were in Florida. Four were in Charlotte County and one each in Lee, Sarasota, DeSoto, Orange, and Polk counties. The other direct fatality was in Rhode Island. Twenty indirect fatalities occurred in Florida. Additionally, Charley caused four deaths in Cuba and one in Jamaica (Pasch et al. 2005).

Different sources list various damage statistics. This was also stated in the technical report by Tobin et al. (2005). According to Pasch et al. (2005), the Property Claims Service reported insured damage of $6.755 billion in Florida, while the Insurance Information Institute reported $7.4 billion in insured losses. In order to achieve an estimate of total damage, a two-to-one ratio is used for a total near $14-15 billion, making Charley the second or third costliest hurricane in U.S. history behind Andrew (before Ivan and Katrina).

It is estimated that Charley destroyed more than 12,000 homes and caused major damage to more than 16,000. Approximately 29,000 homes received minor damage and 17,000 had very minor damage, such as missing shingles (American Red Cross 2004; Royse 2004). The Red Cross defines destroyed as "currently uninhabitable and can't be made habitable without extensive repairs that would prove too costly" (2004). Major damage is classified as "not currently inhabitable but can be made habitable with repairs." Minor damage is for structures

that have damage, require repairs, but are still habitable. It is up to the residents whether they stay in the structure. Affected damage is for "extremely minor" instances, such as debris on property, a few broken windows, a few shingles blown off, or minor interior damage. Additionally, about 4,000 manufactured homes in Charlotte County were destroyed (Sallade 2004).

All three hospitals in Charlotte County were knocked out of service along with the state veterans' nursing home. The roof collapsed at a fire station and seven fire stations were heavily damaged along with hangars at the airport (Edds and Baird 2004; Squires et al. 2004). Charlotte County Sheriff's Administration Building and EOC also lost its roof (Cameron 2004). Most of the schools in the county were damaged, some extensively (Edds and Baird 2004).

The county was also without electricity as were large areas of other counties in Charley's path. Estimates stated that approximately two million people were without power in Florida following landfall. In Charlotte County, 80,000 customers had no electricity, and the communities of Port Charlotte and Punta Gorda were without water (Edds and Baird 2004).

Hurricane Ivan

Before Hurricane Ivan made landfall in the United States, it caused 68 fatalities in the Caribbean. Twenty-six deaths occurred in the United States: 15 in Florida, 10 in Georgia, and 1 in Mississippi. There were 31 indirect fatalities in the United States with 29 in Florida (Stewart 2004).

Ivan caused considerable damage in the Caribbean, damaging or destroying 95 percent of buildings in the Cayman Islands. More than 14,000 homes were destroyed or damaged in Grenada. Approximately 5,600 dwellings were completely destroyed in Jamaica, and a minimum of 47,000 homes were damaged. Another 100 homes were damaged in the Grenadines and Tobago; three were washed into the ocean. Total damage estimates for the Caribbean region (less other Windward Islands countries, Venezuela, and Cuba) were greater than $3 billion in U.S. dollars (Stewart 2004).

Heavy damage also occurred in Florida and Alabama. According to the Red Cross (2004), 8,922 homes were destroyed, 18,850 homes received major damage, 46,779 homes sustained minor damage, and 67,572 homes had very minor damage. Based on the American Insurance Services Group estimates, insured losses were $7.11 billion, of which, more than $4 billion were in Florida. Additionally, damage at the Pensacola Naval Air Station was estimated at around $800 million. Using the two-to-one ratio, estimated damage was around $15 billion (Stewart 2004).

Besides homes, there were several commercial buildings and businesses damaged by Ivan. Additionally, millions of acres of woodlands and forests were destroyed. Offshore oil platforms and pipelines received varying amounts of damage (Stewart 2004).

Other infrastructure damage included portions of Interstate 10 across Escambia Bay and sections of U.S. Highway 90. Several hospitals in the various health care networks also received damage, primarily to their roofs and windows. Other critical infrastructure that was damaged included electricity, cable television, water, sewer, and telephone lines. Additionally, the Pensacola Regional Airport, the University of West Florida, and Pensacola Junior College sustained damage (Pensacola News Journal 2004).

Observations

Hurricane Charley

Site visits were conducted within a week of landfall and the area was found to have limited electricity, few traffic signals, and intermittent communications due to cell tower damage. The EOC was located in the damaged Charlotte County Sheriff's Department. Generators supplied electricity, and air conditioning was provided by large rented units with portable ductwork. Several individuals were interviewed at the EOC, including emergency management staff, the public information officer (PIO), Sheriff's Department personnel, a government liaison of the Red Cross, FEMA and DHS staff, and National Guard soldiers. Credentials given by Wayne Sallade, director of emergency management for Charlotte County, gave the researcher complete access to different areas in the county.

There were rotating PIOs from different counties. Discussions with the PIOs included such topics as: all hospitals opening as of August 20, Humane Society aid for animals, arrests for price gouging and looting, and the local radio station obtaining current information. It was also noted that many illegal aliens needed assistance but were reluctant to request aid in fear of deportation.

The interview with the Red Cross official indicated that there were a good number of volunteers, but donations were down due to economic reasons. It was noted that volunteers do not accept donations while serving meals. Approximately 70 routes were being served from emergency response vehicles (ERVs) two-to-three times daily. Meals were prepared in large commercial kitchens located in semitrailers (Henry's Kitchen and the Spirit of America) before being transferred to the ERVs.

The researcher kept being passed through different FEMA and DHS staff before an individual would participate in an interview. At first, a phone number to a media affairs specialist in Atlanta was given, but after the researcher stated that the Natural Hazards Center did not give a grant for field observations when a phone call from an air-conditioned office would suffice, there was an immediate change in attitude. FEMA/DHS personnel in the command center adjacent to the EOC were very uncomfortable with the interview in the building. The discussion continued outside with statements that the all-hazards approach was being followed, and there was no change in FEMA since being a part of DHS.

The Eastside Baptist Church was down the road from the EOC and was utilized as a care facility. There was food, ice, water, clothing, showers, laundry facilities,

and daycare service. Volunteers willing to help were also being dispatched from this location. At first, meals were provided by church volunteers, but later meals received from the Red Cross were served at the church.

Several people were interviewed from this location regarding services from the Red Cross and FEMA. Most individuals were satisfied with the response of these agencies, but one was having complications with FEMA. Another person had good response on the telephone from their insurance company but still had no inspector after a week.

A visit to a staging area for first responders found the Red Cross distributing food, ham radio operators assisting with notifying families, and Verizon Wireless letting people call their loved ones for no charge. A private family had set up a grill and was providing food to responders.

The Harold Park Recreation Center was set up as a Disaster Resource Center (DRC). Signage to the DRC was missing from one direction and challenging, because most street signs were damaged or missing following the storm. Also, some signs said "DRC," which many individuals did not know meant FEMA. However, there was good signage from the other direction. Several agencies were located in the DRC to assist individuals. In addition to FEMA, these included the Social Security Administration, Salvation Army, Small Business Administration, U.S. Dairy Association, Florida Department of Elder Affairs, and the Red Cross.

There was a totally different atmosphere around the FEMA staff at the DRC. Many were FEMA "veterans" and sincerely concerned about assisting citizens. A phone bank was installed for people to register with FEMA. Many wanted to register with a live person, but FEMA personnel were assisting them after they registered. There were also community relations teams going through the neighborhoods giving people information regarding applications and what to expect, as well as providing other information. These teams were also the "eyes and ears" of FEMA. The attitudes and atmosphere at the DRC were much different and very positive in comparison to the staff located in the command center. There were 45,257 applications for FEMA aid. As of May 24, 2005, over $43.7 million had been sent to individuals in Charlotte County (FEMA 2005).

Throughout Charlotte County, there were examples of private organizations providing aid. Dunkin' Donuts was giving ice, donuts, bagels, and coffee at the DRC. At Port Charlotte Middle School, volunteers from TECO (Tampa Electric Company) were providing lunch. Besides lunch, TECO was giving away bug spray. Several survivors were interviewed and said Home Depot was very efficient. Positive comments were heard about FEMA and the Red Cross. However, there were comments about generators being stolen from some homes. One interviewee, who was in Dade County during Hurricane Andrew, commented that this response was "five times better than Andrew" and that three days of recovery in 2004 was the equivalent of three weeks of recovery in 1992. Other individuals interviewed, who were victims of both Andrew and Charley, had similar comments regarding response.

Private businesses and individuals were setting up grills, cooking for anyone, and giving away cold drinks. Near the Murdock Town Center Mall, there was a surplus of water and ice. The response of citizens and mutual aid was evident all around Punta Gorda and Charlotte Harbor.

In order to minimize price gouging and fraud, the Office of the Attorney General of Florida had fraud prevention teams inspecting vendors in the county. For instance, there were several generators being sold in parking lots the first few days after landfall. One vendor was selling a Honda generator with a cost of $599 for $999. The same model was available at Home Depot for $578. There was a serious discussion between the inspectors and vendor. Most of the unlicensed vendors were gone after the first few days.

Another visit to the EOC found Dunkin' Donuts distributing food for first responders before going to Arcadia, Florida, later that day. In an interview, a county employee stated that many of the elderly did not want to leave their home because of pets and their possessions.

The Eastside Baptist Church had a steady stream of citizens needing ice and water. A person interviewed needed assistance and a tarp to cover her roof. Additionally, she had been waiting for her insurance adjuster for more than a week. She was very frustrated with the Red Cross, because they said they could not help her with these issues.

A repeat visit to the DRC at the Harold Park Recreation Center again found the Salvation Army providing meals and FEMA assisting citizens. It was noted by one FEMA employee that things were moving fast and that they were trying to help without paperwork, but "sooner or later, the bean counters are going to catch up with us."

Visits through other neighborhoods saw roof damage and homes damaged by trees, but most people were living in their homes. Very few of the newer homes were uninhabitable. However, where there was substantial damage, there was much debris and no place to park a car within reasonable walking distance. Responders and utility workers needed access.

The King's Crossing Comfort Station received good help from both the Red Cross and FEMA. Family Health Centers of Southwest Florida were seeing patients whether they had insurance or not. The Red Cross was also providing Comfort and Cleanup Kits. Most of the Red Cross volunteers were from out of state.

A second visit in October saw that a lot of the debris had been removed. The EOC still needed repair but was usable. Interviews were conducted with Wayne Sallade, the director of emergency management, and Sheriff William Cameron, who was using a modular building as an office.

Sheriff Cameron noted that with communication infrastructure damaged, the Incident Command System (ICS) does not function well. Besides land lines, much of the cellular communication was lost, and there was demand for satellite telephones. Many of the roads were cut-off and hospitals were destroyed and evacuated. Rumors

surrounded the number of fatalities as a refrigerated truck was being utilized as a temporary morgue.

There was a general feeling of being alone the first couple of days, but different law enforcement agencies began arriving the first night to offer assistance. In addition, the U.S. National Guard assisted with curfews and security where needed.

From the perspective of law enforcement, there was not a lot of involvement with the Red Cross or FEMA. However, it was stated that the FEMA system was difficult to work with, because some people were great and others frustrating. FEMA kept changing plans and different experts made it disheartening. However, as time progressed, FEMA did get better. Sheriff Cameron thought the utility workers were the unsung heros.

Discussions with Wayne Sallade centered around preparedness and the importance of proactive planning. Special needs populations were difficult to track with Hurricanes Frances and Jeanne requiring evacuations. Debris removal started well, but many workers were affected personally by the subsequent hurricanes. This also caused interruptions in temporary housing. Donations management required a better plan as did the registration of the numerous volunteers. Several independent groups assisted in response and recovery aspects. The Red Cross was overextended as many trained volunteers were gone for the summer. In addition, many were storm victims themselves. The researcher noted that almost every Red Cross worker was from out of the area.

Sallade discussed the success of Project Impact and was gratified by the FEMA response. However, FEMA was overextended and the general public does not understand FEMA's rules. Since 2004 was an election year, more funds were distributed; 90 percent of the expenses were covered by the federal government. He also stated that natural hazards planning should not suffer at the expense of terrorism. It is necessary to keep the all-hazards approach in emergency management. Another big issue in Charlotte County was that many citizens could not return to their homes. Sallade thought reentry was the first problem followed by debris removal. He also thought that the health department workers were unsung heroes.

After leaving Punta Gorda and Charlotte County, there was a FEMA DRC located in Northport. A visit to the DRC displayed a scenario similar to the first site visit. Signage on Highway 41 was directing people the wrong way. Another street had the correct direction. Once inside the DRC, the researcher was given the phone number of the PIO in Atlanta. No interview was granted and there was an impression of a "pass the buck" mentality. This was much different from the Harold Park Recreation Center in Charlotte Harbor. It should also be noted that there were very few citizens at the Northport site for assistance at the time of the visit.

Hurricane Ivan

During the first site visit to Pensacola, Florida, hurricane damage was visible south of Montgomery, Alabama, evidenced by downed trees. None of the rest stops on Interstate 65 were open south of Montgomery due to debris. Since portions of Interstate 10 were washed away by Hurricane Ivan, the route brought the researcher through Flomaton, Alabama, and Century, Florida. There were long lines of people waiting for ice and water. In Pensacola, driving was dangerous as most traffic signals were not working due to lack of power.

Interviews were conducted with homeowners whose waterfront homes on Escambia Bay were severely damaged. Some of the homes were repairable, although several were a total loss. Ivan produced a high storm surge and one family interviewed did not evacuate and retreated to the attic (equivalent of a third story with the house elevated on pilings) to escape the water. Several substantial looking homes had major damage from the storm surge, even though they were all elevated on pilings.

Some of the residents indicated that you must be self-sufficient. Comments regarding the Red Cross said it "helps moochers." They also said "if FEMA was run by the government, we're not getting our money's worth." There were also concerns about dealing with the insurance companies.

A visit to the EOC initiated future contacts and interviews with individuals from Escambia County and the FEMA PIO. The PIO from Escambia County described how the Red Cross was delivering hot meals to survivors in various locations. Attendance at a press briefing by Escambia County and FEMA discussed how people were posing as FEMA inspectors and charging fees. There are no charges for FEMA inspections, and all inspectors have government-issued identification. Citizens were asked to report this activity to the Florida Attorney General's Office.

The U.S. Army Corps of Engineers was coordinating Operation Blue Roof from the EOC. This service was to install tarps over damaged roofs for no fee as long as the owner signed a waiver form.

Clearance was also granted to make observations on Pensacola Beach, as this was the first day residents were allowed to assess damage and collect belongings. Water and food was being distributed by the Red Cross and the Salvation Army near the parking lot by the pier. In addition, law enforcement officers were driving around the beach checking on residents and handing out water from cases in the back seats of patrol cars.

Beach residents indicated more satisfaction with the Red Cross than those on Escambia Bay. However, they said that their contact was limited. Both of these neighborhoods are considered higher income areas.

A visit was made to a comfort station to interview people receiving food, water, and ice. There were no DRCs set up at this time, but comfort stations were located in various parts of the county. This particular station was dispensing bottled water, ice, and meals ready to eat (MREs) using a drive-through distribution method that could accommodate six cars at a time. The comfort station was originally operated by the U.S. National Guard and later by county employees. A call for volunteers was answered by only one couple. However, others who assisted were truck drivers and law enforcement personnel from south

Florida. One of the county employees called various restaurants (including national chains) to provide lunch for the workers. One local restaurant answered the call; the national chains ignored the request.

One of the law enforcement officers met in the field suggested that the researcher should examine the Grand Lagoon area. The sheriff deputy at the subdivision refused to grant access for interviews, but several residents came up to discuss their situation outside of the checkpoint. Most were frustrated that they did not gain quicker access to their homes but were generally satisfied with the Red Cross. A Red Cross station was set up adjacent to the subdivision but was not manned at the time.

Throughout Escambia County, utility workers and tree crews were working on restoring power. This was a common sight upon leaving the county and heading back through Alabama. The comfort station north of Pensacola had several people (again using the drive-through distribution method), but the largest crowd was at a hardware store selling chainsaws and parts. The comfort station in Century, Florida, had plenty of water, ice, and MREs, but no one was there at the time except utility crews.

While passing through Flomaton, Alabama, the researcher stopped at the First Baptist Church where utility crews and citizens were stopping for food and water. The Red Cross was distributing about 3,000 meals a day for the first week, and FEMA brought about 300 plastic sheets for roofs. In addition, chainsaw and tarp crews were using the church as a volunteer center. Many in the area had come in for assistance, and several volunteers were receiving assignments to help others.

A second visit in December saw many blue tarp roofs as citizens were waiting for repairs. Interviews were conducted with Michael Hardin, Escambia County director of emergency management, as well as with law enforcement officials, including Sheriff Ron McNesby, Larry Smith, and Mike Morris.

The sheriff noted problems with the Nextel communication system as there were no generators or portable cell towers. However, this was corrected within 24 hours. They indicated that the Nextel sales staff was better than the operational staff. Some of the dispatchers had their "spirits down" when officers could not respond. Interviewees felt that "visits from the governor and president were important as it showed outside support." Another boost to workers was allowing their families in the building so that employees knew they were all right. Rumor control was also very important, especially dealing with the issue of refrigerated trucks and fatalities. Other situations indicated that looting was minimal, but there was theft of generators. Additionally, there were incidents of price gouging, especially with the elderly. Law enforcement officials said that the Red Cross did their job and worked with Baptist volunteers. Additionally, the Sheriff's Department worked closely with FEMA and was satisfied with their response.

Several issues were discussed with the Escambia County director of emergency management, Michael Hardin, regarding preparedness, response, and recovery. Escambia County had sponsored a Family Expo on September 11, which made many in the community aware of hurricane impacts. Hurricanes Charley and Frances were also fresh in residents' minds. Escambia County has a solid response program based on the 1995 and 1998 seasons. There were some small turf wars among agencies, but overall priorities were established and progress was made. The initial picture was bleak and somewhat overwhelming. There was a FEMA advance person in the county before landfall to help plan the response. However, it still took a few days to get organized. After the storm, there were daily meetings among local, state, and federal officials. By Thanksgiving, it was down to three times a week and by Christmas, once a week.

Some of the traffic signals were removed prior to the storm as learned during Hurricane Andrew. This allowed other law enforcement personnel to be used for other functions. Generators were chained and locked to poles, but the big challenge was the lack of fuel.

Communications with the different agencies was a challenge due to the use of different frequencies. The county system was damaged but operational. Other infrastructure issues were water and sewer, and there was no pressure for several days. Also, one sewer plant was closed down entirely.

Special needs populations were also a challenge to local governments. All four hospitals in the county were damaged but still operational. Nursing homes were running on generators and required assistance.

Hardin indicated that the local chapter of the Red Cross was very cooperative, but there was a difference between "our resources" (Red Cross') and other resources (other agencies'). The Red Cross can take the lead but needs to cooperate with others. There was a shortage noted in personnel both pre- and postlandfall. Also, the officials from the national level of the Red Cross were viewed as competing for media attention. It should be noted that locals did not understand the policies of the national officials.

FEMA had their resources extended with Hurricanes Charley and Frances. However, their presence before landfall helped with resources and relationships. In regard to individual assistance, there were still flaws in expediting help for citizens. Hardin noted that residents wanted to talk to someone in person, not a 1-800-number. Also, letters were sent to survivors denying their claims. It took over two weeks, and into the third week, after landfall for the DRC to open. There were limitations finding a site and complications from the FEMA personnel.

Hardin also agreed that the all-hazards approach was a necessity instead of concentrating on terrorism. Comments were made regarding the amount of individual assistance going to Dade County, which demonstrated flaws in the system. He also was concerned about the possibility of overlegislation in the attempt to make a better system.

Summary

This research observed the performance of FEMA and the Red Cross in major disasters following September 11, 2001. Both agencies have gone through major changes as

FEMA came under the umbrella of DHS, and the Red Cross had controversy with fundraising and distribution of donations.

FEMA personnel working at the EOCs had a much different attitude than those working in the field with the citizens. It was common for FEMA employees at the EOCs to try to "pass the buck" to the PIO rather than discuss the situation, while most employees at the DRCs were very cooperative.

Communication issues were prevalent in FEMA, whether they dealt with signage or relationships with other responders and workers. This topic was noted in previous research and in these field studies.

Citizens prefer face-to-face contact to register their claim rather than calling a 1-800-number. Most did not have electricity or telephone service. They were also frustrated when they received a letter denying a claim from FEMA and were then told to contact the Small Business Administration. Again, survivors were frustrated dealing with policies and procedures unfamiliar to them. Personal contact would be more beneficial to them.

DRCs were also useful to citizens. The quick opening in Charlotte County assisted many, while the delay in Escambia County left many wondering how to receive assistance. Without the infrastructure of telephones and electricity, this caused more problems.

The usefulness of Project Impact and the mitigation program it supported was noted by emergency managers and the researcher. Again, the emphasis on terrorism has caused a reduction in preparedness for natural disasters. The importance of an all-hazards approach cannot be emphasized enough.

Observations of the Red Cross revealed that the organization was very visible in Charlotte County, but this was not the case in Escambia County. They were only in certain locations instead of having a larger visibility. Out-of-town volunteers were the primary workers interviewed, and very few locals were involved with the Red Cross. Many of the local volunteers are "snowbirds," and many were out of town for the summer or victims themselves.

There were also the problems with the policies and procedures of the national and local levels of the Red Cross. National personnel would come in and be very focused on media attention. Many of the locals (law enforcement officials, EOC personnel, and even Red Cross workers) did not understand the policies from the national level. In addition, there were situations arising over donations and resources, "our resources" belonging to the Red Cross and "theirs" gathered by other sources. This has been observed in previous research along with this study. Furthermore, this researcher tried to gain access to media reports through the press room on their Web site. These requests were denied without an explanation.

Private citizens made a big impact assisting with the disasters in both counties. They were very visible in Charlotte County, distributing food, water, and goods and setting up grills on street corners. Escambia County residents were more self-sufficient. The drive-through distribution system was more evident in Escambia County for citizens receiving MREs, water, and ice at comfort stations.

A key conclusion from both hurricane impacts was that survivors did receive water, food, and ice. This was much better than after Hurricane Andrew in 1992. Even with some negative findings regarding FEMA and the Red Cross, victims did receive these necessities.

Comments from citizens in both disasters complimented the utility workers and thought that they were the unsung heroes. Several survivors were also frustrated with many insurance adjusters and with some of FEMA's processes.

This report was completed after Hurricanes Katrina and Rita in 2005. The differences in response between the 2004 and 2005 hurricane seasons are disturbing. Several media outlets reported communities that were ignored by the Red Cross and FEMA following Katrina. One wonders if these findings were seeing the tip of the iceberg regarding FEMA and its inclusion in DHS. Was the scale of the catastrophe too large for these organizations? There are many unanswered questions beyond the scope of this research.

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