

# Attitudes and Reactions toward Typhoon Karen in Guam (1962)

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## Introduction

Guam, a United States territory in the Western Pacific, was severely battered by Typhoon Karen on November 11, 1962. It was the greatest natural disaster ever to strike Guam in recent years. Approximately 7,000 homes and 510 commercial buildings were destroyed, communications stopped, and the island's power and water system became inoperative for several months. Monetary losses were in the millions of dollars.

The island of Guam has a population of several groups of people with different cultural and social backgrounds. The Guamanians have a culture which has been shaped by Americans, Chamorros, Filipinos, Japanese, Micronesians, Spanish, and Germans. Of the population, those who were born in the United States arrived on Guam with their backgrounds and interests already formed in the continental United States. Other groups consisting of people from the Trust Territories, Philippines, and Europe also have their unique backgrounds and interests. Because the latter are in a small minority, they are grouped as one category for the purpose of this study.

## The Problem

The objective of this study was to compare the population's reactions and attitudes toward Typhoon Karen. To what extent did they differ?

## Procedure

To accomplish the objective of this study, the population of Guam was categorized into three main cultural groups, called herein: Guam, United States and Others.

With the help of the Census Bureau of the Government of Guam, questionnaires were distributed to a cross-section of the population in nine villages. Some of the questions listed on the questionnaire appear in the following tables. Chi square determinations were used to test the significance of variations among the three cultural groups. Additional statistical analysis between groups was also accomplished whenever this appeared necessary or desirable. The final returns included 100 Guamanians, 106 United States, and 55 Others. In distributing the questionnaires, a team of students<sup>1</sup> from the College of Guam went to the selected villages and handed questionnaires to the adult members of various families.

<sup>1</sup> Special acknowledgement is due Professor Merle McIntyre and her team of students who conducted the survey.

Since not all questions listed on the questionnaires were answered, the total for each item varies.

### Results and Discussions

The questionnaire was presented in three parts: prior to the typhoon (Tables 1 and 2); during the typhoon (Tables 3 to 9, inclusive); and after the typhoon (Tables 10, 11, and 12). Of the 261 adults questioned, 30 per cent were afraid of the disaster, 46 per cent were not afraid, and the others never gave the typhoon a thought before its arrival. Thirty-one per cent made complete preparation, 48 per cent made partial preparation, and 21 per cent made no preparation at all. All figures shown under “% Population Groups” columns are in percentages.

Table 1. Were you afraid before the typhoon?

Responses	% Population groups			Chi square
	Guam	United States	Others	
Yes	34	21	36	12.71
No	37	62	39	
Never gave it a thought	29	17	25	

The three culture groups significantly differed in their responses to the first question with a chi square of 12.71 at the 5 per cent level of significance. The variation could possibly be attributed to the 32 per cent of the United States group who had never been in a typhoon before Karen. This suggestion would appear reasonable in light of the insignificant chi square value of .128 between the categories of Guam and Others. Fourteen per cent of the Others culture group had no typhoon experience before Karen.

Table 2. Did you make any preparation before the typhoon?

Responses	% Population Groups			Chi square
	Guam	United States	Others	
Yes	31	38	35	6.713
Partial	47	50	47	
No	22	12	28	

Note: Chi square of 6.713 lacks significance.

Table 3. Were your reactions different during Typhoon Karen in comparison with those of any other typhoon?

Responses	% Population groups			Chi square
	Guam	United States	Others	
Yes	81	41	76	37.18
No	19	27	10	
Never been in any other typhoon	0	32	14	

Note: Chi square of 37.18 is significant at .1 per cent.

All groups appeared to respond equally well to the preparatory phase of the typhoon. This similarity of the groups' reactions, regardless of backgrounds and cultures, suggested similar positive attitudes toward the potential typhoon devastation.

Although there was distinctly a mixed and varied population indicated by the responses in Table 3, there was a general concurrence on the part of all culture groups in that the majority of the population who had previous typhoon experiences indicated a change in reactions.

Table 4. About whom were you most concerned?

Responses	% Population groups			Chi square
	Guam	United States	Others	
Yourself	5	6	47	57.06
Family	95	81	53	
Friends	0	13	0	

Note: Chi square is significant at .1 per cent.

Table 4 shows that the Guam and the United States culture groups were more concerned about their families than did the Others groups. Although all groups showed a greater percentage of concern about their families, the Others culture group was definitely unlike Guam and the United States. A chi square of 7.17 at the 5 per cent level gave a dubious but significant difference between the United States and Guam, however. When Guam and Others were compared, a significant chi square of 44.68 at the .1 per cent level was found. In general, the Guam and the United States groups held similar feelings about themselves and their families, whereas the Others was more inclined to the idea of self-preservation.

Table 5. About which were you most concerned?

Responses	% Population groups			Chi square
	Guam	United States	Others	
House	57	25	32	18.95
Car	16	21	8	
Personal possessions (books, papers, clothes, etc.)	27	54	60	

Note: Chi square significant at .1 per cent.

The three groups held quite dissimilar concerns about possessions as revealed in Table 5. Unlike the Guam group, the United States and the Others groups were more concerned about books, papers, and other similar possessions. This varied concern was probably due to an apparent feeling of transiency on the part of the United States and Others groups and of permanency on the part of Guamanians. The Guam group would naturally be more settled. It was also noted that 60 per cent of the Others group were most concerned about papers, books, clothes, etc. Besides the feeling of being transients, another explanation for this might possibly be that these subjects were non-citizens or in the process

of being naturalized for United States citizenship. If this were the case, it would suggest a reason for the very high value placed on these possessions.

When Guam and the United States groups were further statistically analyzed, a significant chi square of 14.22 at the .1 per cent level was found. The same analysis gave an almost identical chi square of 14.33 for Guam and Others culture groups. This value was approximately twice that for the United State and Others groups, which indicated that these two groups were more closely allied in their attitudes about personal possessions.

Table 6. When you became aware of the destructive possibilities of this storm, were you concerned about public buildings such as schools, churches, etc.?

Responses	% Population groups			Chi square
	Guam	United States	Others	
Yes	71	77	70	.769
No	29	23	30	

Note: Chi square lacks significance.

The concern for public buildings was equally shared by all three groups. In contrast to the responses in Table 5, Table 6 suggested a bond of common ownership which was felt by the majority of the population.

Table 7. Where did you seek shelter?

Responses	% Population groups			Chi square
	Guam	United States	Others	
Typhoon shelter	10	18	20	4.135
At home	66	61	58	
Friend's home	24	21	22	

Note: Chi square lacks significance.

All three groups responded similarly in seeking shelters. Thirty-four per cent of the Guam group, 39 per cent of the United States group, and 42 per cent of

Table 8. Why did you seek shelter in choice No. 5?

Responses	% Populations groups			Chi suare
	Guam	United States	Others	
Home was typhoon-proof	20	51	23	23.84
Home was not typhoon-proof	14	17	20	
Home was not typhoon-proof but wanted to care for it	19	5	17	
Didn't expect typhoon to cause much damage	28	18	23	
Friend's house was stronger than mine	15	5	13	
Wanted to be with a group	4	4	4	

Note: Chi square significant at .1 per cent.

the Others group looked for shelter away from their homes. The reasons given by all groups, however, differed with a significant chi square of 23.84 at the 1 per cent level. Fifty-one per cent of the United States group had typhoon shelters as compared to 20 and 23 per cent for Guam and Others group respectively.

The next two questions show chi square values of 57.02 and 20.03, which were both significant at .1 per cent. When the Guam and the Others groups were matched, insignificant values of 4.75 for the first question and .407 for the second were found. Similar computations gave the United States group and the Guam group a chi square of 53.1 for the first question and 14.6 for the second, both significant at .1 per cent. The United States and Others culture groups show a chi square of 10.03 for the second question.

Table 9. Were you frightened and did you pray?

Number	Questions and responses	% Population Groups			Chi square	
		Guam	United States	Others		
1	Were you frightened?	Yes	91	42	78	57.02*
		No	9	58	22	
2	Did you pray?	Yes	87	61	88	20.03*
		No	13	39	12	

\* Significant at .1 per cent.

In contrast to the 21 per cent who were afraid before the typhoon, the United States group doubled this percentage during the typhoon. The Guamanian group

Table 10. Post typhoon questions and chi squares indicating similarity and extent of variations among the three culture groups

Number	Questions	Chi square
1	What was your reaction when the wind slowed down below typhoon force?	13.17*
2	What was your first impression of the complete destruction caused by Karen?	1.497 <sup>(ns)</sup>
3	What was your reaction to the loss of water and power?	13.61**
4	What was your reaction to the complete loss of communication?	2.791 <sup>(ns)</sup>
5	Why did you use the emergency field kitchen or military dining facilities?	43.10**
6	How did you feel about the help offered to the people of Guam by the military?	1.87 <sup>(ns)</sup>
7	How did you feel the Government of Guam reacted to this emergency?	2.40 <sup>(ns)</sup>
8	Did you make any repairs on your house at personal expense?	35.32***
9	Did you help others by helping build shelters, sharing food and clothing, and letting them use facilities that you had, etc.?	.628 <sup>(ns)</sup>
10	Did you feel that the merchants of Guam did their best to help the people of Guam?	6.49 <sup>(ns)</sup>
11	Were you disturbed by rumors?	7.94*
12	As a result of typhoon Karen, do you think that Guam will be rebuilt?	16.14**

(ns)=not significant at 5%

\*=significant at 5%

\*\*=significant at 1%

\*\*\*=significant at .1%

increased their 34 to 91 per cent, and the Others group increased from 36 to 78 per cent. Attitudes toward prayers were very similar between the Guam and the Others culture groups, but not so with the United States. This dissimilarity was almost in the ratios of 9 to 1 for the Guam and the Others groups, and 6 to 4 for the United States group.

Table 10 shows the questions pertaining to that phase after the typhoon. Fifty per cent of these questions received insignificant variation in responses which suggested that all groups held similar attitudes and reactions to these questions. The other fifty per cent elicited responses which were distinctly different and with levels of significance ranging from 5 per cent to .1 per cent.

The questions specifically relating to the typhoon destruction, loss of communication, help received from the Government, military, and the merchants of Guam, and help given to needy by the subjects themselves brought similar responses from the three culture groups. Those questions which indicated significance of variations among the three groups are further broken down and shown in Table 11. This shows the extent of differences between culture groups.

Table 11. Analysis of significant chi squares for post-typhoon questions showing extent of differences between culture groups

Number#	Culture Groups	Chi square
1	Guam—United States	7.37*
	Guam—Others	1.52(ns)
	United States—Others	10.55**
3	Guam—United States	6.21*
	Guam—Others	1.42(ns)
	United States—Others	11.08**
5	Guam—United States	21.61**
	Guam—Others	28.9**
	United States—Others	15.82**
8	Guam—United States	37.9**
	Guam—Others	21.5**
	United States—Others	1.89(ns)
11	Guam—United States	7.94**
	Guam—Others	.16(ns)
	United States—Others	2.60(ns)
12	Guam—United States	13.9**
	Guam—Others	3.49(ns)
	United States—Others	5.23(ns)

# See Table 10 for questions

(ns)=not significant at 5%

\*=significant at 5%

\*\*=significant at 1%

The answers to the questions contained in Table 10 are shown in Table 11 with the percentages responding from each Group of Population. It was noted that the only question which showed complete dissimilarity among all groups was number 5. This question showed all three groups giving distinct and unique

answers which isolated them from one another. In all other instances the significance of the chi square was brought about by the extremes of two culture groups. Questions 1, 3, 11, and 12, for examples, show that Guam and Others culture groups were very similar in their attitudes and reactions to these items.

Table 12. Responses to questions shown in table 10 and percentages of population from each culture group responding

Number	Responses	% Population groups		
		Guam	United States	Others
1	Relief	63	83	64
	Shock	22	11	12
	Indifference	15	6	24
2	Unbelievable	81	89	83
	Panic	4	2	2
	Depressed	15	9	15
3	Despair	34	16	43
	Annoyance	48	62	35
	Indifference	18	22	22
4	Dismay	42	42	39
	Fright	16	8	9
	Indifference	42	50	52
5	Could not find any food to purchase	2	4	27
	Had no money to buy food	3	0	2
	It was convenient	10	45	38
	Didn't use these facilities	85	51	33
6	It was their duty to do it	3	7	9
	They should have done more	2	3	0
	It was excellent and more than normally expected even in an emergency	95	91	91
7	Excellent	33	42	35
	Fair	16	18	19
	Pretty good but could have done more	35	27	30
	Not very good	16	13	16
8	Yes	95	43	54
	No	5	57	46
9	Yes	84	87	85
	No	16	13	15
10	Did their best to help the people of Guam	59	73	57
	Carried on as usual	30	24	25
	Used typhoon as excuse to make money quick	11	13	18
11	Yes	44	24	37
	No	56	76	63
12	The same as before	16	35	18
	Better	81	51	73
	Worse	3	14	9

In some cases, a culture group fell somewhere along the two extremes, which identified it to be insignificantly different from either extreme as was the case for questions 11 and 12.

The question pertaining to the loss of water and power showed that the Guam and the United States groups were much more annoyed by the inconvenience than the majority of the Others culture group. In comparison, the latter group evinced despair rather than annoyance. On the use of the field kitchen or military dining facilities, the Guam group showed a tendency to stay away, as indicated by the 85 per cent who did not use this service. In view of the similarity of responses to questions 6, 7, and 10, one might expect a greater uniformity among the culture groups' percentages which used this service. An explanation of this disparity might have been that the local Guamanian was more knowledgeable with the local flora and fauna and would rather use these sources than go elsewhere.

The last question—"As a result of Typhoon Karen, do you think Guam will be rebuilt?"—indicated that the Guam group was most optimistic in the future reconstruction of the island. Eighty-one per cent of the native group visualized a better Guam, while 51 per cent of the United States group and 73 per cent of the Others group indicated the same optimism. Since the latter two groups immigrated to Guam, they would have had an opportunity to see other places and to use these places as basis for comparison with Guam. Only a very small minority of the Guam group would have had this opportunity. However, regardless of cultural backgrounds and experiences, the high percentages of optimism showed a healthy and positive attitude, an ingredient basic to the making of a better community.

### Summary and Conclusions

The objective of the study was to compare the Guam population's reactions and attitudes toward Typhoon Karen. To accomplish this objective, the population was divided into three main cultural groups: Guam, United States, and Others. Questionnaires were distributed to adult residents in selected villages on the island, and their responses were statistically analyzed by the chi square method.

Several facts emerged as a result of this study. The three culture groups tended to answer the questions differently; but regardless of differences in attitudes and cultural backgrounds, the population in general tended to respond identically in the time of disaster. For example, all three culture groups showed insignificant differences in the percentages of people who made preparation for the typhoon, even while a significant variation of opinions and feelings about the typhoon existed among the groups. Additionally, the percentages of people who sought shelters or remained at home were almost similar for all cultural groups, even while the reasons behind their overt reactions significantly varied. This knowledge can be comforting to the authorities (especially to Civil Defense workers) who are directly responsible to the population for defensive or protective operations in times of emergency or disaster.

The data also suggested that Guamanians (natives) were more optimistic



about the future of Guam than those residents who immigrated to Guam. In keeping with this optimism, the natives projected a greater degree of enthusiasm in rebuilding homes, as well as a greater sense of belonging to the island. This might possibly suggest some insecurity or indecision on the part of the United States and the Others culture groups. In antithesis to this observation, however, there appeared to be a blending of attitudes and feelings among the cultural groups which tended to narrow the gaps of cultural and social disparities. This was probably the result of fraternization as well as the (indicated) presence of a system of communication which permitted the free interchange of information.

In general, the study pointed out that cultural groups on Guam have their unique characteristics. Nevertheless, even with their contrasting attitudes and personalities, the population (regardless of cultural backgrounds and experiences) reacted similarly to problems of mutual concern.

### References

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