TABLE 4.7

Mean Scores on "Disaster Philosophy" Items for Twenty States: State Respondents Only (low scores mean high approval)

	TRADITIONALISM				INNOVATION			
Rank	State	$\bar{X}$	σ	N	State	$\bar{X}$	σ	N
1	Oklahoma	4.09	1.44	23	Missouri	4.78	1.70	23
2	Massachusetts	4.40	1.14	20	Pennsylvania	4.90	2.07	21
3	New Hampshire	4 42	1.46	19	New Hampshire	4 92	1.80	13
4	Utah	4.45	1.37	22	Illinois	5.00	1.81	20
5	Louisiana	4.47	1.54	17	New York	5.04	1.66	23
6	S. Carolina	4 59	1 14	22	N. Carolina	5 20	1.85	25
7	Colorado	4.59	1.33	22	Massachusetts	5.30	1.66	20
8	California	4.70	1.46	23	New Jersey	5 35	1.93	20
9	Pennsylvania	4.70	1.69	20	Connecticut	5.55	1.76	20
10	Florida	4.71	1.23	24	Delaware	5 59	1.18	22
11	Alabama	4.73	1.71	15	S. Carolina	5.62	1.74	24
12	Virginia	4.75	0.79	20	Colorado	5.64	1.79	22
13	Missouri	4.78	1.51	23	Texas	5.68	1.93	25
14	Delaware	4.83	1.03	23	Alabama	5.76	1.72	17
15	Illinois	5.00	1.38	20	California	5.78	1.76	23
16	New Jersey	5.00	1.69	20	Louisiana	6.10	1.70	19
17	N. Carolina	5.04	1.37	25	Florida	6.12	1.80	26
18	Connecticut	5.05	1.50	20	Utah	6.14	1.65	21
19	Texas	5 08	1.58	24	Virginia	6.17	1.40	24
20	New York	5.14	1.67	22	Oklahoma	6.48	1.34	23

least innovative of the states, in both cases by rather wide margins. As we saw in Chapter 3, Oklahoma state influentials regard their hazards problems with more seriousness than do elites in most other states (this too by a wide margin). Oklahoma is something of an anomaly among the 20 states: it is the one case where high perceived seriousness of disasters is accompanied by strongly traditional and strongly anti-innovative hazards-management attitudes.

Of the 20 states, 14 show mean traditionalism scores below 5.00, the midpoint of the scale. Thus, traditionalism dominates the results. In 6 states one-half or more of the elites are relatively skeptical of the traditional approach; these are Illinois, New Jersey, North Carolina, Connecticut, Texas, and New York. Except for Texas, these states rank among the top ten in innovation.

In only four states are one-half or more of the elites relatively attracted to

disaster innovation; these are Missouri, Pennsylvania, New Hampshire, and Illinois. That Missouri leads the list of proinnovation states is somewhat surprising, since Missouri is one state where NFIP has been relatively controversial.

The seven states ranked lowest in innovation also warrant some comment. These seven least innovative states include three of the Gulf Coast hurricane states in the sample (Alabama, Louisiana, and Florida); both of the high seismic-risk states (Utah and California), Virginia, whose struggle with "the Feds" over hazard management has on occasion assumed truly heroic proportions; and Oklahoma. The apparent implication is that state elite support for coastal zone management and land-use planning for seismic safety will probably be least in states needing these innovations the most.

Table 4.8 rank-orders the 100 local communities we surveyed on the basis of their mean disaster-innovation scores. Of the 100 local communities, Philadelphia, Pennsylvania proved to be the most receptive to innovative hazards-management concepts, and Concho County, Texas, the least. In 21 local communities, more than one-half the elite are relatively favorable toward innovations; the larger cities in this list include Philadelphia; Ft. Lauderdale, Florida; Brooklyn, New York; Boulder, Colorado; Pittsburgh, Pennsylvania; Oakland, California, Tulsa, Oklahoma; Beaumont, Texas, Denver, Colorado; and Yonkers, New York.

Likewise, there are 14 local communities in which elites are especially noninnovative in hazard-management attitude, as shown by aggregate means of 6.0 or higher in Table 4.8. Among the larger cities are Brockton, Massachusetts; Corpus Christi, Texas; Tallahassee, Florida; Chicago, Illinois; and Houston, Texas. Other noninnovative communities are Dallas, Texas, Lakeland, Florida, Richmond, Virginia; Kansas City, Missouri; Fort Worth, Texas; and Hartford, Connecticut. Statewide, local communities in Texas are, as a group, the least innovative: Of the 11 Texas communities surveyed, 7 are among the 25 least innovative communities in our survey. Florida, Colorado, Virginia, Missouri, and California are also represented more than once.

As Tables 4.7 and 4.8 show, the attitudes of state elites and of local-level elites in the same states do not necessarily correspond. For example, the least innovative state by far is Oklahoma, yet no Oklahoma community is among the 25 least innovative communities. This suggests the possibility of considerable differences of opinion on hazards management between state and local elites within the same state.

In order to assess differences in opinion between state and local elites within the same states, Table 4.9 presents the state elite mean (from Table 3.7), then the mean response of all local elites in the same state. The third column shows the difference between the two means.

TABLE 4.8

Average "Innovation" Scores for 100 Local Communities: Local Respondents Only

Rank	LPJ	State	$\bar{X}$	σ	N	Rank	LPJ	State	$\bar{X}$	σ	N
1	Philadelphia	PA	4.11	1.79	19	31	Norwich	CT	5.15	1.46	20
2	Phelps County	MO	4.50	1.34	14	32	Mobile	AL	5.15	1.76	20
3	Northumberland	PA	4.53	1.50	17	33	Queens County (NYC)	YN	5.15	1.21	13
4	Norristown	PA	4.64	1.63	11	34	Dillon County	SC	5.15	1.41	13
5	Ft. Lauderdale	FL	4.68	1.99	22	35	Perry County	IL	5.15	1.41	13
6	Brooklyn County (NYC)	NY	4.70	1.53	20	36	Lynn	MA	5.17	1.98	18
7	Olean	NY	4.73	1.61	22	37	Florisant	MO	5.18	1.18	22
8	Boulder	CO	4.78	1.73	18	38	Crawford County	PA	5.18	1.24	17
9	Pittsburgh	PA	4.81	1.97	21	39	Shasta County	CA	5.20	1.61	20
10	Oakland	CA	4.82	1.37	22	40	Greensboro	NC	5.20	1.58	20
11	Knox County	MO	4.83	1.40	12	41	Salt Lake City	UT	5.21	1.37	14
12	Elizabeth	NJ	4.85	1.63	20	42	Texas County	MO	5.25	2.43	8
13	Chester	PA	4.85	1.68	13	43	Hunterdon County	NJ	5.26	1.88	19
14	Eagle Pass	TX	4.86	1.17	14	44	Greenville	SC	5.28	1.65	25
15	Sussex County	DE	4.88	1.54	16	45	Sacramento	CA	5.29	1.44	14
16	Pode County	IL	4.88	1.46	8	46	Clear Creek	CO	5.30	1.57	10
17	Tulsa	OK	4.88	1.62	17	47	Worcester	MA	5.30	1.49	23
18	Lee County	AL	4.89	1.08	18	48	Manchester	NH	5.33	2.06	15
19	Marengo County	AL	4.92	1.34	12	49	Jacksonville	FL	5.35	1.53	23
20	Ripley County	MO	4.92	2.14	13	50	Paterson	NJ	5.35	1.46	17
21	Montgomery County	TX	4.93	1.68	14	51	Lake County	CO	5.36	1.36	11
22	Chatham County	NC	5.00	1.41	15	52	New Orleans	LA	5.38	1.56	21
23	Beaumont	TX	5.00	1.48	21	53	Los Angeles	CA	5.39	1.88	23
24	Denver	CO	5.00	1.62	20	54	Miami	FL	5.41	1.62	22
25	Yonkers	NY	5.00	1.62	23	55	Orlando	FL	5.41	1.89	22
26	Charleston	SC	5.00	1.66	22	56	San Diego	CA	5.45	1.62	22
27	North Glenn	CO	5.07	2.02	15	57	Holmes County	FL	5.50	0.80	12
28	St. Martin Parish	LA	5.08	1.61	13	58	Pasco County	FL	5.50	1.64	20
29	New Haven	CT	5.10	1.84	21	59	Tensas Parish	LA	5.50	1.61	14
30	Williamsburg County	SC	5.12	1.31	16	60	Oklahoma City	OK	5.52	1.72	21
61	Boston	MA	5.53	1.43	19	81	Richmond	VA	5.81	1.57	21
62	Pensacola	FL	5.55	1.65	22	82	Kansas City	MO	5.87	1.36	23
63	Schuylkill County	PA	5.56	1.09	16	83	Ft. Worth	TX	5.88	1.62	24
64	Norfolk	VA	5.59	1.56	22	84	Chesterfield County	VA	5.88	1.41	16
65	Onslow County	NC	5.60	2.16	15	85	Hartford	CT	5.91	1.54	22
66	Portsmouth	NH	5.61	2.17	18	86	Bristol Township	PA	5.94	1.71	17
67	Elmhurst	IL	5.61	2.06	18	87	Brockton	MA	6.00	1.28	18
68	Pike County	MO	5.62	1.26	13	88	Corpus Christi	TX	6.00	1.45	21
69	St. Landry Parish	LA	5.62	1.80	13	89	Tallahassee	FL	6.00	1.48	22
70	Metairie	LA	5.65	1.46	20	90	Chicago	IL	6.00	1.64	18
71	Stockton	CA	5.67	1.62	21	91	Duplin County	NC	6.00	1.78	13
72	Snyder	TX	5.69	1.30	16	92	Mendocina	CA	6.00	1.91	12
73	Montgomery	IL	5.69	1.89	16	93	Haskell County	TX	6.00	2.27	8
74	Birmingham	AL	5.70	1.78	20	94	El Dorado	CA	6.06	1.48	16
75	San Mateo	CA	5.70	1.34	20	95	Stoddard County	MO	6.07	1.59	14
76	St. John Parish	LA	5.71	1.94	14	96	Houston	TX	6.12	1.32	17
77	Prowers County	CO	5.71	2.16	14	97	Sweetwater	TX	6.44	1.21	16
78	Dallas	TX	5.78	1.68	23	98	Bountiful	UT	6.46	1.55	15
79	Lakeland	FL	5.78	1.76	23	99	Routt County	CO	6.50	1.27	10
80	Walton County	FL	5.79	1.12	14	100	Concho County	TX	6.83	1.80	12

TABLE 4.9

Comparison of State and Local Elite Mean Scores on "Disaster Innovation" Measure Across the Twenty KPS States

State	State Mean	Local Mean	Difference[a]
Alabama	5.76	5.20	+.50
California	5.78	5 47	+.31
Colorado	5.64	5.29	+.35
Connecticut	5.55	5.40	+.15
Delaware	5.59	4.88	+.71
Florida	6.12	5.49	+.63
Illinois	5.00	5.56	-.56
Louisiana	6.11	5.49	+ 62
Massachusetts	5.30	5.49	-.19
Missouri	4.78	5.33	-.55
New Hampshire	4.92	5.48	-.56
New Jersey	5.35	5.14	+.21
New York	5.04	4.87	+.17
North Carolina	5.20	5.41	-.21
Oklahoma	6.48	5.24	+1.24*
Pennsylvania	4.90	4.95	-.05
South Carolina	5.62	5.14	+.48
Texas	5.68	5.75	-.07
Utah	6.14	5.86	+.28
Virginia	6.17	5.75	+.42

[a]State mean minus local mean. Asterisk (*) designates statistically significant difference at .05 level t-test, two-tailed, pooled variance estimate. Positive difference means local elites are more favorable than state elites.

Despite the seeming heterogeneity, when the elites from all the communities in a state are pooled little disagreement between the state and local elites is found Indeed, only one of the differences is significant statistically (in Oklahoma), and although local elites in 13 states are more favorable toward innovation than their state counterparts, that is not much more than one would expect by chance fluctuation In short, local community elites and state elites generally are not far apart on their approval or disapproval of innovative disaster policies

There is a slight, only weakly defined potential for conflict between the states and their local communities over the desirability of hazards-management innovations. Of the many potential sources of conflict over these issues, that between state and local influentials does not appear among the more important.

What accounts for the state-by-state and community-by-community variation in levels of favorability towards hazard-management innovations? To answer this question requires that the data for individuals be combined by local community and state, with averages and percentages expressing the overall trends within each of the 20 states and 100 local communities

To deal with the state-by-state variation, we correlate each hazard policy with selected state characteristics (see Table 4.10). The relationships *among* the three disaster-philosophy measures are much stronger in the state data than in the individual data shown earlier in this chapter (Table 4.6). States relatively favorable toward the free-market viewpoint also tend to favor traditional approaches ($r = .50$) and to oppose innovative ones ($r = -.39$). The correlation between traditionalism and innovation is also strong and negative ($r = -.45$).

The best predictors of aggregate state responses to the disaster-philosophy measures are region, 1970 population, and favorability to governmental regulations. States with relatively high progovernmental regulation scores tend to reject the free-market approach ($r = 73$) and traditionalism ($r = .56$) and to favor innovative approaches ($r = -.38$). Likewise, states with larger populations reject the free-market approach ($r = .51$) and traditionalism ($r = .45$) and to favor innovation ($r = -.27$). On the other hand, states with relatively high growth *rates* tend to reject innovative approaches ($r = 35$), although this is probably an artifact of region, which will be discussed later. Correlations of growth rate with the free-market approach and traditionalism are not significant.

The most innovative regions of the country are New England and the Mid-Atlantic states. The least innovative are the Gulf Coast and the West, which have relatively high levels of seismic and hurricane risk. It is interesting to note also that Mid-Atlantic states are also strongly anti-free-market ($r = .52$) and strongly antitraditional ($r = .34$), whereas the inland states tend to show the precise opposite pattern ($r = -.43$ and -21, respectively). Patterns shown for most of the remaining variables are weak and erratic

Table 4.11 presents equivalent data for 100 local communities. For the most part, these results are quite similar to those shown for states, except that the magnitudes of virtually all coefficients are lower. At the aggregate community level, the free-market approach and traditionalism are again positively correlated ($r = .27$); traditionalism and innovation are negatively related ($r = -.26$). The correlation between the free-market approach and innovation, however, is significant That these correlations are so much lower than those shown for the states indicates that within local communities, elites, in the aggregate, appear to be more ambivalent toward alternative policies Within a local community, some elites may favor innovation and others the traditional mode.

As with states, the best predictors of disaster innovation at the local level are aggregate political ideology and region local communities with elites

TABLE 4.10

Correlations Among "Disaster Policy" Measures and Selected State Characteristics, N = 20[a]

Aggregate Variables	Free Market	Traditionalism	Innovation
1. Dependent Variables			
Free Market	--	.50*	-.39*
Traditionalism	.50*[b]	--	-.45*
Innovation	-.39*	-.45*	--
2. Aggregate "Disaster Seriousness"[c] Scores			
Tornado	-.46*	-.15	.17
Hurricane	.44*	.23	.04
Flood	.18	.08	-.20
Earthquake	.08	-.12	.21
3. Aggregate "Political Ideology"[d]			
Pro-gov't Regulations	.73*	.56*	-.38*
4. Aggregate "Return Probabilities"[e]			
Flood	22	.20	-.10
Hurricane	.38*	.32*	.04
Tornado	-.38*	-.08	.17
Earthquake	.03	-.17	.10
5. Aggregate State Disaster Experience[f]			
Flood	.05	.18	-.09
Tornado	-.47*	-.04	.15
Earthquake	.13	-.05	.14
Hurricane	.42*	.40*	.11
6. Regional Variables[g]			
Gulf Coast	-.15	.04	.38*
South Atlantic	.07	.14	.09
New England	.01	-.16	-.26
Mid-Atlantic	.52*	.36*	-.40
Western	.06	-.19	.28
Inland	-.43*	-.21	-.09
7. State Population Data			
1970 Population	.51*	.45*	-.27
1960-1970 Growth Rate[h]	.07	-.00	.35*
8. State Disaster Experiences, 1960-1970[i]			
Flood	-.02	.03	.06
Hurricane	.09	-.01	.35*
Tornado	-.33*	.08	.10

(Continued)

who are generally favorable toward governmental regulations tend to reject free market and traditional approaches (r = .51 and .37, respectively) and to favor innovative approaches (r = −.37). Also closely following the results for states, local communities in the Gulf Coast and the West tend to be the least innovative; local communities in the Mid-Atlantic region, the most innovative

TABLE 4.10 (*Continued*)

[a] Table is based on aggregation of responses of state-level respondents only. The table therefore shows data on 20 state units, calculated from responses of 461 state-level respondents.

[b] Coefficients that are statistically significant (alpha = .05) are marked by asterisks (*).

[c] See Table 4.6, note e. Aggregate variables are overall state means (i.e., the mean "seriousness" attributed to each disaster type by all state-level respondents in any particular state).

[d] Mean score for each state on the question ascertaining respondents' general favorability for governmental regulations.

[e] The initial question reads: "Over the next ten years, what are the chances that your (STATE) will experience a serious (DISASTER TYPE)?" Individual responses can vary from 0% to 100%; the aggregate state variable is the mean probability given by respondents in the state.

[f] See Table 4.6, note h. Aggregate variable is the percentage of the respondents in the state who answered "yes" to each question.

[g] Regions are dummy variables defined as follows:

Gulf Coast = Alabama, Florida, Louisiana, Texas
South Atlantic = South Carolina, North Carolina, Virginia, Delaware
New England = Connecticut, Massachusetts, New Hampshire
Mid-Atlantic = New Jersey, New York, Pennsylvania
Western = California, Utah
Inland = Colorado, Missouri, Oklahoma, Illinois

[h] 1970 state population minus 1960 state population divided by 1960 population.

[i] See Table 4.6, note i. Indexes entered here are state-wide aggregations for each disaster type for the 1960-1970 decade.

The aggregate perceived seriousness of the tornado problem in the local community has no important or consistent effect on opinion. As the perceived seriousness of the hurricane problem increases, support for both the free-market approach and traditionalism decreases. As the perceived seriousness of the flood problem increases, support for innovations increases. However, none of these effects is particularly striking.

Results for the perceived "return probabilities" are similar to those for perceived seriousness. Aggregate perceived return probabilities for tornadoes and earthquakes have no noteworthy effects. The higher the per-

TABLE 4.11

Zero-Order Correlations Between "Disaster Philosophy" Measures and Selected Aggregate Characteristics of 100 Local Communities

Aggregate Variables	Free Market	Traditionalism	Innovation
1. Dependent Variables			
Free Market	--	.27*	.01
Traditionalism	.27*[b]	--	-.26*
Innovation	-.01	-.26*	--
2. Aggregate "Disaster Seriousness" Scores			
Tornado	-.02	.11	-.01
Hurricane	.23*	.22*	-.06
Flood	.03	-.05	-.15*
Earthquake	.14	-.03	-.02
3. Aggregate "Political Ideology"			
Pro-gov't Regulations	.51*	.37*	-.37*
4. Aggregate "Return Probabilities"			
Flood	.06	.12	-.19*
Hurricane	.17*	.32*	.00
Tornado	-.11	.08	.08
Earthquake	.06	-.06	.01
5. Aggregate Local Disaster Experience (CPAP)			
Flood	.04	-.06	-.12
Tornado	.05	.06	-.06
Earthquake	.19*	.01	-.03
Hurricane	.23*	.19	-.07
6. Regional Variables			
Gulf Coast	-.05	-.03	.22*
South Atlantic	- 14	.18*	-.01
New England	.24*	.07	.04
Mid-Atlantic	.21*	.11	-.36*
Western	.03	-.13	.13
Inland	-.20*	-.16*	-.05
7. Local Population Date			
Type	.51*	.18*	-.07
In SMSA?	.45*	.36*	-.05
% Construction (1970)	-.14	.06	.00
Median House Value (1970)	.36*	.27*	-.07
1970 Population	.36*	.14	-.06
1960-1970 Growth Rate	-.07	.15*	.03
8. Local Disaster Experiences, 1960-1970			
Flood	.16*	.02	.02
Hurricane	.08	.05	.06
Tornado	08	.10	.07

[a]For all explanations, see Table 4.10.

[b]Correlations that are statistically significant (alpha = 05) are marked by asterisks (*).

ceived probability of a serious hurricane, the less support there is for the free-market approach and traditionalism; the higher the probability of a serious flood, the more support there is for disaster innovation.

The disaster experiences of a community, when correlated with disaster philosophy, exhibit the same pattern. Earthquake and tornado experience have no effect; hurricane experience is correlated with a decline in support for the free-market approach and traditionalism; and experience with floods correlates with increased innovation.[3]

The population characteristics of a local community are rather strongly correlated to the free-market and traditional philosophies, but not to disaster innovation. Larger and/or more affluent cities are less favorable to both the free-market approach and to traditionalism than are smaller cities and rural areas. It is also interesting to note that as the percentage of the local labor force employed in construction increases, support for the free-market viewpoint also increases.

The number of local communities in the sample is sufficient to sustain a multivariate analysis of the determinants of disaster innovationism at the local level. The analysis we performed suggests that (*a*) local favorability toward governmental regulations in general is the single best predictor of support for hazard-management innovation; (*b*) western (i e , California and Utah) communities are significantly less innovative, and Mid-Atlantic (New York, Pennsylvania, and New Jersey) communities significantly more innovative, than communities in other regions of the country; and (c) although the coefficients for all measures of flood experience and seriousness are negative (meaning that floods increase support for hazard innovations), the most significant and consistent predictor is the estimated return probability of a serious flood. The remaining zero-order effects for disaster innovation shown in Table 4.11 can therefore be assumed to be spurious.

Results from the state and local aggregate analyses are sufficiently similar that the following general conclusions may be advanced. First, closely paralleling the results for individuals, political ideology, especially with respect to the concept of governmental regulation, proves to be the best predictor o hazard-management outlook. Second, the data show sizable regional variations in aggregate outlooks, with the least innovative outlooks tending to be most prevalent in regions with high levels of earthquake and hurricane risk. Significantly, neither hurricane nor earthquake experience or seriousness, however measured, tends to predict aggregate disaster-innovation tendencies. The bright exception is registered for floods. The more flooding a state or community has experienced, the more it expects to experience, and

[3]These conclusions apply only to the community's disaster experience as estimated from the survey reponses. The 1960-1970 disaster experiences of the community as estimated from the Red Cross data are besically not related to any of the aggregate hazard management outlooks

the more seriously the flood problem is rated, the more innovative the state or community tends to be. Furthermore, the most innovative states and communities are those in the Mid-Atlantic region, where flood risk is disproportionately high. With the exception of the regional effect, however, these tendencies are not very strong

ASSESSMENTS OF SPECIFIC HAZARD-MANAGEMENT PROGRAMS

The hazard-management issues discussed so far were raised with state and local elite members in the form of rather general statements of general principles. In this section, we move to the level of very specific programs. Some of the programs, like the NFIP, are already in operation as a national program, others have been put into operation in some states and have been considered in others. Global policy and specific programs ordinarily exist on what may be thought of as different levels of ideology. Today, all but the most conservative accept our Social Security system as a program even though they may oppose the general idea of socialization of risks. Specific programs, especially after being enacted, may be exempted as benign exceptions to generally undesirable global policies, or vice versa. In short, contradictions are to be expected.

To find contradictions in hazards-management philosophies we asked state and local elites several questions dealing with specific programs (see Table 4.12). State elites were queried about state programs in land-use management of high-risk areas. All respondents were asked about the NFIP.

About 75% of the respondents say they would *favor* state legislation regulating usage of land in areas of flood or seismic risk and establishing hazard-sensitive building codes. This contrasts sharply with their previous responses (see Table 4 1), in which 64.5% of state respondents *opposed* the nonstructural approach Also, favorable attitudes toward NFIP, a nonstructural program, are elicited from about 90% of both state and local respondents. How can these differences be explained?

First of all, there is the bias toward the status quo we mentioned, especially when the specific programs are already in place and have not led to rancorous conflict.

Another factor is the specific wording of the items involved. In the questions from the disaster-policy sequence, the nonstructural mitigation option is posed as *an alternative* to structural mitigations and posthazard relief ("... The argument is that the Federal government should require these kinds of measures *rather than* providing money to build public works or aid in reconstruction ..."), whereas in the new items, there is no suggestion that

TABLE 4.12

Additional Hazard Management Attitudes of State Influentials: Overall Results

1. Some states have passed legislation that restricts usage of land in flood plains or in sites that are close to earthquake faults. As far as you know, has (STATE) passed any such legislation?

	%
Yes	40
No	54
Don't Know	6
100% =	(461)

1a. (Are you/would you be) strongly in favor, somewhat in favor, somewhat opposed, or strongly opposed to such legislation?

	%	
Strongly favor	49	77% in favor
Somewhat favor	28	
Somewhat opposed	12	23% opposed
Strongly opposed	11	
100% =	(435)	

2. Another measure that some states have taken is to enact statewide building codes that require buildings in flood plains to be flood-proofed or those in earthquake prone places to be built to minimize earthquake damage. As far as you know, does (STATE) have any such building codes?

	%
Yes	28
No	63
Don't Know	9
100% =	(461)

2a. (Are you/would you be) strongly in favor (...) to such legislation in this state?

	%	
Strongly favor	43	74% in favor
Somewhat favor	31	
Somewhat opposed	18	26% opposed
Strongly opposed	8	
100%	(444)	

3. Still another measure some states have taken is to run educational campaigns informing the general public of the actions they can take to reduce damage to their property and injury in case a disaster strikes. As far as you know, has (STATE) run any such educational campaigns?

	%
Yes	54
No	39
Don't Know	7
100% =	(461)

TABLE 4.12 *(Continued)*

3a. (Are you/would you be) strongly in favor (...) of such educational campaigns in this state?

	%	
Strongly favor	69	94% in favor
Somewhat favor	25	
Somewhat opposed	4	5% opposed
Strongly opposed	1	
100% =	(456)	

4. Have you heard anything about the Federal government's Flood Insurance Program?

	States	Locals
	%	%
Yes	92	89
No	6	10
Don't Know	1	0
100% =	(461)	(1831)

4a. What is your personal opinion of the Flood Insurance Program? Thinking of the country as a whole, are you strongly in favor (...) of the program?

	States		Locals	
	%		%	
Strongly favor	56	89% in favor	49	88% in favor
Somewhat favor	33		39	
Somewhat opposed	7	11% opposed	8	12% opposed
Strongly opposed	4		4	
100% =	(436)		(1730)	

nonstructural approaches would replace these more traditional policies. The apparent implication is that state influentials (and, quite probably, local influentials also) find it relatively easier to support innovative hazards-management concepts if they are proposed as additions to, rather than substitutes for, structural mitigations and postdisaster relief. From this, two additional points follow. First, opposition to hazards-management innovations, especially when *added* to traditional policies, is probably not as substantial as would seem from the earlier data. Second, levels of support vary dramatically, depending on whether programs or global policies are under discussion. It would follow that traditional approaches are still far and away the most popular among our elites; innovative approaches are acceptable only if they are not described as substitutes for traditional policies and are introduced, piece by piece, as specific programs rather than as broad policy shifts.

Another possible explanation for the contradictions we found is that they

result from the disaster-policy sequence's reference to *federal* policies. All but one of the items used to compile Table 4.12 involve *state initiatives*. Our elites may simply find regulations initiated by the states more acceptable than the same regulations imposed by the federal government. Some of the opposition to innovative disaster policy items may reflect hostility toward "the Feds" more than opposition to hazard-management innovations. This explanation, however, ignores the fact that the NFIP gets high levels of approval although it is a federal program that ultimately involves pressuring local communities to enact floodplain use restrictions.

Despite the difference in overall outcomes, most of what is true about disaster innovation (as defined by items from the disaster philosophy sequence) is also true of attitudes toward land-use and building-code approaches to hazard management. Table 4.13 shows the inter-correlations among the original "disaster philosophy" measures and the three new attitudinal measures. As would be expected, free marketeers tend to *oppose* both land-use and building-code approaches; they also tend to oppose running statewide education campaigns. Like the free marketeers, Traditionalists also tend to oppose both land-use ($r = -.25$) and building code ($r = -.23$) approaches, but they have no distinct opinion on educational campaigns. Finally, innovators strongly favor both land-use and building code approaches to the management of hazards risk ($r = .34$ in both cases); they also tend to favor educational campaigns ($r = .14$). These correlations bespeak a certain internal consistency in our respondents' answers.

Persons who reject land-use and building code regulations as a global policy are also likely to disapprove of state land-use management and building codes as well, whereas those who hold opposite global policy views are

TABLE 4.13

Inter-Correlations of "Disaster Policy" Measures with Approval of Specific Non-Structural Programs: State Respondents

Approval of Specific Programs		Global Policy Attitudes: Free Market	Traditionalism	Innovation
Land Use	r =	-.25*[a]	-.25*	.34*
	N =	(431)	(403)	(408)
Building Codes	r =	-.23*	-.23*	.34*
	N =	(440)	(412)	(418)
Educational Campaigns	r =	-.13*	- 02	.14*
	N =	(451)	(420)	(427)

[a] Asterisks denote statistically significant (alpha = .05).

likely to approve of them. These policy traditionalists appear to be more accepting of the specific programs than they are of the general global policy, however. Of course, those who endorse the general global policy also approve of the specific programs and do so with more enthusiasm.

Following the procedure discussed earlier (p. 73), we have summed state elite responses to the land-use and building code questions, thereby creating a second disaster-innovation scale, the *innovative program scale*. Since items are scored from 1 (strongly in favor) to 4 (strongly opposed), the composite scale ranges from 2 to 8. This new measure, shown in Table 4.14, correlates with the policy measure at + 385, again attesting to the consistency of responses. Table 4.14 shows mean responses and rank-orderings of state-elite positions on this innovative program scale. For ease of comparison, Table 4.14 also presents the rank-ordering of these positions on the innovative policy scale, as originally reported in Table 4.4.

TABLE 4.14

Comparison of State Elites on Disaster Innovation Policy and Program Scale Measures

	Disaster Innovative Program Scale[a]			Disaster Innovative Policy Scale
	Average	rank	N	rank[b]
Water Resources	2.47	1	(19)	3
Civil Defense	2.89	2	(19)	10
FIA	3.00	3	(20)	1
Planner	3.06	4	(17)	6
Community Affairs	3.06	5	(16)	7
Geologist	3.16	6	(19)	8
Editors	3.44	7	(27)	13
Governor	3.50	8	(18)	12
SBA	3.52	9	(21)	5
Insurance	3.64	10	(36)	4
FHmA	3.76	11	(17)	2
Disaster Legislators	3.80	12	(66)	11
Construction Union	3.94	13	(18)	14
Democratic Leaders	4.20	14	(25)	9
Realtors	4.42	15	(19)	15
Republican Leaders	4.56	16	(36)	16
Bankers	5.06	17	(18)	17
Homebuilders	5.42	18	(19)	18

[a] Sum of responses to "land use" and "building code" questions (2 = strongly favorable to both; 8 = strongly opposed to both).

[b] From Table 4.4.

The two rank-orderings are very similar, especially toward the bottom of the ranking. In fact, the correlation between the state average policy scale (Table 4.4) and the average state scores on the program scale is +.67, indicating quite high agreement in the rank-ordering produced by the two measures. The strongest *opposition* to land-use and building code approaches is registered by construction unionists, realtors, Republican leaders in the state legislature, bankers, and homebuilders—in sum, by the real estate, development, and business sectors. Water resources directors, Federal Insurance Administration representatives, and planners are relatively more pro-innovation than are other elites. Interestingly, Farmer's Home Administration and Small Business Administration and the insurance industry are less enthusiastic about innovative programs than about innovative policies. Perhaps they are skeptical of the viability of state efforts in these directions and feel that only federal policies would be adequate. In any case, the similarities in the two rankings are more impressive than the differences, especially the consistent opposition to such measures from real estate and land-development sectors.

SUMMARY AND CONCLUSIONS

To put our conclusions in context, it must first be reiterated that most of the questions considered here would necessarily be rather abstract and far removed from the daily concerns and activities of the influentials in our sample. Issues related to the management of natural hazards risk are not especially salient or important to most of these influentials (see Chapter 3). With a few obvious exceptions, it is a topic to which they have not, in general, given much attention. Furthermore, most of these elites would have had little or no experience or familiarity with the innovative risk-management concepts that we have been discussing. A few of the states had undertaken coastal zone management programs, and virtually all the communities participated in NFIP at one or another level as of summer, 1977. But only a handful had progressed beyond NFIP's emergency phase, and as few of these would have made any progress on the land-use management regulations required by the program. Finally, as of summer, 1977, the Earthquake Hazard Reduction Act had only just been passed. Such experience as these elites are destined to have with the new and innovative hazard-management techniques is, for the most part, very much in their futures.

As the analysis of elite attitudes toward specific state programs indicated, state elite members were in general more approving of state programs than of a federal policy embodying the same provisions. This level of approval

measures, the tendency to be innovative increases with flood experience, if only weakly. Surprisingly, the best predictor of innovation is the prevailing favorability of respondents (or of aggregates of respondents) to the general idea of governmental regulation. This finding therefore lends at least some credence to the view that what we have called *innovation* is to others government *interference*. In any case, elites who like governmental regulation also tend to like hazard innovations.