6.0 MAGNITUDE OF THE OUTREACH EFFORT

6.1 Introduction

The Statement of Work for the EECs required the projects to "disseminate earthquake safety, education and information products" to various types of target audiences through workshops, presentations and other means. The Memphis and Charleston community outreach projects undertook a number of approaches to provide both verbal and written information on earthquakes and earthquake safety.[10]

This section describes the magnitude of the outreach effort for these two Earthquake Education Centers in terms of the number of presentations the staff made, the audiences they reached, the numbers of inquiries the Centers responded to, and the types of materials they distributed. The size of the staff, their available resources, and ways in which they augmented resources are described, to put the level of their effort and their accomplishments in perspective. In sum, these projects, with one-and-a-half to two-and-a-half full time staff positions each made direct contact with over 25,000 persons across three years' time.

6.1.1 Activity Tracking

The projects kept logs of contacts (presentations, inquiries) and mailings, and provided quarterly summaries organized according to a classification system developed with the assistance of another FEMA contractor. Periodic summaries of the logs indicate how many people and, in a

[10] The Seattle project is not included in this quantitative description of outreach activities, since a great amount of its effort was directed toward intensive work with a few schools and curriculum testing in six pilot schools. The project provided workshops and presentations for many other audiences, but almost all of these were schools. The activities of the Seattle project are described in Section 4.0, on the school programs.

general sense, what types of audiences were reached. These project records also permit insights into levels of project activities across time. It is possible, for example, to match changes in contact levels with publicity events. Overall, the numbers are illustrative of the increasing level of effort and contact these projects achieved between their first and third years.

In preparing the tables for this section, independent counts were made from activity logs wherever possible. Since the judgment criteria used here for counting contacts apparently differed from those used by the project, totals reported by the projects and totals reported in the following tabulations do not coincide exactly. The numbers of contacts are large enough that these discrepancies do not affect the overall patterns observed. Also, it is more likely that the figures reflect net undercounting rather than overcounting, due to typical record keeping pitfalls.

6.1.2 Analytical Context

One analytical approach would be to consider the number of people available to be reached and examine the success of the projects in reaching them. However, such an approach is not legitimate in this case. No quotas had been established in the Statement of Work, nor were the projects designed to reach the greatest number of people possible. Rather, the projects were designed to try a number of approaches for reaching different target audiences, and to develop approaches for multiplying the impact that a small project staff would be able to have. Thus the impacts achieved by these projects should be viewed in the light of the level of resources and staffing with which they approached the task.

Coverage versus Depth. Extensiveness versus intensiveness is a major distinction of approaches to providing community education. Some forms of information

dissemination can be used efficiently to reach large numbers of people. For example, mailed brochures, newspaper articles, television specials, or radio talk shows have the potential for considerable coverage of a variety of audiences, and can make efficient use of staff time relative to the number of people reached. However, they depend on the information recipients being sufficiently motivated to attend to the message.

Other dissemination approaches are better for assuring that the message is received and understood. For example, repeated contacts with a small group of people to set goals for action and oversee their implementation provides a greater assurance of ultimate success, but consumes much staff time. Labor-intensive approaches limit the number of target audiences or groups a staff can reach.

Various activities fall along a continuum from intensive to extensive in intent. For example, the approach of giving a presentation to an audience of 50 falls somewhere in between. One staff person can reach 50 people at once. There is opportunity for interaction, even if brief, in which questions can be answered. But the situation does not permit much follow-up, or further urging, of information recipients to undertake some specific preparedness activity. The mix of activities a project uses is a policy decision, based on its objectives and its resources. The tabulations from these two outreach projects provide a means of examining some of these choices.

Multiplier Effects. It is unlikely that an earthquake education project can, in the course of a few years, reach everyone in a community, or even everyone who might be interested in its message. However, project effects are multiplied when persons the project reach tell others, or take actions that affect the safety of others.

Types of recipients of project services will vary with respect to their likelihood of multiplying the effects of the project through their own subsequent actions. A decision can be made to select at least some audiences because of the potential for various audience members having a significant multiplier effect. For example, a presentation to 30 members of a neighborhood association has the potential of affecting 120 people, if each association member represents a separate household of about four members and if each implements safety practices learned in the presentation. A workshop for 25 elementary school principals has the potential of extending its reach to 12,500 children if every principal implements new classroom safety practices in his or her school (averaging 500 students).

When examining the types of audiences reached, the potential for multiplier effects needs to be kept in mind. Each of the 25,000 people reached by each project is not equal in this respect. For example, schools were a major target audience for both projects. Within individual schools, teachers, and to a greater extent, principals are likely to have a substantial multiplier effect. Teachers can teach their students how to protect themselves during an earthquake. Principals can implement school-wide measures to make school rooms safer through better anchoring of furnishings and equipment. Students may carry some of what they learned into their home setting.

Resource Augmentation. The tabulations of each project's activities are preceded by a summary of the level of resources provided by FEMA, and then the level of volunteer participation. It is a general objective of FEMA to encourage local involvement in the activities it sponsors. The effect of this can be two-fold. The federal resources are augmented with local resources, and local residents and

organizations come to have more of a stake in the given activity. Both projects spent some of their efforts in activities designed to augment the finite resources provided by FEMA: (1) The projects recruited volunteers to assist the staff in accomplishing its outreach objectives. Furthermore, regular staff found itself providing many unpaid hours as well. Some effort was made to document these contributions, although it is likely they are somewhat underreported. (2) As the projects' impact widened from their first workshops into various sectors of the community, local organizations did become involved in the projects activities in ways that also served to extend what the projects could do with the level of resources they had.

Subsections 6.2 and 6.3 provide a summary of the Memphis and Charleston activity levels respectively, and 6.4 discusses insights gained from these tabulations.

6.2 The Memphis Project at TEIC

6.2.1 Staffing and Budget Levels

The total cost of the project for all three years was $190,000 (Table 6-1). As might be expected, a fairly large amount of the first year's budget was set aside for materials, supplies, printing, and mailing. However, these expenses dropped considerably in Years 2 and 3, as did the overall budget total. The funding level for personnel increased by about $4,000 over the project's three years, or about 5% per year.

TABLE 6-1
TEIC EARTHQUAKE EDUCATION PROJECT BUDGET
BY CATEGORY AND YEAR

Budget Category	Year 1	Year 2	Year 3
Personnel			
Salary	27,988	29,366	32,380
Fringe Benefits	5,304	3,363	4,986
Sub-Total	33,292	32,729	37,276
Travel	5,000	3,800	1,600
Materials & Supplies[a]	10,318	2,157	2,781
Other[b]	5,000	600	1,200
Total Direct Costs	53,610	39,286	42,857
Indirect Cost	21,390	15,714	17,143
TOTAL COST	75,000	55,000	60,000

[a] Includes equipment
[b] Year 1 includes CHES subcontract

Even at its highest point, the staffing amounted to only a little over 2 full-time equivalents (Table 6-2). That is, the outreach activities described here were coordinated with the equivalent of two (or fewer in the first two years) persons working in full time paid positions. This "staffing level" was extended, however, through both the use of volunteers and the contribution of volunteer hours by the regular staff, as described below.

TABLE 6-2
TEIC EARTHQUAKE EDUCATION PROJECT STAFFING LEVELS
PROJECT YEARS 1 - 3

STAFF CATEGORY	YEAR 1	YEAR 2	YEAR 3
Project Manager	35%	35%	35%
Project Coordinator	50%	35%	35%
Education Specialist	20%	0%	0%
Volunteer Coordinator	0%	50%	24%
Administrative Assistant	0%	0%	53%
Clerical	50%	50%	69%
TOTAL (Full-Time Equivalents)	1.55	1.7	2.16

As the project developed, the "Education Specialist" position (initially used for specialized assistance with

[a] Memphis Project Director clarifies: Administrative Assistant's full-time equivalent in Year 2 was 53% and in Year 3, 64%.

testing and adapting the educational materials) was phased out and one of the volunteers was moved into a staff position of "Volunteer Coordinator." This person arranged for volunteers to help with special activities, and helped with office work and errands associated with the dissemination activities. The project found it important to have persons in the support roles due to the amount of paper work and the routine activities involved in scheduling and preparing for workshops, presentations and meetings, Earthquake Safety Week, and preparing and mailing materials in response to information requests.

6.2.2. Level of Volunteer Participation

Volunteers were recruited to assist in accomplishing the project's dissemination activities. Their efforts are seen as augmenting available staff time. Volunteer activities included:

- Attending volunteer meetings and training workshops;
- Assembly of school safety planning material;
- Assistance with compilation, assembly, or distribution of project newsletter;
- Making a TEIC banner and shaking table;
- Putting together a complete first aid kit listing;
- Staffing a booth at the Gem and Mineral Show and at the Mid-South Fair;
- Assisting with presentations and giving talks on earthquake preparedness to many groups;
- Assisting in the development and implementation of the Girl Scout Patch program for Natural Hazards Preparedness

The amount of volunteer service provided was considerably higher in the pilot project's first year and a half than it was for later reporting periods. As reflected

in the quarterly reports, Project Year 1 tabulations of volunteer service emphasize presentations given by trained volunteers or speakers' bureau members and participation in meetings and training workshops. A total of 24 persons are cited as having contributed 432 hours of volunteer service in Year 1, in addition to which 136 hours of staff time were contributed outside of normal business hours.

In Year 2, an enormous contribution of volunteer service was made in the first quarter, largely in relation to the Mid-South Fair information booth. After a first quarter total of 361 volunteer service hours, however, the volunteer activities dropped off greatly during the remainder of Project Year 2. Tabulations were no longer included in the quarterly reports, but the Year 2 Annual Report lists 18.5 hours total in the second quarter, 62 hours in the third quarter (most of which were connected with staffing the booth at the Gem and Mineral Show), and 13.5 hours in the fourth quarter.

The Year 3 Annual Report shows a lower overall total (277 hours), but the pattern is similar, with the highest number of hours (199.5) contributed during the first quarter due to the Mid-South Fair. Second, third, and fourth quarter totals were 26.5, 49, and 2 hours, respectively.

It is likely that, for all Project Years, tabulations are underestimated. Presentations by Speakers Bureau members, for example, are tabulated in the quarterly log of presentations, but the time involved is not included in volunteer service tabulations. Attendance at advisory board meetings is not tabulated as volunteer time, nor are such miscellaneous activities as serving as a judge for poster and essay contests. The reach of the project was also extended by teachers who made presentations to their own classrooms or

school assemblies after attending a project workshop. These efforts are not counted here as volunteer activities.

6.2.3 Other Cost Sharing

In addition to voluntary service contributions, there are many examples of how the project's available resources were augmented through in-kind contributions from local corporate and individual sources. A local distributing company printed grocery sacks (1,400,000) with earthquake safety tips during the second quarter of Year 2. Federal Express, a major Memphis area employer, distributed safety flyers to its 11,500 workers in the region, while the Methodist Hospital Systems distributed an Earthquake Safety Checklist to accompany its 5,000 paychecks during one pay period in the second quarter of Project Year 2.[a]

A professional publicist from the Red Cross prepared public service announcements for Year 2's Earthquake Safety Week advertising campaign. In Year 3, a local engineering firm donated the equivalent of $1,700 in printing costs for the preparation of materials to support the Girl Scouts hazards patch program. Publicity posters were designed as part of a school district-wide contest in Year 2, and by a University design class in Year 3, and a local insurance firm underwrote $1,200 worth of poster printing costs. Also, many Girl Scout troops distributed the posters and other earthquake safety information through community service programs held to help them meet the requirements for a merit badge in hazards preparedness.

The local public utility company designed and circulated a flyer with its monthly statement to all utility customers, and wrote an article about earthquake preparedness that appeared in its employee publication (circulation 3,600). The utility company also prepared a professional quality videotape of the project coordinator's safety slide

[a]Memphis Project Director adds: Malone & Hyde printed 1.4M grocery sacks for Year 2 and Year 3; Schering-Plough reproduced and distributed 12.5K earthquake safety pamphlets to its employees during Year 3.

presentation, and provided TEIC with copies of the video. These copies were then made available on loan to interested corporate, educational, and civic organizations, thereby relieving some of the pressure on staff time.

Although difficult to quantify, the EEC's affiliation with Memphis State University through the TEIC also helped to extend the project's resources. For example, the TEIC director and graduate students were able to meet some of the requests to the project for presentations on earthquake topics. TEIC graduate students also contributed time to conduct tours of the seismology laboratory for elementary and secondary school students .

6.2.4 Number and Type of Presentations[11]

A subtle but important distinction must be made between the number of presentations given and the number of people contacted in the course of these presentations. This distinction is important because there are always tradeoffs to be made, as a matter of policy, concerning the outreach project's ability to *intensively* target key audiences in the community and its efforts to *extensively* increase general community earthquake safety awareness.

Numbers of Presentations. The Memphis EEC reported 527 formal presentations, including workshops, during the project's three years (Table 6-3). The annual number of presentations increased each year during the life of the project, tripling from the first year to the third (85 to 259). The 259 presentations made during the third year represents an average of 5 presentations a week.

[11] Project records include an estimated count of persons stopping at the Project information booth at the Mid-South Fair (1,114 in Year 1 and 7,121 in Year 2; no estiamte for Year 3). These contacts are not included in tabulations here.

TABLE 6-3[a]

TEIC EARTHQUAKE EDUCATION PROJECT

ANNUAL PRESENTATION TOTALS AND AUDIENCE SIZE BY AUDIENCE TYPE

TOTAL NUMBER OF PRESENTATIONS

AUDIENCE TYPE	YEAR 1 TOTAL	YEAR 1 %	YEAR 2 TOTAL	YEAR 2 %	YEAR 3 TOTAL	YEAR 3 %	TOTAL TOTAL	TOTAL %
Students	15	*18*	81	*44*	102	*39*	198	*38*
Educators	6	*7*	11	*6*	23	*9*	40	*8*
Civic/Professional	25	*29*	24	*13*	30	*12*	79	*15*
Neighborhood Groups	5	*6*	12	*7*	15	*6*	32	*6*
Senior Citizens	7	*8*	4	*2*	4	*2*	15	*3*
Staff: Elderly/Disabled	3	*4*	2	*1*	0	*0*	5	*1*
Hospital/Fire/CD	3	*4*	10	*5*	8	*3*	21	*4*
Business & Industry	2	*2*	3	*2*	10	*4*	15	*3*
Media	9	*11*	20	*11*	52	*20*	81	*15*
General Public	3	*4*	6	*3*	4	*2*	13	*2*
Earthquake Professionals	7	*8*	10	*5*	11	*4*	28	*5*
TOTAL	85	*100*	183	*100*	259	*100*	527	*100*
Average Per Week:	1.63		3.52		4.98		3.38	

TOTAL AUDIENCE SIZE

AUDIENCE TYPE	YEAR 1 TOTAL	YEAR 1 %	YEAR 2 TOTAL	YEAR 2 %	YEAR 3 TOTAL	YEAR 3 %	TOTAL TOTAL	TOTAL %
Students	1,356	*31*	3,706	*49*	9,285	*71*	14,347	*57*
Educators	444	*10*	301	*4*	630	*5*	1,375	*5*
Civic/Professional	856	*19*	767	*10*	931	*7*	2,554	*10*
Neighborhood Groups	162	*4*	346	*5*	482	*4*	990	*4*
Senior Citizens	828	*19*	190	*2*	122	*1*	1,140	*5*
Staff: Elderly/Disabled	95	*2*	55	*1*	0	*0*	150	*1*
Hospital/Fire/CD	151	*3*	378	*5*	187	*1*	716	*3*
Business & Industry	16	*>1*	44	*1*	618	*5*	678	*3*
General Public	420	*10*	1,457	*19*	604	*5*	2,481	*10*
Earthquake Professionals	84	*2*	379	*5*	207	*2*	670	*3*
TOTAL	4,412	*100*	7,623	*100*	13,066	*100*	25,101	*100*
Average Per Week	85		147		251		161	
Average Per Presentation	52		42		50		48	

The public presentations followed a seasonal pattern that became more clearly established over a three-year period. In this pattern, there are peaks of presentation activity in the fall (October) and in mid-winter (February) The October peak coincides with the beginning of the school

[a]Memphis Project Director clarifies: Project accounts do not agree with tallies in Table 6-3. Numbers of presentations for Year 1, 2, 3, and total were: 114, 185, 304, and 603, respectively; total number of people reached via presentations was 31,091.

year, when many presentations are made to school audiences, in particular as part of in-service training for teachers and principals. The mid-winter peak is prompted by the EEC's city-wide Earthquake Safety Week publicity. Project staff encouraged schools to participate in Earthquake Safety Week by sponsoring poster and essay contests. Evaluation interviews indicate that teachers and principals liked the notion of linking classroom topics and school activities to community events, in part because of the increased media coverage of the topic at the time.

Types of Audiences. Audiences were classified into 11 target group categories (see Table 6-3). In Memphis, the majority of presentations were directed to one of three types of audiences: school children, civic and professional organizations, and the media.[a]

The project's statement of work specified that the project was to introduce earthquake safety information and curriculum material to school populations (the only target group thus singled out). If the two types of school audiences (students and educators) are combined, the percentage of presentations to school populations in the Memphis area grew from 25% during Year 1 to 50% in Years 2 and 3. Thus, the Memphis EEC split its attention between the schools as a target audience and other types of audiences, typically reached through their affiliations with clubs or associations (e.g., civic groups and senior citizen associations). The emphasis on civic groups had been reduced by Year 3, but was offset by an increase in emphasis on media contacts.

6.2.5 Number and Type of Persons Contacted

During the three years examined here the Memphis EEC had direct contact with approximately 25,000 persons via workshops and presentations (Table 6-3). This level of

[a]Memphis Project Director clarifies: The media was the target audience of only one presentation during the project's duration. "Presentations" to media consisted of: (a) one-on-one interviews, sometimes in response to an earthquake event, and (b) project staff participation on radio and TV talk shows. In the latter case, target audience was general public.

contact represents an average of about 161 people a week being directly exposed to someone associated with the EEC activities during these three years.

The total number of persons reached directly by project staff and volunteers increased by about 40% each year, going from about 4,400 during Year 1 to about 13,000 in Year 3 (Table 6-3). A rough estimate of average audience size (48) can be obtained by dividing the audience totals by the number of presentations (Table 6-3). Of course, there was considerable range in this. For example, a direct contact with the media typically involved one project staff person and one media person. A contact made through an information booth, (a "contact" setting that takes an entire day) would involve hundreds of people, but sequentially rather than all at one time.

Presentations to school audiences typically involved larger, rather than smaller audiences. The presentations to students and educators combined accounted for 25% of all presentations in Year 1, growing to 50% in Years 2 and 3 while the relative proportion of school audiences was 41% of the total audience size in Year 1, growing to 76% of the total in Year 3.

6.2.6 Number and Source of Inquiries Received

Numbers of Inquiries. A total of about 2,300 inquiries about project activities and about earthquakes were logged during the three-year EEC project (Table 6-4). The number of inquiries almost tripled from Year 1 to Year 3 (425 to 1,229). Correspondingly, the estimated average number of inquiries per week to the EEC increased from 8 to 24.

TABLE 6-4
TEIC EARTHQUAKE EDUCATION PROJECT
ANNUAL INQUIRY TOTALS BY TYPE

	TOTAL NUMBER OF INQUIRIES							
	YEAR 1		YEAR 2		YEAR 3		TOTAL	
INQUIRY TYPE	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%
Event-Related	151	*36*	96	*14*	100	*8*	347	*15*
General Information	186	*44*	464	*70*	939	*76*	1,589	*69*
Speaker Requests	63	*15*	88	*13*	190	*15*	341	*15*
Volunteer	25	*6*	15	*2*	0	*0*	40	*2*
TOTAL	425	*18*	663	*29*	1,229	*53*	2,317	*100*
Average Per Week	8		13		24		15	

The inquiry rate (number of inquiries per month as a percent of yearly inquiries) tended to fluctuate throughout the year. The monthly figures (not shown here) indicated, at least for Years 2 and 3, that the inquiry rate increases appreciably during periods of intensive publicity. The peaks in inquiries correspond to the weeks around Earthquake Safety Week.

Types of Inquiries. The inquiries were categorized, for recording purposes, into four types: event related, general information, speaker requests, and inquiries about workshops and volunteer opportunities. Inquiries classified as seeking general information (e.g., inquiries about the local hazard, what to do about earthquakes, or where to get information) accounted for about 69% of all inquiries during the three years (Table 6-4). As one might expect, the monthly pattern of requests for speakers (not shown here) corresponds to the annual pattern of presentations, with peaks around the time when planning begins for the new school year and in the wake of Earthquake Safety Week publicity.[12]

[12] There is not a direct correspondence between requests and presentations due to such factors as that not all presentations result from requests, some requests result in more than one presentation, and possibly that not all inquiries are recorded.

Source of Inquiries. Inquiries also were classified in terms of the type of person or organization initiating them. The media as a source of inquiry decreased after the first year, as did clubs, and the schools as a source of inquiry increased. The proportions of calls originated by a specific kind of source are very similar for Years 2 and 3, with about a third of them coming from citizens, a third from schools and clubs, and a third from the media, government, and corporations.

6.2.7 Number and Type of Materials Distributed

Quantities Distributed. Approximately 85,000 pieces of literature related to earthquakes and earthquake safety were distributed (by mail and presentations combined) by the Memphis EEC (Table 6-5). The number of pieces distributed either by mail or during presentations increased each succeeding year. For Years 2 and 3, a higher percentage of material was distributed by mail than at presentations. The volume of materials distributed by mail is an indicator of the effectiveness of publicity about the project, since items typically are mailed in response to telephone requests for information.

TABLE 6-5
TEIC EARTHQUAKE EDUCATION PROJECT
ANNUAL MATERIAL DISTRIBUTION TOTALS BY TYPE
OF MATERIAL AND METHOD OF DISTRIBUTION

	MATERIAL DISTRIBUTED BY MAIL							
	YEAR 1		YEAR 2		YEAR 3		TOTAL	
TYPE OF MATERIAL	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%
New Madrid Earthquake	370	15	1,098	6	2,298	8	3,766	7
Technical Information	372	15	608	3	465	2	1,445	3
Safety Information	1,680	68	18,020	91	25,412	89	45,112	89
Volunteer Information	60	2	125	1	287	1	472	1
TOTAL	2,482	5	19,851	39	28,462	56	50,795	100

[a]Memphis Project Director adds: Material distributed in Year 2 does not include 17,400 items of earthquake safety information provided to three private sector organizations for their distribution to employees.

MATERIAL DISTRIBUTED BY PRESENTATION

TYPE OF MATERIAL	YEAR 1 TOTAL	%	YEAR 2 TOTAL	%	YEAR 3 TOTAL	%	TOTAL TOTAL	%
New Madrid Earthquake	82	2	185	2	669	4	936	3
Technical Information	57	1	109	1	191	1	357	1
Safety Information	4,419	97	11,538	97	17,074	94	33,031	96
Volunteer Information	6	>1	41	>1	149	1	196	>1
TOTAL	4,564	100	11,873	100	18,083	100	34,520	100

PERCENT OF MATERIAL DISTRIBUTED BY MAIL AND PRESENTATIONS

TYPE OF DISTRIBUTION	YEAR 1 TOTAL	%	YEAR 2 TOTAL	%	YEAR 3 TOTAL	%	TOTAL TOTAL	%
By Mail	2,482	35	19,851	63	28,462	61	50,795	60
By Presentation	4,564	65	11,873	37	18,083	39	34,520	40
TOTAL	7,046	8	31,724	37	46,545	55	85,315	100

Generally, several different pieces of literature were provided together as a packet. Although the EEC itself distributed the bulk of the materials that were sent by mail, in some instances materials were provided to an organization for distribution through one of their regular mailings to members or employees. A notable example of this in Memphis was the mailing of earthquake safety information by a major local employer (Federal Express) to its 11,000 employees in conjunction with Earthquake Safety Week.

Type of Literature Distributed. The materials distributed could generally be classified as to type. The classifications were: information on the New Madrid Earthquake (the local hazard); more general technical information on causes and consequences of earthquakes; information on things that can be done before, during, or after earthquakes to reduce injury, loss and disruption (referred to as safety information); and information on training and participation opportunities for volunteers and others.

Pamphlets describing earthquake safety and preparedness measures predominated the written information being mailed and handed out. With one exception, safety information represented about 90% or more of all materials distributed. To some extent this configuration is an artifact of the numbers of different safety-related pamphlets available compared to the numbers of separate written materials available for the other categories of information.

6.3 The Charleston Project at Baptist College

6.3.1 Staffing and Budget Levels

The project's total cost for all three years was approximately $182,000. In the first year, a relatively large sum was set aside for materials, supplies, equipment, and printing and mailing costs (Table 6-6). Funding levels for these categories dropped considerably for Years 2 and 3. The overall funding level dipped in Year 2 by 17% over the Year 1 budget, with major decreases in travel and the previously mentioned cost categories. Funding increased from $55,000 in Year 2 to $60,000 in Year 3.

TABLE 6-6
BCC EARTHQUAKE EDUCATION CENTER BUDGET
BY CATEGORY AND YEAR

Budget Category	Year 1	Year 2	Year 3
Personnel			
Salary	$26,750	29,741	31,037
Fringe Benefits	3,448	3,867	4,447
Sub-Total	30,198	33,608	35,484
Travel	5,923.[a]	2,642	6,142
Materials & Supplies	3,850	500	500
Equipment	1,100	500	0
Printing	6,764	1,500	1,350
Mailing	1,795	500	500
Total Direct Costs	49,630	39,250	43,976
Indirect Cost	17,370	15,750	16,024
TOTAL COST	67,000	55,000	60,000

[a] Includes CHES subcontract.

The staffing level, at its highest point, was equivalent to two and one-half full time workers (Table 6-7). In other words, the outreach levels to be described in this section were achieved with the equivalent of just two and one-half (and fewer in the first two years) persons working in full time paid positions. This "staffing level" was extended, however, through both the use of volunteers and the contribution of volunteer hours by the regular staff.

TABLE 6-7
BCC EARTHQUAKE EDUCATION PROJECT STAFFING LEVELS
PROJECT YEARS 1 - 3

STAFF CATEGORY	YEAR 1	YEAR 2	YEAR 3
Director	40%	40%	48%
Coordinator	78%	100%	100%
Secretary	100%	100%	100%
TOTAL (Full-Time Equivalents)	2.18	2.4	2.48

As the project developed, the director's involvement increased from the 40% level in Years 1 and 2 to nearly half-time in Year 3, and the part-time project coordinator's position was made a full time position. The project found it important to have persons in the support roles due to the amount of paper work and the routine activities involved in preparing for workshops, presentations and meetings, and in preparing mailing materials in response to information requests.

6.3.2 Level of Volunteer Participation

Time contributed by volunteers augmented available staff time for administrative and outreach activities. Volunteer activities consisted primarily of:

- Attendance at volunteer meetings, advisory board meetings, and training workshops;
- Preparation of audio-visual materials for presentations and publicity;

- Assistance with the preparation and distribution of project newsletter;
- Assistance with public exhibits and staffing booths at professional conferences;
- Assistance with presentations and giving talks to a number of educational and civic organizations.

A relatively intensive effort was made at the project's outset to establish a trained crew of volunteers who could then be enlisted for service as the need arose. A Train-the-Trainer workshop in the project's first quarter involved nearly 40 trainees, and the workshop appears to have yielded 25 individuals who indicated a willingness to help the project on a volunteer basis. A second workshop raised the number of potential volunteers to nearly 60 by the end of Year 1. About 8 to 10 teachers who had attended one of the workshops participated on a fairly regular basis in helping with project activities.

Hourly tabulations are not presented for voluntary service in Year 1, but the project's calendar of events indicates a relatively even distribution of volunteer participation after the initial training workshops, with focal activities including the planning and implementation of a mall display in the second quarter, and advisory board meetings and assistance in presentations to students and educators in the third and fourth quarters of Year 1.

In Year 2, volunteer support tabulations are included for all four quarterly reports. In the first quarter, 210 total hours of service are indicated, including extra time put in by the staff and time taken by trained volunteers to make presentations to students and educators. Second quarter tabulations of volunteer service do not note the total hours of service, but do indicate that 20 out of the 45 presentations made during the quarter were made by volunteers

other than the EEC staff. Of these 20 presentations, 18 were made by teachers who had completed the training workshop, and then made presentations either to their own classes, or to larger assemblies that included their classes among others. Project Year 2's fourth quarter tabulations indicate 154 hours of volunteer service, 70 of which are staff hours outside of normal working periods.

As with TEIC, volunteer service hours logged dropped off by Year 3. A total of 100 volunteer hours were tabulated during the first quarter, 45 for the second quarter, 30 for the third, and 39 for the fourth, totaling 214.

6.3.3 Other Cost Sharing

Additional means by which project resources were augmented included in-kind contributions from a number of corporate and individual sources. In the project's first year, a professional photographer donated time to photograph and process slides for presentation materials. A graphic designer prepared a publicity flyer, and a corporation provided a cash donation to support the puppet show held at a shopping mall. The local water utility included 60,000 emergency water supply brochures with its monthly statement during the fourth quarter. Advisory group members attempted (although unsuccessfully) to obtain the use of a donated van or station wagon for project staff to use to transport the teaching aids to presentations. The local grocery sack distributor printed earthquake safety tips on the sacks used by several supermarket outlets.

In the fourth quarter of Year 2, a safety and preparedness exhibit was set up at a hardware store, made possible by the donation of $250 worth of radio and newspaper advertising time by the store owner. The owner also built a large sign attracting motorists to the store's exhibit, which ran for two successive weekends. In conjunction with the

display, a local brick supply company designed and distributed a flyer to some 600 local contractors along with their monthly billing statements.

Although difficult to quantify, the EEC's affiliation with Baptist College of Charleston also helped to extend the project's resources. The College considered the project a valuable asset to their image as an institution that serves the community, and aggressively publicized the project's activities through its public relations office.

6.3.4. Number and Type of Presentations

Numbers of Presentations. The Charleston EEC reported 284 formal presentations, including workshops, during the project's three years (Table 6-8). The number of presentations made each year nearly tripled from Year 1 to Year 3. The 130 presentations made during Year 3 is equivalent to an average of nearly 3 per week.

TABLE 6-8
BCC EARTHQUAKE EDUCATION CENTER
ANNUAL PRESENTATION TOTALS AND AUDIENCE SIZE BY AUDIENCE TYPE

	TOTAL NUMBER OF PRESENTATIONS [a]							
	YEAR 1		YEAR 2		YEAR 3		TOTAL	
AUDIENCE TYPE	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%
Students	21	*42*	52	*50*	84	*65*	157	*55*
Educators	13	*26*	27	*26*	15	*12*	55	*19*
Civic/Professional	6	*12*	12	*12*	12	*9*	30	*11*
Neighborhood Groups	1	*2*	0	*0*	1	*1*	2	*1*
Senior Citizens	1	*2*	1	*1*	3	*2*	5	*2*
Hospital/Fire/CD	6	*12*	2	*2*	5	*4*	13	*5*
Business & Industry	1	*2*	2	*2*	0	*0*	3	*1*
General Public	1	*2*	5	*5*	4	*3*	10	*4*
Earthquake Professionals	0	*0*	3	*3*	6	*5*	9	*3*
TOTAL	50	*100*	104	*100*	130	*100*	284	*100*

(continued)

[a]Charleston Project Director clarifies: Project accounts show a total of 381 presentations.

	TOTAL AUDIENCE SIZE							
	YEAR 1		YEAR 2		YEAR 3		TOTAL	
AUDIENCE TYPE	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%
Students	3,581	*70*	6,345	*71*	8,391	*74*	18,317	*72*
Educators	420	*8*	877	*10*	735	*6*	2,032	*8*
Civic/Professional	375	*7*	773	*9*	499	*4*	1,647	*6*
Neighborhood Groups	30	*1*	0	*0*	5	*0*	35	*0*
Senior Citizens	20	*>1*	40	*>1*	54	*>1*	114	*>1*
Hospital/Fire/CD	420	*8*	35	*0*	204	*2*	659	*3*
Business & Industry	50	*1*	350	*4*	0	*0*	400	*2*
General Public	200	*4*	364	*4*	1,095	*10*	1,659	*7*
Earthquake Professionals	0	*0*	176	*2*	483	*4*	659	*3*
TOTAL	5,096	*100*	8,960	*100*	11,466	*100*	25,522	*100*
Average Per Week	98		172		221		164	
Average Per Presentation	102		86		88		90	

The public presentations followed a seasonal pattern that became more clearly established over a three-year period. The Year 1 records are not tabulated by quarter, but the project calendar of events indicates that the project spent the first few months in a start-up phase, preparing its outreach activities, holding the first two of its training workshops, and then beginning its public presentations in earnest in the third quarter of Year 1. An exception to this occurred during the first month of the project when the project director was included on the program for an in-service session for 900 teachers.[13] Also, during the first six months, the project staff created a puppet named "Hapet" and held an earthquake information puppet show at a shopping mall.

Presentation activities increase with the beginning of the school year for Years 2 and 3, and remain relatively

[13] This presentation is not included in tabulations presented here, since it was only mentioned in the cover letter to the 1st quarterly report and was not among activities listed elsewhere. The presentation was about 10 minutes in length and provided important publicity for the projects forthcoming services. It did not represent a substantive earthquake information presentation.

constant throughout the months that school is in session, save for the holiday period from before Thanksgiving until after New Years. By Year 3, a pattern of a relatively even distribution of presentations throughout the school year was clearly established.

Types of Audiences. Audiences are classified into nine target group categories for purposes of aggregating information concerning public presentations (see Table 6-8). In Charleston, four types of audiences received a substantial segment of the presentations: the school population, civic and professional organizations, emergency services and hospitals, and the general public.

The project's statement of work specified that the project was to introduce earthquake safety information and curriculum to school populations (the only target group thus singled out). If the two types of school audiences are combined (students and educators), the proportion of presentations to school populations in the Charleston area grew from 68% during Year 1 to more than 75% in years 2 and 3 (Table 6-8).

6.3.5. Number and Type of Persons Contacted

Audience Totals. During the three years examined here, the Charleston EEC had direct contact with over 25,000 persons via workshops, presentations and information booths (Table 6-8).[14] These contacts reflect an average of about 164 people a week being directly in contact with someone associated with the EEC activities during these three years.

[14] Tabulations accompanying the project's final quarterly report give a total audience count of 31,985. Counts for this evaluation report were made using activity logs. The variance reflects differences in criteria for inclusion. The pattern remains the same with either set: the number of persons reached slightly more than doubled between the first year and the third year.

The total number of persons reached directly by project staff and volunteers increased by 75% from Year 1 to Year 2, and more than doubled between Year 1 and Year 3 (5,096 to 11,309 (Table 6-8). The average audience size across all three years can be crudely estimated as about 90, although the range was considerable. Small neighborhood groups of six or seven received presentations, as did the entire student bodies of a number of Charleston area elementary schools.

6.3.6 Number and Source of Inquiries Received

Numbers of Inquiries. Inquiries concerning EEC project activities and specific earthquake events totaled more than 1,500 in Project Years 2 and 3 (Table 6-9). The inquiry rate (calculated as the number of inquiries per month as a percentage of the total inquiries for that year) appeared to fluctuate seasonally corresponding with the times of year when the EEC was most active with its public presentations.

TABLE 6-9
BCC EARTHQUAKE EDUCATION CENTER
ANNUAL INQUIRY TOTALS REPORTED BY TYPE

	REPORTED TOTAL NUMBER OF INQUIRIES[a]							
	YEAR 1		YEAR 2		YEAR 3		TOTAL	
INQUIRY TYPE	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%
Event-Related			0	0	36	4	36	2
General Information			438	68	747	84	1,185	77
Speaker Requests			118	18	1	>1	119	8
Material Requests			49	8	63	7	112	7
Volunteer			43	7	45	5	88	6
TOTAL			648	100	892	100	1,540	100
Average Per Week			12		17		15	

[a] Inquiry data tabulations recorded only for Project Years 2 and 3.

Types of Inquiries. The inquiries were categorized, for recording purposes, into five types: event-related, general

information, speaker requests, material requests, and inquiries about workshops and volunteer activities. Inquiries classified as seeking general information (e.g., inquiries concerning the local hazard, what to do about earthquakes, what kinds of services the EEC provides) accounted for nearly 70% of the total inquiries during Year 2, and nearly 90% of the total inquiries received during Year 3. In Year 3, around the time of the Mexico City Earthquake (late September 1985), a number of inquiries were logged as specifically event-related, but this category is almost certainly underestimated. It appears that the practice was to categorize most calls as general information inquiries, including requests for speakers.

Source of Inquiries. Inquiries were not classified in terms of the type of person or organization initiating them, as they had been in Memphis. Thus, it is not possible to discern any patterns in the types of sources from which inquiries originated.

6.3.7 Number and Type of Materials Distributed

Quantities Distributed. Nearly 80,000 pieces of literature related to earthquakes and earthquake safety were distributed by the Charleston EEC during the project's three years (Table 6-10). The number of pieces distributed either by mail or during presentations decreased during Year 2, but increased to more than double Year 1 levels by the project's third year.

Generally, several different pieces of literature were provided together as a packet. Although the EEC itself distributed the bulk of the materials that were sent by mail, in some instances materials were provided to an organization for distribution through one of their regular mailings to customers or employees.

Type of Literature Distributed. The materials could generally be classified by type: information on South Carolina earthquakes; more general technical information on causes and consequences of earthquakes; safety and preparedness information; and information on training and participation opportunities for volunteers.

Pamphlets describing earthquake safety and preparedness measures were by far the most frequently distributed materials during all three project years (Table 6-10).

6.4 Conclusions

The quantitative documentation of project activity shows a substantial increase over time in the projects' outreach activities, and in inquiries about earthquakes and earthquake preparedness. These can be taken as indicators of (1) an increased awareness on the part of the community of the projects' availability and the services they can provide, and (2) of the increased efficiency of each project in responding to requests for its services. However, there was no indication in the records or in the perceptions of the staff that the community or the schools had become saturated with information about earthquake preparedness by the end of the project period: there still remained a need for the projects' services.

The Memphis site shows a greater absolute number of presentations made, compared to Charleston (527 compared to 284). This difference is probably attributable to their different strategies. The Charleston approach emphasized more intensive, repeat contact work with a few schools, while Memphis gave relatively more emphasis to obtaining broad coverage of the target audiences by speaking to larger audiences, and doing little follow-up on already contacted

TABLE 6-10 BCC Earthquake Education Center: Annual Material Distribution Totals by Brochure/Pamphlet Distributed
MATERIALS DISTRIBUTED: PROJECT YEARS 1 - 3

	YEAR 1	YEAR 2					YEAR 3					TOTAL
BROCHURE/PAMPHLET DISTRIBUTED	total*	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4	total	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4	total	
Home Hazard Hunt	4,016	245	443	1,416	122	2,226	5,404	3,016	1,481	1,407	11,308	17,550
Safety Survival of an EQ	300	1	0	0		1	0	0	0	0	0	301
Learning to Live Above...	4	0	0	0	600	600	0	0	0	0	0	604
Getting Ready for the Big Quake	373	1	0	70	188	259	0	72	0	0	72	704
Family Earthquake Drill	3,901	245	436	1,511	121	2,313	4,960	2,069	1,526	1,532	10,087	16,301
EQ Preparedness at Home & Nbrhd	4	0	0	0		0	0	0	0	0	0	4
EQ History: South Carolina	5	0	0	0	0	0	0	0	0	0	0	5
EQ History of SC (Von Hake)	15	0	0	196	160	356	63	477	197	211	948	1,319
Coping with Children's Reaction	3,506	0	4	0	0	4	227	157	137	87	608	4,118
EQ Safety Checklist	2,992	256	133	163	1,109	1,661	4,140	2,086	1,526	1,755	9,507	14,160
Safety Tips for an Earthquake	6,558	200	21	185	25	431	701	298	21	43	1,063	8,052
Severity of an EQ	135	150	50	25	0	225	0	0	0	0	0	360
Tommy Tsunami Coloring Book	12	2	0	0	0	2	0	0	0	11	11	25
Emergency "Q" Tips	85	330	71	410	366	1,177	475	750	472	703	2,400	3,662
EEC Packets (1 of each brochure)	92	232	87	52	58	429	17	10	3	0	30	551
Guidebook Developing EQ Safety Prog**	0	22	92	48	0	162	0	0	0	0	0	162
HELP Manuals	0	25	51	0	0	76	0	4	10	4	18	94
Building Instructions for HELP Equip	0	28	65	0	0	93	0	0	0	6	6	99
Blueprint for EQ Survival	0	30	0	63	30	123	227	679	137	1,206	2,249	2,372
Bibliography	0	0	38	0	0	38	0	0	0	0	0	38
Earthquakes A National Problem	0	0	19	3	0	22	0	143	0	0	143	165
Home Builders Guide to EQ Design	0	0	0	32	41	73	0	0	0	0	0	73
Societal Implications: Readings	0	0	0	0	0	0	50	72	1	0	123	123
Societal Implications: Handbook	0	0	0	0	0	0	50	72	1	0	123	123
Teacher's Packet (EQ Drills)	0	0	0	0	0	0	0	143	154	199	496	496
Simulate A Quake Script	0	0	0	0	0	0	0	1	0	26	27	27
Earthquake Drill Evaluations	0	0	0	0	0	0	0	50	0	1	51	51
Preparedness for People w/Disabilities	0	0	0	0	0	0	0	92	121	0	213	213
When Disaster Strikes	0	0	0	0	0	0	0	18	0	1	19	19
EQ Preparedness (People w/Disabilities)	0	0	0	0	0	0	0	48	0	137	185	185
EQ Safety Week Brochures for Schools	0	0	0	0	0	0	0	0	0	5,000	5,000	5,000
Classroom Hazard Hunt	0	0	0	0	0	0	0	0	0	55	55	55
Students' Checklist	0	0	0	0	0	0	0	0	0	55	55	55
Earthquake Poster	0	0	0	0	0	0	0	0	0	750	750	750
TOTAL	21,998	1,767	1,510	4,174	2,820	10,271	16,314	10,257	5,787	13,189	45,547	77,816

* First year data were compiled on an annual basis only.
** Guidebook Distribution figures not included in Project Year 3 records.

audiences. Each strategy can be expected to have its trade-offs between effectiveness and coverage. For example one might expect to find a greater propensity in the schools in Charleston to have moved beyond simple awareness into actually taking risk reduction measures. In Memphis, interviews with teachers indicated that they liked the safety curriculum as well as the science curriculum, but few beyond the pilot schools reported much in the way of an earthquake safety program and risk reduction being started in their schools. However, a broader coverage in the Memphis community may help set the stage for future messages about the hazard and the need for preparedness and mitigation efforts. The more times people hear a message, and the more sources they hear it from, the more likely they are to begin to attend to it.

If the various types of audiences categories in the tabulations are considered, there are some types that have potential for greater multiplier effects than others. Projects with very limited resources or staff time may have to consider being highly selective. For example, it may not be efficient to talk directly to students, or to nursing home residents. It may be necessary to limit one's activities to groups of teachers, principals and district administrators, or to consider doing a city-wide workshop for all nursing home administrators or hospital risk managers, since these audiences likely represent a greater multiplier effect.

With respect to the volunteer time, the highest number provided by any of the projects was that of 455 hours (Year 2 in Memphis). This constitutes volunteered time equivalent to about 20% of a person year. Part of that time is offset by the staff time that was spent recruiting, training, and maintaining a volunteer group. Volunteer involvement became more efficient after Year 1, as projects moved toward a strategy of volunteer participation that capitalized more on

volunteer skills and willingness to help out on an as needed basis. This was a departure from the earlier strategy of extensive training and maintenance of a formal group of volunteers. Documented volunteer time dropped by the third year, but remained substantial at 277 hours for Memphis and 214 for Charleston.

The pattern of information request and outreach activities across time in Memphis indicate that major publicity events can serve to bring about an activity peak. The Memphis peak is associated with Earthquake Safety Week. Respondents in the study were generally enthusiastic about the nature of the safety week activity and the way in which it focused attention for a short time for maximum impact. There also seemed to be an increase in the number of other community organizations becoming involved in the promotion of earthquake safety during that week. It is possible, however, that some degree of innovation is necessary across the years, to continue to have an impact with a special focus event.

In conclusion, it is clear that documentation of project activities can be valuable for purposes of (1) taking a broader view of the consequences of a project's strategy, and (2) providing indicators of outreach success for sponsors or potential sponsors. The tabulations of project activities, used in conjunction with the project staff's observations (preferably documented in writing) about problems and successes with implementation can be very valuable to a project. These two types of information used together can help a project to re-evaluate its strategy on a yearly basis, and make effective adjustments.