



Consumption practices in transition: Rural-urban migration and the food fish system in Myanmar

Xavier Tezzo^{a,*}, Hsu Mon Aung^b, Ben Belton^{c,d}, Peter Oosterveer^e, Simon R. Bush^e

^a Environment Policy Group, Wageningen University, the Netherland

^b WorldFish, Yangon, Myanmar

^c WorldFish, Batu Maung, Penang, Malaysia

^d Department of Agricultural, Food and Resources Economics, Michigan State University, USA

^e Environment Policy Group, Wageningen University, the Netherland

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ABSTRACT

This article explores the reconfigurations of fish consumption practices in Myanmar in a context of rapid urbanization and changing availability of wild and farmed fish. Using a social practice lens, we analyze how everyday fish consumption practices change as people move from the rural Ayeyarwady Delta to Yangon city. We show how these reconfigurations are shaped by new routines in urban areas and the transition from capture fisheries to aquaculture. Our analysis reveals a growing detachment of consumers from production processes but, at the same time, a continuity in their everyday food routines through the upholding of “mother’s traditional cuisine”, and a general drive to preserve commensality. We demonstrate the value of using a social practices lens integrating micro- and meso-scale socio-cultural processes to understand dietary change by examining how rural-urban migration influence the sourcing, cooking, and eating of wild and farmed fish. These insights have implications for the everyday geography of consumption, including the persistence of socio-culturally appropriate food practices and the hybridisation of rural-urban food environments. As such, social practice approaches to the study of food consumption open up a means of understanding and even steering complex food system transitions in dynamically changing regions such as Southeast Asia.

1. Introduction

Food systems thinking is gaining traction in science and policy as a common framework for understanding and shaping the relationships between food production, provision, and consumption (Erickson, 2008; HLPE, 2017). In doing so food system thinking goes beyond the productivist focus that has historically dominated research and policy to highlight how production affects and is affected by the ways in which food is traded, cooked and eaten (Haddad et al., 2016; Béné et al., 2019a; Tezzo et al., 2020). Focusing on these interrelations is increasingly important given the growing variation of food consumption practices by urban populations and their dynamic interconnections with rural areas (Seto & Ramankutty, 2016; Béné et al., 2019b). As urban populations expand, new urban lifestyles and an overall acceleration of working lives influence the variety of food choices available. These

changes to how food is traded, cooked and eaten shape wider transitions in the food system (HLPE, 2017; IPES, 2017; Drewnowski & Popkin, 1997).

Despite their growing significance, the mechanisms that cause changes in food consumption in urban spaces remain poorly understood (Seto & Ramankutty, 2016). Macro-level analyses tend to emphasise the increasing share of non-staple food items in urban diets, including animal products and processed foods, as well as the increasing opportunity costs of time, and the higher prevalence of eating away from home (Popkin, 2001; Ma et al., 2006; Pingali, 2007; Reardon et al., 2014). However, such analyses tend to conflate growing urban populations with rising incomes and the ‘westernization’ of food practices, and in doing so tend to overlook micro- and meso-scale socio-cultural effects of changing urban food practices and their impact on the wider food system – both in urban and rural settings (Fine, 2002; Veeck & Burns, 2005;

* Corresponding author at: Environment Policy Group, Wageningen University, Leeuwenborch, building number 201, Hollandseweg, 1, 6706 KN Wageningen, the Netherland.

E-mail addresses: xtezzo@gmail.com (X. Tezzo), hsu.aung@cgiar.org (H.M. Aung), beltonbe@msu.edu (B. Belton), peter.oosterveer@wur.nl (P. Oosterveer), simon.bush@wur.nl (S.R. Bush).

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Fourat & Lepiller, 2017; Hansen, 2018). Research on these dynamics is particularly pressing in Asia given the region has the highest rate of urbanization in the world (UN, 2014), and there remains persistent concern over urban food security (Haddad et al., 1999; Sonnino et al., 2016; Ruel et al., 2017).

In this paper we analyse the effects of rural-urban migration on food systems using a social practice lens. Theories of social practice have been used to reimagine food systems as a set of routinised doings and sayings that shape food practices across different socio-cultural contexts (Wertheim-Heck & Spaargaren, 2016; Warde, 2016; Brons et al., 2020). By understanding how social actors carrying these practices reconfigure and/or reinforce both the routines and relations that enable consuming, provisioning, and producing food, a practice approach highlights how everyday consumption practices are carried and transformed (or not) across space, notably here between rural and urban environments (Bell and Valentine, 1997; Rigg, 1998; Rigg, 2007; Sahakian et al., 2016). As such, a social practice lens can help link ‘micro’ changes to wider food system transformations, and shed light on whether transformations deliver equitable access to nutritious and sustainable food (Domaneschi, 2012; Hinrichs, 2014; Geels et al., 2015; Hansen, 2018).

We build on Fine’s (2002) approach of using the in-depth analysis of a single commodity, ‘fish’, to understand complex food system-level changes. We have selected fish for three reasons. First, the consumption of fish is ubiquitous and culturally significant across much of Asia, contributing to a rich culinary diversity (Khin, 1948; Chang, 1977; Khaing, 1975). Second, the production and provision of fish in the region is rapidly shifting from wild to farmed, driven in part by growing demand in urban centres (Bush & Marschke, 2014; FAO, 2016; Bush et al., 2019; Tezzo et al., 2020). Third, fish remains important in the Asian diet because it is a relatively cheap and accessible form of animal protein rich in micronutrients (Beveridge et al., 2013; HLPE, 2014). These factors make fish an ideal commodity ‘lens’ through which to explore the relationships between food practices, rural-urban migration, and food system transitions.

We examine these interrelationships in Myanmar, a country in Southeast Asia that experienced rapid urban development during its brief political and economic opening from 2011 to 2020 (Forbes, 2016). Yangon, the largest city, is a fast-emerging metropolis, with growth fuelled by rapid rural-urban migration, similar to many other large cities in the region (Rogers & Williamson, 1982; Zhang & Shunfeng, 2003; Belton & Filipinski, 2019). Yangon has experienced particularly large inflows of migrants from the surrounding Ayeyarwady Delta (Estoque, 2017; Forbes, 2016; Sabrié, 2014), the most important fishery region in the country. Analysis of the latest national census suggests that this regional inflow resulted from ‘push and pull’ dynamics with, on the one hand, a high incidence of landlessness pushing people out of the Ayeyarwady Delta and, on the other, the emergence of employment opportunities pulling people in the economic capital (Pritchard et al., 2018). In parallel to this migration dynamic, areas surrounding Yangon have witnessed a rapid expansion of aquaculture aimed at meeting growing urban demand for food fish, mirroring developments elsewhere in the region (Belton et al., 2015; Little et al., 2016; Saguin, 2018; Tezzo et al., 2018).

Building on Tezzo et al. (2020), we examine the practices of Yangon’s rural migrants to understand the role of urban dietary change and transforming patterns of fish consumption in shaping the food fish system. Our analysis is structured around three questions. First, how do fish consumption practices (in both urban and rural spaces) change in response to rural-urban migration? Second, what implications do these reconfigurations hold for understanding broader processes of change in the food fish system? Third, how does the specific case of food fish in Yangon advance a more general understanding of urban dietary changes? We find that fish consumption practices are reconfigured by new routines as they travel back and forth across urban and rural spaces. The analysis of these reconfigurations offer a geographically-sensitive approach to understanding the effects of shared practices on system-

level processes of production and distribution that ultimately affect food and nutrition security.

The following section elaborates the link between practices and food system transitions. We go on to describe the geographical context and the methodology used for identifying and investigating migrant households in Yangon. Our results are then presented through three fish consumption practices of sourcing, cooking, and eating, drawing attention to how these practices have been reconfigured or reinforced as they move from rural to urban settings, as well as how new urban practices ‘return’ to rural contexts. We go on to reflect and conclude on the significance of changing urban food practices for the wider food fish system.

2. Practices in food systems

Practice theories focus on the routinization of social life within the contextualized and historical setting of everyday doings and sayings (Reckwitz, 2002; Schatzki, 2002; Shove et al., 2012; Spaargaren et al., 2016). Social practices are reproduced and routinized by knowledgeable and capable actors, with generally little discursive reflection on the material and social conditions that shape these practices (Spaargaren, 2011; Maller & Strengers, 2013). Practices are, as such, neither rational nor utilitarian. They are instead continually shaped and reshaped in relation to the (often mundane) social and material context in which they are performed (Shove et al., 2012; Spaargaren et al., 2016).

In this paper we focus on changes to contemporary urban fish consumption practices in two ways. First, we examine how these practices are shaped by their historical context. That is, how they become habitualized based on ‘accepted’ (and often unquestioned) social norms, relations movements, and meanings (Spaargaren, 2011; Doddema et al., 2018). Second, we analyse the ways in which these habitualized practices are ‘carried’ by those performing them in time and space (Fine, 2002; Maller & Strengers, 2013; Wertheim-Heck & Spaargaren, 2016). In doing so, we examine how these mobilised practices are confronted with new social and material settings that can lead to the integration, rejection or emergence of completely new ways of sourcing, preparing or eating food (Oosterveer, 2006; Mak et al., 2012; Spaargaren et al., 2012). Examining changes to practices over time and space shows how food practices routinized in rural settings change when moved to an urban context, but also how these ‘new’ urban practices then feedback onto rural settings, reflecting their continual transition across spaces (Bell and Valentine, 1997).

All food practices are embedded in other sets of interrelated practices that together constitute daily life. As Warde (2016) argues, a given practice is not singular, but rather is formed through the articulation of a range of different practices with different logics and rules. As such, any practice is part of a ‘bundle’ of practices, that are multiple practices interwoven across time and space (Schatzki, 2002; Shove et al., 2012). The three fish consumption practices we focus on, sourcing, preparing, and eating, are each comprised of other practices. For example, eating is not only a bodily practice of assimilating food, but also the reproduction of cultural meaning and social relations (Warde, 2016). By focusing on the bundles of practices that constitute sourcing, preparing, and eating fish we explore the ways in which routinized rural fish consumption practices change (or not) as they are carried into urban contexts (Fig. 1).

Following Shove et al. (2012), we observe and analyse the performances of (bundles of) fish consumption practices through the intersection of three integrated ‘elements’ of food practices. These are: (1) meanings, made up of general understandings or values attributed to a doing or saying; (2) skills and competences required to perform a given practice, and; (3) material objects and infrastructures that enable the performance of a practice. While constitutive of all practices, one element may be more prominent than another in any given performance of practice (Shove et al., 2012). Our focus, however, is not on the role of these elements. Rather we examine how these elements collectively change and affect the performance of fish consumption practices as

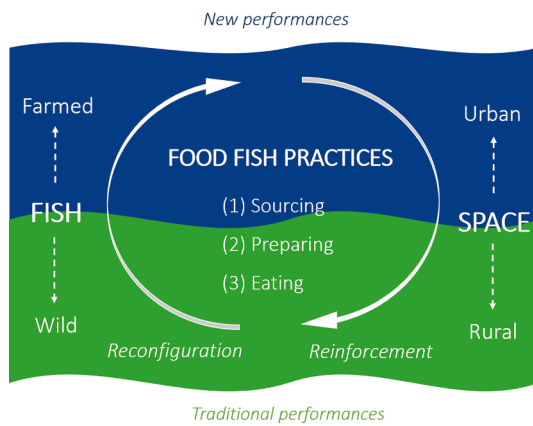


Fig. 1. Fish consumption practices theoretical framework. Adapted from Warde (2016).

practitioners move from rural to urban settings.

A focus on food practices provides an alternative way of understanding food systems. Instead of bracketing off production, provision and consumption, a practices approach highlights the ways in which ostensibly autonomous doings and sayings are both linked and co-constitutive (Halkier and Jensen, 2011; Southerton, 2013; Warde, 2016). This means that a ‘food system’ is not an object of research in and of itself. It is instead made up of, and therefore best understood as, the accumulation of inter-acting bundles of practices. Systems transitions, either intentional or not, are then determined by the sum interaction of these practices. As argued elsewhere (see Bene et al., 2019a; Tezzo et al., 2020), a practices approach thus provides analytical power that is generally lacking from the broadly heuristic use of ‘food systems’.

3. Methodology

We analyse changes in rural and urban fish consumption practices through a qualitative case study methodology (Stake, 1995). Data is based on a mix of direct observation and narrative descriptions from field visits and interviews with members of households that have migrated from the Ayeyarwady Delta to Yangon over the past 40 years. These households were selected through purposive sampling, with attention given to diversity to ensure generalisability of the results (N = 13 households, encompassing a total of 46 people). The resulting sample included a spread of (1) early/late migrants; (2) young and old; (3) male and female; (4) large and single-member households; (5) low and high income; and (6) households with/without children (see Table 1). Additionally, households were selected to maximize geographical representativeness of the sample across both the Ayeyarwady Delta and Yangon (Fig. 2).

All households were interviewed following a semi-structured questionnaire based on five modules made up of questions about their: (A) migration and life histories, (B) general everyday food practices, (C) fish eating practices, (D) fish cooking practices, and (E) fish sourcing practices. Interviews were conducted with the member of the household deemed most knowledgeable about the household’s food practices in their Yangon residence. Whenever necessary, additional household members were also interviewed to complement the information. This resulted in a total of 25 interviews, each lasting between two and five hours. Whenever possible, the participating households were also observed during their shopping excursions and/or while preparing and eating their meals. These structured observations (N = 8) were used to corroborate some of the information collected in the interviews by asking ad hoc questions to participants to elicit their immediate reactions, meanings and choices that were attached to the practices being performed.

All interviews were conducted by the first and second authors using a

mix a Burmese and English language. All data was then transcribed in English and coded in NVivo 11 software. A codebook was developed based on the theoretical framework: the main code categories corresponded to its three analytical dimensions, namely (1) Spaces (i.e. urban/rural), (2) Fish consumption practices (i.e. sourcing/preparing/eating), and (3) Fish (i.e. wild/farmed). Subsequently, secondary codes were added to the codebook to inductively explore additional themes that emerged from the analysis.

4. From rural to urban fish consumption practices

This section presents our description and analysis of the three bundles of fish consumption practices: sourcing, preparing, and eating fish.

4.1. Sourcing: Detachment from production and handling mistrust

Sourcing fish for consumption includes four constitutive practices, namely self-provisioning, bartering, wet market shopping, and door-to-door shopping (Table 2). Overall, our analysis points to a detachment of provision and consumption practices from production processes as they transition from a rural to an urban setting. This growing divide has implications for how fish are sourced, resulting most notably in a growing suspicion about freshness and quality and new practices for determining these.

Respondents recalled the absolute importance of self-provisioning fish in the rural space. When they lived in these areas, most villages in the Ayeyarwady Delta had seasonal (rather than permanent) wet markets organized around specific food items like fish or vegetables. For most of the year, therefore, they harvested their own food for household consumption or occasionally bartered with neighbours. This self-sufficiency extended to harvesting fish from the wild, including estuaries, streams, rivers, floodplains, and rice fields. As more generally recognised, wild caught fish was (and often remains, see Gregory, 2017; Oo & MacKay, 2018; Tezzo et al., 2018) the dominant animal source food in these rural areas. The practice of catching fish and collecting plants from surrounding areas or procuring these through neighbours was widespread. It was also clearly noted by respondents that food harvesting in general, including fishing, was strongly seasonal, resulting in extended periods of low dietary diversity and food scarcity for the poorest households.¹ As one respondent stated:

“We were poor but we would still eat fresh fish regularly because it was readily available and relatively cheap [...] During the summer, fish was often scarce and there would be little food available [...] we would sometimes simply have rice with oil and salt.” (Main respondent, household # 13)

Albeit to a limited extent, the practices of self-provisioning and bartering are still performed by migrants in Yangon. Whenever possible, those with the knowledge and skills to do so continue to collect wild plants from nearby vacant lots. However, the persistence of this practice has less to do with subsistence than it did in their rural homes. It instead represents the reproduction of a fondness for their former rural lifestyle. More commonly, migrant communities organize direct supply of wild caught fish from their rural village. However, unlike bartering in the village, such arrangements depend on intricate social networks that extend beyond direct neighbours (as observed in other Southeast Asia countries, see Bush, 2004). For example, the transport of fish to Yangon depends on people commuting from their villages by public express bus and a system of reciprocity rather than remuneration. As is expected, the provision of this wild caught fish is particularly common during the monsoon fishing season (see Welcomme et al., 2010; LeGrand et al.,

¹ See Thein et al. (2019) and Okamoto et al. (2021) for more on seasonality and subsistence-oriented livelihoods in the Ayeyarwady Delta of Myanmar.

Table 1
Summary information on sampled households.

HH #	Main respondent		Household information					Household main occupation(s)
	Gender	Age	HH size	N ^o of children	Township of origin	Yangon neighborhood	Time in Yangon (years)	
1	Female	61	4	0	Wakema	South Okkalapa	38	Store keeper, private driver
2	Female	32	4	1	Ngapudaw	Hlaing	9	Researcher (NGO)
3	Male	31	2	0	Ngapudaw	Thaketa	10	Civil servant, administration (company)
4	Female	44	2	0	Thabaung	Bahan	15	Private nanny
5	Female	38	4	0	Maubin	Insein	10	Public servant
6	Female	49	6	2	Kyaiklat	Hlawgar	22	Electrician (self-employed), cleaner (NGO)
7	Male	28	2	0	Pantanaw	Kandawlay	9	Administration (NGO)
8	Female	51	2	1	Ngapudaw	Hlaingthayar	7	Factory worker
9	Female	38	2	0	Bogalay	Insein	24	Tour guide, Entrepreneur (textile retail)
10	Female	62	3	3	Ngapudaw	Thingangyun	3	Air-conditioning technician
11	Female	44	5	2	Kyonepyaw	Insein	6	Private driver, civil servant
12	Female	58	6	1	Pathein	Ahlon	10	Civil servant
13	Male	54	4	2	Nyaungdon	Insein	25	Civil servant

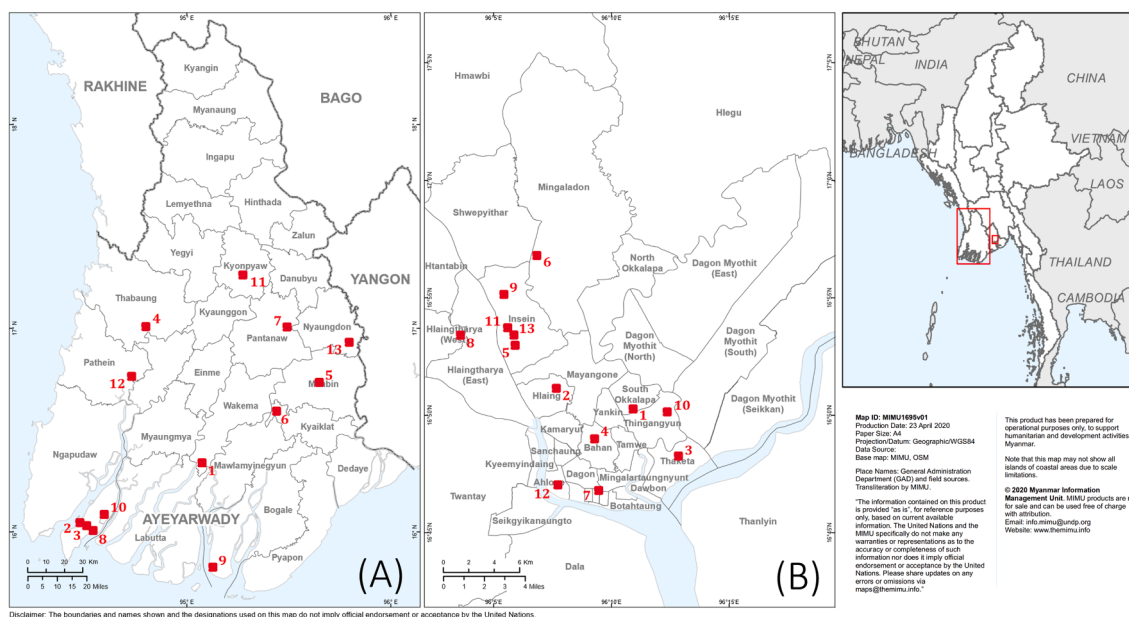


Fig. 2. Residing locations of sampled households across (A) the Ayeyarwady Delta Region and (B) Yangon City. Source: Myanmar Information Management Unit (MIMU).

2020).

Despite this persistence of self-provisioning, the dominant means of sourcing food in Yangon is local urban markets. Supermarkets are visited only occasionally to supply processed food or other household consumables. The vast majority of fresh food, including fish, is sourced through wet markets visited in the early morning. This daily routine can be partly linked to ‘door-to-door’ trading in the rural space; where fresh produces such as vegetables, and occasionally fish, are traded by specialized itinerant traders moving through the village during seasons with low primary production. Although comparable fresh food delivery services are available in the city, the practice is seldom performed by urban migrants given, they argue, prohibitive prices. Walking to wet markets is instead the dominant practice, enabled by their high prevalence in Yangon and as such convenience of walking to them from residential areas (as observed in many other urban centres across Southeast Asia, see [Saguin, 2014, 2018](#); [Wertheim-Heck and Spaargaren, 2016](#)). Indeed, these wet markets were commonly praised by respondents for their accessibility and year-round abundance and variety of food; as one respondent stated, “... (food is) more available than in my village. You

can literally find every type of food here!”, even though, they added “you need the money” to buy it (Main respondent, household #10).

A typical wet market in Yangon consists of an agglomeration of small to medium-sized vendors, each specialized in one food line (as also common across Southeast Asia, see [Cadilhon et al., 2006](#); [Zhong et al., 2020](#)). Meat and fish retail usually takes place in the morning. Generally, the larger the wet market, the more specialized the fish retail operations. In descending order of volumes, fish retail operations in Yangon normally consist of freshwater farmed fish, processed fish (e.g. fermented fish paste ‘ngapi’, salted fish, and smoked and dried fish), marine wild fish, and freshwater wild fish vendors. Small-scale fresh wild fish vendors (referred to as ‘byan ka zay’ or ‘illegal/unlicensed market operators’) typically move around the market and trade from a tarpaulin or basket laid directly on the ground. The other fish vendors operate from a designated stall consisting of an elevated wooden platform. Fresh fish are commonly sorted by species and size and displayed on large metallic plates ([Fig. 3](#)). Despite the value given to freshness, ice is rarely used by any of the vendors. This is, paradoxically, for fear of triggering suspicion over the freshness of fish (as observed in other

Table 2
Overview of fish sourcing practice reconfigurations from rural to urban space.

		Rural space	Urban space
PRIMARY	Self-provisioning	The customary practice for sourcing fish and plants, attached with low diversity and high seasonality. It is marked by periods of scarcity for the poorest households.	The practice prevails (to a lesser extent) for plants whenever possible. People overall retain good competence (e.g. for identifying herbs). The performance represents the reproduction of a fondness for their former rural lifestyle. <i>Actors carry competence (i.e. species identification) but the meaning changes from everyday subsistence to an occasional wistful ritual.</i>
	Neighbour bartering	Like self-provisioning, the practice is attached with low diversity and high seasonality. It is very common during the high fishing season. It is essentially conceived as a neighbourly service.	The practice prevails through the establishment of complex social networks to source quality fish from the village. Even though it sometimes entails trade, it is mostly based on a system of reciprocity. <i>The meaning of the practice largely prevails (i.e. peer support) but actors must often adjust competences (i.e. extended social networking).</i>
	Wet market shopping	In (small) villages, these are mostly seasonal and organized around specific food lines, hence of minor everyday importance. Established markets are often relatively distant from home.	The everyday practice for sourcing fresh food, typically in the morning. Outlets are often available nearby residences. Food is abundant, diverse and can be purchased by weight. Important concerns over freshness. <i>Material availability of outlets makes the practice become the norm. Actors adjust competences to deal with material differences (i.e. farmed fish).</i>
SECONDARY	Door-to-door shopping	Particularly performed during low season, fresh food (i.e. vegetables, and occasionally fish and chicken) is purchased from specialized itinerant retailers visiting homes in the morning. Cross-cutting observations	Service newly offered by modern retail outlets but seldomly used by migrant households because prices are reportedly prohibitive. Increasingly common way to procure rice (regular delivery). Fast increase in the supply of farmed fish (mostly urban space, but also increasingly in the rural). Chicken reportedly replacing fish in food baskets (lower price).

countries of present-day Asia but also in nineteenth century Europe – see [Freidberg, 2015](#); [Zhong et al., 2020](#)). As one respondent explained:

“When I buy fish in Yangon, freshness is more of an issue than in my village. Whenever the fish is frozen or displayed on crushed ice, I simply do not buy it.” (Main respondent, household #6)

Freshness is indeed the main indicator of value and is assessed through a set of three common techniques carried by migrants from their rural villages. They check how vibrant the colour of the gills is, whether there is clarity to the colour of the eyes, and whether the flesh of the fish is firm. The rural origin of these competence is made clear by their absence among younger family members, or people who have spent most of their adult life in the city. These competences also differ within migrant households depending on their respective experience with the practice, typically shaped in the rural space. As one respondent confessed:

“My husband often makes fun of me saying that I have spent too much time in Yangon and cannot recognize fresh fish anymore [...] To be fair, he used to be the one catching fish back in the village and he is really good at checking freshness.” (Main respondent, household #4)

The respondents also indicated that urban life entails a relative detachment from food production, which in turn has led to a growing distrust of retailers by consumers. All of the people interviewed reported being ‘cheated’ by their fish vendors. This distrust of vendors appears to be especially strong in the context of processed fish products, in which the identification of species and product quality is substantially more difficult. One respondent, for example, explained how they did not trust the quality of fish paste² in Yangon because, in contrast to their village, they do not know the people from whom they purchased it leading to suspicion on the safety and quality of the ingredients:

“The [fish paste] we ate in the village was either homemade or purchased from people we knew [...] I heard that most of the fish paste sold in Yangon is not fermented long enough and that some processors use chemicals instead [...] The retailers, they often lie about the fish species they have used so they can sell their product for a higher price.” (Main respondent, household #5)

Such mistrust has led to the emergence of new sourcing strategies of fresh and processed fish in Yangon. Reflecting observations made across Southeast Asia (see for e.g. [Evers and Mehmet, 1994](#); [Bush, 2004](#); [Máñez and Pauwelussen, 2016](#)), consumers build trust in the products they purchase by demonstrating loyalty towards a single vendor for specific products. In turn this loyalty provides a basis for trust in quality and price. It is also the absence of such trust, it seems, that contributes to the persistence of sourcing fish directly from rural villages through neighbours and acquaintances.

Practices for determining the quality and building trust with vendors in urban areas has also been shaped by the overwhelming prevalence of farmed fish on the city’s market. Farmed fish are regularly purchased by urban migrants who appreciate their year-round availability. However, respondents had a shared sense that the quality of farmed and wild fish are intrinsically different. Contrary to wider assertions on their substitutability ([Delgado et al., 2003](#); [Natale et al., 2013](#)), respondents all indicated a strong preference for wild fish, stating that farmed fish is only purchased because of the high price of wild fish in Yangon (as reported elsewhere in Asia – see [Bestor, 2001](#); [Saguin, 2014](#)). Respondents also consistently argued that the quality of farmed fish is more difficult

² Fish paste (referred to as *ngapi*) is a generic term to refer to pungent pastes made from either freshwater fish (referred to as *nga ngapi*) or marine shrimps (referred to as *pazun ngapi*). There are several regional variations based on the species used in the preparation.



Fig. 3. Illustration of a small farmed fish vendor in a typical wet market in Yangon. Picture by X. Tezzo, Thingangyun Township.

to discern than that of wild fish. Farmed fish are commonly displayed as cutlets placed besides the head of the fish, making it more challenging to determine their freshness and easier to disguise which species is being sold, and relatedly, their farmed origin, in attempt to charge a higher price. As illustrated by one respondent:

“With farmed fish, you are never really sure that the head you’re checking actually belongs to the same fish [...] Often, the only check you can make is on the sliced flesh [...] Whenever I buy fish balls³, I prefer to have the vendor scratching the flesh in front of me so I am sure of what I am buying” (Main respondent, household #12)

The responses of rural migrant consumers in Yangon indicate that there are similar processes of change occurring in the rural space. One respondent related:

“When I was young, there were already quite a lot of fish farms around my village but farmed mrigal [*Cirrhinus cirrhosus*] and catla [*Gibelion catla*] were all sold to Yangon back then [...] As aquaculture operations have kept increasing over the years, an important proportion of the former fishing sites have been turned into fish ponds. Nowadays people in my village increasingly resort to farmed fish that they purchase from the market ... ” (Main respondent, household #13).

There seems to have been a recent proliferation of wet markets across some villages through the Ayeyarwady Delta. This expansion, which can be largely attributed to the dramatic development of road infrastructure across the region in recent years, seemingly leads to an increasing occurrence of shopping for food in these villages. Our discussions indicate that such development is accompanied by the growing availability and diversity of fresh food. When it comes to the transition to farmed

³ Also referred to as ‘nga chit’ or ‘surimi’, these minced fish balls are obtained by scrapping the flesh of rohu [*Labeo rohita*] or featherback fish [*Notopterus notopterus*]. They are typically sold ready-to-cook, sometimes already mixed with baking soda and spices.

food fish, it increasingly appears that changes occurring in the urban space are extending to the rural food basket. As we will see in the next section, these reconfigurations of fish provision interconnect with the urbanization of culinary practices.

4.2. Cooking: Upholding (and adjusting) mother’s cuisine

Cooking food fish in Yangon by rural migrants can be divided into a bundle of four constitutive practices, namely cooking fish curry, serving fish paste, frying, and steaming fish (Table 3). Our overall observation is that rural migrants in Yangon maintain a strong attachment to traditional ‘rural cuisine’, which is typically associated with the cooking performances of their mothers. Yet, as migrants transition to the urban space, changes in food environment and lifestyle may lead to adjustments of traditional culinary practices and a reconfiguration of the bundle of fish cooking practices.

Our first observation is that cooking is strongly gendered within rural migrant households, with women responsible for food preparation and the performance of often distant (rural) mothers serving as benchmarks for determining ‘proper conduct’ of cuisine. Although this gendered responsibility is occasionally transgressed in Yangon, the competences for cooking are still typically passed-on generationally through women in the urban space. This was confirmed by a woman respondent who recalled how her youngest daughter, upon getting married and taking over responsibilities for her new household, had to “catch up” her cooking skills “by learning from her sister and myself” (Main respondent, household #10).

Central to the culinary repertoire of mothers is the practice of cooking fish curry. Myanmar has a highly diverse range of cooking methods and dishes, reflecting the influence of both India and China. Despite this diversity, ‘curry’ is the reference dish across the country (Nash, 1965; Khaing, 1975) and holds a strong role in cultural identification and language – the traditional greeting in Myanmar literally

Table 3
Overview of fish cooking practices reconfigurations from rural to urban space.

		Rural space	Urban space
Primary	Cooking a curry	The practice is quite elaborate (i.e. diversity of ingredients, time-consuming) and considered as cooks' reference dish. It is by far the most common way of preparing wild fish. <i>SUMMARY</i>	The practice is often made simpler and quicker. Farmed fish are typically considered unsuitable for curry by conservative (often older) migrants. <i>The competence remains a reference in culinary repertoires, but changing material aspects (i.e. equipment, farmed fish) induce adaptations.</i>
	Frying	The practice is relatively common to prepare small fish. It reported to be effective for preserving fish over a few days in the absence of a fridge. Oil is considered a relatively expensive commodity. <i>SUMMARY</i>	The practice is considered the easiest, the fastest, and the most suitable for preparing farmed fish (richer in fat). It is very common among less-experienced cooks, particularly with fish balls. <i>Very little competence required. The practice gains increasing prominence as it is considered ideal to prepare materially different fish (i.e. farmed).</i>
	Serving fish paste	The practices of serving fish paste as a dip with vegetables (i.e. <i>ngapi yay</i>) is a day-to-day practice. Cooking fish paste with a few condiments (i.e. <i>ngapi gyet</i>) is mostly seasonal - during off season. <i>SUMMARY</i>	<i>Ngapi yay</i> is more exceptional and it is mostly conceived as a treat to eat with guests. <i>Ngapi gyet</i> is typically an everyday practice for poorest consumers who cannot afford fresh fish. <i>Material quality and actor's competence remain essential, but the meanings attached to different cooking methods change across space.</i>
Secondary	Steaming or cooking soup ('mohinga')	The practices are typically performed for donation ceremonies or other special occasions. Species (only wild) used vary according to locations and seasons. Cross-cutting observations	The practices are still mostly performed for donation ceremonies or other special occasions. Farmed fish are often used as more affordable alternatives, allowing the preparation of larger quantities. Equipment differs between urban (hot plates, slow/rice cookers, fridge) and rural spaces (i.e. coal stove). Common practice across urban and rural spaces to cook once a day (i.e. same menu for lunch and dinner). Cooking is predominantly the

Table 3 (continued)

	Rural space	Urban space
		responsibility of women although this is sometimes transgressed in the city.

translates as “Which curry did you eat?”⁴. In rural areas, cooking a curry is by far the most common way of preparing wild fish, notably catfish (commonly *Clarias batrachus*) and climbing perch [*Anabas testudineus*] among several other species. While our interviews with rural migrants indicated that the preparation of fish curry varies by region and fish species, the process of cooking a fish curry is consistently elaborate, requiring several ingredients (usually oil, tomatoes, onions, turmeric, cardamom, coriander, garlic, ginger, and chilies) and necessitating a long preparation time. When probed about the specificities of their curry, respondents systematically alluded to the routinized practices of their distant rural mothers.

While fish curry remains a reference dish in Yangon, its preparation has been sped up. The use of electric equipment such as hot plates and slow cookers enables a faster cooking time than the traditional coal stoves found in rural kitchens (Fig. 4). People in the city also commonly report cooking with fewer ingredients, sometimes only using chillies and tomatoes. In some other instances, reconfigurations of curry cooking in the city follow other motives such as the incorporation of new flavours in contradiction to their mother’s cooking method. This can involve diverging, as one respondent outlined, by “I flavour my fish curry mostly with pepper, which my mother never uses.” (Main respondent, household #3). Other respondents noted changes on the basis of dietary considerations. For example, one migrant argued that, in contrast to her mother who “uses a lot of oil in her fish curry ... [which] she argues ... helps preserve the food longer ... I use much less oil because I am more concerned about eating healthy.” (Main respondent, household #2).

As seen in sourcing practices, urban cooking practices were also noted as being carried back into rural areas. As the electricity grid has expanded, so too has the use of cooking equipment. In the process, some elements of urban cooking have been taken up, including the use of dried (instead of fresh) shrimp and the use of taste enhancers like monosodium glutamate (MSG) – to the extent, as one respondent put it, that “even my grandmother (in the village) now occasionally uses MSG in her cooking.” (Main respondent, household #2).

Overall, however, it is apparent that the propensity for reconfiguring well-established food fish cooking practices related to dishes like fish curry is greater in younger rather than older generations. In contrast, older people appeared more likely to perpetuate traditional cooking practices based on rural performances. It is between these generations that the use of farmed and wild caught fish to cook curry differs. But even if younger generations of migrants tolerate certain species of farmed fish into their curries, such as mrigal [*Cirrhinus cirrhosus*] or rohu [*Labeo rohita*], there is also a relatively strong consensus amongst them on the inappropriateness of some other farmed species such as tilapia (most commonly *Oreochromis niloticus*). As unequivocally stated by a respondent:

“We would never cook a curry with (farmed) tilapia. That fish is better eaten either fried or barbecued.” (Main respondent, household #10)

The ‘suitability’ of farmed fish for frying is indeed a generally shared

⁴ In Myanmar, a typical meal includes steamed rice as the main dish and one (or several) accompanying curry. According to local customs, asking someone whether s/he has already eaten is a common greeting. As such, ‘*Htamin sa pi bi la*’ (which translates as: ‘Have you already eaten rice?’) is typically followed by ‘*Ba hin sa leh*’ (which translates as: ‘Which curry did you eat?’).



Fig. 4. Illustration of the typical kitchen set from a Delta migrant household in Yangon. Picture by T. Wai, Wakema Township.

position within the migrant community in Yangon. The practice of frying is also used in rural areas for cooking small fish species such as gourami [*Trichopodus pectoralis*], mola [*Amblypharyngodon mola*], or anchovies (a generic term referring to several small marine fish species). However, it appears that rural migrants in Yangon also fry widely available farmed fish like tilapia in order to assimilate them into their everyday diet. Even though the consumption of farmed fish is still partially resisted by more conservative migrants, younger generations typically recognize the benefits of frying them. First, they point out it saves a considerable amount of time in contrast to the preparation of curries and, as such, aligns to their faster-paced urban lifestyle. Second, they note the easiness of the technique rendering it convenient for less-experienced cooks. This is particularly true for ready-to-fry fish balls, which are processed from (farmed) rohu and increasingly part of the diets of most urban households. Third, fried fish is considered more easily accepted by children. As one respondent argued, “I fry it (farmed mrigal) for my daughter [...] she really likes it because the taste is less fishy and there are only few bones.” (Main respondent, household #2).

Other cooking practices have experienced a subtler reconfiguration. Among them is the consumption of fish paste which has changed its meaning as compared to performances in the rural space. As one respondent in Yangon recalled:

“Back in the village, *ngapi* would be prepared during the peak of the fishing season, mostly using unsold catches of gourami, climbing perch, or sometimes mola. It would then be used during the rest of the year, making fish part of our meals even during the low fishing season. Together with firewood and rice, I remember that storing fish paste before the rainy season was a major preoccupation in my village.” (Main respondent, household #13)

In addition to its traditional use as a condiment, fish paste is commonly prepared into a dip and eaten with fresh raw or blanched vegetables. This practice (referred to as ‘*ngapi yay*’⁵) is typically

⁵ We decided to focus the attention here on the two most common practices. There exist several other ways of consuming fish paste (i.e. as a condiment, baked, in salad, ‘*balachaung*’, etc.).

performed to serve as an everyday side dish in the rural areas to complement the main course. The same respondent went on to explain:

“The daily preparation of *ngapi yay* consists in boiling fish paste, filtering it to remove the bones and then mixing it with chillies. Some people like adding turmeric to the mix because it helps covering the fishy smell [...] *Ngapi yay* is definitely more of a food to share, you don’t prepare it for only one person ... (Main respondent, household #13).

Another method for cooking fish paste as a main dish (referred to as ‘*ngapi gyet*’) is practiced in rural areas to compensate for the lack of fresh fish during the less fish abundant dry season. In Yangon, however, *ngapi*-based dishes serve different functions. *Ngapi yay* has become a less common dish, served mostly when receiving guests. *Ngapi gyet* on the other hand is typically considered as the “curry of the poor” (Main respondent, household #2) with less affluent households cooking the dish all-year-round as a cheaper alternative to fresh fish. Despite these differences, the quality of the fish paste itself remains of utmost importance, no matter the dish. Mirroring some of the observations made around fish sourcing, there appears to be a shared consensus among all of the rural migrants interviewed that cheaper fish paste processed from farmed fish - and now overwhelmingly more available in Yangon than *ngapi* made from wild fish - is not of an ‘acceptable’ quality.

In contrast, fish cooking practices that consist of steaming fish or cooking fish soup (such as ‘*mohinga*’⁶) demonstrate how cooking practices have been reconfigured by replacing wild fish by farmed fish in Yangon. These fish cooking practices are only performed at home on special occasions such as moon festivities, Buddhist donation ceremonies, weddings, birthdays, funerals, housewarming, or other social events. In rural areas, expectations remain as to which (wild) fish species should be used - according to the season, regional preference, and the social status of people attending - normally either catfish, striped snakehead [*Channa striata*], hilsa [*Tenulosa ilisha*], or seabass [*Lates calacarifera*]. In contrast, the same cooking practices in Yangon

⁶ *Mohinga* is a rice noodle and fish soup that is traditionally prepared for breakfast and considered ‘the national dish’ of Myanmar.

Table 4
Overview of fish eating practices reconfigurations from rural to urban space.

		RURAL SPACE	URBAN SPACE
PRIMARY	FAMILY MEAL	The practice is common for most meals, except for breakfast. Household members usually share the same pace of life and meals are taken together with the whole family.	The ideal embodied by the practice prevails but people more commonly cook and eat separately because of differentiated paces of life. Dining spaces are also typically more confined. <i>The meaning (i.e. commensality) persists but material differences (i.e. space) and diverging paces of life render performances only occasional.</i>
	EATING OUT	The practice is the norm for breakfasts, for which there are often a few specialized stalls operating at dawn. Except from these there is typically no restaurant outlets.	The practice prevails for breakfast and is generally performed in tea shops. It is also a common for family (especially young people) to eat out over weekends. There is a rich diversity of options. <i>Material availability of outlets render the practice common (esp. for younger generations). Meaning of certain dishes is altered in the process.</i>
	EATING FROM A LUNCHBOX	The practice is seldomly reported and mostly performed during periods of important agricultural activity or for household members going to school or working far from home.	The practice of eating a home cooked lunch is the norm for most workers. It is common for colleagues to sit together and share food from their respective boxes, jointly constituting a more diverse meal. <i>The meaning (i.e. commensality) is reinforced by the decline of the family meal. People develop new competence to revive this core value.</i>
SECONDARY	OBSERVING RESTRICTIONS	Observing taboos around food is very common. Associated superstitions can typically be traced back to either religious or animist beliefs within the household.	The practice largely persists There can be occasional transgressions, but restrictions are generally observed even when their origins have become blurry. Preference for freshwater or marine species is categorical and deep-rooted based on (inland or coastal) origins Children and elders often receive special attention in the household when it comes to food
	CROSS-CUTTING OBSERVATIONS		

incorporate farmed fish species. Rural migrants now typically steam or cook *mohinga* with mrigal, rohu, or sometimes even tilapia. This shift to use of farmed fish has also been driven by the large quantities of food required during these celebratory occasions, which has also affected their normalisation in everyday cooking.

4.3. Eating: Preserving commensality

Eating fish can be broken down in a bundle of four constitutive practices, namely the family meal, eating out, eating from a lunchbox, and observing food restrictions (Table 4). Overall, our analysis points towards an individualization of eating as people migrate from rural areas to Yangon. However, despite this trend, migrants continue to attach considerable importance to commensality – or eating together. Below, we illustrate some of the strategies devised by migrants in the urban space to revive this central value through their everyday eating performances.

In the rural areas, everyday meals are eaten with the entire family. This entails sitting on the floor in a circle with dishes served on a low round shaped table or directly on the floor. Rice plates are typically placed in front of each person while dishes are laid out in the middle. The number and combination of dishes vary according to both context and social status, but there is generally a main dish (often a curry), a soup, and some *ngapi yay* (Fig. 5). On special occasions or for more affluent households, meals commonly comprise an assortment of main dishes, served in combinations that follow relatively clear codes and etiquettes (see Khaing et al., 1975). In rural areas, such commensality is performed for both the lunch and the dinner. In Yangon, however, it is often limited to dinner. Respondents also noted that migrant households in Yangon have even shifted to more individualised dinners because of the different work/home routines of their members. As one respondent elaborated:

“Most of the time, my family does not take their meals together. For dinner, me and my granddaughter would normally eat first while other family members eat whenever they arrive back from work. Usually, my son arrives first. My husband and my daughter-in-law are always late.” (Main respondent, household #12)

The individualisation of meals in Yangon is also driven by other factors. For instance, it was observed that some households do not have enough dining area to accommodate shared meals. In other cases, the nuclear structure of migrant households in the city has been fragmented by the addition of more distant relatives and/or non-related housemates leading to a further individualisation of eating practices. This was captured in a response by a single man describing his living and eating practices:

“Now I share a flat in town with my brother [...] Usually, we do not eat together. I guess we just have different ways. Me, I only need one main dish with rice because I snack a lot during the day. My brother does not and always has at least one main curry together with a soup and fried vegetables [...] Whenever our older sister is visiting, she brings climbing perch from our village and cooks for us. When she is in town, we always eat together in the evenings.” (Main respondent, household #7)

The practice of eating alone is not, however, completely unknown in rural areas. Because fresh food is typically purchased and cooked in the morning, it is common for individuals to have breakfast outside the house. *Mohinga* hawkers and other small stalls selling boiled beans or fried snacks at dawn are common in most villages. As a result, breakfast is more commonly regarded as a snacking activity performed by individual household members at different times and with different menus. This individualisation of breakfast is reflected in Yangon by the profusion of teashops and restaurants⁷ that provide an abundance of individual choice. As one respondent illustrated:

⁷ In Burmese, a distinction is made between ‘*la-phe-ye-sai*’ (i.e. tea shops) on the one hand, which typically operate in the morning and serve specialized breakfast dishes, and ‘*htamin-sai*’ (i.e. rice shops) which serve mostly rice-based dishes and are more oriented towards lunch. In practice, both types of outlets now operate all day long and it is often the case that there are crossovers.



Fig. 5. Illustration of the typical Myanmar meal served in a Yangon ('rice shop') restaurant. Picture by Sethlui, West Shwegonedaing Township.

"For breakfast, I would usually have '*ikyakwe*' [deep fried twisted dough stick] and boiled chickpeas which I buy from outside [...] My husband is like my father: he does not have enough with snacks and prefers to have a rice meal so they normally cook rice and warm up the curry from the day before [...] My mother, she really likes *mohinga* for breakfast. She always buys it from the same shop." (Main respondent, household #2)

While breakfast is usually the only meal people eat outside the household in rural areas, migrants in Yangon report their shift to also eating lunch and dinner out of the house. They also noted that similar changes to eating habits are happening in their home villages with the recent increase in the number of restaurants, small tea shops and 'beer stations'. That said, the practice of eating out in both rural and urban areas was also clearly resisted by older generations. Either older family members do not join meals outside the house or, as one respondent described:

"Whenever we go outside together and have food in a restaurant, she (mother-in-law) would not order anything and just sit and wait for us to finish our meals (Main respondent, household #11).

For younger migrants in Yangon, eating out is sometimes experienced as a privilege not only because it opens up individual choice, but also because it renders 'special dishes' more accessible. As outlined above, *ngapi yay* is a perfect example given it is now even served on a complimentary basis while ordering a curry from any restaurant (see Fig. 5). *Mohinga* too can now be purchased at any time from the many teashops spread across the city.

Despite the increasing occurrence of eating out, its positive associations do not generally apply to workers' lunches. Although the practice of eating from office canteens or restaurants close-by their workplace has become more common, the norm is to eat a home cooked meal out of a lunchbox. While ostensibly individual in its consumption, the lunchboxed meal is homecooked, which contributes to link workers to the commensality of their household. As one respondent recalled:

"Lunch was always prepared by my auntie for the whole family. She and all my cousins would share the same menu every day. The only difference is that some of us would take it separately from our lunchboxes at work." (Main respondent, household #13)

In addition, both discussions with and observations of respondents indicated that workers do also recreate a broader sense of commensality while eating from their lunchbox at work. The performance typically

involves colleagues placing their respective lunchboxes on the table and sharing a collective meal. As expressed by one respondent:

"I find it (i.e. the practice of sharing lunchboxes) is always a win-win situation because one day someone has too much curry while the other has too little. The other day it might be the opposite. Also, I think Myanmar people simply do not like eating alone..." (Main respondent, household #13)

Finally, across both the rural and urban spaces, the observance of religious or customary food restrictions that affect the consumption of fish is very common. These restrictions are linked to either Buddhist or animist beliefs and generally apply to the whole household. As elaborated by one migrant:

"Because my grandmother was a fervent [Buddhist] devotee, she did not eat four-legged animal meat nor large fish species. She could only eat the small fish specimens. Because she was the main responsible for food in our home, we just observed the same restrictions." (Main respondent, household #11)

Observing such food restriction is performed on a strict basis in the village where individual food intake is observed by other household members. While these same restrictions persist in principle in Yangon, there seems to be more transgression, particularly by younger generations who are often not able to identify the origin of the practice anymore. Yet, what the performance of food restrictions clearly demonstrates is that members from the same household are expected to conform as a single unit with a homogenous set of everyday eating practices that affect the consumption of key foodstuff such as fish. In the words of one respondent, "what I eat, my daughter eats. What I do not eat, my daughter does not eat either" (Main respondent, household #8).

5. Discussion

This paper examined the effects of rural-urban migration on fish consumption in Myanmar. Our analysis of how fish consumption practices are shaped by historical context and are (or are not) reconfigured as they are carried over time and space illustrates the value of understanding micro- and meso-scale socio-cultural dynamics of food systems. We contend that there is considerable scope for human geographers to explore the complexity of transitions in food systems through their articulation in 'everyday' food practices. By understanding and characterising these practices and their reconfigurations, it is possible to

conceptualize dietary change as a combination of socialized routines of buying, cooking, and eating food (building on Spaargaren et al., 2012; Warde, 2016; Wertheim-Heck & Spaargaren, 2016; Brons et al., 2020). Below, we discuss four key insights that emerge from our analysis and that have implications for understanding the everyday geography of consumption and food system transitions.

First, our analysis of social practices demonstrates the value of understanding how contemporary food transitions are shaped through situated lived experiences (Rigg, 2007; Sonnino et al., 2016). Such an understanding complicates macro-scale accounts of urban dietary change in Asia which tend to reify narratives around the ‘westernization’ of diets across the region (Pingali, 2007). In contrast, our detailed examination of fish consumption practices in Myanmar demonstrates the social and historical significance of everyday realities of food provision and consumption that are continuously shaped by their mobility between rural and urban spaces. Our analysis draws attention to how changes in all three bundles of fish consumption practices are reflected in subtle and diverse reconfigurations of meanings, competences, and materials. As such, our contribution aligns with others (see McEwan et al., 2015; Hansen & Jakobsen, 2020) who have advocated for a better acknowledgement of locality and context in shaping food practices and the relevance of multi-scalar approaches to rightfully decipher the variegated trajectories of change that make up food transitions in the global South.

Second, by drawing attention to how food practices are reconfigured or reinforced as routines travel back and forth across space, our analysis makes the case for a ‘hybridizing spatiality’ between the urban and the rural (see Kantor, 2018; Rigg, 2019). By understanding how rural and urban consumption practices intersect in both rural and urban spaces, it is possible to open up a new means of defining ‘foodscapes’ or ‘food environments’ – that is, not only in terms of the space where food is acquired and prepared, but also for broader doings and sayings that are mobile and constitute how which kinds of food are consumed (Mackendrick, 2014; Vonthron et al., 2020). Our findings demonstrate that urban fish consumption practices are indeed hybridised with rural consumption practices, and that this hybridization remains dynamic as practices continue to move between changing rural and urban food environments. Consumption cannot then simply be reduced to the bodily assimilation of nutrients that predictably varies from rural to urban space, nor can associated transformations be boiled down to an expression of Westernised consumerism. It is instead a manifestation of specific and complex identities, meanings and competences that shapes contemporary dietary changes in Asian cities (Laquian, 1996; Sahakian, 2016; Reddy & van Dam, 2020).

Third, our results suggest that presumptions of dynamic change in Southeast region should be framed in more gradual terms than is often the case in food modernization narratives. This is reflected at several levels in our study. We observe, for instance, a strong generational influence on dietary change, pointing at the relative resistance of older migrants to changing their practices and a transmission of conservative food values to younger generations. Similarly, we see that gender-based norms around everyday cooking performances in rural areas are retained in urban settings (as seen elsewhere in the region - Tacoli & Chant, 2014; Luo & Chui, 2019). We also observe the persistence of proximity and trust-based mechanisms in the supply of fresh food in the city, thereby complicating the dominant ‘supermarketization’ thesis and the displacement of the informal sector in urban food chains (Reardon et al., 2003). This highlights the need to rethink urban food practices in terms of ‘multiple modernities’ – where trajectories of urban change and food transition emerge simultaneously in combination and in parallel along different time frames (Spaargaren et al., 2005; Scheinberg & Mol, 2010; Maller & Strengers, 2013). At the same time, it challenges neoliberal modernization narratives permeating food policies in the region and implies instead a need to better acknowledge and integrate the socio-cultural appropriateness of food (Alkon et al., 2013; Jarosz, 2014; Kyeyune & Turner, 2016).

Finally, our findings demonstrate there is much to be gained from combining social practice and food systems approaches to understand urban dietary change. Social practice framing enables the kind of fine-grained analysis of micro- and meso-scale changes in everyday provision and consumption routines that is often missing in wider food system debates. At the same time, food systems thinking highlights the need to understand the mutually constitutive and recursive relationships between macro- and micro-scale transformations across the system – that is, across consumption, provision, and production (Spaargaren et al., 2012). By ‘zooming in’ and ‘zooming out’ (Nicolini, 2009) between social practices and (in our case) the food fish system, it is possible to identify and explain complex dynamics of system-level change with consequences for who can access sustainable, nutritionally valuable, and culturally appropriate food at various spatial scales and contexts. This in turn creates opportunities for rethinking interventions by states, NGOs and private firms alike aimed at improving access to fish (and other forms of nutrition) that move beyond both individual capacity and broad scale assumptions of changing systems of production, provision and consumption.

6. Conclusion

This paper has demonstrated the value of a social practices approach for analysing food system change. By structuring our assessment around the food fish transition, we have shown how urban reconfigurations of fish consumption practices are shaped by new and hybridised routines that intersect with the changing availability of wild and farmed fish. We argue that this food transition is best understood in terms of changes to the meanings, competences and materials that underpin how fish is sourced, cooked, and eaten. Once these social practices of consumption are identified it is possible to better understand existing changes to production, and redesign interventions aimed at more sustainable, equitable and nutritious food system outcomes.

Such a practice-based approach is geographically-sensitive in that it enables the integration of micro- and meso-scale socio-cultural influences embedded in specific places. We have argued that understanding the interrelations between consumption practices and system-level processes of production and distribution offers a means of better understanding macro food transitions at large. This also holds implications for the everyday geography of consumption and the ways in which dietary change is understood; that is, as a gradual process subject to the persistence of socio-culturally appropriate food and the hybridisation of rural-urban food environments.

Our study makes it apparent that global research agendas on food security and sustainability need to incorporate empirically-based and socio-theoretical understandings of food transitions. By acknowledging the mobility of consumption practices and deciphering how these reconfigure as they travel back and forth across urban and rural spaces, our study has opened up a means of understanding and even steering the complex contemporary transitions observed in our food systems. Our analysis of food consumption further suggests opportunities for extending practice-based approaches to the realm of food trade, production and governance to fully grasp system-level changes. Doing so holds the promise of a more comprehensive understanding of who can access sustainable, nutritionally valuable, and culturally appropriate food at various spatial scales and contexts. Yet, advancing this agenda will first require food scholars shift their focus to the global South where contemporary food system transitions are fastest, and where stakes are the highest.

CRediT authorship contribution statement

Xavier Tezzo: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Visualization, Writing – original draft, Project administration, Funding acquisition. **Hsu Mon Aung:** Methodology, Formal analysis, Investigation, Data curation, Writing – original

draft. **Ben Belton:** Conceptualization, Methodology, Writing – review & editing, Supervision, Funding acquisition. **Peter Oosterveer:** Conceptualization, Methodology, Writing – review & editing, Supervision. **Simon R. Bush:** Conceptualization, Methodology, Writing – review & editing, Supervision.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Disclosure statement

This study did not require ethics approval as no dilemma was identified by the Wageningen School of Social Sciences (WASS) committee who approved this research. We, authors, declare that we do not have any conflict of interest of any sort in publishing this manuscript.

References

- Alkon, A.H., Block, D., Moore, K., Gillis, C., DiNuccio, N., Chavez, N., 2013. Foodways of the urban poor. *Geoforum* 48, 126–135.
- Bell, D., Valentine, G., 1997. *Consuming geographies: We are where we eat*. Routledge, 256p.
- Belton, B., Filipski, M., 2019. Rural transformation in central Myanmar: By how much, and for whom? *J. Rural Stud.* 67, 166–176.
- Belton, B., Hein, A., Htoo, K., Kham, L.S., Nischan, U., Reardon, T., Boughton, D., 2015. Aquaculture in transition: value chain transformation, fish and food security in Myanmar (No. 1879-2017-1653).
- Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I.D., de Haan, S., Prager, S.D., Talsma, E. F., Khoury, C.K., 2019a. When food systems meet sustainability – Current narratives and implications for actions. *World Dev.* 113, 116–130. <https://doi.org/10.1016/j.worlddev.2018.08.011>.
- Béné, C., Prager, S.D., Achicanoy, H.A.E., Toro, P.A., Lamotte, L., Cedrez, C.B., Mapes, B. R., 2019b. Understanding food systems drivers: A critical review of the literature. *Global Food Security* 23 (April), 149–159. <https://doi.org/10.1016/j.gfs.2019.04.009>.
- Bestor, T.C., 2001. Supply-side sushi: Commodity, market, and the global city. *American Anthropologist* 103 (1), 76–95.
- Beveridge, M.C.M., Thilsted, S.H., Phillips, M.J., Metian, M., Troell, M., Hall, S.J., 2013. Meeting the food and nutrition needs of the poor: the role of fish and the opportunities and challenges emerging from. *Fish Biology* 83, 1067–1084. <https://doi.org/10.1111/jfb.12187>.
- Brons, A., Oosterveer, P., Wertheim-Heck, S., 2020. Feeding the melting pot: Inclusive strategies for the multi-ethnic city. *Agric. Hum. Values* 37 (4), 1027–1040.
- Bush, S.R., 2004. Scales and sales: changing social and spatial fish trading networks in the Siphandone fishery, Lao PDR. *Singap. J. Trop. Geogr.* 25 (1), 32–50.
- Bush, S.R., Marschke, M.J., 2014. Making social sense of aquaculture transitions. *Ecol. Soc.* 19 (3).
- Bush, S.R., Belton, B., Little, D., Islam, M.S., 2019. Emerging trends in aquaculture value chain research. *Aquaculture* 498, 428–434. <https://doi.org/10.1016/j.aquaculture.2018.08.077>.
- Cadilhon, J.J., Moustier, P., Poole, N.D., Tam, P.T.G., Fearn, A.P., 2006. Traditional vs. modern food systems? Insights from vegetable supply chains to Ho Chi Minh city (Vietnam). *Development Policy Review* 24 (1), 31–49.
- Chang, K.C., 1977. Introduction. In: Chang, K.C. (Ed.), *Food in Chinese Culture*. Yale University Press, New Haven, CT, USA and London, UK.
- Delgado, C.L., 2003. Fish to 2020: Supply and demand in changing global markets (Vol. 62). WorldFish.
- Doddema, M., Spaargaren, G., Wiryawan, B., Bush, S.R., 2018. Fisher responses to private monitoring interventions in an Indonesian tuna handline fishery. *Fish. Res.* 208, 49–57.
- Domaneschi, L., 2012. Food social practices: Theory of practice and the new battlefield of food quality. *J. Consumer Culture* 12 (3), 306–322.
- Drewnowski, A., Popkin, B.M., 1997. The nutrition transition: new trends in the global diet. *Nutr. Rev.* 55 (2), 31–43.
- Ericksen, P.J., 2008. Conceptualizing food systems for global environmental change research. *Global Environ. Change* 18 (1), 234–245.
- Estoque, R.C., 2017. Yangon Metropolitan Area. In: *Urban Development in Asia and Africa*. Springer, Singapore, pp. 171–193.
- Evers, H.-D., Mehmet, O., 1994. The management of risk: Informal trade in Indonesia. *World Dev.* 22 (1), 1–9.
- FAO, 2016. *The State of World Fisheries and Aquaculture 2016. Contributing to food security and nutrition for all*, Rome.
- Fine, B., 2002. *The world of consumption: the material and cultural revisited* Vol. 19, 315.
- Forbes, E.I., 2016. On the frontier of urbanization: informal settlements in Yangon, Myanmar. *Independent J. Burmese Scholarship* 1 (1), 197–238. <https://doi.org/10.1017/CBO9781107415324.004>.
- Fourat, E., Lepiller, O., 2017. Forms of food transition: socio-cultural factors limiting the diets' animalisation in France and India. *Sociologia Ruralis* 57 (1), 41–63.
- Freidberg, S., 2015. Moral economies and the cold chain. *Historical Res.* 88 (239), 125–137.
- Geels, F.W., McMeekin, A., Mylan, J., Southerton, D., 2015. A critical appraisal of Sustainable Consumption and Production research: The reformist, revolutionary and reconfiguration positions. *Global Environ. Change* 34, 1–12.
- Gregory, R., 2017. Rice Fish Systems Characterization Study, Technical Report prepared for the Development of Rice Fish Systems in the Ayeyarwaddy Delta Project, WorldFish, Myanmar.
- Haddad, L., Hawkes, C., Webb, P., Thomas, S., Beddington, J., Waage, J., Flynn, D., 2016. A new global research agenda for food. *Nat. News* 540 (7631), 30.
- Haddad, L., Ruel, M.T., Garrett, J.L., 1999. Are urban poverty and undernutrition growing? Some newly assembled evidence. *World Development* 27 (11), 1891–1904. [https://doi.org/10.1016/S0305-750X\(99\)00093-5](https://doi.org/10.1016/S0305-750X(99)00093-5).
- Halkier, Bente, Jensen, Iben, 2011. Methodological challenges in using practice theory in consumption research. Examples from a study on handling nutritional contestations of food consumption. *J. Consum. Cult.* 11 (1), 101–123. <https://doi.org/10.1177/1469540510391365>.
- Hansen, A., 2018. Meat consumption and capitalist development: The meatification of food provision and practice in Vietnam. *Geoforum* 93, 57–68.
- Hansen, A., Jakobsen, J., 2020. Meatification and everyday geographies of consumption in Vietnam and China. *Geografiska Annaler: Series B, Human Geography* 102 (1), 21–39.
- Hinrichs, C.C., 2014. Transitions to sustainability: a change in thinking about food systems change? *Agric. Hum. Values* 31 (1), 143–155.
- HLPE, 2014. Sustainable fisheries and aquaculture for food security and nutrition, FAO. Available at: <http://www.fao.org/3/a-i3844e.pdf>.
- HLPE, 2017. Nutrition and Food Systems: A report by The High Level Panel of Experts on Food Security and Nutrition (Issue September). http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-12_EN.pdf.
- IPES, 2017. What makes urban food policy happen? Insights from five case studies.
- Jarosz, L., 2014. Comparing food security and food sovereignty discourses. *Dialogues in Human Geography* 4 (2), 168–181.
- Kantor, H.S., 2018. Building beyond the bypass road: urban migration, ritual eating, and the fate of joint family in Patna, India. *Am. Anthropologist* 120 (2), 212–223. <https://doi.org/10.1111/aman.12972>.
- Khaing, M.M., Nwe, Y.Y., Ta, T.T., 1975. *Cook and entertain the Burmese way*. Karoma Publishers 190 pp.
- Khin, U., 1948. *Fisheries in Burma*. Government Printing, Rangoon, p. 189.
- Kheyune, V., Turner, S., 2016. Yielding to high yields? Critiquing food security definitions and policy implications for ethnic minority livelihoods in upland Vietnam. *Geoforum* 71, 33–43.
- Laquan, A.A., 1996. The multi-ethnic and multicultural city: an Asian perspective. *Int. Social Sci. J.* 48 (147), 43–54.
- LeGrand, K., Borarin, B., Young, G.M., 2020. Tradition and Fermentation Science of prok, an ethnic fermented fish product of Cambodia. *J. Ethnic Foods* 7, 1–19.
- Little, D.C., Newton, R.W., Beveridge, M.C.M., 2016. Aquaculture: a rapidly growing and significant source of sustainable food? Status, transitions and potential. *Proc. Nutr. Soc.* 75 (3), 274–286.
- Luo, M.S., Chui, E.W.T., 2019. Moving from rural to urban China: How urbanization affects women's housework. *Sex Roles* 81 (3–4), 127–139.
- Ma, H., Huang, J., Fuller, F., Rozelle, S., 2006. Getting rich and eating out: consumption of food away from home in urban China. *Can. J. Agric. Econ.* 54 (1), 101–119.
- Maller, C., Strengers, Y., 2013. The global migration of everyday life: Investigating the practice memories of Australian migrants. *Geoforum* 44, 243–252.
- Mackendrick, Norah, 2014. *Foodscape*. *Contexts* 13 (3), 16–18. <https://doi.org/10.1177/1536504214545754>.
- Mak, A.H.N., Lumbers, M., Eves, A., 2012. Globalisation and food consumption in tourism. *Ann. Tourism Res.* 39 (1), 171–196.

- Máñez, K.S., Pauwelussen, A., 2016. Fish is Women's business too: looking at marine resource use through a gender lens. In K. Schwerdtner Máñez, B. Poulsen (eds.) *Perspectives on Oceans Past* (pp. 193–211). Springer, Dordrecht.
- McEwan, C., Hughes, A., Bek, D., 2015. Theorising middle class consumption from the global South: A study of everyday ethics in South Africa's Western Cape. *Geoforum* 67, 233–243.
- Nash, M., 1965. *The Golden Road to Modernity. Village Life in Contemporary Burma*, Wiley, New York.
- Natale, F., Hofherr, J., Fiore, G., Virtanen, J., 2013. Interactions between aquaculture and fisheries. *Marine Policy* 38, 205–213.
- Nicolini, D., 2009. Zooming in and out: Studying practices by switching theoretical lenses and trailing connections. *Organization Stud.* 30 (12), 1391–1418.
- Okamoto, I., Lwin, H.Y., Fujita, K., 2021. The persistence of credit-labor interlinked transactions in rural Myanmar: The case of Kanyingu Village in Ayeyarwady Delta. *J. Rural Stud.* 82, 468–478.
- Oo, S.M., Mackay, K.T., 2018. Small-scale aquaculture of wild fish in Myanmar: a preliminary report from the Bago Region. *Aquaculture Asia* 22 (2), 19–26.
- Oosterveer, P., 2006. Globalization and sustainable consumption of shrimp: consumers and governance in the global space of flows. *Int. J. Consumer Stud.* 30 (5), 465–476.
- Pingali, P., 2007. Westernization of Asian diets and the transformation of food systems: Implications for research and policy. *Food Policy* 32 (3), 281–298. <https://doi.org/10.1016/j.foodpol.2006.08.001>.
- Popkin, B.M., 2001. The nutrition transition and obesity in the developing world. *J. Nutr.*, 871–873.
- Pritchard, B., Dibley, M., Rammohan, A., Htin, Z.S., Khay, M.M., Htet, K., Vicol, M., Horton, J., Welch, E., 2018. *Food and Nutrition Insecurity in Rural Myanmar under Conditions of Rapid Livelihood Change: Survey Findings from the 2015–18 Australian Research Council Project*. ISBN, 978-1-74210-439-3.
- Reardon, T., Timmer, C.P., Barrett, C.B., Berdegue, J., 2003. The rise of supermarkets in Africa, Asia, and Latin America. *Am. J. Agric. Econ.* 85 (5), 1140–1146.
- Reardon, T., Tschirley, D., Dolislagar, M., Snyder, J., Hu, C., White, S., 2014. *Urbanization, Diet Change, and Transformation of Food Supply Chains in Asia*. Global Center for Food Systems Innovation, Michigan, pp. 1–46.
- Reckwitz, A., 2002. Toward a theory of social practices: A development in culturalist theorizing. *Eur. J. Social Theory* 5 (2), 243–263.
- Reddy, G., van Dam, R.M., 2020. Food, culture, and identity in multicultural societies: Insights from Singapore. *Appetite* 149, 104633. <https://doi.org/10.1016/j.appet.2020.104633>.
- Rigg, J., 1998. Rural-urban interactions, agriculture and wealth: a southeast Asian perspective. *Prog. Hum. Geogr.* 22 (4), 497–522.
- Rigg, J., 2007. *An everyday geography of the global south*. Routledge, 264p.
- Rigg, J., 2019. *More Than Rural: Textures of Thailand's Agrarian Transformation*. University of Hawaii Press.
- Rogers, A., Williamson, J.G., 1982. Migration, urbanization, and third world development: an overview. *Econ. Dev. Cult. Change* 30 (3), 463–482.
- Ruel, M.T., Garrett, J., Yosef, S., Olivier, M., 2017. *Urbanization, food security and nutrition. In Nutrition and Health in a Developing World* (pp. 705–735). Humana Press, Cham.
- Sabrie, M., 2014. Le développement urbain actuel de Yangon (Myanmar). *Bulletin de l'association de géographes français. Géographies* 91 (91–4), 445–460.
- Sahakian, M., Saloma, C., Erkman, S. (Eds.), 2016. *Food Consumption in the City: Practices and patterns in urban Asia and the Pacific*. Routledge, 257p.
- Saguin, K., 2014. Biographies of fish for the city: Urban metabolism of Laguna Lake aquaculture. *Geoforum* 54, 28–38.
- Saguin, K., 2018. Mapping access to urban value chains of aquaculture in Laguna Lake, Philippines. *Aquaculture* 493, 424–435.
- Seto, K.C., Ramankutty, N., 2016. Hidden linkages between urbanization and food systems. *Science*, 352(6288), 943–945. Available at: <http://10.0.4.102/science.aaf7439%5Cnhttp://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=euc&AN=115542145&site=ehost-live&scope=site>.
- Schatzki, T.R., 2002. *The site of the social: A philosophical account of the constitution of social life and change*. Penn State Press, Pennsylvania.
- Scheinberg, A., Mol, A.P.J., 2010. Multiple modernities: Transitional Bulgaria and the ecological modernisation of solid waste management. *Environ. Planning C: Govern. Policy* 28 (1), 18–36.
- Shove, E., Pantzar, M., Watson, M., 2012. *The dynamics of social practice: Everyday life and how it changes*. Sage, London.
- Sonnino, R., 2016. The new geography of food security: exploring the potential of urban food strategies. *The Geographical J.* 182 (2), 190–200.
- Southerton, D., 2013. Habits, routines and temporalities of consumption: From individual behaviours to the reproduction of everyday practices. *Time & Soc.* 22 (3), 335–355.
- Spaargaren, G., 2011. Theories of practices: Agency, technology, and culture: Exploring the relevance of practice theories for the governance of sustainable consumption practices in the new world-order. *Global Environ. Change* 21 (3), 813–822.
- Spaargaren, G., Lamers, M., Weenink, D., 2016. Introduction: Using practice theory to research social life. In: In Spaargaren, G., Lamers, M., Weenink, D. (Eds.), *Practice theory and research: Exploring the dynamics of social life*. Routledge, London, pp. 3–27.
- Spaargaren, G., Oosterveer, P., Loeber, A., 2012. Sustainability transitions in food consumption, retail and production, in *Food practices in Transition: changing food consumption, retail and production in the Age of reflexive modernity*, pp.2–31, Routledge, London. doi: 10.4324/9780203135921.
- Spaargaren, G., Oosterveer, P., Van Buuren, J., Mol, A.P.J., 2005. *Mixed modernities: Towards viable urban environmental infrastructure development in East Africa*. Position Paper, Environmental Policy Group, Wageningen University and Research Centre, Wageningen, The Netherlands.
- Stake, R.E., 1995. *The art of case study research*. Sage.
- Tacoli, C., Chant, S., 2014. Migration, urbanization and changing gender relations in the south. In: *The Routledge handbook on cities of the global South*. Routledge, pp. 608–618.
- Tezzo, X., Belton, B., Johnstone, G., Callow, M., 2018. Myanmar's fisheries in transition: Current status and opportunities for policy reform. *Marine Policy*. Elsevier Ltd 97 (August), 91–100. <https://doi.org/10.1016/j.marpol.2018.08.031>.
- Tezzo, X., Bush, S.R., Oosterveer, P., Belton, B., 2021. Food system perspective on fisheries and aquaculture development in Asia. *Agric. Hum. Values* 38 (1), 73–90. <https://doi.org/10.1007/s10460-020-10037-5>.
- Thein, A.K., Gregory, R., Akester, M.J., Poulain, F., Langeard, R., 2019. Participatory rural appraisal: Vulnerability study of Ayeyarwady Delta fishing communities in Myanmar and social protection opportunities. *FAO Fisheries and Aquaculture Circular no.1177*. FAO, Rome, 56, pp.
- United Nations, Department of Economic and Social Affairs, Population Division (2014). *World Urbanization Prospects: The 2014 Revision, Highlights (ST/ESA/SER.A/352)*.
- Veeco, A., Burns, A.C., 2005. Changing tastes: The adoption of new food choices in post-reform China. *J. Business Res.* 58 (5), 644–652. <https://doi.org/10.1016/j.jbusres.2003.08.009>.
- Vonthen, S., Perrin, C., Soulard, C.-T., Daivadanam, M., 2020. *Foodscope: A scoping review and a research agenda for food security-related studies*. *PLoS ONE* 15 (5), e0233218.
- Warde, A., 2016. *The practice of eating*. John Wiley & Sons, p. 220.
- Welcome, R.L., Cowx, I.G., Coates, D., Béné, C., Funge-Smith, S., Halls, A., Lorenzen, K., 2010. *Inland capture fisheries*. *Philos. Trans. Royal Soc. B: Biol. Sci.* 365 (1554), 2881–2896.
- Wertheim-Heck, S.C.O., Spaargaren, G., 2016. Shifting configurations of shopping practices and food safety dynamics in Hanoi, Vietnam: a historical analysis. *Agric. Hum. Values* 33 (3), 655–671. <https://doi.org/10.1007/s10460-015-9645-4>.
- ZHANG, K.H., SONG, S., 2003. Rural-urban migration and urbanization in China: Evidence from time-series and cross-section analyses. *China Econ. Rev.* 14 (4), 386–400.
- Zhong, S., Crang, M., Zeng, G., 2020. Constructing freshness: the vitality of wet markets in urban China. *Agric. Hum. Values* 37 (1), 175–185.