



Summary Statistics

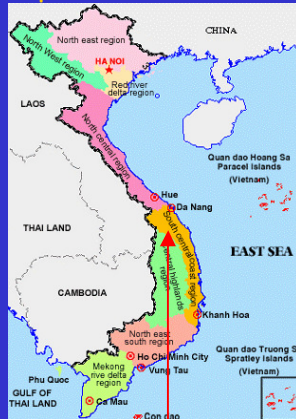
HCE Team

Country: Vietnam

Site: Quang Nam province

disaster studied: Floods
in November, 2007.

Map of Vietnam



Map of Quang Nam

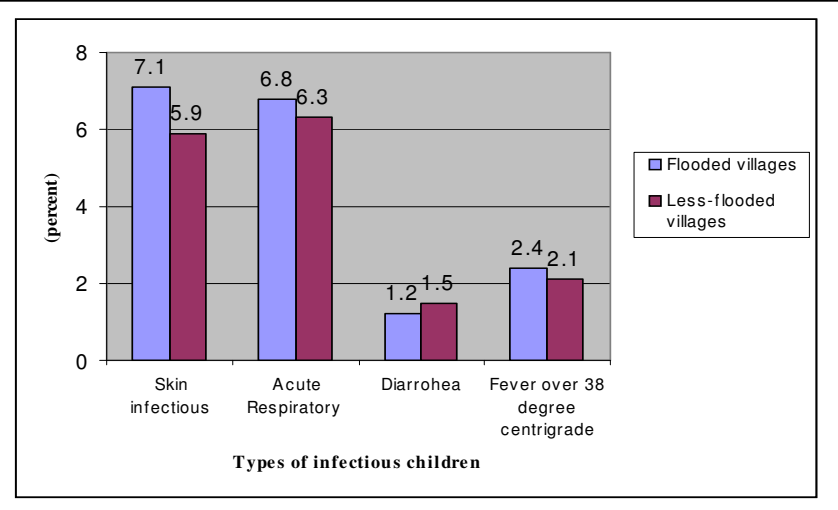


Key Findings

Health Impacts:

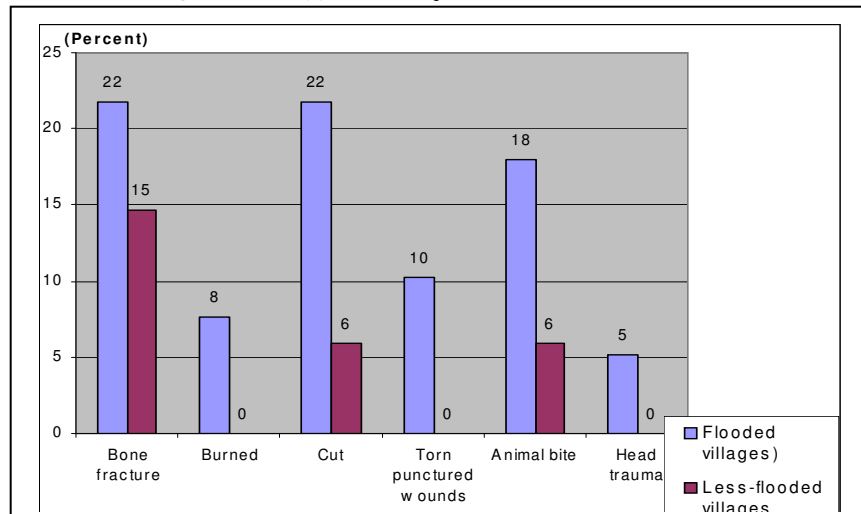
1. In the villages where floods occur frequently, there is higher, not statistically significant impact of flood 2007 on health infections children in Quang Nam, as local people may have evolved immune system to adapt to the changes over the time (Chi-Square test with P-Value > 0.05).

Figure 1: Health infectious Children in one month after floods



2. Local people live in extremely flooded villages were injured with statistically significant higher than of those live in less flooded villages, particularly of bone fracture, cut and animal bite (Chi-Square test: P-value, 0.05)

Figure 2: Types of injuries due to flood 2007





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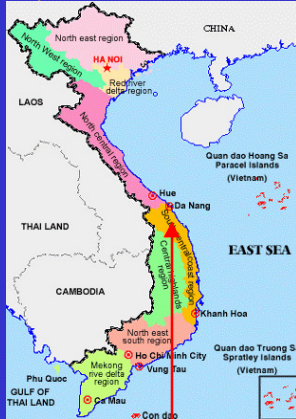
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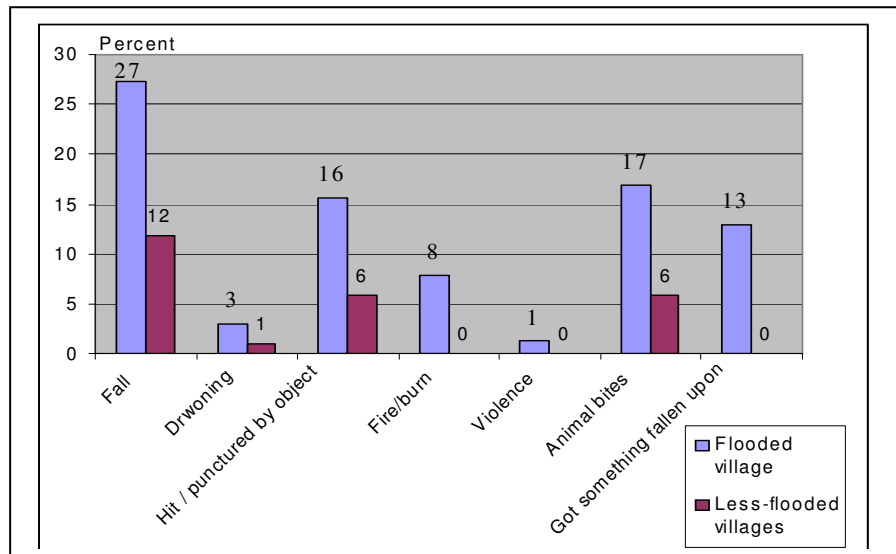
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Key Findings

3. There is a statistically significant differences in the reasons of injuries between/within flooded villages and less flooded villages (Chi-square test with F-Value = 42.22 and Sig. = 0.000 < 0.05 (alpha).

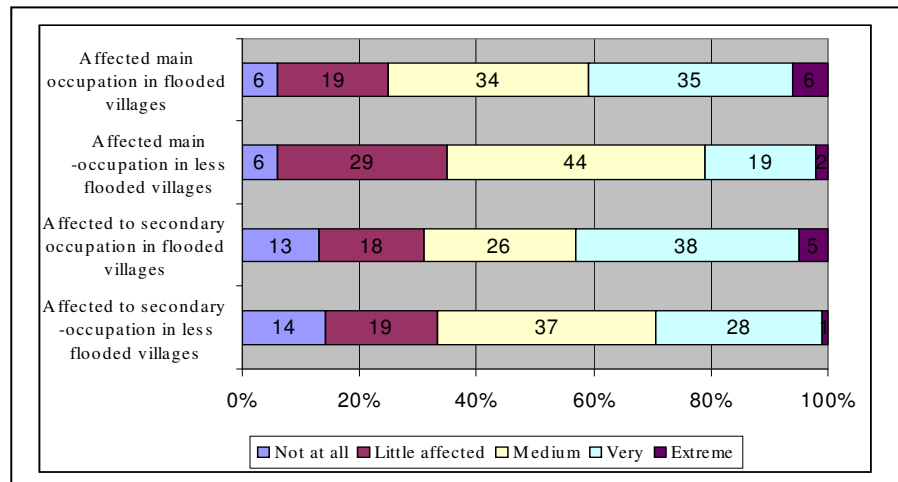
Figure 3: Reasons to injuries between/within flooded villages and less flooded ones



Social Impacts:

1. It is evidently that 2007 floods caused severely impacts on main and secondary occupations of local people as the local livelihood largely embedded in natural resources-based practices.

Figure 4: Floods and severe impacts on main&secondary occupation





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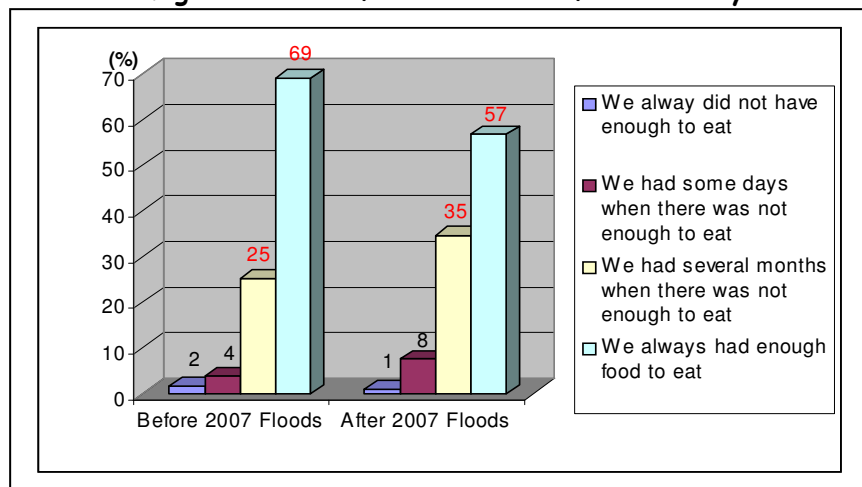
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Key Findings

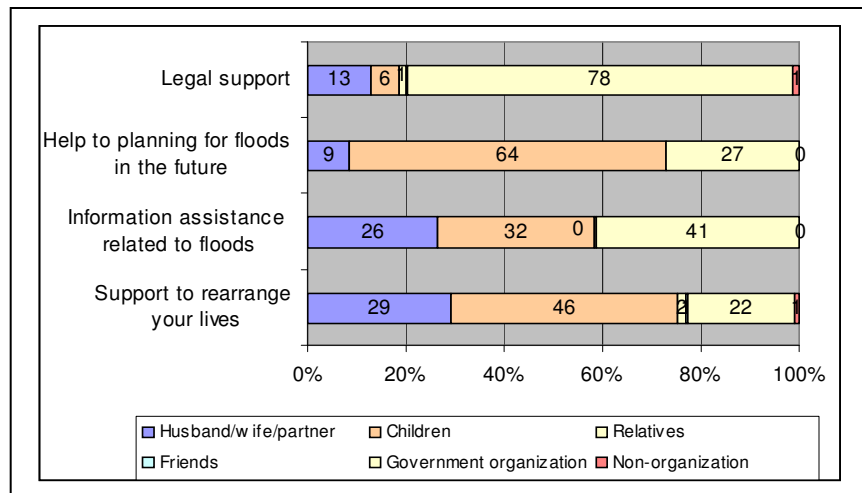
2. There is a significant association between floods and local food security that floods has exacerbated food security of local communities in Quang Nam.

Figure 5: 2007 floods and local food security



3. The households themselves (husband/wife, children) and local governments played the most important role in recovery of flood impacts. The fact, however, indicated to the fact that local governments found hard to support households due to a lack of resources

Figure 6: Role of Support for local communities to recover from flood impacts





Key Findings

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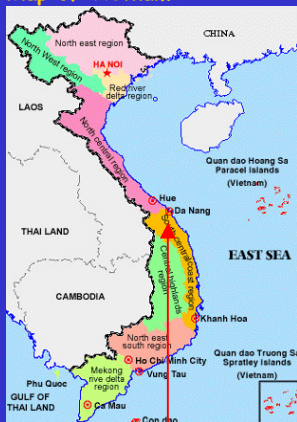
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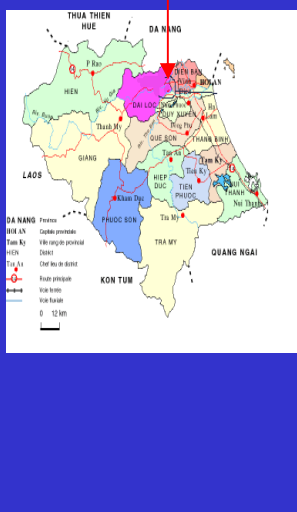
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Economic Impacts:

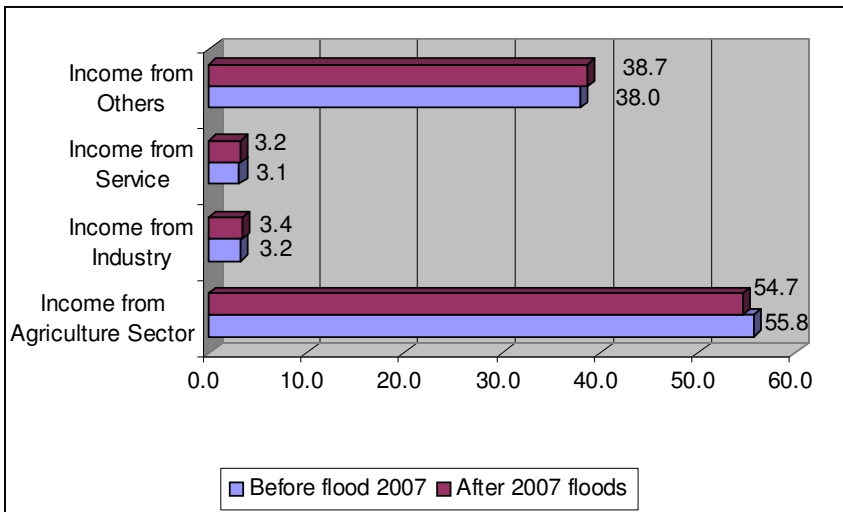
1. 2007 floods caused various economic damages to local communities in which damages to agricultural production (48.1%) and damages to houses (39.1%) are the most severe damages. Total damaged cost shared about 20% of total income of households in 2007 (19.139.158 VND).

Table 1: Damaged cost due to 2007 floods (VND)

Types of damages	Min	Max	Mean	%
Damage to Crops	0	41.000.000	983.423	25.8
Damage to Livestock	0	26.000.000	849.646	22.3
Damage To Aquaculture	0	45.000.000	160.765	4.2
Damage to family-based industry and service	0	830.000	6884	0.2
Damage to House	0	81.900.000	1.492.152	39.1
Damage to family property and goods	0	8.550.000	117.625	3.1
Damage to house due to public infrastructure	0	25.130.000	207.599	5.4
Total Damage	0	83.740.000	3.816.105	100.0

2. There is a slightly difference in terms of sources of local income of local communities between Before and After 2007 floods. Local communities have tent to involves less in agricultural production but more in non-agricultural practices such as industry, service, and others.

Figure 7: Changes in local livelihoods to adapt to floods





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3. There is a statistically significant difference between different groups of households by income in terms of participation in government flood prevent plan (Willingness to participate) in which the poor households are less willing to participate in that government program while they are the most vulnerable groups and lower adaptation capacity to floods. This suggests that it is important to raise their local awareness to prevention and mitigation to floods.

Table 2: Types of households and Willingness to participate in government floods prevention plan

WTP	Type of households			Total
	Poor households	Medium households	Rich households	
No, not participation	17.8	3.2	6.1	10.5
Yes, participation	82.2	96.8	93.9	89.5
Total	100	100	100	100
Chi-Square Tests				
	Value	df	Asymp. Sig. (2-sided)	
Pearson Chi ²	31.5	2	1E-07	
Likelihood Ratio	33.5	2	5E-08	
Linear-by-Linear Association	20.6	1	6E-06	
N of Valid Cases	645			

Integrated findings:

1. Although the poor have significantly less absolute damaged cost than richer households, but it is more severe impacts as they are more vulnerable than medium households and rich ones.

Table 3. Types of households and total damages

Types of households	N	Total damage due to floods 2007 (VND)
Poor	481	744.405
Medium	158	1.502.526
Rich	23	524.348
Total	662	917.701
Sig. = 0.008; F-Value = 4.904		



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Key Findings

2. Using Linear Regression Model with Stepwise Method to identify factors that determine Willingness to contribute to government flood prevention plans (number of person-days would local households be willing to contribute), the result highlighted that the most important factor is people felt their life in danger due to flood. Meanwhile, labor availability (more vs. less labor), types of villages (flooded vs. less flooded villages) and type of households (permanent vs. non-permanent) are respectively important determinants of local willingness to contribute to government flood prevention plan in the future.

Table 4: Determinants of Local Willingness to contribute

Model	Variables included in model	Coef.		Sig.	F	Sig.
		B	B			
1	Constant	5.40	6.991	0.000	10.3	.001
	Felt my life in danger	1.98	3.217	0.001		
2	Constant	3.53	3.593	0.000	9.89	.000
	Felt my life in danger	2.03	3.320	0.001		
3	Number of labor	0.66	3.037	0.003	9.00	.000
	Constant	1.76	1.488	0.137		
	Felt my life in danger	1.93	3.157	0.002		
4	Number of labor	0.67	3.097	0.002	8.72	.000
	Type of Village	1.54	2.651	0.008		
	Constant	0.29	0.223	0.824		
	Felt my life in danger	1.80	2.954	0.003		
4	Number of labor	0.68	3.151	0.002	8.72	.000
	Type of Village	1.64	2.838	0.005		
4	Type of households	0.84	2.744	0.006	8.72	.000
	Constant	0.29	0.223	0.824		

3. There is no significant difference in the total damage cost between group of households who acted upon early warning message to response to flood 2007 and group of households did not act upon that. This suggests that conventional coping mechanism is not effective in the context of extreme disasters.

Table 5. acting upon early warning message and flood damage

Did you act upon early warning message?	Total damage due to floods 2007 (VND)
Yes	4.469.055
No	1.606.923
Total	4.389.551

F = 1,565; Sig. = 0,212