

# **Quick Response Report #108 THE EMERGENCY AID IN THE AFTERMATH OF THE ITALIAN EARTHQUAKE OF SEPTEMBER 26, 1997**

**Ino Rossi**

**Department of Sociology/Anthropology**

**St. John's University**

**New York City, NY 11439**

**E-mail: [Iri@worldnet.att.net](mailto:Iri@worldnet.att.net)**

**1998**

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This material is based upon work supported by the National Science Foundation under Grant No. CMS-9632458. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

## **THE EMERGENCY AID IN THE AFTERMATH OF THE**

# ITALIAN EARTHQUAKE OF SEPTEMBER 26, 1997

## ACKNOWLEDGEMENT

Acknowledgment is given to the Natural Hazards Research and Applications Information Center of the University of Colorado for supporting the Quick Response Research on which this report is based.

## ITALIAN TERMS USED IN THIS REPORT

"Frazione": hamlet or small village within a municipality

"Giunta Regionale": the Executive Committee of the Regional Government

"Guardie di Finanza": Border and Custom Guards

"Guardie Forestali": Park and Forest Guards

"Vigili del Fuoco": National Firefighting Force

"Prefetto": Prefect, the direct representative of the Ministry of the Interior

"Prefettura": the place where the Prefect resides

"Protezione Civile": Civil Protection (C.P.)

**Note:** Since the report will be available via Internet, the identity of localities is at times protected to avoid field contamination for possible future research. For additional information or clarification, please contact the author.

## SOCIOECONOMIC CHARACTERISTICS OF THE IMPACTED AREA

The September 26, 1997, earthquake struck an area of central Italy that is located southeast of Florence and northeast of Rome and encompasses

an area of 45 square kilometers in the Umbria and Marche regions ([Fig 1](#)). In the Umbria region the most damaged municipalities are located in the Perugia province, where Assisi, Foligno, Nocera Umbra, Gualdo Tadino are the largest and most prominent towns. In the Marche region the most damaged municipalities are located in the province of Macerata (Serravalle del Chienti, Camerino, Visso) and in the province of Ancona (Fabriano and Sassoferrato). The Umbria and Marche regions are economically prosperous; the municipalities affected by the earthquake are internationally known for tourism (especially Assisi, Perugia, Urbino), higher education (Perugia, Camerino, Urbino), production of ceramics (Nocera Umbra and Gualdo Tadino), commerce (Foligno), and industrial production (80% of European domestic refrigerators are manufactured in Fabriano). More generally, these regions are known for the resiliency of small size firms to economic cycles in contrast with the vulnerability of the large industries of northern Italy. According to 1995 data, the occupational distribution of the Umbria and Marche regions was the following: respectively 36.2% and 33.55% were employed in industry, 9.7 and 8.8% in agriculture, 54.1 and 58.1% in other sectors, and 6.7% and 9.9% were unemployed. The largest municipalities heavily damaged by the earthquake are the following: Foligno (with 50,945 residents), Fabriano (28,683), Assisi (25,000), Gualdo Tadino (14,359), Camerino (7,679), Sassoferrato (7,218), Nocera Umbra (6,051), Serravalle del Chienti (1,315), and Visso (1,333). In these regions most of the population is scattered throughout a large number of hamlets ("frazioni"), and many people live in farms and villas throughout the countryside. For instance, only 1,200 of the 6,051 people residing in the municipality of Nocera Umbra live inside the historical center of the town. Foligno is a large municipality that extends from the bottom of the valley to the top of the Apennines; at least, 80 "frazioni" are located within this municipality, including "Colfiorito" that was the location of the first epicenter of the earthquake.

# SEISMIC IMPACT AND EARTHQUAKE DAMAGE

Seismic activities had been registered in the area during the spring of 1997 and also in the early fall, especially on September 4 and 20 (on the latter day, a shock of 4.5 on the Richter scale was registered). The earthquake of September 26 had two early epicenters, both located on top of the Apennines. The first epicenter was located near the "frazione" of "Colfiorito," where two shocks of  $M_l=5.5/M_w=5.7$  and  $M_l=5.8/M_w=6.0$  on the Richter scale occurred, respectively at 2.33 a.m. and 11.40 a.m. On October 3 and 7 two more shocks occurred, again of a magnitude greater than 5.0, in Colfiorito. The second epicenter occurred a few kilometers away in the municipality of Sellano, where an aftershock of  $M_l=5.4/M_w=5.7$  was registered on October 14. (The Earthquake Engineering Research Institute "Reconnaissance Report" speaks about two earthquakes [EERI, 1997]). This area has experienced severe earthquakes of serial nature several times before; however, the September 26, 1997, earthquake appeared somewhat anomalous in that the aftershocks were equally strong and even stronger than the initial one. During the first three weeks following the initial seismic event, the press reported more than 2,000 aftershocks. Truly, the earthquake was still in the making when I arrived on October 9, 1997; on October 14 I experienced a 5.7 jolt.

On September 27 the daily "Il Messaggero" announced there had been 11 deaths and 119 wounded. (There were two more deaths in the aftershock of March 26, 1998). The few deaths are attributed to the dispersion of the population over a large rural area, a good number of empty summer homes located at the epicenter of the earthquake, the seismic warnings during the spring and the month of September, and, most of all, to the release of geothermal energy through a long series of major episodes of equal intensity rather than through one major rupture. Proportionally speaking, the damage to physical structures has been much greater than the number of deaths. On October 1, 1997, it was reported that 80% of the houses in Serravalle del Chienti were "uninhabitable" and 80% of the town of Fabriano suffered some damage

(Messaggero, 10/1/97). In the municipalities of Foligno, Camerino, and Fabriano, hospitals had to be evacuated. The villages of Collecorti and Cesi, near the first epicenter of the earthquake, were reduced to piles of rubble. Ten municipalities in Umbria and eight in the Marche were declared "disastered municipalities." In the Umbria region the largest municipalities that suffered the highest level of damage to private buildings were Assisi, Foligno, Nocera Umbra, Gualdo Tadino (all located in the Perugia province). The technicians I interviewed in the town of Foligno on October 10, 1997, estimated that 8,000 people had lost their homes in the Foligno municipality and 18,000 in the Umbria region. The head of the COM (Mixed Operative Committee of the Civil Protection) of Nocera Umbra stated that the historic center of the town was 100% unsafe and had been totally evacuated; he estimated the level of destruction in the rest of the town to be between 85 and 90%. Most of the world's attention seemed to have focused on the Umbria region because of the international prominence of some of its artistic monuments, especially the basilica of Assisi. The weekly "La Voce" of October 31, 1997, reported the following assessment of the damage to art monuments by the Superintendent of the "Artistic and Cultural Monuments" in Umbria, Costantino Centroni: one month after the earthquake 599 monuments had been declared unsafe and the estimated damage amounted to 344 billion liras; 70% of the temporary supporting work had been finished, and 150 projects of repair or reinforcement had been authorized. The regional superintendent to libraries declared that 33 of the 303 libraries in all of Umbria were found to be unsafe. In the Marche region, the largest municipalities to be seriously damaged were Serravalle del Chienti, Camerino, Fabriano, Visso, and Sassoferrato. A September 30, 1997, communique of the Marche regional government reported that in Fabriano the first round of inspections found 253 out of the 507 buildings inspected to be uninhabitable and in Sassoferrato 68 out of 197 buildings had been declared uninhabitable, whereas some "frazioni" had been almost completely wiped out. In a communique of October 9, 1997, the municipality of Fabriano declared 5 out of 17 primary schools and six secondary schools as being unsafe. As noted before, in these two regions

there are still a considerable number of people employed in the agricultural sector and many of them live in older and unsafe structures. As of October 10, 1997, the following estimates of damage to agriculture were reported: 75% of rural homes, 60% of stables, and 70% of sheds, haylofts, and other accessory structures had suffered damage (Communique 534, Marche region). On October 10, Franco Barberi, the head of Civil Protection in Italy, summarized the situation up to that point, as follows: 10,000 people (both salaried and volunteers) had moved into the earthquake area to help 50,000 people seriously affected by the seismic event; 5,000 private structures, hundreds of public buildings and two-thirds of the churches were believed either uninhabitable or unsafe to enter. The damage to artistic monuments was still being appraised at that time, but the total damage was estimated to amount to more than 2,000 billion liras (Communique 535, Marche region). On October 15, the Parliamentary Commission on "Culture, Science and Education" gave the following estimates of damage to artistic and scholastic buildings: in Umbria two-thirds of 600 religious and public buildings of historic and artistic value were found to be uninhabitable, and in Nocera Umbra 90%; 90% of the buildings inspected up to that point in the Marche region were in the same shape and as many as 1,190 monuments were on the list of damaged structures and were awaiting inspection. Thirty-one schools in the Perugia province, 26 in the Macerata province, and 18 in the Ancona province (11 of which were in Fabriano) were reported uninhabitable and ordered evacuated; the damage up to that point in time was set at 90 billion liras. These early damage estimates became available to me only recently via Internet.

When I arrived in the area, most of the large towns with the highest damage (Assisi, Foligno, Nocera Umbra [except for the historic center], Gualdo Tadino, Camerino, and Fabriano) were standing, but no one could trust the damaged structures, especially in the old and historical sections of the towns. An interviewee in Fabriano graphically expressed the situation by reciting an Italian rhyme: "This town is like a chestnut ("castagna") that looks good outside but inside harbors a nasty bug ("maggagna") (the two Italian words rhyme). Municipal palaces and

churches that give a unique identity to these historic, tourist regions had been sealed off, and some of the bell towers had fallen to the ground, shattering symbolic images and life memories. People were still terrorized and sleeping outside their homes, and, with unceasing daily tremors, they were growing increasingly apprehensive about the final fate of their homes. The severest damage seemed to be psychological; after so many frequent and strong aftershocks, people had become numbed, disoriented, and uncertain as to what they could expect next. The situation was worst for the people on top of the Apennines, far away from city life and media commotion. With the heavy damage to stables and sheds, farmers had to remain near their agricultural possessions and livestock; they found themselves physically isolated because of the long, tortuous and obstructed roads. Many victims, and especially old people, felt abandoned and, perhaps, punished by Mother Nature. Physical hardship and psychological devastation reached new traumatic levels after I left the field: an unusually early and severe winter castigated people in their tents that, at times, were ripped away by unusually strong winds.

(A third earthquake epicenter emerged near Gualdo Tadino with a shock of 4.7 on the Richter scale on March 26, 1998. A few villages were knocked to the ground, and the emergency distribution of camping trailers and other equipment started all over again. The Italian press reported that 2000 structures previously inspected for damage had to be reinspected, together with 200 new structures).

## **RESEARCH QUESTIONS**

Various reports in the media I read before the field trip seemed to indicate the existence of possible conflicts over whether restoration of the works of art or aid to people should have priority in the allocation of relief effort. I thought the first research question would be to ascertain how emergency priorities were determined and what the victims' role was in emergency decision making. Once I reached the area, I realized

that only some well-informed respondents were aware of the "art vs. people" controversy. The basic decisions on fund allocation were made in Rome with no input from the local population (although, by public declarations, regional authorities were consulted). At the local level, the paramount concern of people was the safety of their homes, and, in the countryside, people were concerned also with the replacement of the collapsed shelters of their livestock.

What was originally the second research question became the central focus of my fieldwork. How speedy and efficient was the emergency aid after this earthquake in comparison with the problems experienced after the 1980 Irpinia earthquake (Rossi, 1993)? What level of coordination was achieved among the national, regional, and local emergency activities? These research questions were important because after the 1980 Irpinia earthquake the emergency agencies were free to intervene independently of each other; obviously, this led to chaotic relief aid and to enormous delays. The issue of emergency coordination was important also, given the jurisdictional structure of the "Civil Protection" in Italy:

- 1 At the national level, the highest supervising agency is the National Council of Civil Protection (C.P.) that is composed of nine national ministers and the head of the government. There is the National Commission for the Prevision and Prevention of Great Risks, and the Operative Committee of C.P. that is presided over by the Minister for the Coordination of C.P., Franco Barberi, Professor of Seismology at the University of Pisa. This committee evaluates the emergency plans prepared by the "Prefetti" and the requests for emergency coming from the stricken areas. The committee also coordinates the emergency activities of all the agencies involved in the delivery of the relief aid and supervises the implementation of special laws and ordinances issued on the priority needs to be met in the emergency areas (Council of Ministers, 1996, p. 74). Most of the emergency and reconstruction funds come from the central government.
- 2 At the regional level, there exists a Regional Committee for the C.P. that coordinates all the aspects of the emergency activities under



regional competence. The regional government works in support of and in coordination with the "Prefetti" and mayors by providing technicians for damage assessment and recovery operations, by issuing legislative ordinances on the modalities of relief, as well as by contributing some financial help for the earthquake victims.

3 At the provincial level, there is a Provincial Committee of the C.P., which keeps a registry of all operative forces and structures designed for the maintenance and repair of transportation infrastructures; this information is transmitted to the "Prefetto". The "Prefetto," a civil servant appointed by the Minister of the Interior, is the major link between the National Ministry and the mayors and must prepare a provincial plan for civil emergency; if needed, he can summon armed forces, and he can mobilize (and compensate) the private sector for the equipment and manpower necessary for rescue and demolition operations. The "Prefetto" heads a Provincial Committee for the C.P. where the province, municipalities, armed forces, police, "Vigili del Fuoco," and all other agencies involved with emergency activities are represented. The "Prefetto" presides over a center in the "Prefettura" - the Center for the Coordination of Relief Aid (CSS) - and organizes Mixed Operative Committees (COM) in the municipalities most damaged; usually a COM coordinates the relief aid in more than one municipality. The COMs are the operative centers that, at the local level, coordinates emergency personnel, allocation of emergency equipment, and requests of the population. In the local COM are represented the central government, the regional and provincial governments (including the "Prefetto"), the mayor, the armed forces, "I Vigili del Fuoco," "Le Guardie Forestali," "Le Guardie di Finanza," various branches of the police, A.N.A.S (the Highways Authority), Red Cross, and all the major voluntary organizations.

4 At the municipal level, the mayor has the authority to supervise the relief activities in coordination with the "Prefetto," and he selects the areas where prefabricated structures are to be built. The mayor

and his personnel are compensated for the overtime effort they put into emergency activities.

Since there was no time to visit the national, regional, provincial governments, and all the three "Prefetture," the central focus of my field work was to observe the intermunicipal COMs where the various national, military, paramilitary forces, the Red Cross, and all other voluntary organizations were interacting with each other and coordinating their activities.

## **METHODOLOGY**

Triangulation of Information Sources: Visit to the COMs, Interviews to Key Informants, Analysis of Media (Daily Press and Web Sites).

- 1 As soon as I landed in Rome, I visited the Ministry for Civil Protection to obtain a preliminary list of the most damaged towns and their location. All I found was a partially correct list of the COMs already operating in the earthquake area. I had no time to preannounce my visit, and, as a result, I met with a lot of apologetic employees who provided little information since I was without proper authorization to conduct interviews. Soon, I found out that public controversies and media diatribes had provided plenty of headaches for public authorities.
- 2 Visit to each one of the seven COMs in the Umbria and Marche regions:
- 3 Most of the damaged municipalities in the Umbria region are located within the boundaries of the Perugia province. By October 10, 1997, four COMs were functioning in the Perugia province, in the municipalities of Foligno, Assisi, Nocera Umbra, Gualdo Tadino. The last day of my fieldwork, after the fourth aftershock of a magnitude greater than 5.0, a fifth COM was opening near Sellano. Internet information published by the regional government shows that additional COMs became necessary after the October 14

aftershock around the area of the second epicenter. In the Marche region, which is located on the eastern side of the Apennines, one COM per province was established, respectively in Serravalle del Chienti for the municipalities of the Macerata province, and in Fabriano, for the municipalities of the Ancona province. I began with a visit to the COM of Foligno, the first heavily damaged town one reaches by car from Rome in the valley between Assisi and the Apennines. Subsequently, I visited the COMs of Assisi, Nocera Umbra and Gualdo Tadino. Then, I drove up to the top of the Apennines, in Colfiorito, where the first epicenter of the earthquake occurred. As previously mentioned, this "frazione" belongs to the municipality of Foligno, which is located at the bottom of the valley, easily an hour and a half away by car; a local sub-COM was opened up in this village to coordinate the emergency activities with the Foligno COM. I visited also the COMs of Serravalle, Camerino, Fabriano, Sassoferrato in the Marche region; in Muccia I visited the "Technical and Scientific Committee" (CTS) that was coordinating damage inspections for the municipalities located in the Marche region. My strategy was to reach the head of the COM, the mayor or a representative of the municipal government, heads or representatives of various organizations, as well as a cross-spectrum of the population and the victims of the earthquake.

4 I always read the local press for additional sources of information to have a headstart on the "hot" issues of the moment. Some newspapers I did not read in the field were sent to me on my return to the United States and helped a great deal in filling information gaps.

5 Finally, the Internet has proved to be a new invaluable source of information. After my return to the U.S., I found that the two regional governments had set up two official Web sites. The sites offer updated damage statistics and the complete text of all the minutes of meetings, press releases, ordinances, and decrees on earthquake matters that are issued by the national and regional

governments and occasionally by the "Prefettura." These Internet sources provide an opportunity to crosscheck the information collected in the field with official data and officials' evaluations of events.

There is no need to emphasize the importance of this kind of triangulation of information when one has only ten days for field observations and data collection.

## **SPEED OF INTERVENTION AT THE NATIONAL, REGIONAL, AND LOCAL LEVEL: FACT FINDINGS**

1 The efficiency of the top national cadres of the C.P. during the first three weeks after the earthquake seemed to be out of the question, judging by the speed of decision making, legislative activities and victims' perceptions. When we speak of C.P., we refer not only to the National Ministry of the C.P., but also to regional and local components of the C.P. For instance, on September 27, 1997, C.P. units of the Emilia, Liguria, Tuscany, Piedmont, and Abruzzi regions sent rescue teams; all outside interventions were coordinated through the Ministry of Civil Protection in Rome. Immediately after the earthquake, various decrees and ordinances were issued: a) on September 27, the day following the quake, the head of the Italian Government declared a state of emergency in the Marche and Umbria regions; (b) on September 28, the Minister of the Interior, Napolitano, appointed the two presidents of the regional governments, Bruno Bracalente for the Umbria region and D'Ambrosio for the Marche region, as delegated commissaries in charge of the operation of damage assessment and recovery of physical structures. At the same time, a separate commissary was nominated for the restoration of artistic monuments and a separate one for the repairs to the Basilica of Assisi. Nine billion liras were

assigned to the "Prefetti" of Perugia, Ancona, Macerata - the three provinces mostly affected by the earthquake - for the task of organizing and compensating the emergency relief activities; c) on October 13, the Minister of the Interior, Napolitano, declared ten municipalities in the Umbria region and eight in the Marche region as "disastered" municipalities and contributed up to 30 million "liras" for the repair of damaged home; other financial contributions were made to merchants and businesses. Various financial loans became available through the regional governments; d) on October 14, the Minister Napolitano calmed down the furor raised by the municipalities excluded from the list of "disastered" municipalities by stressing the fact that, in the end, the documented amount of damage would determine the amount of funds to be allocated anywhere. He also added additional financial incentives, tax abrogations, and tax postponements, and listed various categories of people, including mayors, who were authorized to receive special compensation during the emergency phase. The Undersecretary to the C.P., Franco Barberi, visited the area of the epicenter the very same day of the earthquake. To appease the population, Barberi declared that the worst was over; unfortunately, a stronger shock occurred one hour latter. On September 27, he met with the mayors of the area, and, subsequently, visited the earthquake area many times to deal with crises and issues of various kind. The very first few days of the quake the president of the government, Prodi, also visited the area, as did the Minister of the Interior, Napolitano, and the President of the Republic, Scalfaro. On September 27, the press reported that 3.000 volunteers were already in the area, and 4 radio stations, 12 tent cities, and 900 campers were also operating (Messaggero, 9/27/97). During the first week after the earthquake, helicopters of the "Guardie di Finanza" were used to reach areas left isolated by road damage; once the roads were repaired (by October 2), helicopter flights were discontinued (Messaggero, 10/2/98, p. 30). The Undersecretary to the C.P., Franco Barberi, repeatedly

stated in public interviews that the 1997 performance of the Italian government had to be compared to the (positive) 1976 Friuli and 1971 Ancona experiences and not to the much criticized emergency operations after the 1980 Irpinia earthquake (see Rossi, 1993). A "disaster manager," sent to Foligno from the Ministry of C.P. Rome, proudly summarized the progress made by the Italian Civil Protection after the 1980 Irpinia earthquake as follows: "1) At long last, Italy has a clearly delineated 'culture of civic protection'; 2) we have a seismic map that clearly indicates the most seismic-prone areas; the area struck by the September 26 earthquake was clearly marked as a highly seismic area; 3) we have a Superior School of Public Administration which trains people for emergency situations and offers a two-year Masters degree in 'Disaster Management.'" He continued as follows: "This earthquake marked the first time when we knew what to do and how to do it as soon as the earthquake was announced. Within five minutes we knew the exact location of the epicenter and the municipalities that had been hit the hardest. The amateur radio network also assisted us in monitoring crisis areas; this network has effectively worked for the first time with this earthquake." I was not sure whether this disaster manager was primarily referring to the speed of the events in Foligno, which is located right off the autostrada coming from Rome; he might not have had personal knowledge about the turn of events in more isolated municipalities, especially in the Marche region, on the other side of the Apennines. On October 17, 1997, a communique from the Marche regional government reported a press conference by Franco Barberi and the regional president to announce the following facts: in both regions a total of 38,000 people were left without homes. In the Umbria region 95 localities had been designated for temporary housing; four of them were equipped with infrastructural facilities, and, therefore, ready for the installation of temporary shelters. In the Marche region 21 areas had been selected and two were ready for the installation of

prefabricated structures; 2,601 prefabricated shelters were going to be set up in Umbria and 1,011 in the Marche. Only 1,000 of the almost 3,000 needed shelters were ready (Communique 550, Marche region). (By the end of December most of these shelters were built and installed.) In the opinion of the head of the C.P., Franco Barbieri, the speed of the emergency aid after the 1997 earthquake is in sharp contrast with the fact that, after the 1976 Friuli earthquake in northern Italy, it took eleven months to install temporary shelters; yet, the Friuli recovery is considered a model of efficient recovery. (However, one should take into account the technological progress of the manufacturing industry during the last twenty years, the improved roads, and the much-enhanced organization of the C.P. in Italy).

2 At the regional level, speed and efficiency of intervention appear also to have been the norm. According to press reports, before the earthquake struck, the regional government of the Marche region was involved in a debate about an emergency preparedness law (*Il Messaggero*, 9/27/97). The "Marche edition" of the "*Il Messaggero*" of September 27, 1997, reported that D'Ambrosio, President of the Marche region, consulted with the head of the Italian government, Prodi, to have a state of emergency declared and to organize emergency help. On September 27, the regional government of the Marche announced that by the evening of the earthquake day, emergency aid had reached 70% of the affected population under its jurisdiction and that it was expecting to reach everybody by the evening of September 27 (Comunique 500, Marche region). In a ten-day trip I had time only for a short visit to the headquarters of the Umbria regional government in Perugia, where I spoke to a functionary who handed me some regional and national ordinances. Again, the region's Web sites complement the information collected during fieldwork. On September 30, 1997, the Commissary Delegated and President of the Umbria regional government, Bruno Bracalente, issued an ordinance listing all the agencies that must cooperate by inspecting physical structures; he

also nominated heads of the regional operative committees that were already cooperating with the local "Mixed Operative Committees" (COMs) formed in Foligno, Assisi, Gualdo Tadino, Nocera Umbra. The Valtopina COM was set up after the October 14 aftershock. On October 11, Bracalente declared that a contribution of up to 600,000 Liras was available to families that lost their homes and had found an alternative form of lodging. Numerous and prompt ordinances were issued regarding tax waivers, various financial incentives to agriculture, commerce, and other businesses.

3 Some of the "Prefettura" appeared also to have been efficient and speedy. As we have already seen, the "Prefettura" of Macerata set in motion the C.P. machinery the very night of September 26, 1997. On September 27, in Serravalle del Chienti there were 250 people who had abandoned their homes; the vice-prefect shipped 300 campers to the town and 100 arrived by night; two open kitchens were set up for hot meals, and two auto trucks were dispatched for drinking water; radio transmitters and electric generators also arrived in the area. Three tent cities were set up by firemen from the provinces of Pescara, Teramo, and Ancona. In the same day the first few campers reached the "frazione" of Colfiorito (Messaggero, 9/27/97). On September 27 the "Prefettura" of Macerata mobilized 600 firemen, 60 "Guardie Forestali," 200 carabinieri, army units, Red Cross volunteers, "Guardie di Finanza." The "Prefettura" also ordered that 50 campers used by Albanian refugees be immediately disinfected and shipped to the earthquake area (Ibid). I was not able to gather much information at the "Prefettura" in Perugia. When I arrived there, the CSS (Center for Aid Coordination) was in session, and it was working around a large table surrounded by various maps and "situation reports." Two functionaries helped me with the photocopying of the list of the CSS functions and tasks. I heard one mayor criticizing the "Prefect" for his delay in requesting information about the situation in his own town right after the



earthquake struck.

#### 4 Municipalities:

5 An Italian law mandates that each municipality set aside areas equipped with electricity, water, and a sewerage system; the areas can be utilized for community celebrations and festivities, and also for emergencies. Apparently, no municipality had implemented this law because, as one interviewee put it, "Nobody believed this was an important provision." The press reported that camping trailers could not be delivered to certain municipalities because there were no areas set aside for emergency operations; however, the municipality of Macerata was reported to have areas equipped for emergencies (Messaggero, 10/1/97). (A legal initiative is currently under way in the Italian Parliament to make mandatory such emergency areas). Some mayors were new in their jobs and, hence, not experienced in administrative chores, especially in emergency crises. A functionary of one prefettura stated that mayors were ill prepared for such an emergency. One mayor supported this evaluation when he stated that he was not prepared for this kind of earthquake, although his town had been hit by an earthquake in 1979; another mayor made a similar statement to emphasize the unusual severity of this quake; and yet another mayor did not realize he had an emergency situation on his hands until a few days after the earthquake. On the other hand, in Fabriano I heard people expressing surprise at the speed with which local authorities inspected their homes, before the official inspection of the C.P. and regional technicians began; in the words of a local resident, "That timely inspection gave people an important 'peace of mind' about the safety of their homes."

6 At the time of my visit, all COMs were engaged in apparently orderly, although hectic, activities. Many COMs were headed by "disaster managers" trained by the national program in emergency preparedness. Some heads of the COM's came from the "Prefetture" of other Italian regions. The personnel working in the local COMs seemed very competent. In every COM I found

various people working on computers, compiling statistics on damage (number of damaged structures inspected and number of ordinances of evacuation issued) and on relief activities (number of tents, campers, and other equipment distributed or still needed, and number of prefabricated units needed). The data were daily transmitted to the national ministry in Rome that periodically issued statistical data on the progress of the emergency aid. The COMs had the power to authorize disbursement of sums for medical emergencies and for the removal of dangerous structures. Cellular phones often provided complementary means of communication to clogged telephone lines. I myself used a cellular phone number to keep in touch with the head of a COM for feedback and explanations of ongoing events, public announcements, press reports. Not only the technical personnel of the national C.P., but also the personnel of regional, and municipal agencies seemed very efficient and competent. The armed forces, "Le Guardie di Finanza," carabinieri, police, and "I Vigili del Fuoco" appeared highly organized and well equipped. In most towns refugee camps were sealed off from the eyes of curious tourists, the press (and perhaps social scientists!); in some localities the tent sites were heavily patrolled by the police (e.g., in Assisi and Nocera Umbra). However, in other towns, the campers were wide open to any visitor and walker-by; not surprisingly, motor scooters and other items were reported stolen. "The success of COMs in organizing the emergency operations much depends on the kind of 'human relations' that prevail in loco." These are the words of the head of one COM. She meant that the "human rapport" established between national and local authorities conditioned the efficiency of all the operations of the COMs.

## **PEOPLE'S PERCEPTION OF THE**

# **EMERGENCY AID**

## **People interviewed**

It was not difficult to find interviewees among earthquake victims in tents, campers, streets, stores, and elsewhere. With rare exceptions, it was difficult to have more than a few minutes of time from the heads of the COMs and mayors, since these officials were continuously responding to emergency calls. After a few questions on the central problems of the moment, I usually approached subalterns and support personnel to supplement information and collect available data. Apparently, military personnel were not allowed to enter into the specifics of their operations; occasionally, however, some useful information of a general nature was forthcoming. Volunteers, who had come from other regions of Italy, were quite willing to speak about the events and the positive attitude and demeanor of the local population; they provided "a third party opinion," as it were, about what was really happening, especially about the attitudes and demeanor of the stricken population. As stated above, I intended to probe the effectiveness of emergency aid, especially in terms of speed and quality of relief aid delivered; my questions and observations were focussed on these two points.

## **The Praise of Earthquake Victims**

I interviewed a large cross section of earthquake victims of all ages, occupations, and both genders. Most of the earthquake victims I interviewed concurred in stating, independently from each other, that the immediate relief came very quickly and it was quite good. Witnesses in the Umbria Valley (Foligno, Assisi, Gualdo Tadino) stated that medicine, food, firemen, tents arrived on the same day as the earthquake, and camping trailers arrived three days later. One witness in Assisi stated that "the food distributed in emergency camps was better than the food at home, but, of course, as Italians, we always complain about everything."

There was no question about the early arrival of the C.P. in Assisi, a highly visible town because of the international prominence of the

Basilica of Saint Francis. Although the damage to private buildings was apparently lower in this town than in Foligno, Nocera Umbra, and Gualdo Tadino, much of the population was absent at night because no one knew how safe the buildings were. I saw very few tourists on the streets, and I heard merchants voicing complaints about the heavy loss of business because the number of tourists had dramatically decreased. (One retired man hinted at the possibility that the Franciscan friars might have amplified the damage to the Basilica. . .)

Even on top of the Apennines, at least on the Umbria side, people stated that the C.P. came in very fast. In Colfiorito, the "frazione" near the first epicenter of the earthquake, some people stated that the first contingent of personnel arrived on the night of the quake and tents reached the area the following day; they stated also that Swiss and French rescue teams arrived right after the quake, helping them to evacuate dangerous buildings. Right in the ghost village of Colfiorito, it was comforting to hear people making the following statements: "The C.P. came in very fast . . . they were good . . . they came from all over Italy." Another man in stated that "people who complain about the emergency aid deserve to be executed by guillotine." I heard also words of displeasure with press criticisms of the emergency aid. How did they feel about their own village after the earthquake? One man seemed to summarize the sentiments of many residents as follows: "We were born here and we shall die here."

A few localities, mostly in far away mountainous areas, were not included right away in the list of damaged areas; for instance, it took a few days before one municipality in the Marche region, was "discovered" as an earthquake-stricken community. Minutes of the meeting of the "Giunta Regionale" of the Marche confirms this fact: A community appeared in the list of damaged municipalities of the September 28 minutes (Communique No.501), but not in the list of the September 26 minutes (Communique 497).

## **The Voice of Municipalities**

The mayor of a municipality located in the valley near Foligno and east

of Assisi, seemed pleased about the timely arrival of the C.P. personnel: "The first aid of C.P. arrived midday on the 27 of September and tents on the evening of the 27." As to the emergency preparedness of his own town, the mayor admitted, that during the first few hours after the earthquake, he himself and the other town officials were panic-stricken and did not know how to get organized. Eventually, through loud speakers, he summoned a few hundred people to the town square and, later on, he went with fire fighters to inspect an old section of the town that seemed particularly damaged. The mayor of Sellano, the municipality where the second epicenter of the earthquake is located on top of the Umbrian Apennines, was happy to report that "this time around the C.P. measured up perfectly; at 10.30 of September 26, Barberi (the Undersecretary of the C.P.) was already in Foligno and he met with the mayors of the area." The mayor of another town located in the Marche region, asserted that "in his own town" the emergency aid arrived very quickly; it has to be noted, however, that this is a prominent industrial town and is located in the valley, right off the autostrada and railway connecting Rome (in the western region of Italy), to Foligno (in the center of Italy) to Ancona, the regional capital of the Marche region and a major port on the Adriatic Sea (in the eastern region of Italy).

## **Crisis Areas**

A "disaster manager" from the national headquarter of the C.P. and the head of a COM admitted that some delays occurred in the emergency aid to the Marche region - the region located on the eastern watershed of the Apennines, further away from the national headquarter of the C.P. than the Umbria region. In one of the municipalities located in a mountainous area far away from major expressways, I spoke to local volunteers who had participated in the 1980 emergency aid in southern Italy. The head of local Red Cross stated the following: "In this town we have nine roulettes (campers) and no volunteers who came from out of town. We coped with the situation by ourselves and we learned how to do it when we participated in the emergency relief operations after the 1980 earthquake in the Campania and Basilicata regions in southern Italy

[long-term recovery after that earthquake is discussed in Rossi, 1993). On September 27 we called the Minister for the C.P. in Rome to ask for some tents, and we discovered that the Roman authorities did not know we had suffered earthquake damage. For three or four days we managed to cope with the situation by ourselves; four camping trailers finally reached our town one week after the earthquake."

In another town the C.P. came under serious criticisms for the time and modalities of the delivery of camping trailers. A few people concurred, reciting the following sequence of events: "We had to sleep five days in the car and seven days in train wagons. The campers arrived within two days of the earthquake, but it took an entire week to be cleaned and disinfected. We received them ready for use on October 3." A 45-year-old man was very angry about this delay: "Is the C.P. a 'protection' for the state or a 'protection' for the citizens? Why were the campers not ready for use?"

We said that in one municipality in the Apennines of the Marche region, there were notable delays in relief operation. Some of these delays derived from the failure by local authorities to immediately realize the severity of the earthquake damage to the numerous artistic monuments of their own historic town.

In conclusion, the responses of the victims, the testimony of a "disaster manager" and a mayor as well as official communiques of regional governments seem to document the fact that the emergency aid of the C.P. reached first the major towns of the Umbria region that are located in the valley, right off the autostrada Rome-Ancona: Assisi, Foligno, Gualdo Tadino, Nocera Umbra. The C.P. reached the villages on the Umbrian Apennines half day or a day later (one interviewee in one of these towns pointed out that "the countryside [around his town] experienced some delay"). The Marche region, and especially the far remote municipalities in the mountainous areas, received emergency aid even later. Curiously enough, the 1997 EERI Reconnaissance Report (EERI, 1997) does not even include the Marche region on their map of the 1997 Italian earthquake, and it mentions only two towns of the Marche. It seems that the artistic and international notoriety of Assisi has absorbed most of the attention of the EERI team as well as the

international press.

## **A Case Study of a Late and Disorganized Intervention**

In one of the most heavily damaged towns of the Umbria region everything seems to have gone wrong. I reached the center of the town after having being delayed by various roadblocks due to the removal or temporary reinforcement of dangerous structures. I immediately realized the extent of damage to the town; the entire historical center had been cordoned off and no person was allowed entry. All the structures inside the historical center were declared dangerous or had fallen to the ground, burying with them the demographic data and other official documents. In this municipality the "disaster managers" sent from Rome had serious difficulties in establishing working relations with the new (and reportedly) unprepared administrators. There had been a recent change of political administration after a divisive campaign that is historically typical in this town. The change of political administration, that had occurred shortly before the earthquake, was accompanied by a wholesale replacement of the technical personnel and civil service. Administrative inexperience, personnel vacuum, the disappearance of all demographic records under the rubble, and the conflicting world views of conservative administrators and "disaster managers" made it impossible for the COM personnel to setup emergency structures with speed and efficiency.

One representative of the national C.P. expressed the core problem very succinctly: "Carabinieri," police, "Le Guardie Forestali," and "I Vigili del Fuoco," the armed forces share the same language and respond to a clear authority structure. Serious difficulties emerged when we try to develop an understanding among the mayor, municipal functionaries, volunteers, the "Prefetto," and civil protection personnel. Municipal authorities were newly appointed, they had their own views and language, and were incapable of seeing what the most urgent emergency tasks were. Local authorities were working by themselves and remained in total obscurity as to the best way to organize citizens and resources. On top of all this, right after the quake, the mayor suffered a heart attack.

Finally, after seven or eight days, the representatives of the C.P., finally, understood what needed to be done (sic). Moreover, people did not help each other, but compete with each other for emergency aid."

In the central square I met a group of strong opponents of the new administration who wanted to "enlighten" me about what "really" happened after the earthquake: "It took two days to realize that [the town] was destroyed, with most of countryside down to the ground. The historical center is all gone, except for three or four houses. On September 26 at 2.00 p.m. the C.P. arrived; there was chaos, conflict with Red Cross and with the mayor who was mistreated. On September 27 five campers arrived from Assisi; the tents were chaotically hoarded without supervision or control. September 27 and 28 were marred by conflicts; on September 29 one could see some progress. Because of laments broadcast on television, finally [our town] appeared on the earthquake map. The facts are that some people remained without tents for six days, and 18-day-old children had to sleep in cars for three days. The new administration did not trust the previous employees that were all fired in a wholesale fashion. Even the distribution of tents was left unorganized and at the mercy of hoarding patterns."

More benevolent interviewees stated that the COM in this town became organized after four or five days, but indicated that the town was considerably behind the level of relief effort that occurred in Foligno and other towns.

The same vociferous group made an aside against the national and international prominence given to Assisi: "Over there [in Assisi] they have enough mattresses to cover the ground for the frescoes; over here we do not have mattresses for people."

The press independently confirmed that in this town "the aid machinery had all sort of problems" (Messaggero, 10/1/98). The first outside help to arrive came from the army and "Le Guardie Forestali" (Messaggero, 10/1/97). Five days after the quake, there was a scarcity of food and water, several hundred people were still sleeping under open skies, and district attorneys were looking into irregularities in the distribution of tents and campers that appeared connected to "clientelism and political favoritisms"; criminal probes were also planned in regard to the collapse



of anti-seismic structures (Ibid.).

An additional set of difficulties in this town came from the fact that a large farming population lived in 70 small settlements ("frazioni") scattered throughout the large countryside. A conflict emerged between the C.P., who at first proposed to move scattered families into well-organized areas, and the farmers, who refused to leave their livestock and did not want to hear about a new type of "Irpinia-type" of "tendopoli" (a clear reference to the 1980 earthquake). Eventually, the government modified its position on the basis of "safeguarding the socioeconomic configuration of the area"!

Other people in the town stated that there was enough food and clothing to provide for the entire city of Rome. They were also pleased to have in town a "state-of-the-art" hospital brought in by the specialized unit of the army called "the Alpinists." One couple concluded these positive remarks with the following statement: "The food is a lot but our homes will never be replaced".

As for myself, I was almost arrested for wanting to speak to people other than the "officially authorized" ones. I entered the headquarter of the COM, consisting of a cluster of huge tents, in the evening. Inadvertently, I entered through an open, but, apparently, "unauthorized" space between large tents. Obviously, tensions and apprehensions were still running high as if there still existed a post-emergency situation; certainly, the head of the COM, dressed in a military uniform, was not in the mood for "on the field" interviews, not even after I revealed (and credentialed) my professional identity.

## **Criticisms and Suggestions**

During my field work I collected a few criticisms of the emergency activities, as well as suggestions for improving emergency relief operations:

- 1) One volunteer criticized the government for relying too heavily on volunteers instead of hiring more salaried emergency personnel.
- 2) A few people wondered why there were so few large depots for storing emergency equipment.

- 3) Other people questioned why the government had only 1700 prefabricated metal structures ("containers") available, when an estimated 4000 were needed to move people away from tents and camping trailers; a few earthquake victims pointed out "perceived" inequities in the emergency activities. (For instance, in one town I heard a complaint that somebody had received a camper although his/her own home was not declared uninhabitable by the authorities. However, aftershocks kept on coming and re-inspections were an ongoing reality.)
- 4) A few people resented the fact that 200 campers in one town had been assigned to people of non-Italian origin.
- 5) Two or three old women complained about the "confusing" paper work that needed to be filed to receive assistance.

I was personally puzzled by the fact that the U.S. Air Force stationed in northern Italy offered their Corps of Engineers to prepare the infrastructure for temporary housing in the city of Assisi. To begin with, the offer came more than ten days after the earthquake. Secondly, Assisi had received a relatively low level of damage to private structures compared to many other towns. Thirdly, the offer was contingent upon the provision of food, gas and quite a few other to-be-guaranteed services. Finally, the offer was made through the regional government of the Friuli region rather than through the central Ministry of C.P.

However, one should raise the question of whether the Italian government, or at least some C.P. representatives, really wanted foreign help. The head of the C.S.S. in one "Prefettura" stated the following: "Do you think we need foreign help? We can do the job by ourselves; after all, we live off earthquakes."

I recorded also a few suggestions for improving emergency operations:

- 1) A local volunteer in Sassoferrato stated the following: "In the 1980 Irpinia earthquake the C.P. arrived after one week; they did not have a centralized distribution center. The emergency aid was not well distributed; villages at the center were getting most of the aid. The English rescue teams were well organized; they could build a bridge in four hours. Over here, in 1997 we were ready, but the law on Civil Protection is not approved yet. `We' want to suggest to build an additional deposit and distribution center in Jesi [in the Marche region];

presently the nearest one is located in Fiano Romano [in the Lazio region, not far from Rome]."

2) The FEMA approach to emergency operations ought to be adopted in its entirety. For instance, the Ministry of the Civil Protections ought to be autonomous from all the other ministries to avoid confusion and conflict of competencies.

3) In Italy we must refine and complement the 14 FEMA functions in the field of emergency operations: i.e. people's donations for victims ought to be added somewhere in the list of the "materialie mezzi" function; some functions include too many tasks; and we have to add new functions, like the liaison with municipalities.

4) The means for communicating type and location of damage ought to be dramatically improved. Right after the emergency, telephones get clogged; rather than so many independent radio networks (by carabinieri, police, "Vigili del Fuoco," "Guardie Forestali," "Guardie di Finanza," etc.) we ought to have one integrated radio network so that phone calls from Rome can reach the areas; the amateur network cannot be relied on to provide information on far away and isolated localities.

5) We must overcome jealousies among various police forces, and the law ought to be more specific about their respective competencies.

6) There are too many ministries and too many extraordinary commissioners.

7) More resources and emergency teams are needed, as well as more decentralized depots of emergency equipment.

8) We must also overcome national pride. Why did Italy not want to involve the international community? (There have been initiatives by the regional governments and private concerns, but I have not heard of any from the national government).

### **Opinion of Outsiders Regarding the Local Population**

A fireman from the Tuscany region who had served during the emergency of the 1980 Irpinia earthquake stated: "These people [as compared to the Irpinia people] have more initiative . . . They are calm, tranquil, industrious . . . They will reconstruct their sociocultural

environment."

A "Disaster Manager" from Sicily stated the following: "The local population is terrified, but it has responded positively. People are calm and do not exceed in irate behavior; they are used to work and they endure the situation."

A carabinieri from Grosseto (in the Tuscany region) made the following comment: "Umbri are hospitable, cordial, and industrious. I admire them; they have a great tragedy in their hands, but they encourage each other to face it and go on with life."

A "Disaster Manager" in another town stated: "The people from Friuli are the most industrious of all [a reference was made here to the 1976 earthquake in northern Italy]. The Umbri are also industrious, but in Irpinia they were not [a reference was made here to the 1980 earthquake in southern Italy]."

A volunteer from Piedmont stated: "The people over here are friendly, open, industrious; they do not wait for the help of the government; they fix sheds for cattle on their own; they have celebrated the "potato feast" even after the earthquake occurred."

A Red Cross volunteer from the Emilia region stated the following: "People are still terrified; but they are available to help us, who came as volunteers from other regions of Italy; they get busy and industrious; those who have a house provide hospitality to others."

Another volunteer fireman commented: "We have learned a lot from the Lioni experience [in the 1980 earthquake] . . . Importantly, we have better technical equipment."

A man of the local Red Cross in one town stated: "Over here, I have the cooperation of the population; the young people help me out. In Irpinia people were watching us, and we had to do everything by ourselves."

A carabinieri stated: "We are here in full force because of `jackals' [people who attempt to steal from damaged homes and artistic monuments]. Fortunately, we have seen very few instances of such criminal activities."

# **CONCLUSIONS**

## **Emergency Aid after the 1980 and the 1997 Italian Earthquakes**

The head of the C.P., Franco Barberi, has made various references to previous earthquakes, and especially to the 1980 earthquake, to underline the speed and efficiency of the C.P. after the 1997 earthquake. The 1980 emergency aid turned out to be a nightmare because of communication problems, accessibility to the areas in need, and administrative inabilities. Phone communications were disrupted and only a few amateur radios came through with some information. Two-thirds of the Italian army was stationed in the north for NATO duties; when finally they reached the area, the soldiers were blocked by the traffic jam caused by people fleeing the areas and fleeing from Naples (which was also heavily affected by the quake). Italian and foreign rescuers (some of them flown in nearby airports) did not find guidance as to where to go; many local administrators had been killed and the others were preoccupied with recovering victims from under the rubble. Local roads, which are narrow and winding to begin with, were blocked by collapsed buildings and the villages of the interior could not be reached without clearing destroyed villages along the few available roads; yet, there was an acute shortage of heavy equipment to clear blocked roads. The press reported three people were rescued alive 14 days after the quake. Some foreign and domestic aid organizations were denied permission to operate in the area. Eighty thousand homeless from Naples, passing for earthquake victims, occupied camps, trailers, ships, hotels. Administrative chaos reigned supreme. It took three months for the authorities to come with two categories of damage, whereas on the 1976 Friuli earthquake, in northern Italy, it took authorities 12 days to come up with three categories of damage.

Certain characteristics of the area explain the high number of casualties in 1980 (3,550 in the 1980 earthquake, 13 in the 1997 earthquake) and some of the chaos and delay that prevailed during the first few days after the earthquake. The seismic wave was stronger (6.8 on the Richter scale) and lasted longer than the first of the three shocks of the 1997

earthquake (5,7; 6,0; 5,7). The 1980 earthquake happened at 7.35 p.m., when a lot of people were home watching a soccer match. Contrary to the pattern prevailing in central Italy, the bulk of the population in southern Italy live inside urban centers (mostly small villages) in houses four to five stories high, often piled on top of each other or attached to each other; this explains the high number of casualties and the serious road blockages produced by the destruction. The area of the 1980 earthquake was much wider than the area of the 1997 earthquake (320 sq. km. versus 45,000 sq. km.) and involved many more communities than the 1997 earthquake (36 "disastered" versus 18). In Irpinia/Basilicata there were many more long, narrow and winding roads than in central Italy, and the railroad ran outside the affected areas. However, it is undeniable that the speed and efficiency of 1997 earthquake aid has to be attributed heavily to improvements in the Italian C.P. apparatus. The Ministry for the C.P. has established a master program for "disaster managers" that help coordinate and run local COMs in emergency situations. By 1997 Italy had developed a distinct "C.P. culture" and could count on better roads and better transportation. Moreover, central Italy is economically better off and can rely on a lot of professional and technical resources from the area. These characteristics, as well as fast autostrada, fast trains, fewer long and winding roads, contribute to explaining the speed and efficiency of the 1997 emergency relief, except for the few cases mentioned of isolated localities in the Apennines, especially on the eastern side of the Apennines in the Marche region.

### **Lessons for the U.S. Emergency Response**

- Alternative means of communication, like cellular phones and helicopters, were used in central Italy on a constant basis.
- The professional competence of the C.P. personnel was obvious and also obvious was the quick computerization of the information on damage inspections, amount of equipment delivered, number of emergency personnel operating in the area.
- Two weeks after the earthquake I have not observed in central Italy the

long lines I observed around FEMA centers in Los Angeles three weeks after the 1994 Northridge earthquake.

- The American aid was sizable in the case of the 1976 Friuli earthquake, and in the Irpinia/Basilicata earthquake it amounted to over three billion dollars (in 1983/4 currency rate), including 29 schools built by USAID. However, there was no a massive intervention in the 1997 earthquake or a program to help the municipalities of Foligno, Fabriano, Camerino, and other municipalities that were compelled to adopt two and three school periods each day, because too many schools were unsafe. Moreover, the little U.S. aid in the 1997 earthquake arrived late (two weeks after the event), it was limited to the preparation of the areas for prefabricated structures (containers) only in Assisi, and it was subordinated to a cumbersome list of guarantees and support services.
- With reference to the emergency assistance, it would be interesting to assess how effective were the modifications introduced by the Italian Civil Protection in the FEMA model of organizing emergency activities according to fourteen functions. For instance, the Italians added a new function to deal with municipalities and found some of the other FEMA functions filled with too many tasks.

## **Doing Quick Response Research in a Situation of Ongoing and Increasing Emergency: Methodological and Ethical Considerations**

As stated above, I entered the field on October 9, 1997, 13 days after the first two big shocks of September 26. A third aftershock of 5.7 on the Richter scale occurred while I was still in the field, and various aftershocks continued throughout the entire period of my fieldwork. By and large, I received a good reception in most of the towns, and authorities helped me to get "passes" and introductions to people to be interviewed. Apparently, speaking in my native Italian with a bit of foreign twist helped! But the researcher must be patient about getting

immediate (and much less prolonged) attention by people who continuously deal with emergency calls, often having to answer both the regular phone and their own personal cellular phone. One must also be careful not to give the impression that researchers are another sort of "earthquake-jackal" in pursuit of hot information from as many sources as they can obtain, and always on the run to reach new informants. Ethical obligations toward victims, first of all, as well as authorities and volunteers must be attended to; the very minimum one can offer to victims are expressions of sympathy, help in finding emergency phone numbers, help in locating offices, and help in dispelling certain fictions about aftershocks. As I have mentioned above, one must also obtain "passes" as research scholars to enter areas where victims are protected from media and curious people. Police set roadblocks on all the roads leading to the most damaged areas to keep curious tourists and "jackals" out. Researchers would be well advised to carry their passport and a university ID with them. Some evidence of previous research and/or publication on disaster matters is definitely helpful to establish credibility with authorities.

The policy of entering into the field before the third week of the disaster is definitely a sound one. Some emergency personnel were rotating on a weekly or biweekly basis; this policy can prevent access to important witnesses and informants. Finally, the researcher should try to avoid exiting the field with a sense of abandonment for key informants and other people he/she has entertained a human report with. Earthquake victims receive a great comfort from knowing that researchers follow their destiny through the media and the Internet and just from being remembered with sympathy, when nothing else is feasible.

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## FIGURE

**[Fig.1](#)** - Provinces affected by the 9-26-97 Earthquake in Central Italy

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August 3, 1998

[hazctr@colorado.edu](mailto:hazctr@colorado.edu)