APEK
Büro für Agrarpolitik
und Ernährungskultur

Food Culture of Southeast Asia

Perspectives of social science and food science

Wahyudi David and Daniel Kofahl (Eds.)

kassel university press

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Dieses Buch wurde gefördert vom Büro für Agrarpolitik und Ernährungskultur - APEK - www.apek-consult.de.

This book was funded by the Office for Agrarian Policy and Food Culture - APEK - www.apek-consult.de.

Bibliographic information published by Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data is available in the Internet at http://dnb.dnb.de.

ISBN 978-3-7376-0286-0 (print)
ISBN 978-3-7376-0287-7 (e-book)
DOI: http://dx.medra.org/10.19211/KUP9783737602877
URN: http://nbn-resolving.de/urn:nbn:de:0002-402873

Coverdesign: Ilknur Kocer

www.upress.uni-kassel.de

Printed in Germany

Table of Contents

Table of figures **6**

List of Table **6**

Acknowledgement **8**

Chapter 1 ..... **9**

Introduction

Chapter 2 ..... **16**

Amazing Thailand – Another Look at an Ever Changing Food Culture

Regional Cuisines 19

Beginnings and "Indianization" 20

Where's the Chili? 24

Streetfood 25

International Exchanges 26

"Thai Soul" - The Rise of Isan Foodways 28

Current Trends and Transformations 29

Less Rice 31

Sugar, Sugar 33

"Please, not so spicy!" 35

Insects 36

Concluding Remarks 38

Chapter 3 ..... **44**

Food transition and food consumption of urban and rural in West Sumatra, Indonesia

Anthropometric and blood pressure assessments 46

Nutritional Status 48

Blood Pressure 49

Food and nutrients consumption 49

Relationship between Food consumption and Cardiovascular disease risk 52

Nutritional Status and Food Consumption 54

Nutrition transition 57

Diet Related – Non Communicable Diseases 60

Acknowledgment 61

References 62

Chapter 4 65

Thanksgiving in Minahasa (North Sulawesi)

Food as Cultural Symbol 67

Thanksgiving in Minahasa 71

Type of Foods Served at Pengucapan 74

Factors that Influence Food Choice 76

Concluding Remarks 79

References 80

Chapter 5 83

Food culture in Thailand from OTOP to industrialized food products

Fried Gourmi fish 85

Butter banana roll 86

Fried peanut mixed with herbs 86

Fermented fish 87

Salted eggs 87

Sesame stick 88

Durian crisps 88

Sun dried Snakehead fish 89

Sweet Turnip / Salted Turnip 89

Rice crackers 90

Golden dried longan 90

Powdered coconut palm sugar 91

Chapter 6 93

Food system or dietary pattern changes in Indonesia? Organic food system as example

Organic Food 94

Stakeholders in food systems 96

Consumers 97

Organic rice as example 99

Organic rice consumption 102

Organic Food System 104

Conclusion..... 105

Acknowledgement..... 106

Reference 106

Chapter 7..... 111

Conclusion: looking to the future

List of contributors..... 114

Table of figures

Figure 1: Global food losses and food waste-extent, causes and prevention (percentage)..... 96

Figure 2: Organic values and principle (created by Johannes Kahl)..... 100

List of Table

Table 1: Comparison of anthropometric indices between subjects in urban and rural areas..... 48

Table 2: Comparison of Systolic and Diastolic Blood Pressure between urban and rural..... 49

Table 3: Comparison of nutrients consumption per day..... 50

Table 4: Comparison of certain food group consumption (g/day)..... 51

Table 5: Pearson correlation between food consumption with anthropometric indices..... 52
Table 6: Pearson correlation between certain food consumption with cardiovascular disease risk (r(p))..... 53
Table 7: Comparison of different processing mode on rice quality..... 102

Acknowledgement

We would like to express our gratitude to all contributors for thier significant contribution to this book. We would like to thank to Büro für Agrarpolitik und Ernährungskultur – APEK, Germany to support this book financially.

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Chapter 1

Introduction

Wahyudi David and Daniel Kofahl

The relationship between humans and food, a universal basic necessity, has a complex history dating back to the first human civilization. As humans gained more aptitude and ability, primitive processing techniques have grown more sophisticated and incorporated machinery. This transformation has long been a discussion topic of scholars from a variety of perspectives and disciplines. Some scholars focus on nutrition, quality, and safety, while others focus on food culture, behavior, and habits. Multidisciplinary research is often performed to capture the changing aspects of food cultures and consumption. Food culture refers to the practices, beliefs, and attitudes of humans, as well as the networks and institutions surrounding the production, distribution, and consumption of food.

In all cultural traditions, food has many dimensions. Nations and countries are now frequently associated with certain foods, and many cultures or individuals have at least one food-specific memory, whether taste or smell. Food plays an important role in daily lives, as without food, humans cannot survive. More than that, food is also translated as a symbol of hospitality, social status, and religious identity. Food discussions encompass not only what is eaten, but how it is prepared and served, and how it relates to the identities and lifestyles of the humans eating it.

Particularly when comparing modern times to ancient, there is a significant difference in the processing of food. Environment and human "appetite landscape" also swings based on trends created by humans, or by nature and food stuff availability. That diversity of dishes is clustered based on geographical where the humans are situated. Furthermore, human are very intelligent, and possess the ability to manipulate and create food according to their wishes.

The diversity of food is mainly based on how humans interact with their environment, and how they are adapted to the changing of said environment. One of the richest regions with food and spices on earth is Southeast Asia. Southeast Asia extends from Myanmar in the north-west to Indonesia in the Southeast. Southeast Asia consists of two geographic regions: one, mainland Southeast Asia, also known as Indochina, comprised of Vietnam, Laos, Cambodia, Thailand, Myanmar, and West Malaysia; two, maritime Southeast Asia, comprised of Indonesia, East Malaysia, Singapore, Philippines, and East Timor. Southeast Asia is one of the regions with a long history associated with the spices trade. Spices such as cinnamon, cassia, pepper, ginger, and turmeric were known and used in antiquity for commerce in the eastern world. As trade between India and the Greco-Romans increased, spices became the

main imported goods from India to the western world. The Indian commercial connection with Southeast Asia proved vital to the merchants of Arabia and Persia during 7th and 8th centuries. For instance, the Moluccas product shipped across the ports of Arabia to the near east, passing through the ports of India and Sri Lanka. The interaction of traders and people who lived across the spice routes was high, but still the identity of their local food can be distinguished by taste and aromas.

According to the Lexicon of Food (no date), food culture refers to the practices, attitudes, and beliefs as well as the institutions surrounding the production, distribution, and consumption of food. Most of the time, food culture has been associated with traditional food. Traditional food refers to dishes or foods that are passed through generations, or refers to foods consumed consistently through generations of civilizations. Food and culture are much more complex than just foods existing in daily life.

Food cannot be separated into simply cooking and eating, as a wider view shows that "food" must also include discussion about agriculture and environment. Likewise, culture must also be examined not only as individual habits and behaviors, but also the civilization and other aspects as a whole.

This book presents the various angles of perspective to look at the food culture changes in Southeast Asia. Wahyudi David and Daniel Kofahl explain the importance of this book (Chapter 1).

Another look at food culture in Thailand (Chapter 2) was captured by Marin Trenk. He observes everything from the street food to table manners to rice to sugar. He noted that there is an enormous popularity of milk products, bread, and cake available everywhere in Thailand. Many Thais prefer to have quick breakfast of milky coffee, toast, and cornflakes, which was not common before. This changing food viewpoint causes much doubt about what the landscape of urban food will become in Thailand. His narrative contextualization centered on Thai chili and gathered from various perspectives is very interesting to read.

In Chapter 3, Nur Indrawaty Lipoeto, Deddi Prima Putra, and Ika Ramadani quantify changing traditional food to modern food consumption. They conducted research in West Sumatera, Indonesia. They assessed the anthropometric and blood pressure in two urban and two rural municipalities. These two conditions were chosen based on the assumption that rural municipalities are still keeping their traditional foods, while urban municipalities are not. The study shows that macronutrient and micronutrient consumption is significantly dif-

ferent. This chapter demonstrated how the food culture reflects the nutritional status of the people.

Another look at food culture in Indonesia was captured by Trina E Tallei, Ardianto Tola, and Maryam Lamadirisi (Chapter 4). A change in lifestyle of a community makes people change the perception toward their food. In this chapter, the authors describe the example of the Minahasa community on thanksgiving rituals and how they symbolized their gratefulness to the God by using food as a symbol. This chapter noted that thanksgiving in Minahasa is a cultural-based imitation process and is the starting point of behavior formation.

In Chapter 5, Tosporn Namhong describes the examples of Thai OTOP food products which are developed from local wisdom. The purpose of Thai OTOP is promoting the local food product and support country economics.

The changes in urban food consumption seem to be a crucial key in the transformation of food culture. Wahyudi David described how the organic rice principle can systematically shape the urban diet (Chapter 6). He proposed the organic rice model to overlook how the food system is "unconsciously" shaping and changing diets and food culture. The important message is "diets play an important role in shaping food systems, and food

systems shape diets."

Overall, by presenting a wide diversity of disciplinary approaches to existing and emerging issues and problems related to food culture, this book provides a state-of-the-art overview to understanding the complexity of Southeast Asia food culture and how food culture has changed in the last decades. Hopefully this effort may stimulate further scientific research activity both within and across the various disciplines to begin understanding the change of food culture in Southeast Asia.

Chapter 2

Amazing Thailand – Another Look at an Ever Changing Food Culture

Marin Trenk

The Thai tourism authority promotes the country as Amazing Thailand and this slogan would repeatedly spring to mind as I travelled the country conducting field research. To me the openness to the new seemed quite amazing, the openness to new culinary influences in particular. According to the impression of many, Thais tend to approach the foreign in the playful adoption of influences and the creation of something inimitably unique, above all, with respect to foreign food and cuisine. Exemplary of this remarkable achievement are the way the country has approached the chili pepper and its table manners.

Thai cuisine is famed for its spiciness, and the chili (prik) has been adopted as the country's culinary emblem. When Columbus first brought the chili to Spain in 1493, he advertised it as a kind of "new pepper," hence initiating an enduring terminological confusion throughout the world. Europe, however, was at a loss about what to do with the unfamiliar pungent quality of the chili and simply passed it on to Africa and Asia. It was only there that Columbus' hope would bear fruit, namely, that people not only accept the chili as a new kind of pepper, but even consider it the superior variety thereof (1). The Thais even went on to consummate this change in their language. Initially designated as prik thet or

foreign pepper (cf. Thanes 1999: 2), chili nowadays is simply referred to as prik, whereas the long established pepper has come to be called prik thai. Hence, rather than seeing in the New World chili the pepper from foreign lands (as has been the fate of the tomato, called makuea thet, the "foreign eggplant"), the Thais declared their pepper to be "Thai chili" – which is how one would translate prik thai today.

The country's table manners amaze and, occasionally, even confuse its visitors, too. One way cultures distinguish themselves is by way of their table manners. The world's great civilizations may be grouped according to specific eating habits. In East Asia it is customary to eat with chopsticks, whereas in South Asia one eats with the hand, as is true of much of the Islamic world and all of Africa. The West, by contrast, is distinguished by the custom of eating with a knife and fork. Thailand, however, is probably the only food culture, which practices all three fundamental eating customs. Chopsticks are considered indispensable when eating certain dishes of Chinese origin, like noodle soup. Since the endeavors of "Siwilai" in the early twentieth century, whereby the Thais sought to persuade the colonial powers that they were already "civilized" (cf. Thongchai 2000), the spoon and fork have come to dominate the Thai table. Thus, the Thais also adopted

Western table manners, although the knife was felt to be superfluous and dispensed with. However, especially in the Northeastern provinces, inhabited by a third of the country's population, the preferred way to dine is still seated on mats placed on the floor and using the hand. It is this ancient etiquette that has since reappeared in some Bangkok restaurants. Thus, Thailand has adopted and indigenized new table manners (be they from the West or from China) without having altogether abandoned its time-honored dining traditions.

Regional Cuisines

Where other than in Thailand could one find such ideal conditions for studying culinary adoptions and adaptations? Situated to the south of China and to the east of India, it is here that from time immemorial trade routes have crisscrossed and cultural styles have mixed. The Kingdom of Thailand encompasses four regions which define present-day Thai cuisine. As in many other countries (in China and India, for example, or in France and Italy), historically evolved regions with their cuisines have been the mainstay of the country's culinary culture. Furthermore, there exists a culinary north-south divide. In the capital Bangkok and the surrounding Central province, and in the South, the staple food is "white"

rice, fish sauce is an indispensable condiment, coconut milk lends many dishes their distinctive taste, whereas glutinous rice is used exclusively in sweets. In the North and Northeast, by contrast, the staple is glutinous or sticky rice, and, alongside the ubiquitous fish sauce one cooks with plara (literally, rotten fish), an odorous and earthy-tasting variant of fish sauce, while coconut milk is used for sweets only (2). In addition, throughout the Northern provinces, some raw dishes (called laap) are much enjoyed, while in the Central and Southern regions, raw comestibles – whether these be fish or meat – are invariably shunned (3). However, there is one aspect that is at odds with this division: Only two out of the four regional cuisines stand out as being truly pungent, the cuisine of the South and that of the Northeast or Isan. Together with the Sri Lankan and southern Indian cuisines they probably count among the world's spiciest food cultures.

Beginnings and "Indianization"

About a thousand years ago when Tai-speaking groups gradually left southern China and migrated into Southeast Asia, their food customs must have undergone enormous changes. What might it have looked like at that time? The staple food would have been glutinous rice, eaten by hand. Along with coconut milk, many of today's familiar fresh herbs would have

been missing, and the technique of preparing a curry paste (krueang gaeng) from these herbs would have been acquired only gradually over the course of time. Fish sauce (nam pla) and shrimp paste (kapi) – those hallmark ingredients of food cultures throughout Southeast Asia, which distinguish Southeast Asian from East Asian cuisines – entered the emergent Thai cuisine (4). But from the earliest times on there already appears to have been a tendency towards pungent and spicy dishes, so the sustenance of the present-day Thai's ancestors was by no means bland without the chili pepper. At least this is what Marco Polo's description of a remarkable dish from China's southern Yunnan province suggests, which was prepared from chopped raw liver and other offal, a generous dash of pepper, along with plenty of garlic and herbs. In his description one can easily discern predecessors of today's laap dishes common to Thailand's North and Northeast (cf. Brennan 1981: 19–20; Van Esterik 1992: 178), which also feature in the culinary repertoires of many of the hill tribes. This raw laap (referred to as laap dip or goy) in its present-day Isan version, ranks among the region's signature dishes.

As can be seen, the characteristics of their erstwhile foodways have tended to endure more in the two northern rather than in the two southern regional cuisines. Culinarily speaking, the

Kingdom of Thailand is the sum of its four regional cuisines. However, when considering the "flavor principles" (cf. Rozin & Rozin 2005), the gulf running through the country runs even deeper. On the basis of the preferred herb and spice combinations, Northern or Chiang Mai cuisine (the cooking of the former Kingdom of Lanna) bears barely any semblance with that of Bangkok (5). By contrast, the flavor principles of Central Thai cuisine" (hereafter referred to simply as "Thai cuisine") are almost identical to those of neighboring Cambodia. The endless variations of sour fish soups or stews, along with the curries prepared with coconut milk (including the national dish amok), for example, will be familiar to anybody coming from Bangkok. One may well be surprised, though, to discover that Khmer cooks consider chili superfluous, like the liberal use of sugar, typical of modern Bangkok fare. The close culinary affinity becomes all the more apparent when contrasting the cuisine of Cambodia with that of Thailand's Northeast (and the related food of the Lao People's Democratic Republic). Their flavor principles have little in common indeed (6).

The reason for this affinity between Thai and Cambodian cuisine is most likely the pronounced, centuries-long contact between the empires of Angkor and Ayutthaya – however

peaceful or violent this history has been. Khmer cooks were brought back to the Ayutthaya court after the conquest of Angkor in 1431 (cf. Van Esterik 1992: 178). The Angkor Empire had been the prevailing "Indianized" civilization in the region for centuries, whereby Indianization was not limited to religion and mythology, statesmanship, architecture, writing and the fine arts, but included the culinary arts as well. One would be hard-pressed to overestimate the centrality of the Mon-Khmer to the "Indianization" of Thai cuisine. One of the most widespread clichés concerning Thai cuisine holds that it is a fusion of "Indian curry and Chinese noodles" (7). In point of fact, whereas the numerous Chinese influences and dishes that were to become stalwart elements of Bangkok cuisine after being introduced by migrants during the nineteenth century, are quite evident (8), a similar direct Indian influence is difficult to identify. Paradoxically, this may be owing to the fact that the Indian influence is, indeed, fundamental and remains inconceivable without the mediating role of Mon civilizations and the Khmer Empire. Rosemary Brissenden in her gorgeous book titled Southeast Asian Food recognized precisely this as well, noting: "The finest Southeast Asian dishes (…) are characterized by a blended subtlety of fragrance and flavor that, though unique in every case, displays an affinity with Indian food" (2003: 3).

Where's the Chili?

Since the Thais are so open to novelty, it is commonly assumed that chili – without which Thai cuisine would be barely conceivable – was immediately adopted with enthusiasm (9). While this seems plausible, it is not corroborated by historical sources. What may, indeed, be claimed with some degree of certainty is that Portuguese sailors introduced the chili to South Asia in the early sixteenth century. From Portuguese Goa the chili spread along indigenous trade routes and, thanks to indigenous merchants, all over East and Southeast Asia (cf. Andrews 1992). A century later, however, chili had not yet found entry into Thai cuisine. At least there was no mention of it either by the Dutchman Jeremias van Vliet in his Description of the Kingdom of Siam written in 1638 (Baker 2005), or by the two French chroniclers Nicolas Gervaise (1688) and Simon de la Loubère (1691), who provided detailed accounts on food in Ayutthaya. During the Bangkok period, on the other hand, foreign observers – whether the French Monsignore Pallegoix (1976: 64), British diplomat Sir John Bowring (1969: 108), or the first anthropologist ever to have travelled to Thailand, the German Adolf Bastian (1867: 68) – made frequent mention of spicy dishes. In all likelihood, the new "super spice" that was to become the symbol of Thai cuisine must have turned the Thais into chili enthusiasts not before the eighteenth century.

Streetfood

A quarter of a century ago Penny Van Esterik wrote From Marco Polo to McDonald's: Thai Cuisine in Transition (1992), which has since been recognized as a classic of Thai food studies. Many of her observations and conclusions, some of which I will discuss in greater detail, still hold. My very first trip to Bangkok was for a few days in the spring of 1992, and I found the city a fascinating, expansive "foodscape" (10). Even long before Thailand's capital acquired its reputation as being the world's capital of street food, it was possible to purchase ready prepared food in the markets. However, when first reading Van Esterik, I could not believe that prior to the 1960's there were hardly any restaurants in Bangkok at all. Back then, the few hotel kitchens and restaurants served only Chinese and Western food.

Around the close of the nineteenth century the Englishman Ernest Young described the city's lively mobile food culture. He spoke of "strolling restaurants," i. e. itinerant cooks and food vendors who would serve "curry and rice" or prepare dishes at lightning speed, as still is common in the "kao gaeng" and "dtam sang" foodstalls. Already back then, ice cream sellers would mill around schools during recess between classes; and in their tiny boats on the city's many canals native cooks

prepared an astonishing range of dishes (Young 1986: 7–10, 39 – 40). Cook shops and mobile food booths were to be found almost everywhere: like the Buddhist temples and the eye-catching spirit houses, they put their stamp on the cityscape and contributed to Bangkok's exotic image. Hence, alongside the four regional cuisines, this tradition of market food and street kitchens formed and still forms the backbone of the country's culinary culture.

International Exchanges

Who could imagine a Thai city today without an endless number of food stalls and restaurants? Without question, the cuisines of the world are to be found everywhere in Bangkok – actually each and every cuisine, as some residents will point out, except those of the neighboring countries. American fast food restaurants are a familiar sight. But until recently, William Klausner (2002: 100), a long-term American resident and close anthropological observer of the Kingdom, thought it would be impossible that the Thais ever develop a liking for such bland and relatively expensive food. In the 1980s, a Canadian exchange student residing in the North still observed that the locals were opposed to it: "People … despise falang fast food chains in Bangkok" (Connelly 2001: 97). Today, no such aversion remains, since many young people and members of

the middle class have meanwhile become very fond of Kentucky Fried Chicken, Pizza Hut, McDonald's and Dunkin' Donuts. However, fast food is not considered a proper meal, only a snack. But at the same time, people appreciate the new culinary experience as well as the international flair of these fast food outlets. The ambiance and air conditioning of these restaurants invites the typically fast-eating Thais to spend more time there. Thus, in some way they have become places for slow food, as Van Esterik (1992: 183) already pointed out.

But the "international food exchanges" now, above all, no longer solely involve the West. Hundreds of Japanese restaurants have mushroomed in Bangkok alone. Most of them were established by local chefs whose careers began as kitchen assistants in major Japanese restaurants (Cookman Redux 2009). They cook – and this may well be an indication of their success – Japanese, but Thai-style, and among their most well-known creations is an adaptation of sukiyaki, which the Thais have adopted into their cuisine under the name su-gii. Sushi, by contrast, often fairly sweet and garnished with mayonnaise, is available as street food even in small towns. Thai sushi may include virtually everything from boiled quail eggs, a tempura-prawn, a piece of sausage of the bologna variety (a local adaptation of the American version of Italian mortadella). Only sushi prepared with raw fish is often missing.

"Thai Soul" - The Rise of Isan Foodways

Besides international exchanges, a further factor has impacted the transformation of Thai cuisine. This has been the hardly less remarkable expansion of one of the regional cuisines, which was already underway some thirty years ago (Van Esterik 1992: 182–183). Since the incorporation of Thailand's marginalized northeastern region into the Siamese Kingdom in the nineteenth century – a process sometimes aptly described as "internal colonialism" – its Lao-speaking inhabitants have been looked-down upon. Their food first entered Bangkok with the wave of migrants that has provided the capital with burgeoning, untrained workforce since the 1950s. Initially popular only among the immigrant community, ahan isan was soon to become a favorite among all groups and social classes. Today, one even finds Isan restaurants on Siam Square, Bangkok's commercial center. But only selected dishes were adopted from Isan's erstwhile "barbaric foodways" (Walker 1991: 191), only to be "Thai-ized," while others were frowned upon and rejected. Isan's signature dish laap, for example, has been regarded as both a good (i. e. cooked) and a bad (i. e. raw) dish. While the cooked laap rose to the rank of a Thai national dish, its raw variety became the target of national campaigns, since it was generally stamped a health hazard (cf. Lefferts 2005; Trenk 2012).

However, this could not forestall the triumph of this hitherto despised cuisine in general. Some Isan dishes, such as the papaya salad somtam, are loved throughout the country. Sticky rice – until recently the scorned regional staple – has emerged nation-wide as a practical snack. Moreover, it would seem that all Thailand has become addicted to the taste of Isan. There are laap-tasting potato chips; laap appears as a pizza topping; and there even is a sushi à la Isan, for which various laap-spiced meat and fish variations are served on glutinous rice. The omnipresent convenience store 7-Eleven offers an Isan-flavored sticky rice burger. And since raw dishes, such as carpaccio or sushi, have come to enjoy worldwide esteem, Bangkok's sophisticated restaurant and culinary scene has even rehabilitated laap in its raw version, be it with local oysters or imported tuna and salmon. Salmon-laap, albeit cooked, is meanwhile routinely served by the national airline Thai Airways. In view of the truly extraordinary success of Isan cuisine, the inevitable question is whether this will improve the status of the Kingdom's Lao-speaking inhabitants (11).

Current Trends and Transformations

Thai food ranks as a world cuisine; the tantalizing combination of lemongrass, kafir lime leaves, cilantro, coconut milk and chili

has become the favorite exotic taste throughout the Western world and beyond (cf. Trenk 2015: 124–154). By contrast, in recent decades the country has further opened itself to Western influences. Above all, the enormous popularity of milk products, bread and cakes as well as other snacks and sweets is conspicuous everywhere. How many Thais, for instance, prefer a quick breakfast of milky coffee, toast or cornflakes to rice soup? Youngsters like to congregate in milk bars, which serve milk drinks and thick slices of toasted and buttered bread with sweet sauces and custards. Does anyone recollect how milk was traditionally frowned upon? Today, ice-cream is considered to be typically Thai, and there is even a "traditional ice-cream" (ai-dtim bolan) that is now sold on the streets with flavors like durian or coconut. Creamy colored cakes imitating American flavors, called kanom cake, are on sale everywhere: although, for example, no German would recognize the taste of "Schwarzwälder Kirschtorte" when savoring the Thai street food version of a black forest cake. A significant proportion of the sales at 7-Eleven stores, which recently have become no less of a hallmark of Thai cities than the spirit houses, is made up of industrially processed snacks and soft drinks. Modern snack culture has even found its way to the most remote villages. Steak houses are to be found in many provincial cities and towns, while macaroni or hotdog sausages are served as

salads as a matter of course, whereas French fries and pizza have established themselves as street food. Cheese and tomatoes, however, do not feature as essential ingredients on a tasty Thai pizza. But ketchup and mayonnaise do, applied decoratively in the traditional laai thai ornamental style.

Yet, far more important than these rather impressionistic images that are ubiquitous in Thailand are other culinary transformations, that were barely visible a quarter of a century ago: fundamental is, firstly, the dissolution of the nutritional pattern based on rice; connected with this is, secondly, the increase in sugar consumption; thirdly, and somewhat astonishing, is the fact that a growing number of Thais have begun to turn away from their chili-spiced cuisine; and, finally, insect snacks are becoming increasingly popular, especially in Bangkok.

Less Rice

In Thai, eating is synonymous with eating rice (gin kao) – rice being the staple food of the country. However, although rice is integral to practically every meal and the traditional structure of a meal appears to have remained intact, the processes of its dissolution are evident. As Sidney Mintz (1985: 8–13; 2001) has shown in his ground-breaking study, a meal in traditional

agrarian societies consists of one staple food (typically a plant with a lot of "starch" in it, a cereal or a tuber, the so-called complex carbohydrates), which is consumed with one or several flavor-intensive side dishes. Mintz calls this the core-fringe model of human nutrition, as it has endured throughout the millennia ever since the Neolithic revolution (12). Alongside the Thai "core", rice (kao), usually several accompanying "fringe" dishes are served, called gap kao (literally, "with rice"). The core-fringe pattern may describe both the most modest meal of poor Thai peasants – namely, rice accompanied by a small bowl of fish sauce with chili – as well as the most elaborate meal with numerous side dishes. However, since ever greater amounts of meat, fat and sugar are consumed by virtually everybody, the relationship of kao to gap kao is shifting. Even in remote rural areas, an increasing amount of people's daily calories consists of snacks, and that means fat and sugar.

We owe an interesting observation to the British emissary Sir John Bowring. He noted in the mid-nineteenth century that although the population's diet centered on rice as the focus of the meal and primary staple, rice was considered "by the opulent" only "as an accompaniment to their meals, as bread in Europe" (1969: 111). Whereas, at that time, the tendency to

dissolve the core-fringe model was true only of the wealthy, with the more recent increase in wealth among the population in general the same may now also be claimed for all social classes. Some differences to the West, however, still remain. Since, unlike us, for whom former "cores" (like bread, potatos or pasta) are classified as "fringe" and have become side dishes, the structure of the meal in Thailand has yet to be reversed. To this day rice continues to be the country's staple food.

Sugar, Sugar

Over the years the consumption of sugar has increased so dramatically that statistically Thailand is among the world's top consumers (cf. Lefferts 2007). As part of the famous Thailand project carried out by Cornell University, researchers studied the eating habits of the village Bang Chan – now part of greater Bangkok – from 1952 to 1954. Although in the village it was common practice to season a number of dishes with a little palm sugar, the research team found out that local sugar consumption was "almost negligible" (Hauck et al. 1958: 74) by American standards. At that time, the United States led the world in sugar consumption. It was in the post-war period that Americans gradually began to consume more sugar than complex carbohydrates, that is more sugar than flour. In their

best-selling book The Taste of America (1972), John and Karen Hess claimed that the country had been afflicted by what they called the "sugar sickness." Today, Thailand outranks the United States. The question occurring to me over and again is what, if anything, now tastes good to the Thais without sugar? It is not only used for sweets and deserts, but it is now a common practice for example, to season a noodle soup with two to three spoonfuls of sugar, in spite of the fact that the soup base is itself already sweetened. Whatever is served, whether it be a seafood salad, a stir-fry such as the national noodle dish pat thai, a curry or a dip served with meat or fish – it certainly will taste sweet.

In the nineteenth century, Bishop Pallegoix (1976: 63-64) recognized two cuisines in Bangkok, one Thai and one Chinese. To him, the "Siamese cuisine" seemed "strong and spicy," while the Chinese, by contrast, rather "sweet, fatty and in many cases bland" (14). Thailand's haute cuisine, the cuisine of the royal palace (ahan chao wang), is traditionally known for its generous use of palm sugar. Over the course of the last century this tendency became "democratized", and some of the formerly "royal" dishes found their way into the street (cf. Van Esterik 1992). This might be the root of the current development which, according to Philip Cornwel-Smith, is a kind of collective "sugar addiction" (2005: 22). While present-

day Thai cuisine counts among the sweetest of the world's cuisines, Thailand's regional cuisines, by contrast, use sugar more sparingly. And yet, thanks to the growing popularity of many central Thai dishes and rampant contemporary snack culture, sugar consumption is on the increase everywhere. It would appear that the Thais have cast the wisdom of their erstwhile saying wan pen lom, kom pen ya (roughly translated as, sweet makes sick, while bitter is medicine) to the wind. The Kingdom is currently struggling with a dramatic increase in type II diabetes. Known previously as age-related, more recently children have become increasingly afflicted with the disease as well (cf. Lefferts 2007). Even in Thailand, with its traditionally slender population, the number of overweight people is on the rise (cf. Siriporn 2008).

"Please, not so spicy!"

As a long-term resident in Thailand, William Klausner made a few observations in 1996 concerning the current transformations in Thai cuisine. Although he did not mention an increase in sugar consumption, he was one of the first to note that the characteristic spiciness of the cuisine was gradually on the wane. "There are indications that even in this famed facet of Thai cuisine, there is a perceptible move to lower the spicy-hot temperature" (Klausner 2002: 102). This is

certainly corroborated by my own observations. While conducting research on street food, I would often hear people ordering their food phet noi, “please, not so spicy.” Following more detailed enquiries throughout the country, it is now difficult to escape the impression that an increasing number of Thais no longer eat spicy foods. I tried to evaluate this by way of a papaya salad. Whereas no less than five chili peppers are habitually eaten in a somtam, some fifteen to twenty percent of my informants preferred their somtam with only one or occasionally two chili peppers. The taste of chili spice must be acquired, even Thai infants cry when first tasting a spicy dish. But an ever increasing number of children no longer learn how to eat chilis, not even in the Northeast.

Insects

The consumption of insects, by contrast, is on the rise. Whereas in ancient Rome some insects were eaten, since the fall of the Roman Empire they have been completely rejected in the West. Most food cultures of the world, however, classify some insects as edible. According to a widespread Western prejudice, human beings eat insects only where necessity dictates. In that Isan had always been considered the poorhouse of Thailand, it would make sense that insects would not be spurned in that region. But actually a variety of insects

are considered delicacies, not only in Isan, but in many regions of Southeast Asia (cf. Freeman 2008: 117–131), as well as worldwide.

But it is hard to deny that the veritable passion for insects in Isan and in the North is more pronounced than it is in the South, even though some insects were traditionally eaten in Central Thailand. The observant French aristocrat Simon de la Loubère (1986: II, 35) was the first to mention the sale of insects in the markets of Ayutthaya, as did Pallegoix (1976: 63) almost two centuries later in Bangkok. And, as an interested British traveler observed, enthusiasm for the taste of the giant water bug (Belostoma indica, in Thai called maeng daa) unites all classes of Thais and Lao-speakers: "It is a great delicacy which is shared by Laos and Siamese alike; it reaches the tables of princes in Bangkok" (Bristowe 1932: 398). The current boom in insect snacks started when migrants from Isan sold their deep-fried delicacies on the capital's streets. In 2009 the high end Paragon Shopping Mall's food court launched "insect week", thus indicating that eating bugs was now an accepted part of Thai society. .

Concluding Remarks

So much for these remarkable tendencies which have as yet been little discussed by students of Thai food culture. What general inferences may we draw from them?

The demise of the old agrarian nutritional pattern, described and analyzed by Sidney Mintz as the "core-fringe-legume model", constitutes probably the most fundamental dietary-related transformation of our time. Because of the rise of income, comparable developments are taking place in many countries around the world. Increased sugar consumption goes hand-in-hand with this process, and actually assumes a decisive role in it. However, does not the decreasing consumption of chili pepper in Thailand conflict with global trends? In Columbus' Year 1992 the sale of hot chili sauce for the first time outstripped the sale of ketchup in the United States. Today a third of the world's population eats spicy food, and the trend is growing continually, now including countries with temperate climates that in the past had milder cuisines. Although Thailand's "capsicum mania" has apparently passed its pinnacle, Thai cuisine will certainly remain spicy. So this, too, confirms the global trend toward at least a moderate use of the chili pepper.

How about insects then? Like in Thailand, insects are being eaten by growing numbers of urban populations around the

world. As insect chips are already making an appearance even in the West, they might soon become part of a flourishing global snacking culture. So maybe it is time to admit that in an ever-smaller world some global similarities and convergences appear unavoidable.

Footnotes

(1) Columbus was desperately looking for products with which he could generate revenues in Europe. Besides gold, it was above all the much prized pepper that might have solved his precarious financial situation in one fell swoop.

(2) Chiang Mai's iconic noodle curry dish kao soi, however, is the exception to the rule.

(3) Unlike in China, in Thai cuisine raw vegetables and herbs occupy a central place; but in the animal kingdom only oysters and prawns are eaten raw.

(4) For example, the Tai-speaking Shan or Tai Yai of northern Myanmar do not use fish sauce.

(5) Nor does it, by the way, bear any semblance with the regional cuisine of the Northeast. In spite of their structural similarity, with respect to taste the two northern regional cuisines are worlds apart. This may be observed, for instance, when comparing the Isan version of laap (a limey spiciness, with a range of very fresh tasting herbs including mint) with the laap kua of the North, which tastes neither spicy, nor limey, nor particularly fresh, but rather earthy.

(6) On the other hand, the Northeast and Cambodia share a common passion for the powerful fish sauce plara – called prahok in Khmer and padaek in Lao. One further common culinary feature ought not to go unmentioned; their "omnivorousness," above all their appetite for insects, is striking.

(7) But it is not a bad characterization of Chiang Mai's iconic kao soi, mentioned above.

(8) Besides small dishes, such as spring rolls, thousand-year eggs or kanom jiip (a kind of "Thai dim sum"), many street food one-plate dishes that one eats

individually are of Chinese origin, such as noodle soups and rice soup (jook), the Hainanese chicken called kao man gai, and kao ka mu or mu daeng, pork knuckle cooked in soy sauce or red pork on rice. Originally Chinese are also many restaurant dishes based on fish or duck.

(9) Tourist publications seem to be especially inclined to promote the idea that none other than the first Portuguese missionaries themselves brought the much-prized chili pepper to Ayutthaya.

(10) The Berlin Wall had just come down and in every small side street or soi in Bangkok, at least so it seemed to me at the time, there was a much larger – and by far fresher – variety of dishes to be had than in all the restaurants to be found in East Berlin, the former capital of the GDR. Amazing Thailand, indeed!

(11) The May 2012 edition of the Bangkok magazine Mae Baan (featuring the sub-title Good Food – Good Health – Good Living) ran the cover-story "Trendy Isaan." It praised the increased international recognition which the cuisine of "our" Isan was being given, and which was raising the prestige of the entire Kingdom. And yet comparable experiences in Germany or the United States raise only skepticism. Neither the rise of chop suey to the first favorite exotic dish among Americans in the early twentieth century, nor the rise of Dönerkebab as a favorite among the Germans in the late twentieth century contributed much to the kudos of either Chinese or Turkish immigrants in those countries (cf. Trenk 2015).

(12) Mintz actually refers to a core-fringe-legume model or pattern, and yet, in fish and, hence, protein-rich Thailand (fish sauce!), legumes (like soybeans in China or lentils in India) traditionally play hardly any role at all.

(13) Those Chinese born in the country and assimilated, remarked the early German traveler-anthropologist Adolf Bastian (1867: 68), were called "Tjin-nam-phrük," "i.e. a Chinese, who eats pepper-water," the ubiquitous nam prik.

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Chapter 3

Food transition and food consumption of urban and rural in West Sumatra, Indonesia

Nur Indrawaty Lipoeto, Deddi Prima Putra, Ika Ramadani

Changing from traditional to a modern food consumption pattern has increased the prevalence of cardiovascular disease in developing countries. Kato et al. (1987) have indicated a strong relationship between consumption of high fat foods such as butter, cheese, bread, ham and sausages with the increasing death due to cardiovascular diseases. In several island countries in the Pacific, changing from high fiber and carbohydrate diet in their original countries to western food pattern in New Zealand and Australia causes body weight gain and cardiovascular disease risk[(1)]. The shift in food consumption between rural and urban in developing countries reflected nutrition transition. Popkin (2003) reported an example of change in food cunsumption that follows a classic Westernisation pattern between urban and rural in China that summarised the change in a typical fast growing economy of China. Popkin reported that intake of cereals decreased considerably in two decades in both urban and rural areas and among all income groups. There was also an increase in animal products, more so for the rich than the poor, and for the urban than the rural. The result of this change also showed a shift in the diet away from carbohydrates to fat[(2)]. This study was conducted to investigate the difference of food consumption between urban and rural areas in the Province of West Sumatra, Indonesia.

The present study was approved by the Faculty of Medicine of Andalas University Ethics Committee. Subjects gave written, informed consent before interviewed and undergo anthopometric and blood pressures assessments.

The study was conducted in two urban and two rural municipalities in West Sumatera, Indonesia. For every municipalities, two villages were randomnly selected. Subjects were selected from the list of above 30 years old healthy adults. Data were collected between May and June 2008. Data on demography, life style, food consumption were done by interviewing the subjects.

Anthropometric and blood pressure assessments

Anthropometric assessment include body weight, height, waist circumference were done to all subjects. Anthropometric measurements were made by following standardized procedures.[3] Bodyweight and height were measured for each subject, Body Mass Index was calculated from these values. Waist circumference was measured with an inelastic tape used at the narrowest part of the torso at the end of expiration.[4] Blood pressure for diastolic and systolic pressure were taken twice after 5 minutes sitting in the room.

Sample means and frequencies were calculated separately for the rural and urban subjects. The percentage of subjects who were overweight (BMI: 25–29.99) and obese (BMI: ≥ 30) was calculated with the use of recommended international cutoffs.

To describe food and nutrient intake, mean nutrient intake from selected macronutrients, micronutrients and selected each food group were calculated. Pearson correlation and independent-samples t-tests were done to analyze the correlation between consumption of selected food groups (herbs, fruit and vegetables) with body weight. Multivariate analysis were done in analyzing the correlation controlled by counfounding factors. All analyses were performed with SPSS for WINDOWS software, version 11.5.

This study was conducted to 437 subjects, consisted 298 subjects (68%) from urban and 137 sujects (32%) from rural areas. Most of the subjects (73%) were those above 40 years old, women. 36% of the subjects never attended school or had been in elementary school. Between urban and rural, only 32% of subjects in urban had lower education compare to 38% of subjects in rural. On the contrary, only 5% of subjects in the rural had attended university compared to 17% in the urban. The difference was significant at p=0.008.

Nutritional Status

The average Body Mass Index was found 25.2, no significant difference was found in anthropometric measurements between urban and rural areas. The average waist circumference in women in this study was above normal 89 cm and 90 cm respectively for urban and rural (see table 1). The prevalence of overweight and obesity (BMI>25) was found as high as 50%. Subjects with normal BMI were found 33%.

Table 1: Comparison of anthropometric indices between subjects in urban and rural areas

	Urban	Rural	P
Height (meter)	1.51 ± 0.07	1.49 ± 0.06	**0.81**
Body Weight (kg)	58.29 ± 11.69	55.56 ± 10.84	**0.38**
Body Mass Index (m/kg^2)	25.50 ± 4.60	24.94 ± 4.58	**0.90**
Waist Circumference (cm)	**88.40 ± 11.31**	**89.03 ± 11.05**	**0.74**

Blood Pressure

This study showed that the average systolic and diastolic blood pressure were significantly higher in rural than in urban (see table 2).

Table 2: Comparison of Systolic and Diastolic Blood Pressure between urban and rural

	Urban	Rural	p
Systolic (mm/Hg)	126.68 ± 22.68	132.65 ± 22.81	0.029
Diastolic (mm/Hg)	81.05 ± 9.72	81.79 ± 13.54	0.000

There were 33% of the subjects had systolic and diastolic blood pressure above 140 mmHg and 90 mmHg respectively. In the urban 26% of the subjects were hypertension compared to 47% in the rural, the difference was found significance at p=0.000.

Food and nutrients consumption

This study showed significant differences in macronutrients consumption between subjects in urban and rural. Subjects in the urban had significant higher consumption of total energy (p = 0.013), fat (p = 0.004), carbohydrate (p = 0.02), vitamin C (p =

0.000), vitamin E (p = 0.000), and dietary cholesterol (p=0.03) compared to those in the rural (see table 3). Although subjects in the urban consumed more fat, sodium and calsium compared to those from rural, but no significance difference was found.

Table 3: Comparison of nutrients consumption per day

	Urban	Rural	Total
Energy (kcal)*	1703.25 ± 463.50	1547.43 ± 403.92	1653.13 ± 452.02
Carbohidrat (gram)*	274.27 ± 76.21	267.18 ± 69.07	271.99 ± 74.25
Protein (gram)	46.34 ± 13.42	40.22 ± 15.39	44.37 ± 14.35
Fat (gram)**	45.84 ± 19.85	34.01 ± 14.39	42.04 ± 19.07
Cholesterol (mg)*	122.27 ± 63.37	81.31 ± 59.22	109 ± 65
Vitamin C***	67.42 ± 30.78	38.52 ± 16.28	57.35 ± 29.53
Vitamin E***	18.26 ± 11.06	10.15 ± 7.08	14.99 ± 10.41
Sodium (mg)	228.08 ± 132.41	185.65 ± 121.57	214.43 ± 130.38
Calsium (mg)	1104.67 ± 38.86	1014.91 ± 465.89	1075.79 ± 412.32

*Significant differences between Urban and Rural: * p<0.05; ** p<0.01*

Table 4 showed the average consumption of spices was 39 grams per day. Spices included in this study were onions, garlic, turmeric, ginger and gallanga. No significant difference was found in the consumption of spices between two group subjects. Subjects in the urban had significantly higher consumption of vegetables (p=0.015) and fruits (p=0.000), and so as to the consumption of total spices, fruits and vegetables were significantly higher in urban than subjects in rural (p=0.001).

Table 4: Comparison of certain food group consumption (g/day)

	Urban	**Rural**	**Total**
Spices	40.62 ± 17.95	35.86 ± 15.84	39.08 ± 19.06
Vegetables*	91.35 ± 65.19	82.64 ± 48.66	85.55 ± 59.77
Fruits***	71.26 ± 55.67	42.69 ± 33.46	60.34 ± 51.35
Total **	203.24 ± 104.84	161.21 ± 68.39	189.72 ± 96.59

*Significant differences between Urban and Rural: * p<0.05; ** p<0.01; *** p <0.000*

Relationship between Food consumption and Cardiovascular disease risk

Table 5 showed pearson correlation between consumption of spices, fruits, vegetables and total food group with anthropometric indices. Spices consumption had significant positive correlation with body weight and waist circumference. The correlation was still significant after controlled by age, fat and protein consumption, but not significant after controlled by energy and total carbohydrate intake. Although not significant, vegetables consumption had negative correlation with anthropometric indices. Whereas fruit consumption, on the contrary, had positive correlation with body weight, BMI and waist circumference.

Table 5: Pearson correlation between food consumption with anthropometric indices

	Body weight ***r(p)***	**B M I** ***r(p)***	**Waist Circumference** ***r(p)***
Spices	0.10 (0.05)*	0.09 (0.06)	0.10(0.04)*
Vegetables	-0.02 (0.56)	-0.02(0.68)	-0.01(0.78)
Fruits	0.09 (0.06)	0.02(0.67)	0.39(0.43)
Total food groups	0.05(0.38)	0.016(0.75)	0.03(0.53)

*Significant difference *p<0.05*

Table 6 showed pearson correlation between consumption of spices, fruits, vegetables and total food group with cardiovascular disease risk. Spices consumption showed a significant and negative correlation with systolic blood pressure. Although not significance, fruits and vegetables consumption showed negative correlation with systolic and diastolic blood pressure.

Table 6: Pearson correlation between certain food consumption with cardiovascular disease risk (r(p))

	Spices *r(p)*	**Vegetables** *r(p)*	**Fruits** *r(p)*	**Total** *r(p)*
Systolic	-0.1 (0.05)*	-0.02 (0.65)	-0.05 (0.34)	-0.06 (0.25)
Diastolic	-0.05 (0.28)	-0.04 (0.40)	-0.02 (0.68)	-0.05 (0.35)

*Significant differences at *p=0.05*

Further analysis was done by dividing subjects into similar quartile consumption of each food group. ANOVA test showed no significant relationship was found between groups of all food group consumption with anthropmetric indices, blood pressure. Comparison of all cardiovascular disease risks between those who were in the highest consumption of each

food group with the lowest consumption showed no significant relationship.

This study was done to two groups of subjects, urban and rural communities, who are undergoing a rapid nutrition transition. The differences between the two groups were shown in differences of length of education, nutritional status, food and nutrient consumption. Subjects were above 30 years old and mostly women (68%).

Nutritional Status and Food Consumption

This study found that 50% of the subjects had Body Mass Index above 25. This was a significant increasing of obesity prevalence, from 14.3% to 39% found from the previous studies in some areas in Indonesia.[5-7] There was no difference in the prevalece of overweight and obesity between rural and urban in this study. In many developing countries, obesity is increasing more rapid among the poor. Between urban and rural, the prevalence is approaching the rates in urban areas.[8] The current levels of overweight in several developing countries as diverse as Mexico, Egypt, and South Africa are shown to be equal to or greater than those in the United States. Moreover, the rate of change in obesity in lower-and middle-income countries is shown to be much greater than in higher-income countries.[9]

The increasing prevalence of obesity is in line with the shift of diet pattern. In China, Popkin revealed some changes in diet pattern. For carbohydrate sources consumption, they found that intake of cereals decreased considerably during 1980's to 1990's in both urban and rural areas and among all income groups. During this period, the total intake of cereals decreased by 127 g per capita per day (67 g for urban residents and 161 g for rural residents). The decrease in the low-income group was the largest, at 196 g per capita, compared with their counter parts in mid- and high-income groups (86 g and 85 g respectively). However, there remains an inverse relationship between income and cereal intake. For example, in 1997, the intake in low-,mid- and high-income groups was 615 g, 556 g and 510 g per capita, respectively. The shift away from coarse grain consumption such as millet, sorghum and corn, is a key component of this change. While in Indonesia, there have been remarkable changes in food intake during the years of 1983 and 2004.[9] It was also reported a decreased in the consumption of rice and cereal significantly from 1007 g/day in 1983, to 512 g/day in 2004.

For the consumption of animal products, Popkin et al also reported the increased in China, especially in the rich than the

poor, and for the urban than the rural. The urban residents intake of animal foods per capita, per day in 1997 was higher than for rural residents (l78.2 g for urban vs l16.7 g for rural) and also showed a larger increase (46.7 g vs 36.8 g) from 1989 to 1997. The amount and growth of intake of animal foods were positively associated with income levels. The intake level and the increase in the high-income group from 1989 to 1997 were almost three times those in the low-income group. In Indonesia, consumption of protein sources such as fish consumption remained similar at 52 g/day in 1983 and 54 g/day in 2004. The largest increases were found in soy, and, to a lesser extent, in meat, eggs, and dairy products. In 1983, consumption of soy was 10 g/day, but, in 2004, the consumption increased to 110 g/day. In contrast, To demonstrate the trends in the proportion of dietary nutrient intakes, results from two case studies made in West Sumatra are reported. There was a dramatic change in macronutrient proportion intake (computed as percent contribution of total energy intake) between 1983 to 2004.[(10)] Although the average total energy intake was not different, the ratio of energy from carbohydrates, proteins, and fats in 1983 was as follows: 82:8:10, indicating that the energy intake was mainly from carbohydrates, and that fat and protein did not contribute much. After 21 years, the ratio shifted to 54:18:28, which

showed that carbohydrate still contributed a great proportion of energy but to a much lesser extent. The ratio also showed an increase in fat and protein consumption. The increase in protein intake paralleled the substantial increase in meat and dairy products consumption. Fat-derived energy intake increased throughout the period, from 10 percent to 28 percent. The change in the energy contribution of carbohydrate, protein, and fat, percentage wise, may give a broad picture of the nutrition transition in Indonesia. Popkin et al a lso reported a similar pattern in China. There was a shift in the diet away from carbohydrates to fat. Energy from carbohydrates fell for all residents, and by over 20% for urban residents. Energy from fat increased sharply, from 19.3% in 1989 to 27.3% in 1997. Other data show that over 60% of urban residents consumed more than 30% of energy from fat in 1997. Along with the shift in source of energy, there was an upward shift in the energy density of the foods consumed. The kcal of energy intake from foods and alcohol per 100 grams of food in both urban and rural Chinese adult diets increased by 13% between 1989 and 1997.[(2)]

Nutrition transition

There have been remarkable changes in the Indonesian economy, even as the average economic growth of 7.8 percent

in the 1970s was down to 6.5 percent in the 1980s but went up to 7.2 percent a decade later. Such high economic growth increased food availability and enhanced the purchasing power of the people, which, in turn, accelerated nutrition transition. As in China, in Indonesia there are several linked changes in physical activity occurring jointly. One is a shift away from the high energy expenditure activities such as farming, mining and forestry towards the service sector. A shift from labor-intensive occupations in the rural primary product sectors of agriculture, forestry, and fisheries, to occupations in the services and manufacturing industries was in consonance with the marked increase in the GNP of Indonesia. This transition was linked to a major reduction in energy expenditures at work.

Reduced energy expenditures in the same occupation area second change. Other major changes relate to mode of transportation and activity patterns during leisure hours. Vigorous activity patterns has decreased. In rural areas, however, there has been a shift for some towards increased physical activity linked to holding multiple jobs and more intensive effort. For rural women, there is a shift towards a larger proportion engaged in more energy-intensive work, but there are also sections where light effort is increasing. In

contrast ,for rural men there is a small decrease in the proportion engaged in light work effort.

Life expectancy changed dramatically, from 42 to 67 years old and from 47 to 69 years old, for the men and the women, respectively in 1967 and 2008. Indonesia, like many other developing countries, is experiencing nutrition transition, which is being reflected in the rapid changes in the diet structure and the causes of death.

In Indonesia, consistent with significant improvements in living standards, the proportion of household expenditure on food fell steadily since 1969-1970, with most of the decline accounted for by the cereal and tuberous food groups. Correspondingly, the share of non-food items rose and there was a sharp increase in housing and utilities expenditures. Expenditures for meats, eggs, and milk increased significantly, however.

Expenditures for prepared food also increased by 100 percent more than any other food items over the period 1985 to 2007. This was due to more women's entering the labor force. From only 32.60 percent in 1980, they accounted for 39.60 percent in 1985 and 49.93 percent in 1997. This phenomenon might

have resulted in the reduction in their available time to prepare food at home.[12]

Diet Related – Non Communicable Diseases

The rising burden of non-communicable diseases (NCDs) has been the most globally pervasive change among nutrition-related health transitions. This study found that 33% of the subjects had hypertension. The subjects were mostly above 40 years old. Other studies in Indonesia showed the prevalence of hypertension in younger subjects above 18 years old was between 1.8 – 28.6%.[7,12]

In this present study, hypertension was more prevalent in the rural than in the urban. Subjects with hypertension were found 47% in the rural compared to 26% in the urban. Food availability and variability may explain the difference. Nutrients and food consumption of subjects in the rural were less in vitamin C, vitamin E and also fruit and vegetables than subjects in the urban.

For other Diet Related Non Communicable Disease such as diabetes mellitus, some studies have found that there has been rapid increases in diabetes in many developing countries, caused mainly by diet change and inactivity.[8] The prevalence

already covers 4% of Chinese adults and 2% of Indian adults. Together there are more new cases each year in these two countries than in the rest of the world combined. In Indonesia, the prevalence of prediabetes has increased to 10.2 percent.[13] Interestingly, the age-specific prevalence in the developing regions of the world shows a higher proportion of new cases occurring at younger ages than in the higher-income countries.[2]

There has been a report showed that a large number of developing countries already have a greater likelihood that adults residing in lower-income or lower educated households are overweight and obese relative to adults in higher income or education households.[14] This study, based on multi-level analysis of 37 nationally representative data sets, shows that countries with a GNP per capita over about $1700 are prone to have a burden of obesity greater among the poor. It also provides some idea of the set of risk factors causing obesity and other Non Communicable Diseases that are changing rapidly, including poor diets, inactivity, smoking, and drinking.

Acknowledgment

We thank to the Community council of villages in Sungai Limau, Nan Sebaris, Lembang Jaya, Bukik Sundi, and also in Bungus,

Nanggalo, and Padang Panjang. And acknowledged technical assistant of Megawati, Yeni Zulkarnain and Darmanila.

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Chapter 4

Thanksgiving in Minahasa (North Sulawesi)

Trina E Tallei, Ardianto Tola, Maryam Lamadirisi

In sociocultural perspective, food has a wider meaning than just a source of nutrients. The food could be associated with confidence, status, respect, solidarity and peace for those who eat them. It means food have many significancies in daily life of a community (Putri 2007). Food as culture material can therefore be understood in two sides, food as part of a tradition in a community (life culture) and food as a lifestyle which is developed as a culture (style culture). If the culture of life passed down from generation to generation then the lifestyle as a culture is developed contextually.

Changes in lifestyle of a community in relation to food therefore also is related to cultural change. In addition, lifestyle changes also bring about a change in people's perception towards food, namely the emergence of the comsumer society. Consumer behavior arises due to the technological elements, such as advertisements offering various human need for food. Through advertising, both in print and electronic media, people are becoming interested in buying. Human consciousness seems to be constructed by the wishes, dreams, the imagination of the messages conveyed by the sign on the foods (food label, advertising, presentation at a fancy place and so on).

The dominance of culture has important role especially in dietary habit. Food is a cultural concept, a statement that is in the public about foods that are considered edible and that is considered should not be eaten and are considered as non-food While nutriment is the concept of biochemistry, a substance that is able to preserve and maintain the health of the organisms that feed on them (Foster & Anderson 1976). Food which is considered nutriment not necessarily be a food that can be eaten. Likewise, food that can be eaten not necessarily has adequate nutritional value. Thus, food categories can be a trigger for the emergence of a variety of things, such as eating behavior, lifestyle changes, people's perception, religious values, symbolic expression, and cultural representation.

Food as Cultural Symbol

In the Minahasa community, the various types of ingredients derived from natural (plant and animal) are processed into a variety of foods. Ideally, people who consume meat is a society that fosters a culture of livestock as the primary livelihood, while community who develops agriculture practices will most likley consumes vegetables. It is precisely in contrast to the Minahasans who develop a culture of agriculture, where meat becomes a main meal. It is even difficult to find in any typical

home in Minahasa who will be presenting various kinds of vegetables, except kale (water spinach/kangkong). Stir-fried kale is a favorite for supplementing rice and fish/meat. This means that there is something different (locality) why the Minahasans who develop a culture of agriculture, would be a meat-consuming society.

Following the thinking of cultural materialism, this tendency is due to in farming communities where vegetables are abundant, make the meat eventually becoming a rare commodity, and food from the meat ends up being the kind of prestigious food. Although chickens, ducks and freshwater fishes tend to be pets in the farming community, but the type of these animals are not consumed daily, instead they will be sacrificed in important events like in a ceremony. The more important and bigger the ceremony, the type of animals slaughtered are rare animals to obtain. Rare here could be in terms of the large numbers (chicken, duck and fish) or animals that are economically difficult to obtain and maintain (pig, buffalo, cow and goat).

Departing from the idea, it can be assumed that the meat in the context of the Minahasa community, in the beginning is a rare and prestigious type of food, which is then passed on from

generation to generation. Therefor in every ceremony or any other rituals, we can find meat-based meals (especially pork) presented, not only for food, but also become a symbol to indicate a person's identity/status. It will be found for example in a dish in a ceremony, in which there is a kind of special food served. Most commonly is *babi putar* (roasted pork - roasted traditionally by rotating the whole pork).

The tradition of eating meat in the Minahasans is on the other hand has also spawned the concept of eating that is different from the concept of eating in other communities. Eating eventually be interpreted as a tradition of eating rice and side dishes, so it is not considered to be "eating" if only eat rice (fried rice), rice with vegetables, rice cake, boiled noodles, or meat without rice. This conception makes various types of fast foods are relatively less developed in the Minahasa community, and if they survive, are likely only be enjoyed by a certain group of people. On the one hand, eating habits of the Minahasans to consume foods that contain lots of saturated fatty acids has made them eventually become one ethnic which considerable high enough to suffer from coronary heart disease (Kandou 2009; Bodhy & Manampiring 2011).

Learning from the above phenomenon, then it is time to make efforts to explore the potential of variety of food as a life culture in society, and also consider the growing style culture (contextual). Through this perspective then basically Minahasa ethnic communities have the potential to develop various types of food, which not only comes from animal-based ingredients, but also the type of food that is made from plants, which can be obtained and developed from the agricultural sector. Diversification of food consumption are directed to improve the food consumption of the population, both in terms of quality and variety, so as to realize the consumption of foods with balanced nutrition.

Basically the Minahasa community has a vegetable-based diet called *tinutuan* (Manadonese poridge). It is a rice porridge mixed with various vegetables such as gedi (*Abelmoschus manihot*), spinach, kale, corn, pumpkin, cassava, and sweet yam. This food is now an icon of the Manado city (the capital city of North Sulawesi). Usually, tinutuan is provided during breakfast and served with other foods such as chilli sauce mixed with special fish (*sambal roa*), salted fish, and fried onion. However, during the trend of food preference shifting, *tinutuan* is rarely provided at home, so that people enjoy this meal in local restaurant.

Thanksgiving in Minahasa

The Minahasan is an ethnic group that resides in Minahasa District in the North Sulawesi province of Indonesia. Activities that are most eagerly awaited by the people in the city of Manado and Minahasa is a celebration of thanksgiving (*pengucapan syukur*, abbreviated as *pengucapan*). Thanksgiving is a cultural tradition that is rooted long enough in public life of the Minahasan.

Historically, the celebration of thanksgiving was formerly held by the Minahasan when farmers finished harvest once a year. At that time these people worshiped gods, named as *Opo' mana natas* (the higest or ultimate God). They expressed their gratitude by organizing meal together after the harvest, a ceremony called *kuman kan weru* (eating freshly picked rice). During the ceremony they expressed their gratitude by singing songs and praising their gods for fertility, good weather, abundant harvest and good health.

The tradition changed after Christianity was introduced in 1800s to the Minahasan. The *kuman kan weru* ceremony was changed with the presence of the Church. Previously, the ceremony was held in farmerland, but then it was moved to church and named as *pengucapan*. The ceremony itself falls on

a Sunday, beginning with worship in the church and after that each family brought food to the Church.

In Church they ate together and set aside most of the food collected to be auctioned to raise funds for the management of the Church. Again the tradition has shifted as now people rather bring cash than crops to the church as their offering, due to the decrease of farmland.

Pengucapan that has been implemented over generations actually departed from the people who live in an agrarian culture, as Minahasan was given by God a fertile land, so they can live their lives from what have been given by nature. The Minahasans believe and appreciate the provision of the Creator, the Sustainer of the Universe. Because it is a gift of the Creator, then when the harvest is finished, they feel the need to give thanks. The conception of this belief can be understood if judging from the standpoint of the characteristics of the Minahasans who come from cultural circles who already have a system of religiosity. The element of religiosity is what makes the thanksgiving is one tradition that has survived until now, amongst many cultures that has been displaced due to the inclusion of Christianity in the land of Minahasa.

The thanksgiving tradition then became very popular especially starting from 1970s when the land of Minahasa was endowed with abundant harvest of cloves. Gratitude was to be in harmony with the results obtained. Abundant clove harvest forced people to celebrate thanksgiving in shades of luxury. Thanksgiving then has become synonymous with merrymaking. On the side of the road people put plenty of food. Anybody who passed by could stop by and bring food home. The existence of thanksgiving was accepted by the government and all the Minahasa community. Thanksgiving continued every year involving the community and local government or the guests who come to visit their families, relatives, and friends.

Acceptance of thanksgiving by government and society as a local culture became one of the important factors of culture or customs preservation that has been passed down from generation to generation. Today, thanksgiving in Minahasa region and Manado is still celebrated every year around the middle of the year, between July and August. The date of celebration varies from one region to the other, although the fixed day is on Sunday. *Pengucapan* is a local culture that has already been retained as customs and set as one of the annual event in the calendar of tourism in North Sulawesi. Roughly, costs incurred for thanksgiving every year for the entire region

of Minahasa district reaches tens billions rupiahs. The estimated numbers is based on the calculation of average expenditure one million rupiah per family.

Type of Foods Served at Pengucapan

The Minahasans have a habit of partying complete with banquet. The mandatory food is rice served with pork cooked in various ways (Kandou 2009). Eating habits or diet is a behavior related to eating and food, for example, the frequency of eating, kind of foods, food abstinence, distribution of food in the family members, a preference for food, and for choices of foodstuffs. Change, development, and maintenance of dietary patterns are also influenced by the culture, customs, religion, belief, social, and economy (Eertmans et al. 2001).

Based on these factors, the type of foods served by the Minahasans during *pengucapan* are mostly made of meat and lard, and generally taste spicy because cooked with *cabe rawit* (cayenne pepper). Cayenne pepper has properties that are good for heart, because it serves as antioxidant, anticoagulant and antifibrinolytic.

Besides serving pork, during pengucapan the Minahasans also provide extreme culinair made of bat-meat (*paniki*), dog-meat (*RW* or *rintek wuuk* in the Tombulu language, meaning fine hairs), white-tailed forest rat-meat, phyton-meat. All these foods contain high saturated fatty acids. Basically, there are favorite foods and beverage served during thanksgiving:

- *Nasi jaha* : sticky rice mixed with coconut milk and spices and then put into special bamboo that has been pre-coated with banana leaves and then burned/grilled.
- *Dodol* : a sweet delicacy made of glutinous/sticky rice paste mixed with unfilterred pure coconut oil, coconut/palm sugar, canary-nut/peanut, and cinnamon. All these ingridients are cooked in wok at 120^{o}C, then wrapped with woka (*Livistionia*) leaves.
- *Tinoransak* : Minahasa typical food made of chicken/duck/pork mixed with chilli, red onion, ginger, lime leaves, lemongrass, lime extract, and vegetable oil.
- *Tikus bumbu rica* : The white-tailed rat is fried in vegetable oil and mixed with spicy sauce made of lemongrass, galangal, chili, salt, garlic, pandan and

lime leaves. In the forest white-tailed rat (*Uromys caudimaculatus*) feeds on grains and fruits.

- *Saguer and Cap tikus* : *Saguer* is a sweet sap from palm (*enau*) tree stored in bamboo container. It is a raw material for making palm sugar. *Cap tikus* (rat brand) is an alcoholic beverage made by fermentation and distillation of *saguer*. An average content of alcohol in *cap tikus* is 40%. *Saguer* itself already contains alcohol after being extracted from the tree. The alcohol percentage contained in *saguer* depends on extraction method and the quality of the bamboo containers from storing *saguer* during the sap drips from the *enau* tree. When left in bamboo container after just a few hours the alcohol concentration reaches 5-6% and within 24 hours the concentration can get close to 10%.

Factors that Influence Food Choice

Mintz (1996) said that eating is never a purely biological activity as food has symbolic and social meaning. Foods are not merely what grown in the farms, gathered from the sea or jungle, sold in markets, and served on our tables as meals (Ing 2011). Eating habits is an entire complex of activities related to the kitchen, like or dislike to particular type of foods, folk

proverbs, beliefs, prohibitions and superstitions associated with the preparation of food, food processing and consumption, are key categories in a culture (Foster & Anderson 1978). The foods that usually consumed by a group of people may be different from the foods consumed by other groups. Glanz et al. (1998) stated that taste, cost, convenience and health are key influences on food choice.

Diet (food pattern) is the habit of choosing and consuming foodstuff by a group of individuals and can be heavily influenced by social traditions, for instance vegetarian diets in India that influenced by Hindu beliefs, while traditional diets in Mexico are affected by what crops such as corn that are mainly grown in the region for centuries (Johnston et al. 2014). Diet can also give an idea of the quality of the food available in communities (Suparlan 1993). Diet is basically a cultural concept which is affected by the prevailing interrelated elements in the society, including food availability and accessibility, which are influenced by geography, demography, income, socioeconomic status, religion, social values, social and cultural norms related to food, what is considered good or bad (Kearney 2010; Koentjaraningrat 2002; Toaha et al. 2015). According to Susanto (1987), socio-cultural factors that influence the eating habits in the communities, households

and individuals covering what people think, it is known and felt, into people's perceptions about food, and what is done and practiced by people about food.

The food consists of foods that can be eaten and should not be eaten has other implication, namely the emergence of aspects of symbolic meaning. Through the symbolic elements of food, for example type of food in various ocassion or ceremony, type and color of food, raw materials, and so on, then that food has a certain role. The role can be either social cohesion, the establishment of friendship, and lifestyle changes (Thiroux & Krasemann 2012).

Social cohesion in the food appears when the food was served at various events experienced by individuals and society. In Javanese tradition, for example, events that refers to the cycle of human life such as birth, marriage, and death are always presented and marked by various rituals that are equipped with a variety of foods, and eat together either with family members or friends. In Minahasa feasting culture such as thanksgiving, the standard formula is *makang-makang* (eating and drinking together), which is used as an invitation and encouragement for guests to participate in the communal meal

(Weichart 2008). Togetherness is the core of community attachment when eating together in a ritual.

Cohesion between food and culture is understandable, especially when referring to practical problems and concrete behavior of people. The belief in a society of food results in eating habits and also in the nutritional condition. The food in the context of culture is thus an expressive activities that reinforce relationships with social life, sanctions, religion, economics, science, technology, with various effects. In other words, eating habits or diet is not just related to the human body only, but can play an important and fundamental roles to the characteristics and nature of eating culture.

Concluding Remarks

Thanksgiving in Minahasa is cultural-based immitation process. Imitation plays an important role in the formation of behavior. This process has been passed over generation. Circumstances have changed the ritual behavior of *pengucapan* in Minahasa. Blessing underlying the thanksgiving in the past was the harvest. This blessing now be interpreted as everything good as gifts from God. *Pengucapan* is no longer for celebrating harvest season, instead, it is now conducted as an expression

of gratitude for all the blessings given by God throughout the year.

Guests are interpreted as a tribute by the host. Therefore, in return guests should be treated with prestigious dishes, tailored to the financial ability of the host. Prestigious food and beverage served during the celebration of thanksgiving, among others are *nasi jaha*, *dodol*, *tinoransak, babi putar, tikus bumbu rica, saguer*, dan *cap tikus.* The Minahasans provide abundant foods, especially *nasi jaha* and *dodol*, to be taken home by guests.

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Chapter 5

Food culture in Thailand from OTOP to industrialized food products

Tosporn Namhong

One Tambon One Product (OTOP) Project is one of the Thai government's urgent policies encouraging Thai communities to make use of Thai wisdom. The government help impart modern knowledge and manage to introduce the products to the domestic and international markets through chain stores and outlets. The government aims to strengthen local communities to be self-dependent and creating jobs and income to the community members, therefore, have been employed to develop quality products and service with their own advantages and value added . While the products are still maintaining Thai culture and way of life in the meantime they will meet the needs of the domestics and international markets. The objective of OTOP in Thailand are:

1. To create jobs and income to the communities
2. To strengthen the communities to be self-independent
3. To promote the Thai wisdom
4. To promote human resources development
5. To promote the communities creativity in developing products which are in harmony with local culture and way of life.

In 2004, OTOP product Champion (OPC) was organized which was a part of the government's OTOP promotion. It is a

continuing phase after OTOP manufacturing communities and SMEs have been registered and the SMART .

OTOP training was organized for 26,000 OTOP community members to enhance their skills and knowledge and the product standards. More than 27,000 participants of community manufacturers and SMEs joined the 2004 OPC in the district level. The contest was done in the province, cluster and country levels. The result was that 573 products were chosen as 5 stars products. Among these, 262 products are food products.

These are kinds of 5 stars food products :

Fried Gourmi fish

Fried Gourmi fish is a delicious, deep-fried fish snack made of "Salid " (*Trichogaster pectoralis*) fish specially prepared in a traditional Thai cooking style for health conscious individuals. Bang bo , a district in Samutprakran province , east of Bangkok is very famous for these gourmi fish culturing. Normally , they are preserved as salted dried fish and it is hard to be stored in the normal temperature. Therefore , they are preserved by drying and frying the fish before packing in the suitable packagings. This way , it will be the ready to eat product and can be stored for 12 months . It has pleasant smell and very

delicious. It should be stored in a dry place away from direct sunlight and refrigerated after opening.

Butter banana roll

First, the group began with producing banana crisp for sale in the village. Normally, Namwa banana which is the typical variety that widely grown in Thailand and had very low prices are used for processing. After being trained by Community Development District Office , the group has developed ideas of producing butter banana rolls, herb-mixed banana crisp and barbecued flavored banana crisps. The manufacturing is done by peeling and slicing banana, rolling them and fry then mix with butter salt and sugar. It could be consumed as snack food and stored for quite a long time at the normal room temperature.

Fried peanut mixed with herbs

Herbs used in this products are dried chillies , lemon grass and kaffir leaves. The herbs are cleaned , let it dry and deep fried till it become crispy . The peanuts are also fried separately until yellow and crispy and the oil is drained over the sieve. After that , fried herbs and peanuts were combined together and this kind of product could be used as side dish in Thai food . This product could have the beneficial of herbs other than

using herbs as the medicine. The product comes in modern – looking packaging and can be stored for a long time.

Fermented fish

Fermented fish is adapted from local preserved fish, which reflects the lifestyle of local people. They are produced by cleaning and eviscerating the fish, then mix them with rice, salt and minced garlic. After 48 hours of fermenting, they could be further cooked by baking or frying. They could be consumed as main dish with rice or sticky rice. Fermented fish are commonly made by fresh water fish, it is rich in protein from fish, minerals and herbs from garlic. It tastes a little bit sour which is dued to lactic acid. This product is very famous product of Lop buri, the province where is 90 kms north of Bangkok.

Salted eggs

As there are a lot of ducks in the village, the group has come up with making salted eggs to add value to this products. It is made by washing duck eggs then mixing hill soil with herbs and salt. The duck eggs are then wrapped with hill soil mixture and rice husks. It results in delicious salted eggs. The salted eggs have nice red yolk and soft white egg. They also have the smell of herbs and are rich in phosphorus derived from hill soil

wrapping the eggs. The product is wellknown for the Chaiya district in Surat Thani province, south of Thailand.

Sesame stick

The manufacturer produces sesame sticks by adapting bean and sesame sticks, with an aim to make it easy for consumers to consume. It was made by mixing sugar, garlic or other flavor and glucose syrup and then add sesame. Boil the mixture in sugar syrup and then cut it into pieces. Sesame stick is rich in vitamin B and have benefit from herbs. This product is famous for Saraburi provice , where is 80 kms north of Bangkok.

Durian crisps

Durians , king of fruits , are widely grown in the eastern part of Thailand, especially in Chantaburi province where is 400 Kms east of Bangkok. The manufacturers try to seek the way to preserve them by frying them and consume them crispy. The young durians are commonly used for processing. The first step of processing is removing durian seeds from its flesh , slice and deep frying them. It could be stored for such a long time and have it as snack food.

Sun dried Snakehead fish

Snakehead fish is fresh water fish which is widely culturing and consumes in Thailand. Mae la community which is the district in Singhburi province , 120 kms north of Bangkok, is famous for culturing this kind of fish. In 1997 , there was an economic downturn and it is known that sun –dried fish is the main dish of local residents and have highly nutritious for people's health. The local residents began to produce sun dried snakehead fish to the markets with an aim of creating income for their own. It is made by scaling the fish and get the bones out then fillet them and mix with salt and sugar for seasoning . Leaving them in refrigerator for one night, wash them and leave them sun drying for 1 day. Fry them by deep frying or roast them in an oven. Sun dried snakehead fish is delicious and being the ideal choice for presents.

Sweet Turnip / Salted Turnip

Turnip is a vegetable commonly grown by Chinese people . It is used in a variety of Chinese dishes. Thai people also have turnips in Thai dishes and the recipe of preserved turnip has been transferred from generation to generation. Salted turnip is made by steeping sun dried turnip in salt and sun dry it again, repeat the process for 5 to 7 times. Sweet turnips is made by steeping the salted turnip in heavy syrup and the

sundry it . They are tasty and smell good without color additive or any preservative and could be stored for a long time at the normal temperature. Surin province, in the northeastern part of Thailand, are famous for these products .

Rice crackers

"Khaotan" or people known as rice cracker is the local famous dessert of traditional ceremony in the northern parts of Thailand. “Khaotan” made from white and black glutinous rice. Being steamed and dried, then being fried in palm oil and spread with sweet sugar cane syrup. It’s very good smell of rice and crispy every time you bite it.

They are served as snack food and are considered as the products from local wisdom as they are made from the remaining of rice each day. The remaining rice is sun dried and fried. Rice crackers are delicious and beneficial to our health. They are hygenically produced and can be stored for a long time. Lampang province , north of Thailand , is very famouse for this product.

Golden dried longan

Longan is the fruit that widely grown in the northern part of Thailand. Fresh consuming during its season is hardly done. The manufacturer try to preserve them by making dried

longan. The price was low so they try to adapt dried longan to be golden dried longan which has sweet smell and taste and have pleasant color. It is made by sorting grade A longan , washing and getting seeds out and then dry it before putting it in the oven. The golden dried longan can be stored for a long time and being an ideal choice for presents , snack and for cookingwith other dishes. Chiangmai , Lumpang and Lumpun provinces ,in the northern part of Thailand , are very famous for these products.

Powdered coconut palm sugar

It is a natural sugar made from sap, which is the sugary circulating fluid of the coconut plant. It is often confused with Palm Sugar, which is similar but made from a different type of palm tree. However, coconut sugar does retain quite a number of the nutrients found in the coconut palm. Most notable of these are the minerals Iron, Zinc, Calcium and Potassium, along with some short chain fatty acids, polyphenols and antioxidants that may also provide some health benefits. Then it contains a fiber called Inulin, which may slow glucose absorption and explain why Coconut Sugar has a lower glycemic index than regular table sugar. The glycemic index (GI) is a measure of how quickly foods raise blood sugar levels. Glucose is given a GI of 100 and if a food has a GI of 50, then it

raises blood sugar half as much as pure glucose. Coconut Sugar is given a GI of 35, which puts it in the low range. This is much lower than table or cane sugar, which is somewhere around 60. Coconut trees and palm trees are widely grown in Petchaburi and Prachuabkirikhan provinces where is 300 Kms south of Bangkok. Powdered coconut palm sugar is made of natural ingredients without additives and it is made by boiling palm sugar and put it in the vaccum oven to eliminate water contents and then dry and grind it into powder with the high speed blender. Petchaburi province is famous for this product.

These are the examples of Thai OTOP food products which are developed from local wisdom. Scientifical knowledge , food processing technics, food hygienic and sanitation area are handed to the manufacturers of these products by the local universities in the area with the purpose of meeting the national or international standard and eventually it could promote the country economics. it could enhance the local income and could promote the country economics as well.

Chapter 6

Food system or dietary pattern changes in Indonesia? Organic food system as example

Wahyudi David

Research was conducted to examine the principle of organic farming, which is more sustainable in terms of using natural resources. Sustainability must be based not only on how limited resources are used, but also how they are consumed. Increasing food production is also driven by the amounts of food consumed. Inefficient production and overconsumption may lead to an unsustainable food chain. Therefore, this article will explain how the organic food system could contribute to sustainable food consumption, and will use organic rice as an example in discussion.

Organic Food

What is an organic food? This question should be answered by giving an understanding of organic agriculture, as the principle of organic food is derived from organic agriculture. There are four basic principles of organic agriculture, according to International Federation of Organic Agriculture Movement (IFOAM). These four principles are: (1) Principle of Health: whole system must assure the healthiness of soil, water, plant, animal, and human; (2) Principle of Ecology: awareness of the need to balance the ecology circle; (3) Principle of Fairness: system should be established according to fairness to the environment as well as human beings; (4) Principle of Protection and Care: the organic agriculture should be managed with care and re-

sponsibility for sustainability of resources (IFOAM, 2014).

Organic food products are only one part of the entire system and should be discussed as thus, to include the producer, consumer, and the entire environment. By excluding the entire chain, from producer to consumer, organic products become "expensive" and "exclusive".

Unfortunately, food loss and food waste occur in most food systems, from production, post-harvest, processing, distribution, and consumption. Almost one third of global food production, or 1.3 million tons per year, is wasted. This amount of food waste could generate food for more than 3 billion people around the globe. European countries and North America contribute the highest amount of food loss and food waste.

The Food and Agriculture Organization of the United Nations (2011) reports a high number of food wastes are ironic when compared to many cases of stunting growth in developing countries (see fig 1). Besides the many cases of hunger, there are many issues during processing, as nutrition is being depleting and wasted. Overuse of natural resources has been impacted by ecological sustainability as well as economically.

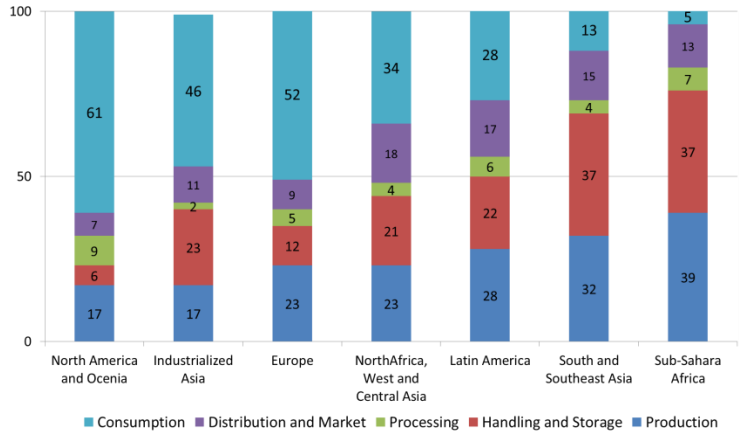

Figure 1: Global food losses and food waste-extent, causes and prevention (percentage)

Sources: WRI analysis based on FAO 2011. Rome UNFAO

Stakeholders in food systems

To ensure the food systems work according to the principles, whole stakeholders should realize their contribution to the food systems. Farmers are the beginning and key players in organic agriculture. They ensure the crops should have a minimum of synthetic and artificial fertilizers as well as maintaining the ecological balance in their fields. Farmers should minimize their agricultural waste in order to continue implementation of the organic agricultural principles.

The second actors in the organic food systems are the processors. Post-harvest treatment should contribute to minimizing food loss during the processing. Food loss means not only losing in quantity but also in quality. Organic food should serve the consumers the best quality (in terms of nutrition as well as sensory acceptability) and quantity (for the global market).

Distribution of organic food keeps the producers and consumers gaining the same benefits in terms of margins of their get. Most organic food is sold using the Fair Trade Initiative. This initiative helps both farmers and consumers be informed about their products and the authenticity of organic foods. Fair trade also allows for smaller supply chains and effectively reduces the cost of distribution, ensuring the effectiveness distribution channel is efficient in term of cost as well as carbon footprint.

Consumers

The typical organic food consumers have knowledge and are well educated, able to wisely choose and not to waste their food. They choose their food based on preference as well as portion. Many studies revealed that the increasing organic food consumption is because consumers are concerned about their food, and having knowledge of what they eat on a daily basis. In the millennial decade the concern about food safety has become important. It is clear that the concern can be cate-

gorized into several groups:

1. Health: no contamination of herbicide, insecticide, fungicide, and pesticide. Organic food has not been allowed using antibiotics for animals and is very strict in assuring animal welfare, as well as not being allowed to use hormones for growth. In some cultivations, organic foods have high levels of phenol and flavonoid (Bao, 2015; Huang and Ng, 2012; Moongngarm and Saetung, 2010; Ti et al., 2014);
2. Environmental concern: most of the consumers understand that organic food producers are committed to protecting biodiversity;
3. Fair trade: organic food consumers understand that they are giving the value to the farmers as well as to the traders fairly; they believe this concept can sustain the organic agriculture not only for the environment but also for the economic point of view.

In the food system approach, organic becomes a lifestyle rather than just a farming method. Based on central findings through surveys and other studies around the world, consumers and producers of organic products seem to share specific attitudes about food, which are mainly oriented towards health and environment (Baudry et al., 2015; Eisinger-Watzl et

al., 2015; Kesse-Guyot et al., 2013).

Organic rice as example

Rice is a main staple food consumed by most of Indonesia, at almost 120 kg per capita. To understand the food system model, the organic rice model is used to see how the food system is actually indirectly shaping diets.

Organic agriculture research often places a specific area of interest ahead of the whole system, whether it be environmental, sustainability, or livestock health and welfare (Rahmann et al., 2016). Although several researchers have delivered insight and outcomes in the organic agriculture, many questions still remain, including whether or not organic food is healthier compared to conventional foods. This question is hard to answer, since the consumption pattern of each individual is diverse and each individual demands different attributes of nutrients. This generally leads to biased results. Furthermore, if the organic foods are eaten by the people but not reflective of food diversity, consumption will lead to unhealthy behavior. Therefore, the concept of organic agriculture needs to include food systems as the main foundation to reach the essence of the principles.

Based on the organic agriculture principle, health refers not

only to the plant, soil, and animal breeding but also to the humans consuming the food products. Therefore, "health" should reflect the end product. Keeping the organic agriculture value in the food system is important.

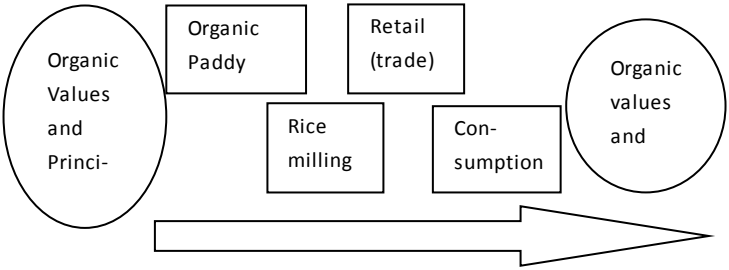

Figure 2: Organic values and principle (created by Johannes Kahl)

Figure 2 reflects that the stages of organic principles have to move from production through to consumption. Organic rice production must be certified to ensure the principle of organic agriculture is applied according to the standards. In Indonesia and many like counties, the parameter grading for rice quality is based on degree of milling (DOM). The higher DOM reflects white rice (refined rice) and the lowest DOM reflect brown rice (whole grain rice). Although several studies have been published regarding the quality of white rice and brown rice, there are no studies discussing which processing condition is fitting to sustainability.

Milling is the step in the processing of rice where the husk and bran are removed. According to Indonesian rice standards of 2015 (SNI 6128:2015), the premium rice should meet the requirement of 100% polished or equivalent to 54.47% degree of whiteness (for long grain) and 61.07% degree of whiteness (for short grain). After harvesting, the paddy enters the milling processing. In this process, “pre-cleaner”, “de-stoner”, rubber rolls husker, paddy separator, polishing (and abrasive whitener, and friction whitener, mist polishing) grading, and packaging occurs (Figure 2). During the polishing, rice is separated from rice bran and brewer's rice. Polished rice is sent through the milling processing to remove caryopsis and aleurone, but minimize brokenness or harm its grain (Van Ruiten, 1981). The milling processing produces whole kernel, 55%; broken kernel, 15%; rice bran and polish, 10%; and hulls, 20% (Shih, 2003).

Table 7: Comparison of different processing mode on rice quality

Parameters	Refined rice	Whole grain rice	Organic refined rice	Organic Whole grain rice
Contamination	Low	Moderate	No	No
Bioactive compound	Low	High	Low	High
Processing cost	High	Low	High	Low
Culture (acceptability)	High	Low	High	Low
Public health	Low	Moderate	Moderate	High

Sources: (Nakazi et al 2013; Monks et al, 2013; Goufo et al., 2014; Ti et al, 2014; Bao et al. 2015)

Organic rice consumption

In 2010, the FAO led an effort to develop the following consensus definition for "sustainable diets": those diets with low environmental impacts that contribute to food and nutrition security and to healthy lives for present and future generations. The underlying aim of the organic movement was and still is to create a sustainable and healthy food system with a focus on primary production (agriculture), but also including processing and special value chains as well as distribution and consumption.

According to IFOAM (2014), organic agriculture is a production system that sustains the health of soil, ecosystems, and people. It relies on ecological processes, biodiversity, and cycles

adapted to local conditions, rather than the use of input with adverse effect. The consumption patterns of regular organic consumers seem to be close to the sustainable diets concept of FAO (Kesse-Gyuot et al., 2013; Marianne et al., 2015). Recently, potential contributions of the organic food system to sustainable diets have been presented (Strassner et al., 2015). The question is how the organic food system may also contribute, while shifting traditional diets in Indonesia towards more sustainability. This shift needs regional and cultural adaptations of global concepts. Optimizing food consumption and lowering environmental impact are objectives to constructing diets that are sustainable and healthy. The dietary choices that individuals make are influenced by culture, nutritional knowledge, price, availability, taste, and convenience, all of which must be considered if the dietary transition that is taking place is to be counteracted (Tilman and Clark, 2014). Here the principle of the organic food system as well as existing dietary concepts like NND may help. Organics must become a lifestyle more than just a farming method. This would have a tremendous impact on food consumption, the environment, society, and individual human health. Agriculture intensification, poverty, population pressure, urbanization, and lifestyle changes have altered food production and consumption in ways that profoundly affect the health of our diets (Fanzo and Mattei, 2012).

Organic Food System

Research and other activities on the organic food system topic are urgent and important to do now. Organic agriculture has been practiced for 100 years and covers environmental aspects, animal welfare, and food quality as well as public health issues. Organic agriculture has spread to nearly all regions throughout the world. Today it is described in the Codex Alimentations and its vision is laid down in international standards and defined on the level of regulations in Europe, USA, Japan, and numerous other countries. In Europe the organic logo is recognized by European consumers and is connected to an expected eco-friendly and health-supporting food system.

The underlying aim of the organic movement was and still is to create a sustainable and healthy food system with a focus on primary production (agriculture), but must also include processing and entire value chains, as well as distribution and organic consumption issues. The OFS offers an example of combining sustainable food production and sustainable dietary consumption patterns within one system.

The change of consumption patterns seems to be a crucial issue in the transformation to sustainable food systems. The consumption patterns of regular organic consumers as studied in European countries seem to be close to the sustainable diet

concept of FAO (Kesse-Guyot et al., 2013; Strassner et al., 2015). Since diets play a central role in shaping food systems and food systems shape diets, the question of the contribution of organics to sustainable (FAO, 2012) and healthy (WHO, 2014) diets seems an essential topic to be addressed when linking them to sustainable production.

Conclusion

The organic food system includes the whole process: the production, processing, distribution, and consumption. This system includes the financial aspect as well as economic analysis. Furthermore, food systems also determine the nutritional intake, food safety, and human welfare. Organic food systems are influenced by the environment and vice versa. Nowadays, organic food system is facing great challenges due to climate change and hunger.

Based on the scenarios above, it can be seen that whole grain organic rice gives the optimum benefit to both production and consumption; however, the perception of the consumer still low. This lower consumer perception may due to shaping behavior over decades. The national standard in many countries is responsible in shaping the diets and rice perception.

To reach sustainable food consumption, the entire system

must be reached. Organic food system (rice production) is a perfect example of how the entire system chain must increase the element of sustainability, encompassing the production dominant subject of sustainability to become the whole system as a part of sustainability.

Acknowledgement

Thank you very much to Johannes Kahl (University of Copenhagen) for concept of diagram organic values and Aliansi Organis Indonesia (AOI) for their supporting data.

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Chapter 7

Conclusion: looking to the future

Wahyudi David and Daniel Kofahl

There is a saying, “people always change”; this may be suited to the “landscape of food culture” in Southeast Asia. As six chapters show, food, nutrition, habit, and culture are multifaceted phenomena that together represent the whole chain, from the production by farmers to the food intake by individuals. The food culture in Southeast Asia is slightly shifted and influenced by globalization and information.

Even though most people in Southeast Asia can meet their basic food requirements, especially calories, there are some places where malnutrition occurs; not because they have no knowledge to their food culture, but rather that they have no access economically to the food sources.

As mentioned in Chapter 2, dairy products are not the only European foods that have been observed in the Southeast Asian diets. A change in food culture has driven up the use of salt, sugar, and fat excessively. This phenomenon occurred in several large cities in Southeast Asia. The effect of excessive use of salt, sugar, and fat drives up the increase of non-communicable diseases, including hypertension and diabetes.

In the urban society in most of Southeast Asian countries, the rise of income drives the change of food habit and food culture. The more they are aware of healthy food and food safety, the more they are shaping their food choice and thereby their

food culture.

What is the future of Southeast Asian food culture? The change of food culture is unavoidable and it occurs almost everywhere, including the Southeast Asian region. Studies about the nutrition intake in different groups of local people are needed to open the uniqueness of food intake and culture of the local people, and so learning and understanding how to keep healthy and balanced food sources, according to surrounding environments, can occur. Furthermore, by learning the different food cultures and how the change, localities can understand and be able to formulate appropriate policies for better food intake while also considering food culture.

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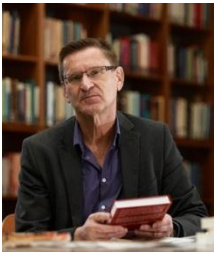

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This book represents a unique collection of food studies from the perspective of both social and food science. This book describes the current situation of food cultures in Southeast Asia and consists of six chapters which explain the cases of Thailand and Indonesia. The selected case studies are illustrative of ten scholars from various disciplines and nationalities. The multidisciplinary approaches help readers understand how the food culture in Southeast Asia changes and show the dominant factors driving those changes. This book is suitable for students who are interested in food culture, general readers, and foodies. By reading this book, readers will realize the connection between social science and food science and find interesting insights from both perspectives. In many cases, this book describes ways of eating and traditional food cultures that have already begun to disappear or have been transformed into “modernity”. To understand how and why this occurs enables researches to react and do something for the future of food tradition and nutrition.

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ISBN 978-3-7376-0286-0