

TRANSFORMATIONS FOR THE SURVIVAL OF TRADITIONAL WATER-BASED COMMUNITIES IN AMPHAWA DISTRICT, SAMUT SONGKHRAM PROVINCE

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Abstract

The water-based communities in Amphawa District have evolved in their settlements over a long period of time. They all have specific and unique characteristics in terms of natural and cultural heritages. In the past, the communities have been affected by various transformations and changes not only in the natural environment but also through the direct and indirect developments which have been undertaken in the Mae Klong River basin. Despite these changes, however, the traditional water-based communities have been able to adjust themselves for survival up to the present day. This study aims to describe certain issues which affect the survival of traditional water-based communities in Amphawa, i.e., (1) transformations of traditional water-based

communities, (2) factors affecting the transformations and survival of water-based communities, and (3) trends in transformations and capabilities for the survival of water-based communities. The findings of this research should be useful for preliminary deliberations of the appropriate policy recommendations for maintaining the uniqueness and the survival of water-based communities.

Introduction

Transformations are inevitably the natural phenomena occurring in developing countries where Western notions and culture have to be applied for their modernization (Moore [1963] and Eisenstadt [1973]). Transformations in Thailand have been evident since the launch of the First National Economic and Social Development Plan (NESDP) in 1961. The transformations had been especially predominant during the span of the first four NESDPs (1961 - 1981) which could be regarded as Thailand's major transformation period. During those twenty years, intensive infrastructure developments had been undertaken, i.e., land-transportation networks, water resources management, industry, agriculture, public utilities and facilities, etc., which had led to increasing modernization of communities within the country.

The traditional water-based communities in Amphawa District have also been influenced by, *inter alia*, many direct and indirect developments, including the impacts of continuous changes in the natural environment to which these communities are highly sensitive due to their downstream locations on a river. People living in these areas have consequently learned to adjust themselves

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to live consistently with the changing environment in order to maintain their survival. In examining the overall present living conditions of these Amphawa communities, it has been found that these communities are essentially able to maintain their traditional, water-based community characteristics. It is therefore interesting to learn how these traditional water-based communities have been able to maintain their survival.

In this research, Rapoport's (1977) and Garnham's (1985) concepts in examining the specific characteristics which help establishing a community's identity were applied in contemplating the transformations and the survival of a community. These include distinguished geographical characteristics, prominent activities and functions, and conveyance of symbols and meanings in a community. Our research assumes that the levels of transformations in the major components which collectively established the community's identity and the living status or the survival abilities of a water-based community are closely correlated with the development or urbanization levels of that community.

Traditional Water-based Communities in Amphawa District

The areas of Amphawa District on the lower Mae Klong River delta are geographically influenced by a network of about a hundred canals which are widespread over the entire areas and many of which connect directly to the Gulf of Thailand. These canals, as well as Mae Klong River, are impacted by the flooding and ebbing of the tides, and, consequently, most areas in Amphawa District could be

classified as being in the brackish ecology of the so-called 'bi-water' zone (Surajit, 2004: 44). This is the primary factor affecting the formation of community patterns, ways of life, occupations, and agricultural land use, resulting in certain characteristics which distinguish these communities from their surrounding areas. Consequently, these communities have been renowned as unique trading centres and water-based agricultural communities (gardening communities) since the Ayudhya era (Srisakr, 1993:54).

In studying the characteristics of traditional water-based communities in Amphawa District, it was found that the areas covered ten sub-districts (*tambon*), i.e., Amphawa, Bang Chang, Thakha, Suan Luang, Bang Nang Li, Bang Khae, Kwae Oam, Muang Mai, Wat Pra Du, and Plai Pong Pang sub-districts (Fig. 1) (not including two sub-districts, namely Yisarn and Praek Nam Dang, which are in the brackish zone and predominantly are areas for shrimp ponds and mangrove forests). Differentiated by their evolution and transformation patterns, these water-based communities can be categorized into three groups, i.e., half-urban, half-garden water-based communities, fruit-gardening water-based communities, and coconut-gardening water-based communities. One water-based community in each of these three groups was selected for further detailed study in this research, i.e., Khlong Amphawa water-based community, Khlong Bang Khae water-based community, and Thakha water-based community (Fig. 2).

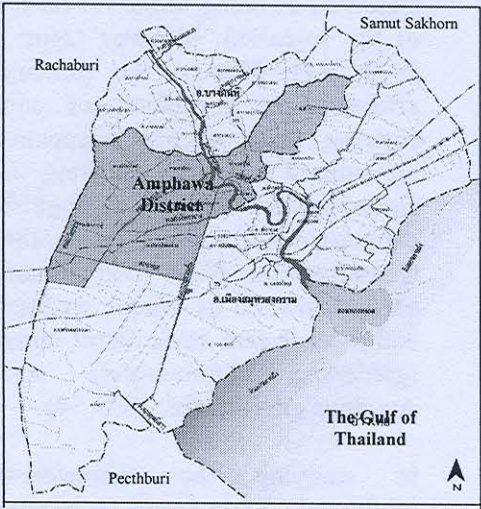
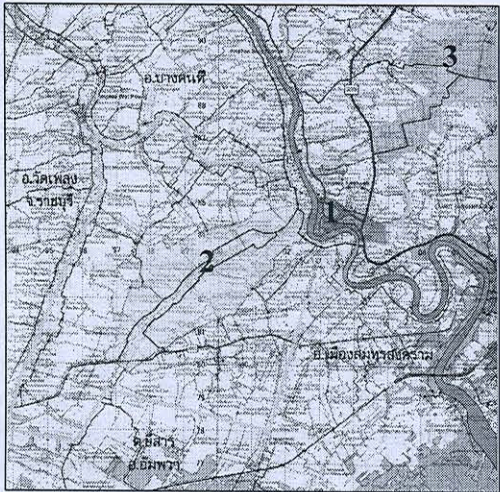


Figure 1: Samut Songkhram Province and the Study Area in Amphawa District



- 1 Khlong Amphawa: half-urban, half-garden traditional water-based community
- 2 Khlong Bang Khae: fruit-gardening traditional water-based community
- 3 Thakha: coconut-gardening traditional water-based community

Figure 2: Three Traditional Water-based Communities as Case Studies

Key Factors Influencing Transformation

The results of this study indicated that the two most influential factors in the transformation of water-based communities were external, i.e.,

1) Road development was the major factor which caused the deterioration, and sometimes the disappearance of the key components of the water-based communities, particularly in the transformations of the water network. Such changes subsequently affected the people’s ways of life in the water-based communities as they lost opportunities in utilizing the water and the water network. It was found that the locations and the alignments of new roads had notably resulted in extensive transformations of water-based community settlement patterns (Fig. 3). If a road was built adjacent to and in parallel with a water-based community, it usually caused the community to expand and shift its settlement from alongside the waterway to be along both sides of the new road at a faster rate than if the road was built otherwise. And if many roads were built to connect the waterfront with the main road, the community usually expanded and became more densely-populated. In addition, it was found that the rate of expansion of the new settlement and the changes in the water-based community’s settlement structure mostly varied with the urbanized characters of that community.

2) Dam construction on the upper Mae Klong River basin drastically changed the ecological balances in the river-basin areas and in the water-based communities in terms of quality, quantity, and flow of water. The changes were particularly severe during 1977 - 1980 when the tides

were quite high and the fresh water being stored behind Sri Nakarin Dam could not be released to push back the sea water. What resulted then was the flooding of saline water onto coconut-plantation areas which subsequently suffered massive damages. Also, the quality and quantity of water became so deteriorated that it could not be utilized in as many activities as before.

In addition, water-based communities could also be significantly changed in other aspects by a number of other external factors, such as capitalism production system, industrial and agricultural development, public utilities and facilities development, advances in technologies and communications, etc., as well as some internal factors such as the easy of absorption of modern culture by the community members.

Transformations of the Water-Based Communities

The results of the study indicated that there were two major types of transformations in the traditional water-based communities.

1) *Transformations for the survival of water-based communities. These transformations included self-adjustments which were made not only to maintain households' economic viability but also to maintain the status of being a "traditional water-based community" up to the present day. The adjustments were caused mostly by the shifts of employment opportunities due to road development.*

For water-based communities in urban areas such as those along Khlong Amphawa, the self-adjustments resulted partly from the relocation of retail shops from the waterfronts to both sides of the

new community roads so that trading activities could continue. The adjustments were also due partly to the migration of people from the water-based communities to work in Mae Klong urban areas or elsewhere.

As a result of the road-network development during 1965 - 1977, roads had assumed more significant roles as compared with rivers and canals. Community growths, previously centred in the areas of Amphawa and the estuaries of other main canals, had shifted to the areas where land transportation became much more convenient, i.e., to Mae Klong urban areas.

Within water-based communities in rural areas (agricultural communities), the self-adjustments were made partially by families shifting some of their members to work in non-agriculture sectors in order to lessen the risks which were inherent in agricultural production. The production systems in orchards were also readjusted to correspond with the limiting conditions of households and physical areas by shifting from mixed orchards to planting cash crops such as pomelo and lychee trees. These were consequences of the radical changes in the ecological environment of the river-basin areas which had been caused by dam construction during 1977 - 1980. The high tides then had flooded the agricultural areas of Amphawa and nearby regions with saline water, thus causing extensive damages there to.

From the year 2003 up to the present, a number of water-based communities have been newly transformed through the regaining of people's ways of life, culture, and tradition which had been built on local wisdom and knowledge. Those cultural assets have been re-learned, re-applied,

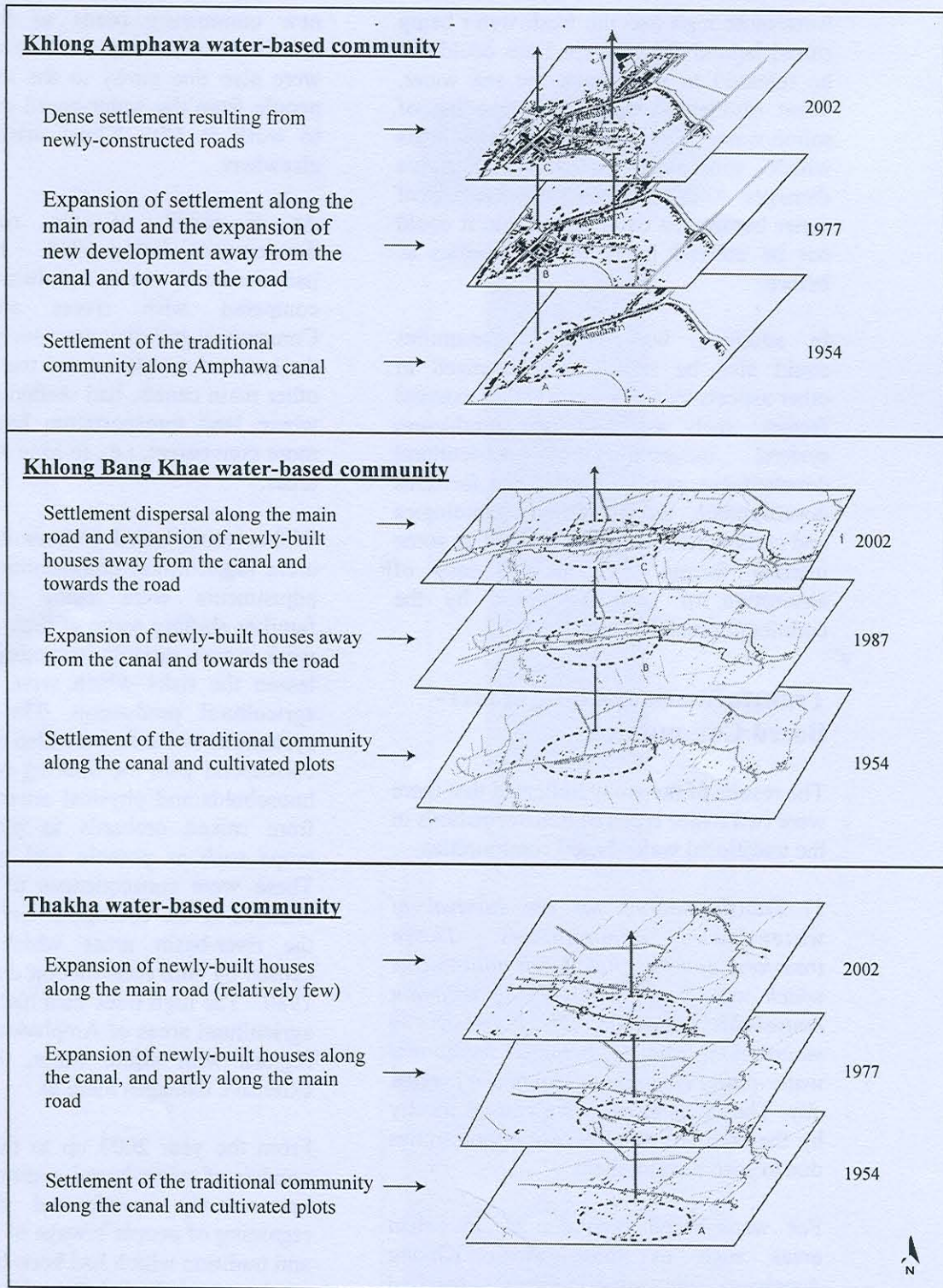


Figure 3: Shifts in Settlement Structures of the Selected Water-Based Communities

and reproduced in an endeavor to respond to the current trends in tourism. Such "cultural reproductions" include the renewal of water market at the mouth of Amphawa canal, the renovation of Thai riverside houses for home-stay business, the production of souvenirs made of local materials, e.g., coconut shells and fruits, and the increased use of boats in an assortment of activities, such as water-market trading, waterway sightseeing, and watching fireflies at night.

Although these transformations have just taken place over the past few years, they have played a crucial role in easing the communities' economic problems. In addition, they have also motivated community members to be more active in trying to preserve their environment and their cultural heritage.

2) Transformations to conform with contemporary social and environmental conditions. These included the adjustments which resulted, both directly and indirectly, from the foregoing transformations, e.g., adjustments of household consumption, inter-community exchanges of products, adjustments of people's ways of life and social conditions, etc. These transformations are diverse due to the differences in their physical and social conditions, as well as the non-contemporaneous impacts of external factors on these communities.

Upon reviewing the overall transformations of the water-based communities in Amphawa areas, it was found that the more urbanized a water-based community was, the greater the changes would be in all key components of that community. The foregoing was particularly true with respect to physical components, e.g., community settlement patterns, residential

buildings, land uses, riverside landscape, and waterway systems. Also, the loss of major components appeared to be greater in a more urbanized area.

The study also found that the extent to which a water-based community was transformed depended largely on how early the new roads were built, the number of secondary roads, and the road pattern within that community. In rural water-based communities, i.e., fruit-gardening water-based communities and coconut-gardening water-based communities, the changes in terms of economic components were more pronounced, especially the changes in households' major production systems. The loss of major components in a rural water-based community also appeared to be much less.

The Survival of Traditional Water-Based Communities

In assessing the survival of traditional water-based communities, three major variables and thirteen minor variables, as listed in Table 1, were selected as indicators for identifying a traditional water-based community. Four survival levels were established for each variable, and the assessments were carried out by using questionnaires in field surveys. The four survival levels are as follows:

- A score of more than 75% indicated that the water-based community was most likely to survive
- A score of 50% - 75% indicated that the water-based community was highly likely to survive
- A score of 25% - 50% indicated that the water-based community was moderately likely to survive, with some risks to chances of survival

- A score below 25% indicated that the water-based community was not likely to survive, with a high risk to chances of survival

According to the study, the likely survival of water-based communities in each areal group directly varied with the levels of urbanization of those communities (fig. 4).

The fruit-gardening water-based communities and the coconut-gardening water-based communities were the most rural ones. Most of the minor variables for these communities were scored with moderately high levels of survival, especially in terms of waterway networks and traditional settlement patterns (more than 70%). On the other hand, water utilization in some activities, i.e., consumption, food resources, outbound travel, transport of

commodities and products, etc., substantially decreased due to poorer water quality in the canals and rivers such that the water became unsuitable for consumption. Furthermore, the number of aquatic animals has also reduced, and more roads have been built for access to the communities. People have increasingly turned to using cars for outbound travel instead of sing boats. Nonetheless, boats were still used for intra-community traveling, especially in the Thakha water-based community.

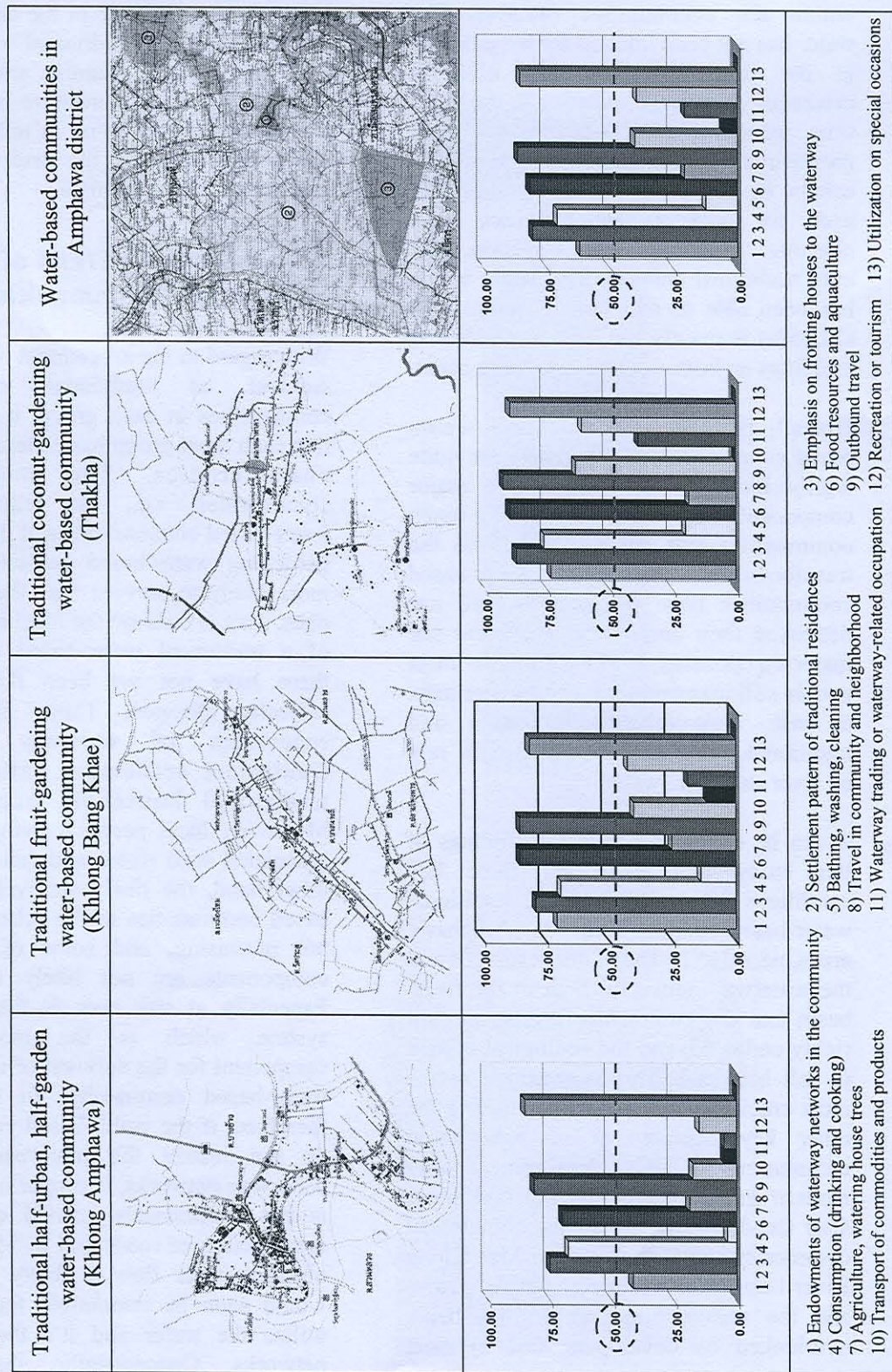
The half-urban, half-garden water-based communities were quite highly urbanized with moderate chances of survival. Risks to future survival are perceived, especially where there has been relatively high deterioration of water networks

Table 1: Variables for Assessing the Survival of Water-based Communities

Major variables	Minor variables	Details of minor variables
1) Waterway network	1	1) Endowments of waterway network in the community
2) Settlement pattern	2	2) Settlement pattern of traditional residences 3) Emphasis on fronting houses to the waterway
3) Community people’s way of life	10	Rivers and canals utilization in various activities: 4) Consumption (drinking and cooking) 5) Bathing, washing, cleaning 6) Food resources and aquaculture 7) Agriculture, watering house trees 8) Travel in community and neighborhood 9) Outbound travel 10) Transport of commodities and products 11) Waterway trading or waterway-related occupation 12) Recreation or tourism 13) Utilization on special occasions (festivals, traditional ceremonies)

Source: Researcher, 2005

Figure 4: Evaluation of the Survival of Water-Based Communities in Amphawa at Present, Categorized by Areal Group.



Source: Researcher, 2005

within the communities (44.5%). The water has not been utilized for irrigation as in the past, but has been used as community's sewage instead. At the same time, people's ways of life has been increasingly alienated from rivers and canals. River and canal water is currently used for only a few activities, e.g., cleaning, gardening, and recreation. The only traditional water-based feature which has been able to maintain its uniqueness (72.55%) is mainly the look of residential buildings on both sides of Amphawa canal.

Overall, however, the traditional water-based communities in Amphawa are quite highly likely to survive, as the major components of traditional water-based communities still largely exist. And the transformations of these water-based communities have not yet changed nor destroyed their community structures nor major components. In the meantime, most people still maintain their cultural heritage, to wit: fruit-orchard plantations and traditional living patterns which still rely on river and canal water.

It can be concluded from the findings of this study that there are three key conditions for maintaining the traditional water-based communities in Amphawa areas, namely: 1) The water resources and the waterway networks, both at the river-basin and the community levels, are still richly endowed, and the ecological system is still balanced. This is regarded as the most crucial condition for maintaining the other key components of water-based communities; 2) The development of a modern trading center did not take place after the declining role of the commercial community center in the lower Mae Klong River basin. This resulted from Amphawa and the surrounding communities being overlooked by developers; and 3) most

originally local people in the communities still maintain their traditional ways of life, with river and canals and orchard plantations, whilst there have been only a few outsiders who came in to live and to work here due to the lack of major employment opportunities.

Future Survival Trend of the Water-based Communities

With regard to the assessment of the likely survival of traditional water-based communities in each group, it was found that each areal group has different survival characteristics. The more rural communities, i.e., the fruit-gardening water-based communities and the coconut-gardening water-based communities, are more likely to survive than the urbanized ones. This is because the ideal components of a traditional water-based community there have not yet been destroyed or radically changed. These include the endowment of waterway networks, traditional settlement patterns, and traditional household occupations. Moreover, local people's livings are still associated with rivers and canals. On the other hand, the likely survival of water-based communities in the urban areas are not promising, and some of their key components are not likely to survive. Especially at risk now is the waterway system which is the most crucial component for the survival of a traditional water-based community. In the future, therefore, if the water-based communities do not realize the importance of the waterway networks, if proper maintenance is not continuously carried out, and if construction of roads and buildings which obstruct water flow is freely allowed, it would soon be impossible for people to utilize the water and it's the waterway networks. Consequently, the gap of

relationship between people and water will broaden and new settlements will be more attracted to the roads. Houses will be fronted away from the waterways, and this will be followed by a decline in the role of the river and canals, which will end up merely being used for wastewater drainage. Sooner or later the traditional water-based communities with historical value and rich cultural heritage would gradually vanish and would soon become land communities which are simply situated on the river and canal banks.

In addition, it was found that tourism activities have begun to play key roles in the water-based communities, with increasing positive responses from local people. In particular, cultural reproduction has progressively been used as a strategy for community-based tourism. This is encouraging, as it can somewhat address the economic, social, and environmental

problems of water-based communities. On the other hand, cultural reproduction could become inferior or disadvantageous if it is carried out without an insight into, or understanding of, the fundamentals underlying the communities' cultures, thus resulting in the cultures being manipulated or improperly used. There is a risk, therefore, of allowing tourism to encroach quickly on water-based communities with no management planning nor proper controls as such transformations could devastate the key components of water-based communities over time.

In conclusion, the trend for the survival of water-based communities depends not only on the present survival of such communities but also on other major external and internal factors, as summarized in Table 2.

Table 2: Key Factors for Future Survival of the Water-based Communities in Amphawa

Key Factors	Details
1) Natural environment and ecological system	<ul style="list-style-type: none">• Endowment and balance of water resources and waterway networks
2) Proper economic status	<ul style="list-style-type: none">• Proprietary rights to land and residences of community members• Available jobs or options for other economic activities using community's resources• Market potential and decent return on investments
3) Proper social status	<ul style="list-style-type: none">• Continuity of social activities to the new generation• Socializing and participation by community members
4) External supports	<ul style="list-style-type: none">• Appropriate development policies, particularly road development and water resources management in the river-basin area.

Source: Researcher, 2005

Conclusion

The findings of this research indicate that the survival of a water-based community is indirectly proportional to the community's level of development or urbanization. Water-based communities with higher levels of urbanization are likely to incur more changes in all of their major components, which in turn pose more threats to their survival in times of high risks.

Theoretically, the research found that Rappaport's (1977) and Garnham's (1985) concepts were applicable to the investigation of the indicators of these water-based communities' identities. In addition, the concepts were also applicable to the evaluation of their survival potentials based on their abilities in sustaining their major components.

From applying the said concepts, the findings of this study indicates that there are three interdependent components which signify the identities of these water-based communities, namely, (1) Unique geographical and ecological elements of water resources and networks; (2) The communities' economic activities which result from using local wisdom to manage local resources, as reflected in people's occupations and activities in each community; and (3) Local lifestyles which are closely related to the different ways of utilizing the water-based resource .

Thus, the survival of these water-based communities depends mostly on the efforts to sustain the major components of their communities, namely, the conservation of existing water resources and networks, the ability to maintain the households' economic viability based on the concept of sufficiency economy and appropriate

utilization of local resources, the maintenance of appropriate relationships between people and the existing water resources, and suitable means of passing on the knowledge of and the close relationship with the water resources to the next generation.

The findings in this study can be incorporated in the deliberations of appropriate policies and guidelines for many community development measures in order to ensure the continuity of water-based communities and to prevent their undue transformations and untimely destruction. For example, water networks should be taken into considerations in the planning of any land transportation facility, particularly in the construction of local roads within a community; the ecology of the existing water systems should be considered in the development and management of water resources both at the river-basin and the local levels. Other measures which may benefit from the findings of this study include the promotion and renewal of local economic activities, the formulation of regulations on waterway utilization and water-based land uses, the promotion of activities which conform to the lifestyles and culture of each water-based community, and the development of intra-community and inter-community networks on the same river basin.

References

In English

- Eisenstadt S. N. 1973. *Tradition Change and Modernity*. New York: Wiley-Interscience.
- Garnham Harry L. 1985. *Maintaining the Spirit of Place: A Process for the Preservation of Town Character*.

Mesa, Arizona: PDA Publishers Corporation.

Moore Wilbert E. 1963. Social Change. Englewood Cliffs, New Jersey: Prentice Hall.

Rapoport Amos. 1977. Human Aspect Urban Form. Oxford: Pergamon Press.

In Thai

Srisakr Walliphodom. 1993. Mae Klong River Basin: Evolution on Society and Culture. Bangkok: Phikanet Printing Centre.

Surajit Chirawet. 2004. Khon Mae Klong. Bangkok: S. Asia Press (1989).