

# Chapter 1

## Introduction

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This book is about recent changes in the agrarian systems and societies of the Chao Phraya Delta. It is no exaggeration to claim that these changes have been large and diverse. Although traditionally dubbed as Thailand's "rice bowl," with the implication of an agrarian society practising rice monoculture, this description has become rapidly less appropriate over the past three decades. Cropping patterns have become more varied, more complex, and cultivation more intensive. The growth of Bangkok has made markets more powerful and accessible. Entrepreneurs, factories, and new informal businesses have come into the village, while young people have left for the city. Patterns of landholding have changed as family strategies adjust to the new conditions of labour availability and market opportunity. Water has ceased to be an open access good, and become a managed resource which is increasingly scarce and hence subject to competition. Village society has become not only markedly different from the past, but also more fluid and more closely integrated with the outside world. Government policy makers scramble to keep up with this pace of change with schemes to change crop patterns, revolutionise water management, and decentralise government.

These recent changes are predicated on a long historical development of agrarian society in the delta. The conventional view of the establishment of the Siamese kingdom begins with a gradual southward migration of the Tai ethnic group. In the mid 14<sup>th</sup> century the capital of the kingdom was established at Ayutthaya, around the margin of the inhospitable southern part of the delta<sup>1</sup>. Although Mon-Khmer settlements and cities already existed in the delta, the foundation and development of Ayutthaya triggered improved communication

routes radiating from the capital, and boosted maritime commerce as well as the expansion of rice cultivation, mostly in the flood plain of the Chao Phraya Delta (see Map 3 in Appendix). In the late 17<sup>th</sup> century, Tachard (1685) described his journey from Ayutthaya to Louvo (Lop Buri) through “vast plains reaching out of sight covered with rice,” while Turpin in 1771 noted “paddy fields [that] could be seen as far as sight could reach.”

However, agriculture as a whole, and rice cultivation in particular, long remained more limited than often assumed. The central plain around 1830–40 was a mixture of virgin land (swamps, heavy grass, clumps of bamboo, thick shrubbery, jungle tree, etc), and of diversified agricultural production including sugarcane (in the south of Bangkok, in Nakhon Chaisi, Chachoengsao, Chai Nat and near Kanchanaburi), vegetables and orchards (west of Bangkok, near Samut Songkram and Chachoengsao), and rice.<sup>2</sup> In 1835, even the surroundings of Ang Thong were still “largely uncultivated” (Terwiel, 1989). Towards the middle of the 19<sup>th</sup> century, on the eve of the Bowring Treaty, the population of the Chao Phraya Delta was concentrated in Bangkok, in minor cities such as Ayutthaya, Nakhon Chaisi, or Chai Nat, and more generally along the main rivers. The population numbered around 1.3 million<sup>3</sup> and included a fascinating ethnic mosaic. Baffie (Chapter 3) provides a historical examination on the role of migrations and wars in the constitution of an ethnically varied population that consisted of people of Indian, Malay, Mon, Lao Song, Lao Phuan, Vietnamese, Khmer, and Chinese origin. At this time rice cultivation in the delta was limited to approximately 300,000 ha.

The development of the “rice economy” has been extensively recounted and this makes further description unnecessary. The reclamation of the delta, both through the initiative of the state and by a “silent frontier” of peasants, reached a first inner limit by the end of the 1930s. Most of the land had been cleared, with the exception of higher lands in the old delta (see Map 3 in Appendix) and in the Mae Klong area. Through their account on the land system and its transformation in the 20<sup>th</sup> century, Molle and Thippawal (Chapter 4) capture the successive stages of agrarian development that resulted in pressure on land resources, and change in land tenure and average farm size. The crisis around 1970 was the result of several concomitant factors including closure of the upland frontier, stagnating yields and depressed rice prices, indebtedness, and pressure on land resources. In the late 1970s and early 1980s, the crisis was relieved by several factors including dissemination of High Yield Varieties, double cropping, improvement of water control, development of institutional credit, a drop in the birth rate, betterment of rice prices, and growing supply of non-farm job opportunities.

The boom decade preceding the 1997 economic crisis brought about several dramatic changes which are addressed in this volume. Between 1986 and 1996, the labour force engaged in agriculture in the central region dropped from 3.5 to 2.5 million, with the greatest decrease among people aged under 30 years. During this time real wages appreciated, rural labour became scarcer, the pressure on land was relieved while that on water resources increased, and agriculture moved towards greater intensification, diversification, and mechanisation.

Somporn and Hussain (Chapter 5) document the changes undergone by rice cultivation. Labour shortage and double cropping triggered the adoption of labour-saving innovations, most notably the direct seeding technique which replaced transplanting, the adoption of tractors and threshers, and the mechanisation of harvest in the 1990s. These changes resulted in greater land and labour productivity, and in a drastic reduction of labour requirements from 58 to 8 man-day/ha. However, Molle and Thippawal show that, due to declining profitability of rice farming and the mechanisation of rice production, there is a trend towards specialisation amongst some rice growers who farm increasingly large areas. This trend is currently limited to the flood prone areas, where economies of scale are possible and the land rental market more favourable, but it might foreshadow a more general change in rice production. This evolution of rice cropping is paralleled by a process of diversification out of rice to cash crop production ranging from vegetables, orchids and flowers, fruits, and field crops to aquaculture. Such cash crop production is much more labour and land intensive (and therefore dovetails with the overall trend in farm size reduction), and also provides incomes that are competitive with non-agricultural activities.

Thippawal Srijantr (Chapter 6) documents agricultural diversification in upland environments with an example from the Mae Klong area, where sugarcane/rice cropping patterns have given way to a much more diversified agricultural production including vegetables and the association of baby corn with cow breeding. As is the rule, the increased integration to the market economy tends to sharpen socio-economic differentiation. Farm endowments in land, labour, and capital, as well as skill, are factors which largely dictate the changes and the strategies of farmers.

Cheyroux (Chapter 7) analyses the expansion of vegetable and fruit gardens in the lowlands of the Damnoen Saduak area. She shows how a combination of factors (Chinese settlements, good land and water conditions, proximity of urban and export outlets, and start-up capital provided by the trade sector) has allowed the expansion of an extremely intensive and market oriented agriculture, now covering almost 100,000 ha. Depending on their individual situation (farm size,

family labour force, capital accumulation, and access to credit), farmers develop different cropping systems, more or less intensive in work and capital, more or less risky and profitable. The socio-economic differentiation of farms partly explains the cropping diversity in Damnoen Saduak. In case of little capital availability, risk can be dealt with by adopting crops which require low investment and which can be harvested year round, thus providing a regular income (guava, rose apple, and coconut). This intensive agriculture is marked by an extremely high responsiveness and adaptability to the market. Although she establishes a typology of farms, Cheyroux shows that there is little eviction or out-migration of farmers, as smaller scale agricultural producers can develop intensive systems oriented toward high added value and/or engage in off-farm activities, thanks to the high local demand.

The responsiveness of the delta farmers to economic opportunities, together with the declining interest in rice cultivation, cannot be better exemplified than by the development of inland shrimp farming described by Szuster *et al.* (Chapter 8). As shrimp farms can yield more than 25 times the annual income provided by double rice cropping, such farms are now encroaching on paddy land at an alarming rate. This activity is characterised by high risk due to yield variation caused by the spread of diseases and water quality problems. Despite technical adaptations aimed at decreasing the use of salt water, there are severe concerns on the long-term environmental impact of tiger prawn farms. Trucks loaded with sea water delivering as far as Suphan Buri province are a striking symbol of private initiative and technical innovation. But they also dramatise the incapacity of the government to respond to short-term destructive activities, to assess environmental damage, and to enforce the ban it has enacted.

These trends towards agricultural diversification have implications in terms of socio-economic differentiation and of risk-taking, most notably regarding marketing and price fluctuations, but they also have the potential to generate much higher incomes. Siriluck and Kammeier (Chapter 9) describe the attempt by the government to support this process through the launching of a programme aimed at “restructuring agricultural production” in 1994. This policy was designed as an answer to the water shortages experienced in the 1991–94 period and as a means to reduce the share of rice in agricultural production. It appears that such overall policies face drastic difficulties of adaptation to local conditions and often have dramatic counterproductive impacts. In particular, as the programme paid little heed to the conditions of marketing, several farmers were eventually found to have abandoned the programme while remaining burdened by the debts incurred. The analysis

strongly suggests that state intervention and attempts to influence farmers' decision-making must be mediated through improving the security of water supply and output prices, rather than by dictating crop choice. The study also identifies a worrying incapacity of state agencies to monitor their activities and to derive lessons for the future.

Rice intensification as well as diversification is contingent upon the quantity, reliability, and quality of irrigation water supply. Molle (Chapter 10) paints a worrisome prospect of the evolution of water availability for the Chao Phraya Delta in the dry season. The decline of the inflow in the storage dams, the growth of water use, both in areas upstream of the delta proper and in domestic or non-agricultural sectors, gradually curtails the amount of water available for dry-season cropping. This decrease has so far been dealt with by reducing dam water releases solely for energy generation and by using dam carry-over storage that should be kept for inter-annual regulation. The analysis shows that farmers have been extremely responsive to water scarcity and that, contrary to common wisdom, efficiency in water use at the basin level is high. The spread of individual pumping devices, in particular, has dramatically modified the patterns of access to water and has undermined any collective effort to increase equity. The top-down water allocation process allows little say to users and the lack of technical and institutional control over the whole basin gives free ride to political interventions and to the competition between administrations. Molle also shows how projects, policies, and reforms are biased and undermined by both the inadequate conception of state intervention in the countryside and the ideology of international development agencies.

All these far-reaching agricultural changes cannot be analysed and understood only as internal transformations. They are part of the mutations which affect the wider economy, both national and international, and more generally of social and cultural transformations in the country. Kitahara (Chapter 11) provides a longitudinal study of a village in the Mae Klong area and describes its gradual incorporation into industrial and urban domains. Economic activities appear increasingly determined by age class. The younger age strata predominantly engage in factory work, while middle-aged people together with the elderly and women are found working in rice farming or in the village informal sector. These informal activities include all kinds of cottage industries, daily wage work, independent or sub-contract workshops, food preparation, as well as a few small-scale factories. To his surprise, Kitahara found no evidence of significant part time farming, as is common in East Asia. He analyses changes as driven by a process of new consumption and

lifestyle formation prompted by the outside market and contacts with urban life. However, because of the development of transportation infrastructure, most villagers are able to commute daily, thus contributing to the conservation of the traditional family social structure and corresponding social links and boundaries.

Such economic diversification and intricate relationships between the urban and rural spheres are also reported by Askew (Chapter 12), who studied rice farmers and gardeners at the urban fringe in Nonthaburi. Askew's conclusion is that "the metaphor of the threatening urban frontier" is a mistaken one. He sees farmers not as victims of external agents of change but actively participating in the social and economic transformation of their society. They gradually but purposely release their land resources according to individual strategies devised within the wider economy. These strategies include diversification of occupation, education of children, together with the quest for status among neighbours. Despite urbanisation, he finds the persistence of strong and complex webs of kinship and patterns of reciprocity, which support the evidence that social links and values do not merely disintegrate in the process of change.

The historical and cultural basis of social organisation in the delta is examined by Shigetomi (Chapter 13). He emphasises several differences between the central region on one hand, and the northern and northeastern regions on the other hand, in terms of settlement patterns, social fabric, family linkages in land transactions, communal land management, or temple ceremonies. Rather than engaging in collective action based on a hypothetical and rather elusive village, people in the central region appear to be mobilised through networks of dyadic relationships, often stemming from a core group, and with a more contractual definition of roles. Emphasising the lack of fit between administrative units (villages and *tambon*) and the spatial spread of these social networks, Shigetomi observes that development organisations and groups are largely disconnected from the formal local administrative structure, even if they have been initiated by government agencies. A greater interaction of rural communities with the outside world poses new challenges that require, and may even foster, new forms of collective organisation and action, particularly in response to state interventions and more specifically to the increasing amount of funds that are to be managed locally.

The project to decentralise administration and government spending to democratically elected local bodies is addressed by Nelson (Chapter 14), based on the example of Chachoengsao province. Through an analysis of the local structure of power and the predominance of cliques (*phuak*) based on inter-personal relationships, Nelson shows that the activation of citizens to participate in public

and political life is still minimal and sees attempts at “democratic decentralisation” having little prospect of immediate success. Rather, decentralisation might well mean the increasing penetration of the central bureaucracy into the countryside rather than localities regaining their previous autonomy. However, the on-going process can be seen, in a more positive tone, as a prerequisite to the gradual elimination of the influence of the *phuak* and as a learning process towards local governance.

These chapters cover a rather extensive range of disciplines and aspects of agricultural and social transformations in the Chao Phraya Delta. The overall picture emerging from these different glimpses portrays the fading away of a peasant world. Technical change, intensification, diversification, pluri-activity and migrations have responded to and accompanied changes in demography, factor prices, and market opportunities. Mobility, flexibility, and adaptiveness are keywords of transformations that, the studies suggest, are taking place in an economic, social, and cultural continuum between Bangkok and the rural delta.

Putting the changes observed in the Chao Phraya Delta in context, Kaida (Chapter 15) distinguishes between agrarian deltas, such as the Red River and the Bengal deltas, and mercantile deltas, which include the Mekong, Chao Phraya, and Zhujiang (Pearl River) deltas. The latter are seen as inland extensions of insular Southeast Asia with economic systems based on transactions with the external world. The mercantile deltas have developed by attuning their economies with those of maritime and commercial activities. They are opportunistic, loosely structured societies with little attachment to land, characterised by capital intensive undertakings and high linkages with world markets, but also by greater socio-economic differentiation.

This takes us to an underlying theme which pervades many of the studies carried out in the delta. Molle (Chapter 2) shows that the vision, by urban or foreign scholars, of the transformation of the delta’s peasant society contains a dialectic tension between nostalgia for an often idealised peasant society (with its contrastive discourse of a peasantry disintegrating through the intrusion of state and markets), and recognition of the necessity to seize new opportunities in the context of agrarian change driven by closure of the frontier and increased integration with the outside world. The state is seen as intrusive and overbearing but it has also provided new rice varieties, irrigation, road infrastructure, credit, etc., which allowed the development of the delta. In addition, the presence of the market stirs individualism and competition, but also provides cash income which is recycled into further investments, education for children, and demand for goods on the national market.

On balance, the tension may not be as critical as often assumed. Comparison with the Vietnamese deltas shows that, despite the agrarian crisis around 1970, the Chao Phraya Delta has managed relatively well its transition from a rice bowl towards a post-agrarian society. The labour surplus has been transferred to non-agricultural sectors but this trend, particularly in the last 15 years, has been fuelled by pull factors (increased and/or more regular income, economic independence for youths, but also by the attractiveness of urban life as opposed to the low social status of farming), rather than by a push out-migration of destitute farmers. It is apparent that farmers have been active players more often than victims. This is, of course, a macro-level description, and does not deny the existence of difficulties and hardship in the delta but, because of its numerous comparative advantages, the region compares favourably with other parts of Thailand.

At the turn of the new century, this book provides glimpses of the transformation of Thailand's rice bowl and its current status. It allows us to grasp the magnitude and the speed of the changes it has undergone in less than one century, from a wild hinterland reclaimed by peasants newly freed from bondage and fully devoted to rice production, to a complex post-agrarian society with modern infrastructure, intensive agriculture, economic diversification, and ever increasing economic and cultural linkages with the outside world. It also offers clues on possible future trends, which might include a growing specialisation of farms between rice-cropping (on larger land) and non-rice intensive farming (diversification), the spread of pluri-activity (with farming as a part time occupation), the development of non agricultural sectors in regional centres, a growing demise of agriculture, but also a strain on natural resources, notably water, and on the environment. With an ageing and declining population of farmers, the demise of agriculture could reach proportions only witnessed elsewhere in the region in Malaysia (see Rigg, 2001). The respective profitability of rice and sugarcane cultivation, fruit production and aquaculture, as compared with the supply and remuneration of non-farm activities, will largely dictate the pace of transformation (Molle and Thippawal, 1999). This is tantamount to stressing that the paths ahead are by no means mapped out and will be strongly shaped by the evolution of the wider economy.

## Notes

<sup>1</sup> The geographic definition of the delta is problematic, though crucial to delineate the focus of this book. The terms central plain or central region are also encountered in the literature and often refer to totally different entities (thus generating recurring

confusion and contradiction). Even the administrative definition of the central region is far from fixed, as an examination of diverse official documents show (Kasetsart University and IRD, 1996). We chose here to define the delta by the actual limit of the irrigated area (which includes both the Greater Chao Phraya and Greater Mae Klong Projects; see Maps 1 and 3 in Appendix). This choice is justified in that the development of irrigation facilities has generated a dramatic contrast between the inner area, where agriculture has markedly intensified, and the rain-fed upland outer area. In addition, this definition is consistent with history, as the greater part of the irrigated area corresponds to the lowlands which were reclaimed during the boom of the rice economy (with the exception of the western terrace fringe and of the upper Mae Klong area).

<sup>2</sup> According to the historical records collected by Terwiel (1989), rice was confined to areas near habitations, such as along *khlong* Bang Yai (“a few paddy fields”), near Potharam (with irrigation from the Mae Klong River) or along the middle reach of the Tha Chin River. Extensive rice fields were to be seen only north and south of Bangkok, on its east along the first reach of *khlong* Saen Saep between Ayutthaya and Tha Rua, and in one region extending between Nakhon Nayok and Chachoengsao.

<sup>3</sup> The ratio between the population of the six inner *monthon* intersecting the delta to the total population in 1911 was 30% and data by province from 1919 show that (at least) 18% of the population of the 6 *monthon* was residing in upland provinces. Applying the same ratio to Skinner’s estimate of the Thai population in 1855 (5.37 million) gives a total of 1.32 million.

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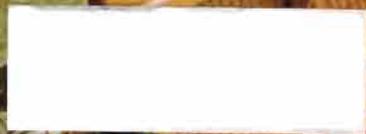
# **Thailand's Rice Bowl**

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Change in the Chao Phraya Delta**

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