

perception is cultural property, followed by zone 5, This research expands social understanding of the conservation of cultural property should still focus on the cooperative tasks in order to enhance people's awareness of historical preservation of common heritage. The participation should be effective but flexible enough to offer alternatives for the management of cultural heritage and to encourage the local people to participate in the process. This also could promote public awareness for the conservation of the cultural property and the participation of community in the activity of the various sectors. The protection of the cultural property will not be complete without the participation of the people." The participation of community-based" is also a part of conservation of tangible and the sustainable future.

Acknowledgments

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Table 4. Participation of flood protection in community

	Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
	Me an	S. D.	Me an	S. D.	Me an	S. D.	Me an	S. D.	Me an	S. D.	Me an	S. D.
To provide information about historic and cultural heritage	2.64	1.32	3.04	0.97	2.61	1.30	2.00	1.25	3.23	1.43	2.37	1.09
To analyse the issues and problems	2.51	1.24	2.52	0.98	2.49	1.27	2.29	1.16	3.21	1.44	2.37	1.09
Facilitates the problem search	2.66	1.27	2.97	1.02	2.52	1.29	2.17	1.17	3.22	1.44	2.37	1.09
To comment on the plan.	2.54	1.40	2.89	0.99	2.39	1.35	1.79	1.18	3.20	1.44	2.34	1.06
Prepare a plan	2.29	1.36	2.63	1.03	2.29	1.37	1.71	1.12	3.12	1.46	2.20	1.11
Coordination with other agencies involved.	2.44	1.35	2.74	0.96	2.28	1.31	1.88	1.23	3.15	1.48	2.20	1.11
To facilitate planning	2.44	1.33	2.83	0.98	2.28	1.29	2.08	1.21	3.20	1.42	2.29	1.13
To solve the problem.	2.48	1.43	2.92	1.26	2.27	1.37	2.08	1.32	3.10	1.47	2.29	1.07
The persuade others to join the operation	2.65	1.45	2.89	1.18	2.34	1.37	2.13	1.33	3.20	1.42	2.20	1.08
The track and find ways to improve operations.	2.43	1.51	2.86	1.20	2.20	1.28	1.75	1.26	3.12	1.49	1.97	1.07

4. Conclusions

The results of this research indicated that there are importance for both of participation of flood protection and perception of cultural property and flood risk by community-based activity under flood disaster. The description of the relationships in activity and perception with the urban flood disaster, found two zones that are most important to analyses participation of flood protection and perception of cultural property, zone 3 the most likely relationship of local people in community and

comment on the plan(M=2.39, S.D.=1.35) and persuade others to join the operation(M=2.34, S.D.=1.37). In zone 4, the most likely event is analyse the issues and problem (M=2.29, S.D.=1.16), followed by Facilitates the problem search(M=2.17, S.D.=1.17) persuade others to join the operation(M=2.13, S.D.=1.33), solve the problem(M=2.08, S.D.=1.32),and facilitate planning(M=2.08, S.D.=1.21) . In zone 5, the most likely event is provide information(M=3.23, S.D.=1.43), followed by facilitates the problem search(M=3.22, S.D.=1.44), analyse the issues and problem(M=3.21, S.D.=1.44), comment on the plan(M=3.20, S.D.=1.44) and persuade others to join the operation(M=3.20, S.D.=1.42). And zone 6, the most likely event is provide information, analyse the issues and problems, Facilitates the problem search(M=2.37, S.D.=1.09), followed by comment on the plan(M=2.34, S.D.=1.06) and facilitate planning(M=2.29, S.D.=1.13).

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Table 3. Perception of Cultural Property in community.

Cultural Property	Zone	Zone	Zone	Zone	Zone	Zone	Total	Percentage
	1	2	3	4	5	6		
1. Religious buildings	22	29	57	13	25	15	161	23.68%
2. Abandoned temple/ Deserted pagoda	24	37	40	12	38	12	163	23.97%
3. Canal, wall, gates	27	28	44	10	43	16	168	24.71%
4. Historical park	33	26	14	6	40	17	136	20.29%
5. Cultural landscape	13	10	5	4	15	1	48	7.05%
6. Other	1	3	0	0	0	0	4	0.59%

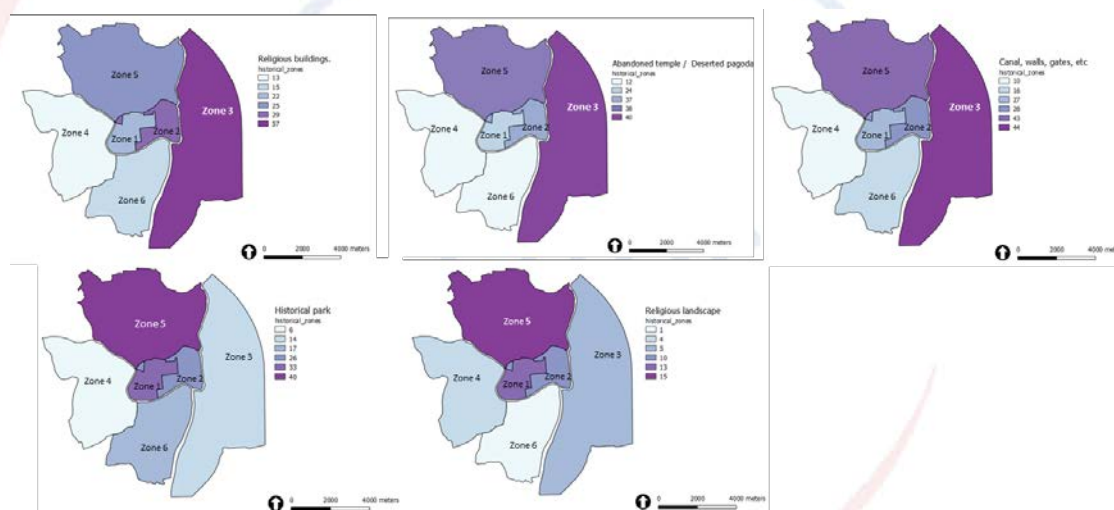


Fig. 3. The perception of Cultural Property in community by zone.

3.3 Perceptions of flood risk.

Flood characteristics are divided into six areas between Ayutthaya Island (two zones) and areas outside the Ayutthaya Island (four zones) [7-8]. Table 2 shows participation of flood protection in community events proposed can be obtained by looking at the mean values of each item. In zone 1, the most likely event is facilitates the problem search (M=2.66, S.D.=1.27), followed by persuade others to join the operation(M=2.65, S.D.= 1.45), provide information(M=2.64, S.D.=1.32), comment on the plan(M=2.54, S.D. = 1.40) and analyse the issues and problems(M=2.51, S.D.= 1.24). In zone 2, the most likely event is provide information (M=3.04, S.D.=0.97), followed by facilitates the problem search(M=2.97, S.D.=1.02), solve the problem(M=2.92, S.D.=1.26), persuade others to join the operation(M=2.89, S.D.=1.18) and comment on the plan(M=2.89, S.D.=0.99). In zone 3, the most likely event is provide information (M=2.61, S.D.=1.30), followed by facilitates the problem search(M=2.52, S.D.= 1.29), analyse the issues and problems(M=2.49, S.D.= 1.27),

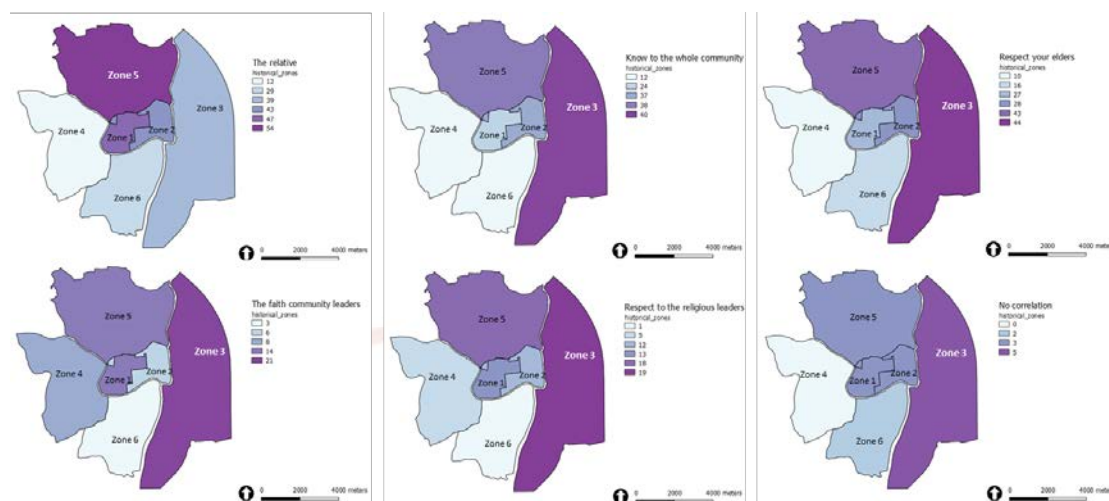


Fig. 2. The relationship of local people in community by zone.

3.2 Perceptions of cultural property.

Table 3 shows perceptions of Cultural Property. The perception of Canal, Wall, Gate is 24.71%, Abandoned temple/ Deserted pagoda is 23.97%, Religious buildings is 23.68%, Historical park 20.29% and Cultural Landscape is 7.05%, respectively. Zone 1 the most likely perception is Historical park (33), followed by Canal, Wall, Gates (27), Abandoned temple/Deserted pagoda (24), Religious buildings (22) and Cultural landscape (13). Zone 2 the most likely perception is abandoned temple/deserted pagoda (37), followed by Religious buildings (29), Canal, Wall, Gate(28), Historical park(26) and Cultural Landscape(10). Zone 3 the most likely perception is Religious buildings (57), followed by Canal, wall gates (44), Abandoned temple/Deserted pagoda (40), Historical park(14) and cultural landscape(5). Zone 4 the most likely perception is Religious building (13), followed by Abandoned temple/Deserted pagoda (12), Canal, Wall, Gate (10), Historical park (6) and Cultural Landscape (4). Zone 5 the most likely perception is Canal, Wall, Gate (43), by Historical park (40), Abandoned temple/Deserted pagoda (38), Religious buildings (25) and Cultural Landscape (15). Zone 6 the most likely perception is Historical park (17), followed by Canal, Wall, Gate (16), Religious buildings(15), Abandoned temple/Deserted pagoda(12) and Cultural Landscape(1).

Figure 3 shows perception of Cultural Property in community by zone. Religious building the most likely perception is zone 3(25), followed by zone 2(29), zone 5(25), zone 1(22), zone 6(15) and zone 4(13). Abandoned temple/Deserted pagoda the most likely perception is zone 3(40), followed by zone 5(38), zone 2 (37), zone 1(24), zone 4 and zone 6(12). Canal, Wall, Gate the most likely perception is zone 3(44), followed by zone 5(43), zone 2(28), zone 1(27), zone 6(16) and zone 4(6). Historical park the most likely perception is zone 5(40), followed by zone 1(33), zone 2(26), zone 6(17), zone 3(14) and zone 4(6). Cultural landscape the most likely perception is zone 5(15), followed by zone 1(13), zone 2(10), zone 3(5), zone 4(4) and zone 6(1).

Table 1. The Distribution of Cultural Property Sites in Ayutthaya.

Cultural Property	Registered	Listed	Grand total	Percentage	Sample size
Zone 1	30	75	105	21.48%	80
Zone 2	30	64	94	19.22%	72
Zone 3	18	90	108	22.08%	82
Zone 4	5	26	31	6.34%	24
Zone 5	27	79	106	21.68%	81
Zone 6	5	40	45	9.20%	35
Total	115	374	489	100%	374

3. Result and Discussion

3.1 The relationship of local people in community

The table 2 shows relationship of local people in community. The relative is 30.68%, followed by respect the elders is 23.01%, know the whole community is 22.33%, respect the religious leaders is 12.05%, the faith community leaders is 9.05% and no correlation 2.88%.

Figure 2 shows relationship of local people in community by zone. The relative the most likely relationship is zone 5(54), followed by zone 1(47), zone 2(43), zone 3(39), zone 6(29) and zone 4(12). Know the whole community the most likely relationship is zone 3(40), followed by zone 5(38), zone 2 (37), zone 1(24), zone 4 and zone 6(12). Respect the elders the most likely relationship is zone 3(44), followed by zone 5(43), zone 2(28), zone 1(27), zone 6(16) and zone 4(10). The faith community leaders the most likely relationship is zone 3(21), followed by zone 5, zone 1(14), zone 4(8), zone 2(6) and zone 6(3). Respect the religious leaders the most likely relationship is zone 3(19), followed by zone 5(18), zone 1(13), zone 2(12), zone 4(5) and zone 6(1). No correlation the most likely relationship is zone 3(5), followed by zone 5, zone 1, zone 2(3) and zone 6(2).

Table 2. The relationship of local people in community

The relationship	Total	Percentage
1.The relative	224	30.68%
2.Know the whole community	163	22.33%
3.Respect the elders	168	23.01%
4.The faith community leaders	66	9.05%
5.Respect the religious leaders	88	12.05%
6.No correlation	21	2.88%

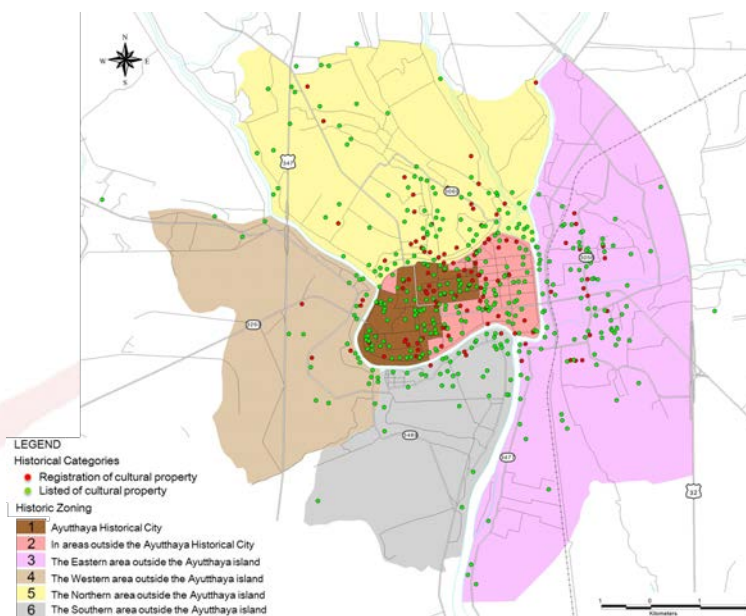


Fig. 1. The Distribution of Cultural Property around Ayutthaya Historical City Coordinated by the Global Positioning System.

2.2 Sample and procedures

The questionnaire was developed for study by field survey on civil society of flood protection and cultural property by community-based, historical of flood protection, flood protection of cultural property, the level of participation by community-based and social vulnerability. This study attempts to quantify perceptions of cultural property remaining in community and perceptions of flood protection and cultural property, the participation between various sectors and the level of participation by community-based. The final sample consisted of 374 respondents who were interviewed in May 2012 (shown in Table 1) [7-8]. Fifty-eight percentage of the respondents were women (n=218) and 42% were men (n=156). This age ranged from less than 20 (n=54), 21-30 (n=119), 31-40 (n=84), 41-50 (n=65), 50-60 (n=42), more than 60 (n=10). As regards level of education, 3% of respondents had attended less than primary school, 12% had attended primary school, 19% had a high school, 16% had a diploma, 45% had a university degree and 5% had a graduate degree. The period of living in this community, 27% had living less than 5 years, 18% had living 5-10 years, 19% had living 11-20 years, 17% had living 21-30 years, 10% had living 31-40 years, 4% had living 41-50 years and 5% had living 51-60 years. Ninety-one percentage of the samples were Buddhist, 3% were Christ, 5% were Islamic and 1% was other.

1. Introduction

The present study is based on a questionnaire survey and is aimed to assess the quantification of community-based perceptions on flood protection and cultural property conservation, the participation between various sectors, in a group of local people adults living in an area of “Ko Mueang” or Ayutthaya City Island and around areas which was severely affected in 2011 by the flood.

The Historic City of Ayutthaya, founded in ca.1350, was registered as a world heritage site on 1991[1]. World Heritage Properties are important for national and community proud and for social cohesion, under the World Heritage Convention, the States Parties sign up to the obligation of preserving World Heritage properties for future generations. Disasters do happen therefore it is best to be prepared to manage these unavoidable events [2].

Thailand is regarded as highly vulnerable to natural disasters caused by hydro-meteorological phenomena (floods, landslides, storms, droughts, etc.). Moreover it is also ranked as the seventh most flood prone country in the world. The flood occur almost annually, and they are by far the most devastating disaster in the country. Official statistics from 2002–2008 show that the country floods average was approximately 10 times per year [3-4].

Ayutthaya has a long history of flood cycles in seasonal variance. Ayutthaya’s river flooding problems long time ago. In the past, the local people solved this problem by digging canals [5]. As current situations change, canal digging is no longer an appropriate way for the city flood protection. The past flood in 2011, has its results to the physical, economic, social and environment damages [6]. The important cultural property of Ayutthaya were also affected and damaged.

2. Methodology

2.1 Research site

The study was conducted in Ayutthaya, Thailand. More precisely, we selected all the six zones include, Ayutthaya Historical City, In areas outside the Ayutthaya Historical City, The Eastern areas outside the Ayutthaya Island, The Western areas outside the Ayutthaya Island, The Northern areas outside the Ayutthaya Island, The Southern areas the Ayutthaya Island. Ayutthaya is a province in middle of Thailand, located 75 km. from Bangkok, the capital city. The elevation of these areas ranges from 1-2 m and the total area is approximately 3,000 rai (4.80 Sq.km.) [1,5]

*The Sustainability of Cultural Heritage for Community-based Activity under Flood
Disaster: A Case Study of Ayutthaya, Thailand*

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Abstract

Ayutthaya Historical City was registered as a world heritage site by United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1991, was valued as one of the world heritage sites in Thailand. The main threat affecting on the existence of Ayutthaya heritage sites is at risk from natural disaster through a devaluation of the cultural heritage sites. The historical sites value and cultural relativity between local people, local government, private sector and academic has been decreasing. The civil society has importance for flood prevention. That need is because of the physical, social and environmental that the historical city was devalued its attractiveness for the conservation of historical monument sites.

The study focuses on actual participation by community-base. Furthermore, the study adapts technique for indicating participation factors influencing on individuals perception and awareness in cultural and historical heritage sites by conducting questionnaire.

The research found that perception of cultural property participation and the history of disaster procedures for disaster mitigation arising from the participation of the local people in the flood protection. The participation in the activities of the community and the relationships in activity and perception with the urban flood disaster, found two zones that are most important to analyses participation of flood protection and perception of cultural property, zone 3 the most likely relationship of local people in community and perception is cultural property, followed by zone 5.

Keywords: community-based, cultural heritage, flood disaster management, perception and awareness.

