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Urban-Rural Links for Sustainable Food Consumption in Bangkok

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ABSTRACT

Current food systems fail to directly link urban consumers with rural producers. City-regional strategies need to reconnect consumers with producers through sustainable local food systems. This research developed and distributed a survey questionnaire to 400 consumers in Bangkok. Findings prove that there is a statistically significant association between urban-rural relation and sustainable urban consumer behavior (Pearson's Chi-square test for independence resulting in a significance level of $p < 0.05$). Sustainable consumer behavior is influenced by environmental, sociocultural, economic and health drivers, while lack of food traceability, lack of rural experience, lack of access to rural communities and negative social perception disrupt consumer-producer links. Community-based gastrotourism emerges as one of the best practices to link urban consumers with rural producers and plan sustainable food systems in mega-cities like Bangkok.

Keywords: Sustainable Consumption; Sustainable Consumer Behavior; Sustainable Local Food Systems; Urban-Rural.

1 Introduction

Current urbanization trends show that megacities such as the Thai capital of Bangkok will increasingly grow. This will require more food from the surrounding hinterlands, since urban and peri-urban agriculture cannot meet the urban food demand fast (Atkinson, 2013; Hedblom et al., 2017). In Bangkok, land use has shifted to industrial, residential and commercial development (Boossabong, 2019). This trend has replaced the traditional agricultural multifunctionality of urban and peri-urban areas, which used to guarantee urban food security (Boossabong, 2019; Le and Dung, 2018; Zasada, 2011). As a growing megacity, Bangkok is still dependent on its hinterlands to feed urban dwellers, calling for the need to plan sustainable food systems at the city-regional level (Boossabong, 2019). Urban consumers and rural food producers can be linked more directly through local food systems, advancing situated sustainable consumption practice models and fair value chains. Developing fair food chains refers to a "closer link between producers and customers. Responsibility among them is expected to be enhanced, while food miles are expected to be reduced", as highlighted in a recent analysis of Bangkok's food system (Boossabong, 2019, p. 56). Urban consumers are often forced to purchase from "hegemonic food corporations in the modern trade market that can be accessed easily" and that can "provide the most effective food distribution that bridge rural, peri-urban and urban areas through their effective food supply chains" (Boossabong, 2019, p. 54).

This study provides a contribution to accelerate the delivery of Sustainable Development Goal (SDG) 11.a, aiming to foster positive socio-economic and environmental linkages between urban, peri-urban and rural centers (United Nations, 2019). Both urban-rural relation and sustainable urban consumer behavior are being examined in this research as they are crucial to plan sustainable local food systems. More research is needed to understand the correlation between these two dimensions.

2 Objectives

This article aims to test the association between urban-rural relation (URR) and sustainable urban consumer behavior (SUCB) with a mixed method approach. In doing so, this article contributes to fill in the existing research gap by advancing the following three research objectives:

1. To test the correlation between urban consumers' relation with local rural communities and their sustainable consumption.
2. To identify drivers connecting urban consumers with rural communities.
3. To identify barriers preventing from connecting urban consumers with rural communities.

3 Methods

A total number of 400 respondents filled in an online survey questionnaire. Inclusion criteria for the selection of survey respondents required them to be of 18 years of age, represent all genders, have a social media account (LinkedIn, Facebook, Instagram, or Twitter) and be currently living in the Bangkok Metropolitan Area (or BMA[1]). The capital was chosen because it is the most largely populated city in Thailand, with the population living in the Bangkok Metropolitan Area estimated to be 5,666,264 people as registered in the year 2019 (Administrative Strategy Division, 2019), having important implications in relation to its urbanization trends.

The survey questionnaire was distributed online in the months of September and October 2021. Survey respondents were selected online with the river sampling method, also known as intercept sampling or real-time sampling (Lehdonvirta et al., 2021) on different social media platforms. Two versions of the survey were shared, in English and in Thai. Although this method presents limitations due to coverage bias, as not every subpopulation can be reached, it is useful to collect and analyze data on a more specific consumer niche (Räsänen, 2006).

3.1 Survey Design

The online survey questionnaire was structured into three sections:

1) Section 1 to assess urban consumers' purchasing behavior in Bangkok.
2) Section 2 to assess urban consumers' relation with local rural communities in Thailand.
3) Section 3 to collect urban consumers' demographic data.

[1] The Bangkok Metropolitan Area or BMA comprises the inner city and excludes the BMR which extends the scope to suburbs and provinces surrounding Bangkok.

The questionnaire was designed to integrate the conceptual elements from the Knowledge, Attitude, Practice and Loyalty model (Figure 1) with the four environmental, social, economic and health sub-dimensions of sustainable local food systems. Relevant secondary data retrieved from the literature was translated into measurable indicators and survey questions.

Section 1 of the survey measured urban consumers' purchasing behavior (SUCB) with the Knowledge, Attitude, Practice, Loyalty model. Respondents were asked about their awareness/knowledge of local diets and seasonal consumption (K), their frequency of organic food purchase (A), whether they purchase directly from farmers (P) and whether they recommend products/services of rural communities to friends/family (L). Section 2 measured the level of urban-rural relation (URR) by breaking it down into seven rural services for urban consumers, retrieved from the existing literature. A total of 4 items were identified to measure sustainable urban consumer behavior while a total of 7 items was identified to assess the urban-rural relationship. The list of items was later adjusted, integrated, and finalized after conducting validity and reliability tests of the survey with two test groups. Section 3 collected demographic data to analyze sociodemographic characteristics of the consumer niche of respondents.

Figure 1. integrated model to measure the level of sustainable urban consumer behavior (source: authors).

3.2 Survey Pretests and Pilot Tests

Before data was collected, the survey questionnaire questions were submitted to the Research Ethics Review Committee for Research Involving Human Subjects of Chulalongkorn University. After an initial approval, the survey was pretested, and pilot tested to ensure its validity, consistency, and reliability. The pretest involved a small panel of experts to provide feedback on the consistency and coherence of the questionnaire and its internal flow. A pilot test was conducted with 40 respondents to assess the survey from a user perspective, improving technical aspects related to the user interface. The pretest and pilot test helped to remove survey bias by reframing neutrally worded questions and ensuring answer options and question order were not influencing the representativeness and trustworthiness of responses. The pretest and pilot test were also used to maximize meaningful data results (related to the framing of open-ended questions) and to ensure accessibility of the survey from different technical devices. This allowed to re-design the structure of the survey, submit it for a second ethics review approved by the committee in August 2021. Data was collected online for a timeframe of two months, from the beginning of September to the end of October 2021. After this period, the survey was closed, and data was analyzed using an online spreadsheet application.

3.3 Sampling Size

Since the population considered by this study is finite (Louangrath, P. I., 2019), the formula advanced by Yamane was used to calculate a representative sample size of urban consumers living in Bangkok (Yamane, 1973). The selected sample size is also justified by a similar recent survey research selecting Bangkok as a case study (Kunchornsirimongkon, 2020). A 95% confidence level with p = 0.5 was assumed in the equation. The calculation formula developed by Taro Yamane is presented hereby:

$$n = \frac{N}{1+N(e)^2}$$

In the formula, n refers to the sample size, N to the population size, and e to the level of precision. The BMA population was estimated to be 5,666,264 people as registered in the year 2019 (Administrative Strategy Division, 2019). After the calculation, *n* emerged as a target population of 400 respondents, rounded from the number resulted from the formula of 399.971765. With a population size (*N*) of 5,666,264 and a level of precision (*e*) of 0.05, a target population of 400 urban residents in Bangkok was selected as an appropriate sample for the purpose of this study:

$$400 = \frac{5{,}666{,}264}{1 + 5{,}666{,}264\ (0.05)^2}$$

3.4 Data Analysis

Primary data collected from the survey was analyzed with a mixed method approach. Quantitative data was systematically structured and analyzed using descriptive and inferential statistics. The correlation between urban-rural relation and sustainable urban consumer behavior was calculated with the Pearson's Chi-square test for independence. Data was firstly analyzed at the categorical level and divided into ranges, due to the qualitative complexity of both variables. These were systematically structured into three comparable ranges: weak, moderate, strong. The process of data analysis facilitated data visualization, synthesis, and later the calculation of Pearson's Chi-square test for independence. P-values were considered significant at < 0.05.

Qualitative data obtained from the open-ended questions of the survey was coded in an online spreadsheet where it was systematically organized into a thematic analysis with a deductive-inductive mixed method approach. The thematic analysis identified drivers (n = 241) and barriers (n = 119) to link urban consumers with rural food producers. A deductive approach was selected to analyze drivers based on four common environmental, socio-cultural, economic, health literature dimensions. An inductive approach was selected to analyze barriers, identifying trends emerging from the qualitative data collected with the survey.

4 Results and Discussion

To explain the first half of the demographic background table (Table 1, items 1,2,3), from a total of 400 survey respondents 61.3% (n = 245) were female while 38.7% (n = 155) were male. Such disproportion can be motivated by looking at the existing academic literature focusing on gendered differences in sustainable consumption behavior, showing that women tend to have more interest and engagement in sustainable consumption (Bloodhart and Swim, 2020; Kumar and Yadav, 2021; Muresan et al., 2021). This can explain a higher response rate to the survey by the female population.

Table 1

General socio-demographic characteristics of respondents (n = 400).

#	Socio-demographic item	Characteristic	Frequency	Percentage
1	Gender	Female	245	61.3%
		Male	155	38.7%
2	Age	18-24	44	11%
		25-54	328	82%
		55-64	19	4.7%
		>65	9	2.2%
3	Nationality	Thai	173	43.3%
		Non-Thai	227	56.8%
4	Monthly income	<15,000 Thai baht	30	7.5%
		15,001-30,000 Thai baht	78	19.5%
		30,001-45,000 Thai baht	60	15%
		45,001-60,000 Thai baht	45	11.2%
		>60,000 Thai baht	187	46.8%
5	Employment status	Employed full-time	257	64.3%
		Employed part-time	12	3%
		Freelance or contractor	41	10.3%
		Student	50	12.5%
		Unemployed	12	3%
		Retired	6	1.5%
		Other	22	5.5%
6	Educational background	High school diploma or other	14	3.4%
		University degree (bachelor level)	109	27.3%
		University degree (master level)	213	53.3%
		University degree (Ph.D. level)	64	16%

The composition of respondents also reflects diverse socio-cultural profiles with a nearly even representation of Thai 43.3% (n = 173) and foreigners 56.8% (n = 227) living in Bangkok, which also captures the important concentration of foreigners living in the capital. A high percentage of 82% of respondents fall into the age-group of 25 to 54 years old (n = 328), this age-group being very active on social media platforms, where the survey was shared with respondents.

The second half of Table 1 (items 4, 5, 6) clearly shows that survey respondents represent a consumer niche with a high purchasing power. 64.3% (n = 257) of respondents is employed full-time and 46.8% or almost half of respondents (n =187) have a monthly income above 60,000 THB. Finally, a very high percentage of respondents 96.6% (n = 386) holds a university degree (bachelor, master, or Ph.D. level of education). This is in line with previous studies on sustainable consumption, highlighting education as one of the social factors that can determine and promote sustainable consumption behaviors (Figueroa-García et al., 2018).

4.1 Urban-Rural Relation

The level of urban-rural relation was measured by assessing how often urban consumers living in Bangkok have been in rural communities. Seven main rural community-led services which can be directly supported by urban consumers were identified from the literature review (Broccardo et al., 2017; Sznajder et al., 2009). These were confirmed as relevant after key informant interviews with experts and are reported in the first column of Table 3.

Consumers were asked to record which activities they had been involved in and how frequently they took part in them. Frequency was measured with a Likert scale ranging from “never (and I am not interested)”, “never (and I would be interested in the future)”, “once in the past”, “every few months”, “monthly”, “weekly”. Values were assigned to the Likert scale, ranging from 0 to 4. In the case the responses were “not interested” or “not yet, but I would be interested in the future”, a value of 0 was assigned. Other statements were coded with the value of 1 (“yes, once in a year/in the past”), 2 (“yes, every few months”), 3 (“yes, every month”) and 4 (“yes, weekly”). A final score was calculated for each individual survey respondent by adding the frequency of experience related to all different services. Scores ranged from a minimum of 0 to a maximum of 28. The lowest score recorded from collected data is 0 (n = 12, 3%) and the highest is 28 (n = 1, 0.2%), while the total mean score is 11.2 with a standard deviation of 5.87.

Collected data was later organized at the categorical level to group observations into weak, moderate, and strong (Table 2). Total respondents’ individual scores were grouped by percentage:

a) Scores less than 60% (corresponding to values from 0 to 16): weak relation
b) Scores from 60% to 80% (corresponding to values from 17 to 22): moderate relation
c) Scores from 80% to 100% (corresponding to values from 23 to 28): strong relation

Table 2

Level of urban-rural relation (n = 400)

	Level	Frequency	Percentage
Urban-rural relation	Weak	321	80.25%
	Moderate	66	16.5%
	Strong	13	3.25%

Results are displayed in Table 3, in which the most relevant findings with a higher frequency level (> 30%) are highlighted. From the results, two practices emerged as already established (item 1 and 2) and two emerged with a high potential for future developed or investment (item 4 and 7).

For item 1, 38.25% of respondents (n = 153) has experienced “Home stay or camping” at least once in the past. “Experience tourism”, “niche tourism”, “creative tourism” and “community-based tourism” have been emerging in the literature as a sustainable alternative to mass tourism practices (Duxbury and Richards, 2019; Hall and Mitchell, 2005; Lo and Janta, 2020; Milano et al., 2019; Novelli, 2010; Sosa et al., 2021; World Tourism Organization, 2009). Such practices focus on community-driven tourism to diversify rural livelihoods by adding additional streams of income (Gebru et al., 2018; Mphande, 2016; Yoshida et al., 2019).

Item 2, “Eating local traditional food in rural communities” is the most popular and frequent activity preferred by urban consumers, with a high percentage of 37.75% of respondents (n = 151) doing it as a weekly activity. This is in line with the rural gastronomy trends examined in Asia (Park et al., 2019) and in Thailand in particular (Muangasame and Park, 2019). Grey literature reviewed from governmental agencies has also confirmed that community-based tourism in Thailand often relies on rural culinary tourism (National Tourism Policy Committee, 2019). The country internationally positions itself as a well-known touristic destination for such services, which are often linked with its rural development agenda (Muangasame and Park, 2019). Local culture, practices, traditions and an authentic sense of place are usually leveraged with a value-added approach to gastro-tourism (Hall and Mitchell, 2005; Novelli, 2010).

Items 4 and 7 show a very low frequency. 37.75% of respondents (n = 151) have never taken part in any eco-learning activity and 59.75% respondents (n = 239) have never taken part in volunteering in the farm. Although such rural services seem to be not established yet, key informant interviews have revealed their future potential as a post-Covid recovery strategy.

Table 3

List of rural community-led services supported by urban consumers (n = 400).

#	Item	Frequency				
		Never n (%)	Once in the past n (%)	Every few months n (%)	Monthly n (%)	Weekly n (%)
1	Home stay or camping	132 (33%)	**153 (38.25%)**	76 (19%)	16 (4%)	23 (5.75%)
2	Eating local traditional food in rural communities	20 (5%)	38 (9.5%)	83 (20.75%)	108 (27%)	**151 (37.75%)**
3	Learning about rural intangible heritage (local culture/traditions)	58 (14.5%)	87 (21.75%)	119 (29.75%)	83 (20.75%)	53 13.25%)
4	Eco-learning about rural tangible heritage (organic agriculture)	**151 (37.75%)**	97 (24.25%)	82 (20.5%)	51 (12.75%)	19 (4.75%)
5	Purchasing products directly at the farm	113 (28.25%)	98 (24.5%)	92 (23%)	62 (15.5%)	35 (8.75%)
6	Supporting local community-driven businesses	92 (23%)	81 (20.25%)	104 (26%)	83 (20.75%)	40 (10%)
7	Volunteering in the rural community	**239 (59.75%)**	77 (19.25%)	59 (14.75%)	17 (4.25%)	8 (2%)

4.2 Sustainable Urban Consumer Behavior

The sustainable urban consumer behavior (SUCB) was measured by advancing an integrated model with four main indicators. This is adapted and simplified from the literature, merging the Knowledge, Attitude, and Practice (KAP) model with the ladder of consumer loyalty (Roberts and Alpert, 2010). The integrated model is structured into four targets comprising Knowledge (K), Attitude (A), Practice (P), and Loyalty (L). To measure the scores of every target, relevant indicators were retrieved from the literature and selected. Targets 1 and 2 in the model were assigned a score depending on the frequency of their indicators while for targets 3 and 4 the absence/presence of indicators was measured. Total scores ranged from a minimum of 0 to a maximum of 12. The lowest score recorded from collected data is 0 (n = 1, 0.2%) and the highest is 12 (n = 27, 6.7%), while the total mean score is 8.14 with a standard deviation of 2.28.

Knowledge (K) of urban consumers related to sustainable local food systems was measured with a Likert scale-type (0—4). This ranges from a minimum of 0 (I am not sure/ I do not know the source of my food), to 1 (I consume mostly food that is imported from abroad), to 2 (I consume a mix of local food and imported produce), to 3 (I consume mostly food grown in Thailand), to a maximum of 4 (I consume mostly local seasonal food grown in Thailand). The total mean score of K is 2.5175 with a standard deviation of 0.99.

Attitude (A) of urban consumers was operationalized as the frequency of organic food purchase and measured with a Likert scale-type (0—6). The scale goes from a minimum value of 0 (never) to 1 (once in a year or less) to 2 (once every six months), 3 (once every two months) 4 (once a month) 5 (twice a month) 6 (every week). The total mean score of A is 4.67 with a standard deviation of 1.51.

Practice (P, target 3) and Loyalty (L, target 4) are calculated on a scale from 0 to 1, where the presence (coded as 1) or absence (coded as 0) of such behaviors were recorded for each respondent. To measure SUCB Practice, respondents were asked “Do you purchase products directly purchase from farmer/s?”. Results show that 36.5% (n = 146) of consumers purchase directly from farmers.

While consumers tend to not purchase directly from farmers, often relying on middlemen (as discussed later in section 3.3.5), they tend to have a strong loyalty to rural communities. This has been labeled by Hall and Mitchell as “word-of-mouth behavior” (Hall and Mitchell, 2005) and is crucial to support small rural business. This results in a majority of 59.5% (n = 238) consumers recommends a friend to purchase from a rural community they have visited.

The level of sustainable urban consumer behavior was measured by organizing collected data at the categorical level to group observations into weak, moderate, and strong (Table 4). Total respondents’ individual scores were classified by percentage:

a) Scores less than 60% (corresponding to values 0-7): weak behavior
b) Scores from 60% to 80% (corresponding to values 8-9): moderate behavior
c) Scores from 80% to 100% (corresponding to values 10-12): strong behavior

Table 4

Level of sustainable urban consumer behavior (n = 400).

	Level	Frequency	Percentage
Sustainable urban consumer behavior	Weak	140	35%
	Moderate	140	35%
	Strong	120	30%

4.3 Statistical Correlation

The correlation between urban-rural relation and sustainable urban consumer behavior was calculated with the Pearson's Chi-square test for independence. Consumers who showcase a poor relation with local rural communities tend to have a poor or moderate sustainable consumer behavior. On the other hand, urban consumers who have a moderate or high level of engagement with rural communities tend to have higher levels of sustainable consumer behavior. The p-value calculated from the test confirms that there is a statistically significant relationship between the level of urban-rural relation and the level of sustainable urban consumer behavior ($p < 0.05$).

Table 5

Pearson's Chi-square test for independence between urban-rural relation and sustainable urban consumer behavior.

		Sustainable urban consumer behavior				
		Weak	Moderate	Strong	Total	p-value
Urban-rural relation	**Weak**	**130 (40.5%)**	**120 (37.4%)**	**71 (22.1%)**	**321**	0.000
	Moderate	8	18	40	66	
	Strong	2	2	9	13	
	Total	140	140	120	400	

The results of the Pearson's Chi-square test for independence indicate that out of the 321 respondents having a weak relation with rural communities, most of them also display a poor sustainable consumption behavior (n = 130, 40.5%). 37.4% (n = 120) show a more moderate level of sustainable consumption behavior and only 22.1% (n = 71) of them have a strong behavior. This demonstrates that weak-moderate levels of sustainable urban consumer behavior are more frequent in consumers having a weak relation with rural local communities. Conversely, urban consumers with a moderate or strong relation with local rural communities have yielded interesting survey results, associated with a higher level of sustainable urban consumer behavior. Urban consumers moderately engaging with rural communities (n = 66) were found to mostly have a high (n = 40, 60.6%) or moderate (n = 18, 27.3%) sustainable consumer behavior, with a minority of 12.1% of them showing a poor level of sustainable consumption (n = 8). A moderate level of engagement with the local rural communities seems to be already effective to influence consumer behavior towards supporting sustainable local food systems options. Finally, out of the 13 respondents showing a strong level of engagement with rural communities, only a minority of them displayed a weak (n = 2, 15.4%) and moderate (n = 2, 15.4%) sustainable consumer behavior, while the majority (n = 9, 69.2%) showed a strong consumer behavior.

4.4 Thematic Analysis

The qualitative data collected from open-ended questions in the survey was structured into a thematic analysis. Comments were systematically organized into drivers (n = 241) and barriers (n = 119). A deductive approach was selected to explore research objective 2, related to drivers. The deductive approach entailed a process of systematic validation of common dimensions retrieved from the relevant existing robust literature review. This process enabled to extract four common literature dimensions related to sustainable local food systems (environmental, socio-cultural, economic, health) and then validate them with the collected data. For objective 3, related to barriers, an inductive approach was selected due to a lack of culturally sensitive and context-specific literature. This approach compared the research findings to the existing theory, by grouping the findings into themes and then using themes to validate or integrate the existing body of literature. For each comment, keywords related to themes were highlighted and grouped into the relevant theme. If a keyword was related to more than one theme, it was registered in all relevant categories. Themes and associated keywords were retrieved from the literature review. Drivers and barriers are explored in Tables 6 and 7 and described in the following paragraphs.

Table 6

Drivers for urban consumers to recommend rural communities products/services to friends/family (n = 241).

Theme	Frequency	Percentage	Consumer drivers	Recurring keywords related to consumer drivers
Environmental	47	19.50%	**To preserve** rural biodiversity and ecosystem services	Reduce emissions in transportation, "green" organic practices observed directly, traceability, biodiversity and ecosystem services preservation, integrated nature-based solutions, low carbon footprint, no chemicals and no pesticides, no plastic, environmental awareness, sustainable agriculture practices, support local food systems, locally grown and eco-friendly produce, short supply chain, clean production.
Socio-cultural	46	19.09%	**To support** the authentic sense of place of rural communities	Sense of community, authentic and unique rural experience, local traditional dishes, relying on friends' recommendation to integrate and enhance ecolabels, conscious consumption, consumer trust, consumer loyalty, alignment of consumers' and producers' values.
Economic	86	35.68%	**To invest** in local/regional economic development	Cheaper price for consumers, support rural community, contribute to local economy development, improve market access for local communities, short supply chain, resilience strategy for post-Covid-19 recovery, middlemen directly bridging producers and consumers, sustainable purchasing behavior while traveling, sustainable tourism, community business model aligned with sustainability, buy directly online from farmers to shorten the supply chain.
Health-related	62	25.73%	**To consume** good, high-quality, safe, healthy, seasonal food	Good, fresh, high-quality, safe, healthy, delicious, seasonal food.
Total of responses around themes	241	100.00%		

The main comments related to the environmental theme (n = 47, 19.50%) show that consumers have a high environmental awareness They value traceability, biodiversity preservation, nature-based solutions, sustainable agriculture practices, which happen at the upstream of the food supply chain. Respondents' comments related to the social component (n = 46, 19.09%), show that consumers value a rural authentic sense of space and sense of belonging, the added value of rural livelihood diversification, intangible heritage. Overall, if consumers' personal values are aligned with producers' mission and vision, this ensures a better consumer loyalty and socio-cultural support. Among all the comments related to the economic theme (n = 86, 35.68%), a cheaper price for consumers was considered a need to ensure not only food security, but also nutrition security for both consumers and producers. Consumers also understand that producing organic, safe, and healthy food can result in higher production costs and are willing to adapt their purchasing behavior accordingly.

Table 7

Barriers for urban consumers to recommend rural communities to friends/family (n = 119).

#	Themes	Frequency	Percentage
1	Lack of information or knowledge	37	31.09%
2	Lack of previous experience in local communities	28	23.53%
3	Lack of access to rural communities	25	21.01%
4	Social perception	17	14.29%
5	Expensive cost	5	4.20%
6	Seasonal produce not available all-year round	4	3.36%
7	Language barrier (for non-Thai speakers)	3	2.52%
Total of comments around themes		119	100.00%

Overall, if the business model developed by the community "resonates with sustainability" or "integrates sustainability into their branding", consumers seem more willing to pay for such products and services. Finally, around a quarter of

the comments mentioned health-related themes (n = 62, 25.73%). Good, fresh, high-quality, safe, healthy, delicious, and seasonal food purchased directly from rural communities was perceived as "better compared to supermarkets".

Lack of information or knowledge emerged as the main barrier experienced by most respondents (n = 37, 31.09%). A lack of previous experience in local communities also acts as a barrier for urban consumers to connect with such communities (n = 28, 23.53%), but denoting a more practical indicator. This is in line with other studies arguing for the need to shift sustainable consumption behavior from an affective one (related to feelings and emotions) to a cognitive one (influencing consumers' knowledge) to create capacity for informed decisions (Muresan et al., 2021). Lack of access (n = 25, 21.01%) is a barrier to reach remote rural communities: in terms of infrastructure, is difficult for consumers to travel to rural communities. Another important socio-cultural barrier was social perception (n = 17, 14.29%). Thai respondents showed a tendency to be less interested in directly supporting rural, seasonal produce (perceived as "poor"): complex interrelated socio-economic, cultural, and political factors influence how consumers behave. A strong ideological component was identified in the comments, linking consumer behavior to individual identity and social perception, suggesting that food choices are more than mere consumer choices, and can send political and ideological messages. Other barriers include expensive cost of organic produce, accessibility of local seasonal products, language barrier. Two solutions to barriers were advanced in the open-ended responses: trusted intermediaries (mediators, small businesses, farmers' markets' operators) and social media platforms (Facebook, Line, Instagram) to link consumers with local communities.

4.5 Discussion

The integrated framework of research findings is represented below to synthesize the key theoretical contributions of this study and further discuss them in this section. As shown at the center of the figure, a strong urban-rural relation can determine and influence the nature of food systems. In the top half of the graph, a weaker level of urban-rural relation leads to a consumer-producer unlink, resulting in disrupted food systems (barriers are represented by the red crosses). In the lower half of the graph, a stronger level of urban-rural relation is associated with sustainable consumption and with sustainable local food systems (drivers are represented by the black icons).

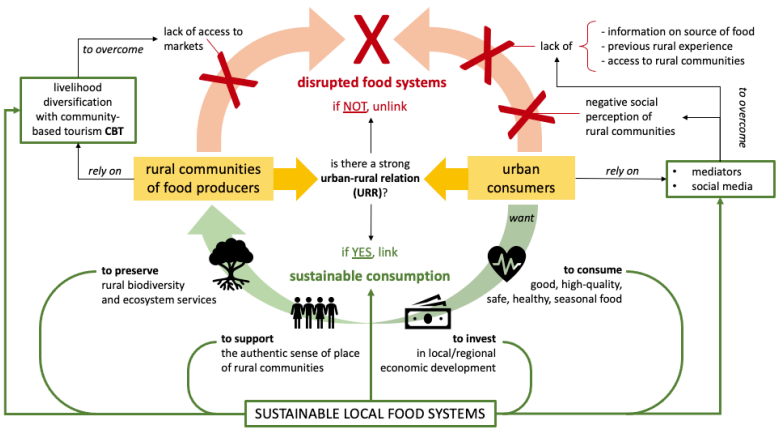

Figure 2. integrated framework of research findings (source: authors).

The main barriers for urban consumers to reconnect with rural smallholders were systemized with an inductive thematic analysis and are represented at the top of Figure 2. Emerging barriers include lack of knowledge, lack of previous experience, lack of access and negative social perception related to rural communities. Research findings confirm that 80.25% of respondents (n = 321) showcase a weak level of urban-rural relation (URR), in line with what emerges from the existing literature. Among respondents, 40.5% (n = 130) of them show a weak level of sustainable consumer behavior and 37.4% (n = 120) a moderate one. Only 22.1% (n = 71) of them show a high level of sustainable urban consumer behavior. The research assumption that a weaker producer-consumer relation translates into weaker sustainable consumption was validated.

On the production side, successful practices to strengthen producer-consumer links include rural livelihood diversification, in particular community-based tourism practices. Emerging trends in the Bangkok city-region include home stay and camping, as 38.25% of survey respondents did it at least once in the past, and culinary or gastro-tourism, as 37.75% of respondents are doing it on a weekly basis. Other practices such as eco-learning and volunteering in the farm are not yet established, with the potential to be further developed in the future. 37.75% of respondents never experienced eco-learning in rural communities before, while an even higher percentage of 59.75% never volunteered

in a rural community. This opens the opportunity for rural communities to explore alternative consumer niches. Four main drivers motivate urban consumers to reconnect with local rural communities and are represented in the lower half of Figure 2 as health-related, economic, sociocultural and environmental. Sustainable consumption occurs by shortening the food value chain and developing personalized connections with rural communities, in line with what emerges from the literature (Kiss et al., 2019). Strengthening urban-rural links can result in a win-win solution; creating new alternative niche consumer markets for rural producers and improving consumers' access to information on food traceability. On the consumption side, two strategies were advanced by survey respondents to reconnect urban consumers with rural producers; namely relying on mediators and social media platforms.

5 Conclusions

This article examined how urban-rural links can lead to sustainable urban consumer behavior in highly urbanized city-regional areas such as Bangkok. An online survey questionnaire was distributed to 400 urban consumers living in the Thai capital. Qualitative and quantitative data was collected and analyzed, confirming that there is a statistically significant positive correlation between the sustainable purchasing behavior of urban consumers in Bangkok and their relationship with local rural communities ($p < 0.05$). Findings also confirm that environmental, socio-cultural, economic and health drivers can link urban consumers with rural food producers. Urban consumers want to preserve rural biodiversity and ecosystem services, support the authentic sense of place of rural communities, invest in local and regional economic development and consume healthy, seasonal food. The main barriers for consumers to reconnect with rural smallholders are a general lack of information on the source of food, of previous rural experience, of access to rural communities as well as a negative social perception related to rural communities.

It is well established in the literature that shortening the food value chain and developing a personalized connection with local rural communities, can greatly support sustainable consumption and production patterns (Kiss et al., 2019). This research confirms that sustainable consumption must be achieved as a consequence of strengthening consumer-producer relations, to finally implement more sustainable local food systems. Consumer-producer links can be strengthened with different strategies. Community-based tourism emerges as an established practice model with rural services such as homestay, camping and culinary tourism, eco-learning and volunteering in the farm. Urban consumers can reconnect with rural producers with the support of social media platforms or mediators working at the downstream of the food value chain. Although data was collected from a statistically representative sample size, the sample represents a consumer niche of highly educated, full-time employed respondents with a strong purchasing power and does not reflect a more holistic consumer behavior spectrum. This constitutes our main research limitation and opens opportunities for future studies to fill this gap.

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