

Resettlement activities through spaces and time

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Abstract

Resettlement programmes have been implemented to relocate people from hazard areas to other safe places. Generally, resettlement programmes consist of several activities upon locations through time. However, the resettlement activities have never been analysed explicitly through these conditions. The lack of this knowledge causes many problems in considering the appropriate places for relocating people. Therefore, this study aims to investigate the resettlement activities and some considered factors by interviewing different roles of people in a hazard community. A case study of Ban Nam Ko sub-district is used to gain the knowledge of resettlement activities in more details. The explored results are presented as some significant milestones and descriptions to explain the resettlement activities. This study is beneficial to the relevant organisations to use the results in planning the places for each resettlement phase through time in order to avoid those inappropriate functions of places.

Keywords: resettlement activities, resettlement programmes

1. Resettlement activities through spaces and time

1.1 Resettlement activities in resettlement programmes

Resettlement activities start from the initial stage after the disaster occurrence to the final stage of improving the well being of the re-settlers. It was summarised by Argenal et al. (2008) that the phases of resettlement activities consist of two major responses i.e. emergency response and durable solution. Additionally, Scudder (2005) elaborated more activities into four phases in resettlement programmes such as, identify the exposed victims, construct the sites and remove processes, develop the resettled communities, and hand over through to the next generation. Based on the literature review (i.e. UNDRCO (United Nations Organization Mission in the Democratic Republic of the Congo), 1982; UN-HABITAT, 2006; UN-HABITAT, 2008; Ashmore et al., 2008), the resettlement activities after the debris-flow and flood event can be reclassified by considering the activities associated with locations and processes through time as:

- 1) Emergency response phase; This phase commences from identifying the unknown exposed victims in hazard areas, rescuing survival people, distributing the basic essentials fairly to affected people, and providing temporary shelters in facilitated areas.
- 2) Transitional processes phase; The second phase starts from removing debris and waste from devastated areas, salvaging cultivable lands, removing affected people from emergency shelters to temporary houses with basic essentials, reconstructing and fixing damaged houses and sheds, Additionally, this phase also considers creating some activities for affected people to recover physical and mental conditions including restoring education of students.
- 3) Potential development phase; This long-term phase attempts to provide the permanent safe places for affected people in the available lands, facilitate people with the basic infrastructure, improve living standard of re-settlers, and develop the resettlement environment appropriately to handover to the next generation.

Beyond the above summary, this study has discovered these activities associated with locations and time in more details. From the explored results of this study, they support the reclassification of three major resettlement activities response to the defined conditions. Apart from the summarised of the resettlement activities in this study, factors considered in establishing the locations response to the activities in all phases are explored in the conclusion section. Furthermore, the next section provides some general information of a study area as a representative of resettlement area from the debris-flow and flood event.

1.2 General characteristics of the study area

1.2.1 Administrative division

Ban Nam Ko is a sub-district of Lom Sak district in Petchabun province, which is located in the lower northern region of Thailand. This sub-district consists of twelve villages administratively organised by a Sub-district Administrative Organisation (SAO). Generally, each village has a village leader, who looks after the living quality of all villagers. The village leader has to work closely with SAO to organise the sub-district effectively. All sub-districts are parts of district administration, which is organised by provincial government.

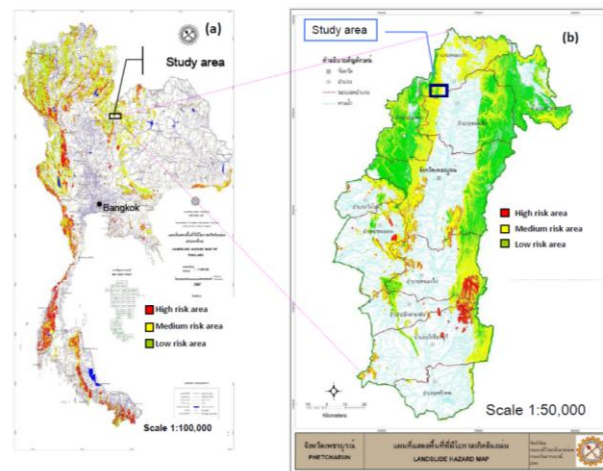


Figure 1: Administrative division of study area

(a) = Thailand, (b) = Petchabun province with the study area in the blue rectangle

1.2.2 Socio-economic background

The major occupation of people in Ban Nam Ko sub-district is farmers (SAO, 2011). Agricultural product, tobacco, of this sub-district is very famous worldwide. Typically, farmers will cultivate rice and tobacco seasonally through the year. One of the good quality tobaccos in Thailand is planted in this sub-district. As an agricultural community, people settle their houses densely along Nam Ko river then expand their community from the banks of the river. From the interview information, it is found that people in this community have very strong sense of community. They have conserved their traditional cultures and activities and disseminated their cultural regime to their descendants. It is obviously shown that people have got their own spoken language called “Lom language”, which is similar to “Laung Pra Bang language” (Laung Pra Bang is a former capital of Laos Republic). They believe that their ancestors evacuate from Laos to locate in this area more than hundred years ago.

Table 1: A summary information in 2011 of villages in the entire community of Ban Nam Ko
(SAO, 2011)

Village ID	Village Name	Number of households	Number of villagers
1	Ban Huay Poon	124	465
2	Ban Nam Ko	94	343
3	Ban Nam Ko	71	245
4	Ban Nam Ko	84	308
5	Ban Nam Ko Yai	127	446
6	Ban Nam Ko Prong	41	157
7	Ban Nam Ko Koke	85	313
8	Ban Nam Ko Fai	175	631
9	Ban Nam Ko Thai	106	449
10	Ban Nam Ko Sade	102	380
11	Ban Rong Cheuk	104	386
12	Ban Mueng Mai Pattana	174	635
13	Ban Huey Pao	74	274
	Total	1,361	5,032

1.2.3 Geography

Ban Nam Ko is surrounded with ranges of high mountains in the west. This community is located in Nam Ko Yai sub-catchment as a branch of Par-Sak catchment. It was believed from many researchers that the steep slope of the mountain and the intensive rainfall triggered the torrential flow and flood attacking those villages in Ban Nam Ko sub-district directly (Yumuang, 2006).

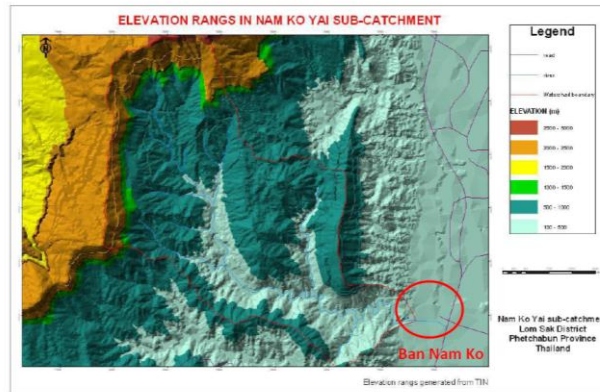


Figure 2: Ban Nam Ko location and surrounding topography (Adapted from: Yumuang, 2005)

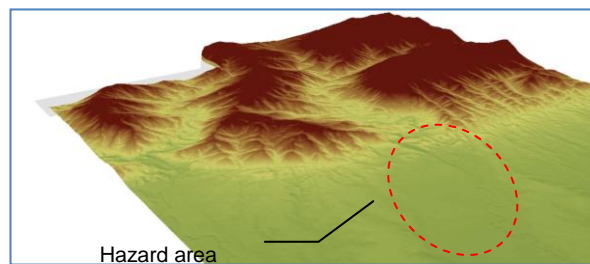


Figure 3: Topographical terrain of the study area generated from the DEM

1.3 Research Methodology

In order to design the research methodology logically and systematically, the nested approach by Kagioglou et al. (1998) is used as the framework to conduct this study by following research philosophy, research approach, and research techniques respectively. These three elements constitute in research method are illustrated in the Figure 4.

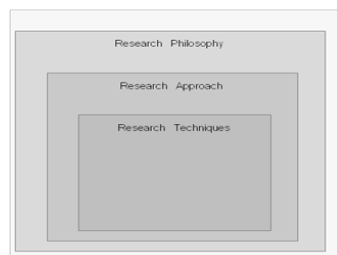


Figure 4: Nested Model (Kagioglou et al., 1998)

The following sections describe the selected methods in research philosophy, research approach, and research techniques in more details.

1.3.1 Research philosophy

There are three generally accepted ways of thinking about research philosophies such as epistemology, ontology and axiology. The nature of reality defined by ontology consists of two different natures, i.e. objectivism and subjectivism (Easterby-Smith et al., 2002). This study moves more towards the subjectivism stance according to this study mainly attempts to investigate the perceptions of re-settlers about the resettlement activities. Nevertheless, the environment, particularly, places and infrastructure in the hazard community is considered as the existing objects in objectivism. The methods of gaining knowledge defined as epistemology are considered more toward in social constructivism (interpretivism) to gain the knowledge from the respondent's profound insights to the provision of the basic essentials in resettlement programmes. However, the study could also be considered as partly positivism from the measureable spaces in the resettlement environment. Focusing on the value of the study, it determines towards the value-laden stance due to the value biased and subjective more than the value free of the objective continuum.

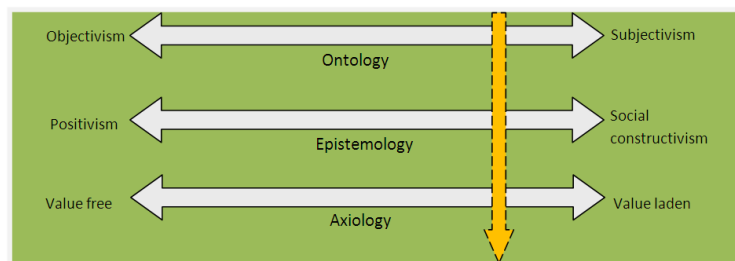


Figure 5: Research positioning within ontology, epistemology and axiology stances

1.3.2 Research approach

This study chooses the case study as an approach to understand the dynamic events within single settling. As the nature of this study, it does not attempt to change the respondent's attitudes in the resettlement activity environment as the action research commonly does. Furthermore, it does not intend to study re-settlers daily behaviours and psychology as the ethnographical study. Regarding the nature of this study is an explanatory and exploratory research which attempt to present a better understanding of the resettlement activities associated with spaces and time. Basically, a single case study approach is suitable for investigating this critical circumstance and observing the certain conditions changed over a time period (Kulatunga et al., 2007). Therefore, a single case study approach is chosen to study the resettlement activities of the entire hazard community to extract the factors which have to be considered in establishing the locations for each phase of activities.

1.3.3 Research techniques

The case study approach includes several collection techniques such as interviews, observation, documentary analysis and questionnaires (Saunders et al., 2006). The research techniques undertaken

in this study, concern the methods to gain the knowledge from the perceptions of people in a hazard community about the resettlement activities and the provision basic essentials in resettlement areas. Therefore, the documentary analysis, observation, and interview will be used in this study. Semi-structured interview is mainly used to explore the perception of people about the research activities through time. The semi-structure interview allows the interviewer to set a series of formed questions yet is able to vary the sequence of questions and additionally able to ask some significant questions (Bryman, 2001). Additionally, the provision of the basic essentials will be observed over the area as the utilised objects including the documentary analysis about the disaster events in this area.

1.4 Data analysis

After conducting the research methodology by following the nested model systematically, the resettlement activities are plotted through spaces and timescale in Figure 6. Regarding twelve respondents are representative to people in community in different roles who were involved with the 2001 disaster events. These twelve respondents derive from local organisers and emergency sheltering provider to different kinds of affected people. The explored results provide the conditions and requirements of the entire hazard community in responding with the resettlement activities associated with the location and time.

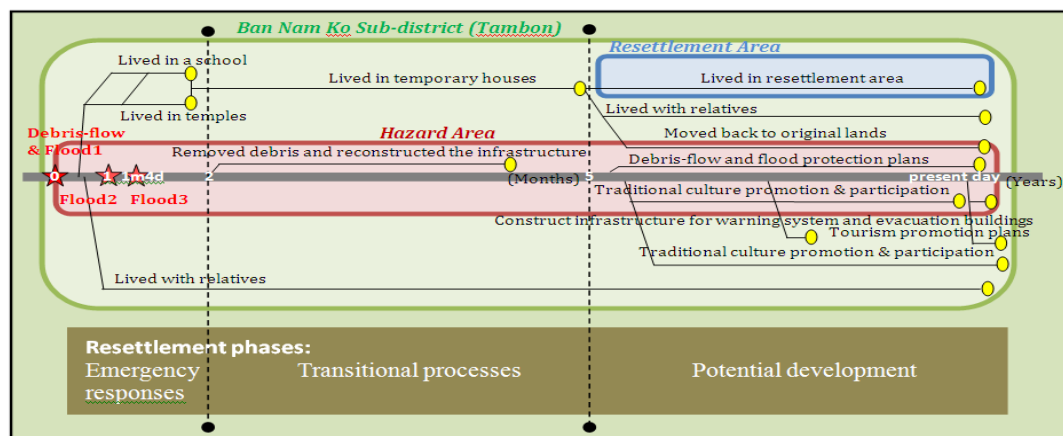


Figure 6: Resettlement activities on the timeline associated with locations of the study area

From Figure 6, it is clearly shown that the resettlement activities can be classified as three phases by considering the relocation criteria in the programmes. The milestones of resettlement activities are described in the next section in more details.

1.4.1 Phase 1: Emergency responses;

The debris-flow and flood event almost destroyed Ban Nam Ko sub-district and adjacent areas on the 11th August 2001. One month later, a flooding event attacked this area following with the inundation flood event later in the next four day. There was two different ways that affected people chose in living through this phase i.e. stay with relatives, and stay in emergency shelters.

Social service places were the first choice selected as the emergency sheltering centres. Temple and school in high area were considered as the best solution. Normally local people are familiar with the height level in their community very well. They usually know the safe places for evacuation in their area regarding with this situation. However, crisis from this shocked situation and uncertain announcement from local government can struggle those affected people longer in the hazard areas. After several hours, people were announced to evacuate to Ban Nam Ko school, Santi Wiharn temple, and Nong Kok temple. These three social services were used as emergency sheltering centres. Provincial and local government played the significant roles to select these locations and also provide shelters for affected people. Woman and men lived separately in many tents around temple and school areas.



Figure 7: Emergency Centres used in the 2001 disaster event

(a): Santi Wiharn Temple, (b): Ban Nam Ko School, (c): Nong-Kok Temple

However, people living in temples had to be re-displaced in adjacent areas due to the pavilions had been used for cremating ceremony. The pavilions were also used as places for identifying died people from the disaster. Therefore, the hygiene is one of the most important conditions concerned in this phase due to diseases and poor provided facility with a large numbers of people from organisations, charities to affected people. It is found that the more time spent in the emergency shelters, the more suffering and depression of affected people. This phase took almost two months during the mean time when the local and provincial government had been investigating the places to remove people to temporary housing areas.

1.4.2 Phase 2: Transitional processes:

Generally, this phase involves with removing processes and providing the temporary houses for affected people in the mean time of waiting for relocating to the permanent areas. This phase consists of many activities cooperated between residents and organisations. In this case, re-settlers had lived in the temporary houses approximately 5 months. Later, some of them decided to live with relatives. Alternatively, some re-settlers decided to spend the received compensation money to construct houses in their new lands. Therefore, the actual number of people who intend to relocate to the provided temporary housing areas is always reducing. For this reason, the actual number of people in emergency sheltering centres must be recounted for the actual number of people who intend to move to the temporary housing areas. This situation is similar to the case in Chuetsu region, Japan, which the total number of evacuees remained only 6.5 % in the shelters and displaced areas after several months from the aftermath event (UN-HABITAT, 2008).

People, whose houses were completely destroyed by the disaster, will be displaced to the temporary housing area. Fortunately, the knock-down houses sponsored by a Royal Princess foundation named “Ban Phung-Par” was initially constructed in the safe area of this community. An abandon area in Ban Nam Ko school was set up and built these temporary houses. The knock-down houses are made from durable material adjustable for single and multiple families. The toilets were built separately at the ground level for communal usage. These knock-down houses can be easily deconstructed and move to used in other hazard areas.



Figure 8: Knock-down house

Public areas are normally cleaned up by empowering government officers over the province. Affected people were asked by the local government to participate in removing activities. These activities can help affected people to relieve their pain from loss and suffering. In the agricultural community, the cleaning tools are not too difficult to find and can be borrow from other safe villages. Additionally, the local government is in charge to provide some powerful machinery (i.e. backhoes, earthmovers) from stakeholders in the community to remove debris and waste from people lands.

After submerging in the flood and being destroy by the debris flow, land identification is one of the most important requirements of people. Generally, officers in the department of lands are in charge to issue the land right deeds for people whose benchmarks could be identified on their lands. Nevertheless, it is a difficult job to issue the land right deeds for people who cannot identify their land benchmarks in the first response. This case will take longer time to issue their land right deeds. This process relied on the existing aerial photos as the crucial evidences to identify their lost benchmarks.

1.4.3 Phase 3: Potential development:

This phase commences with finding the potential area to build permanent houses for people from the temporary processes. Furthermore, this phase consists of the continuous development, which concerns a resettlement area as a part of entire community. According to the disaster protection plan and land improvement projects in hazard community, few villages were also evacuated to the resettlement area as well. Therefore, the resettlement area possibly consists of affected people, who suffered from the disaster, and resettled people, who encountered with the land development induced displacement.

House reconstruction is proposed as the essence to cooperate between people and relevant organisations (Burnell, 2010). In this case, military army offered the helps to construct the houses for

re-settlers participating with local people. Apart from the housing property, the land property is a big issue for this phase. Regarding the public land utilised for the resettlement area, house owners have not legally had the right on their lands yet. Furthermore, the lack of quality and sufficiency in public infrastructure causes the problems in the resettlement area. In this case study, the resettlement area was established under the umbrella of a former village (Ban Rong Cheuk). Therefore, the budget from government for earning either to improving or developing village is mainly used for the former village, which is not included the resettlement area.

1.5 Conclusion

1.5.1 Spatial factors considered in establishing the emergency shelters:

1. Safe locations from the possible disaster occurrence; those emergency shelters, in this case study, must be safe from the debris-flows and flood occurrence. Therefore, the high lands are considered as the first priority.
2. Capacity and availability of the place; the emergency shelters must serve a number of people in vulnerable hazard areas. Multiple centres for emergency sheltering are preferred to serve the neighbour villages in hazard community. These centres must be facilitated with the provision basic essentials such as shelters, electricity, water, toilets, and sewage treatment unit. Classifying people from the same village to the same emergency shelter of multiple centres is recommended to decrease some problems from security, stuff distribution, etc.
3. Accessibility and networks; it is necessary to consider the routes and optional accessible means to the emergency centres where is easily accessed by walk. Due to in case of flooding, walking and boating are more convenient than using other vehicles i.e. cars, bicycle and motorcycle. Additionally, the centres should be easily connected to other routes which can pass to other communities.
4. Typical functions of the centres; applying the social service places for emergency centres must consider the typical functions of those places, which sometimes, they must be used simultaneously, in order to avoid the possible replacement.
5. Provisional storages; it is necessary to provide the storages for people in the close areas to the shelters. According to the limit space in shelters, a lot of donation stuff from organisations and charities cannot be kept into the shelter due to the lack of sufficient space to store. The available areas with storages close to the shelters are considered response to the people requirements.

1.5.2 Spatial factors considered in establishing a place for transitional processes:

1. Capacity and availability of land; it is necessary to find a place where the space is enough for residing people. However, the exposed number of affected people is normally larger than the actual number of people who intend to move to the provisional temporary houses. Therefore, the actual number of people who intend to move to the provisional temporary housing area must be reinvestigated. This actual number is vital to estimate spaces and number of houses sufficiently for people requirements.

2. Provisional facility; the basic essentials for living in temporary houses must be considered before building up this area. The basic essentials must be considered and provided such as electricity, water, sewage treatment, children playground, and physical and mental recovering unit.
3. Accessibility and networks; A large number of organisations and charities will flow to the hazard community. Traffic congestion possible happens due to the difficulty to access into the devastate community. This situation requires a wise traffic management and skilful officers who can overcome this problem very well. Route networks for accessing the temporary housing areas must be planned and signed clearly from the entrance ways to the community.
4. Communal open spaces for people activities; many activities created by the government aim to mitigate some suffering from people. For this reason, the live concerts and celebrities may come to this area to entertain people. This activity requires space in the communal zone. Additionally, the open spaces within residential zone are required for interacting between neighbourhood units, where people can come to console each other.

1.5.3 Spatial factors considered in establishing the resettlement area:

1. Available land for resettlement area; public area is the first priority to be considered for establishing the resettlement area.
2. Basic essentials facilitated in the resettlement area; the basic essentials must be installed into the resettlement area before moving re-settlers. This also includes the maintenance and improvement. In this case study, number of spot lights in dangerous prone areas in resettlement area is required for the security reason.
3. Transportation and accessibility; it is essential to consider the means of transportation and the ways to access to the resettlement area. Due to the daily travelling routes changed, the public transportation would be provided for those re-settlers. As people may get some difficulty from travelling to many places. In this case study, the provided public transportation accesses only the entrance way of the resettlement area. The public bus will not run into the resettlement community, which causes the inconvenience to people in this area. They had to solve problem by buying motorcycle or trucks, which push them to pay for the debt in many years.
4. Distance to the community; it is crucial to consider and develop this area as a part of the entire community. The remote land without subsequent development will isolate the resettlement area. Furthermore, this factor can draw people to participate in the community as reinforces the community resilience.

1.6 Suggestion & Discussion

Apart from the location and time based analysis in this study, there are some significant aspects would be considered in the resettlement programmes. This study is useful to implement with all risk areas prone to debris-flow and flooding event. Regarding Thailand consists of approximate 250 risk communities in sub-catchments which are prone to this disaster. Spatial factors proposed in the conclusion topic would be considered in advance for observing and preparing those areas response to three phases of resettlement activities. Furthermore, it would recommend the university and technical college role to study the traditional architecture style of communities prone to disaster event. This proposed project could continue the identity of resettlement area as a part of entire community.

Recently, the trend of community development intensively focuses on tourism promotion as the derivative of the disaster protection plan. Dikes, dam and reservoir have been constructed and promoted as leisure places. This dynamic land development is expected to be beneficial to local people. However, considering the constructed project for tourism purposes, some original land-use activities might be changed response to those mega-projects. Hotel and resort construction might replace the forest area which may cause the un-expected disaster in the future.

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