

## LOCAL FOOD: LITHUANIAN CONSUMERS' PERCEPTIONS AND ATTITUDES

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### *Abstract*

*This study aimed to identify the meaning of local food to consumers in Lithuania, to examine the interest in purchasing local food and to uncover the main drivers and barriers towards purchase of local food. Data were gathered through a survey of 415 Lithuanian residents. The analysis of collected data was performed using the methods of mathematical statistics. The results suggest that a majority of Lithuanian consumers perceived local food as being produced within more than 100 km from their home. Respondents also strongly agreed with the definitions of local food as food grown or produced in Lithuania and food sold by Lithuanian farmers directly to consumers. Three quarters of Lithuanian consumers regularly purchased local food and one fourth of respondents rarely or never purchased local food. Socio-demographic characteristics were not dominant factors in determining who purchased local food. Social conscience, health concern and shopping benefits were found to be the main drivers of purchasing local food. Alternatively, the main barriers were identified as buying inconvenience, lack of marketing, lack of trust and inadequate quality.*

*Key words:* attitudes, local food, perceptions, Lithuania

### INTRODUCTION

As a result of globalisation, the variety of food products has increased considerably. Consumers have begun to eat more food that is often produced far away from where they lived. As an alternative to the global food system, the local food movement which aims to connect food producers and consumers is often presented. In recent years, there has been a growing interest in local food in many countries.

There is no common or broadly accepted definition of local food [1, 11, 13, 17, 20, 22, 30]. Local food refers to food produced and consumed in a specific geographic area. Under this approach, the distance or political and administrative boundaries are used to define local food [1, 13, 20]. As regards the distance used to define local food, there is no consensus on the number of units of distance between production and consumption. Many distances, which have been proposed, range from 20 to 400 miles [5, 11, 13, 17, 24, 20]. As regards the political and administrative boundaries to define local food, it can be a county, region, state or whole country [4, 5,

13, 20, 24]. Local food can also refer to the types of marketing channels used between food producers and consumers. Food sold through direct marketing channels can be defined as local [16, 17]. Over time, farmers' markets, Community Supported Agriculture schemes, farm stands, sales on farms, small grocery stores have become important supply chains that provide local food [7, 9, 10, 17, 23, 24, 28, 29, 30].

A number of studies have been conducted to identify the key factors affecting consumers' purchasing behaviour towards local food. Consumers buy local food because of the freshness [3, 4, 10, 21, 22, 23], higher quality [4, 5, 6, 18, 21, 23, 29], better taste [5, 23], safety [22] and nutritional value [4, 30]. Other motivations for purchasing local food include health benefits [21, 22, 30], environmental concerns [10, 18, 22, 23, 27, 30], supporting local farmers [18, 22, 23, 26, 27, 30] and local economy [4, 22, 23], as well as social interactions with food producers [12, 28]. Consumers are also confronted with barriers to the purchase of local food [20]. The major barriers are higher prices [5, 14, 18, 21, 22], inconvenience [5, 6, 18, 21], accessibility and

availability [8, 14, 18, 21, 26], as well as difficulty in identifying local food and labelling issues [6, 8, 18, 21].

In recent years, the demand for local food in Lithuania has grown strongly. The different forms of direct sales by farmers to consumers have developed significantly. At present, Lithuanian consumers can buy local food at farmers' markets, marketplaces, special stores, supermarkets or on farms, as well as order over the internet or home delivery. Little research attention has previously been paid to examine Lithuanian consumers' perceptions and attitudes towards local food. Studies in this field are limited mainly focusing on consumers' opinions about direct marketing of agricultural and food products, organic products [19, 25].

## **MATERIALS AND METHODS**

This study aimed to identify the meaning of local food to consumers in Lithuania, to examine the interest in purchasing local food and to uncover the main drivers and barriers towards purchase of local food. In order to achieve this aim and collect data, a survey method was used. The survey took place from August to September in 2015. The mixed methods were used: survey online and survey in written form. A standardized questionnaire was employed as the main instrument of the survey. The questionnaire comprised four sections. The first section included a series of questions aimed at identifying how Lithuanian consumers define local food. The second section was related to the consumption of local food, i.e. frequency of purchasing. The third section incorporated questions on drivers and barriers towards purchase of local food. The questions in the last section referred to the socio-demographic characteristics of respondents (gender, age, personal income and educational level).

The data was processed with the statistical package SPSS. Cronbach alpha coefficient was employed to assess the reliability of the questionnaire. Internal consistencies using Cronbach alpha reliability statistics were calculated for total scale and subscales of the questionnaire (for the second part of the first

section referring to the definitions of local food and for the third section referring to the drivers and barriers of purchasing local food). The results of the reliability tests showed that Cronbach's alpha was 0.83 for total scale, 0.73 for definition items, 0.90 for drivers and 0.70 for barriers indicating above the minimum value of 0.70, which is considered acceptable as a good indication of reliability.

A total of 415 filled in questionnaires were received. The percentage of respondents completing the questionnaire online was 42%, while 58% completed the questionnaire in written form. Out of the survey respondents, women accounted for 62% of the sample and men 38%. In relation to residence area, 43% of respondents lived in large cities, 35% lived in towns, 21% lived in rural areas and 1% preferred not to answer this question. The distribution of respondents by age was as follows: 37% were between the ages of 18-29 years, 32% were between the ages of 30-45 years, 25% were between the ages of 46-65 years and 6% were 66 years old and over. Regarding household income, 17% of respondents indicated a household income of less than 315 EUR per month, 25% reported a household income between 316 and 500 EUR, 18% indicated a household income between 501 and 725 EUR, 21% reported a household income between 726 and 1200 EUR, 17% claimed a household income of more than 1200 EUR and 2% did not reveal a household income. As concerns educational level, 65% of respondents had higher education, 30% had secondary education, 3% had incomplete secondary education and 2% preferred not to answer this question.

## **RESULTS AND DISCUSSIONS**

The first part of the analysis focused on Lithuanian consumers' perceptions of local food. Respondents were presented with the definitions of local food based on geographical proximity between production and consumption, as well as distribution method. Firstly, respondents were asked to specify the distance that they thought local food could be defined. Distances that could be used to define local food ranged from 20 to

more than 100 km. A majority of respondents chose the largest proposed distance, i.e. they perceived local food as being produced within more than 100 km from their home. The percentage of respondents who considered food produced within 100 km, 50 km and 20 km as local were 17.5%, 15.6% and 12.2%, respectively (Table 1).

Table 1. Lithuanian consumers' definitions of local food based on geographical distance

Statements	Percent (%)	Cumulative (%)
Local food is grown or produced within more than 100 km of where I live	54.7	54.7
Local food is grown or produced within 100 km of where I live	17.5	72.2
Local food is grown or produced within 50 km of where I live	15.6	87.8
Local food is grown or produced within 20 km of where I live	12.2	100
<b>Total</b>	<b>100</b>	<b>100</b>

Then, respondents were asked to indicate the degree to which they agreed with each of the seven statements describing the spatial characteristics (six statements) and distribution method (one statement) of local food. Table 2 presents the mean scores of the statements.

Table 2. Mean scores of Lithuanian consumers' perceptions of local food

Statements	Mean Score
<i>Spatial characteristics of local food</i>	
Local food is grown or produced in Lithuania	4.52
Local food is grown or produced in the county that I live	3.89
Local food is or produced in the district that I live	3.63
Local food is grown or produced within the area that I live	3.63
Local food is sourced from outside the area that I live but processed in that area	2.79
Local food is sourced from outside Lithuania but processed in Lithuania	2.33
<i>Distribution method of local food</i>	
Local food is sold by Lithuanian farmers directly to consumers	4.45

The scale was scored from 1 to 5, where 1 was "Strongly disagree" and 5 was "Strongly agree". The highest mean values were for the statements "Local food is grown or produced in Lithuania" and "Local food is sold by Lithuanian farmers directly to consumers" (4.52 and 4.45, respectively). This means that respondents strongly agreed with these definitions of local food.

The second part of analysis focused on frequency of purchasing local food and socio-demographic characteristics that distinguish between local food buyers and non-buyers. All respondents were asked to indicate how frequently they purchase local food: more than once a week, at least once a week, at

least once a month, less than once a month and never. According to frequency of purchasing local food, respondents were divided into two groups: local food buyers, i.e. those who buy local food more than once a week, at least once a week and at least once a month, and non-buyers, i.e. those who buy local food less than once a month and never buy. As survey results showed, the vast majority of respondents were local food buyers (75%): 19.6% reported more than once a week buying local food, 34.9% indicated at least once a week buying and 20.5% revealed at least once a month buying. 25% of respondents were non buyers: 19.4% reported less than once a month buying local food and 5.6% indicated never buying. The significant differences between local food buyers and non-buyers were determined, using Chi-square test. A p value of less than 0.05 ( $p < 0.05$ ) was considered to indicate a statistically significant difference.

In the socio-demographic characteristics, only one of six characteristics indicated a significant difference between local food buyers and non-buyers (Table 3).

Table 3. Socio-demographic characteristics of local food buyers and non-buyers

Socio-demographic characteristics	Respondents (n)	Buyers, %	Non-buyers, %	P-value	$\chi^2$
<i>Gender</i>					
Women	254	196	58	0.222	1.49
Men	156	112	44		
<i>Residence area</i>					
Large cities	180	134	46	0.003*	11.78
Towns	144	120	24		
Rural areas	84	53	31		
<i>Age group</i>					
18-29	149	106	43	0.094	6.40
30-45	134	97	37		
46-65	102	86	16		
>66	24	18	6		
<i>Household income</i>					
<315	68	51	17	0.126	7.20
316-500	102	75	27		
501-725	74	64	10		
726-1200	87	60	27		
>1200	70	51	19		
<i>Educational level</i>					
Incomplete secondary	13	10	3	0.895	0.22
Secondary	120	92	28		
Higher	271	202	69		

Notes: All n did not add up to total number of respondents because of missing data.

\*Statistically:  $p < 0.05$  (Chi-square test).

Specifically, there was a significant difference between the two groups for residence area. There were no statistical differences in gender, age, household income and education. Significantly more respondents living in

towns (83.3%) bought local food as compared to respondents living in rural areas (63.1%) ( $p = 0.001$ ). There was no a statistically significant difference in the percentage of respondents living in towns and respondents living in large cities (74.4%) ( $p = 0.053$ ) who bought local food. The percentage of local food buyers was higher for respondents living in large cities than respondents living in rural areas, but the difference was not statistically significant ( $p = 0.190$ ).

Socio-demographic characteristics were not dominant factors in determining who purchased local food. These findings are consistence with some other studies, which have found limited relationships between socio-demographic characteristics and preferences for local food [15, 30].

The final part of analysis focused on identifying the main drivers and barriers of purchasing local food. Exploratory factor analysis was conducted using principal components extraction with varimax rotation as the estimation procedure [2]. A first factor analysis was implemented, using the scale items for drivers of purchasing local food. The initial list of variables consisted of 19 items. Corrected item-to-total correlations results revealed that correlation coefficients of variables “it tastes good”, “it has a good appearance”, “it has good value for money”, “it is GMO-free”, “it’s traditional”, “it’s authentic and original”, “it’s environmentally friendly”, “it reduces the distance food travels from producer to consumer” and “it reduces packaging” were less than 0.50, so these variables were removed from the next iteration of the principal component analysis. With parameters organised to assess solutions with eigenvalues in excess of 1.0, the analysis indicated a three-factor solution with the sampling adequacy at an acceptable level ( $KMO = 0.830$ ;  $df = 45$ ;  $p = 0.000$ ). The total variance explained in the observed items by the three-factor solution was 73.90%, indicating a well-explained factorial structure. Results of the factor analysis for drivers of purchasing local food are presented in Table 4.

Table 4. Results of factor analysis for drivers of purchasing local food

Drivers of purchasing local food	Component		
	Social conscience	Health concern	Shopping benefits
I purchase local food because it supports local farmers	0.743		
I purchase local food because it supports the local economy	0.850		
I purchase local food because it contributes to preserve rural areas	0.830		
I purchase local food because it preserves traditional production methods	0.777		
I purchase local food because it is natural		0.863	
I purchase local food because it is nutritious		0.855	
I purchase local food because it is healthy		0.838	
I purchase local food because it makes me feel good			0.777
I purchase local food because it is interesting			0.861
I purchase local food because the shopping experience is satisfying			0.785
Variance explained (%)	46.26	15.40	12.24
Cronbach's coefficient alpha	0.86	0.86	0.81

The first factor consisted of four items and accounted for 46.26% of variance in the model. These items relate to the importance ascribed to supporting local farmers and economy, preserving rural areas and traditional production methods, therefore this factor was labelled social conscience. The second factor contained three items and explained 15.40% of variance in the model. These items relate to specific quality attributes of local food that contribute to health, therefore this factor was named health concern. The final factor incorporated three items and accounted for 12.24% of variance in the model. These items relate to the pleasure, positive feelings and emotions experienced as a result of shopping for local food, therefore this factor was labelled shopping benefits. To assess the internal consistency of each of the factors within the scale, Cronbach's coefficient alpha was employed. The internal consistency of all factors was found to be above the 0.7 threshold with alpha coefficients of 0.86, 0.86 and 0.81, respectively.

A second factor analysis was implemented, using the scale items for barriers of purchasing local food. The initial list of variables consisted of 15 items. Corrected item-to-total correlations between variables were conducted and not significant variables “it is expensive”, “it is not readily available”, “it produced elsewhere is sometimes better”, “it is a fad” were eliminated from the next

iteration of the principal component analysis. The rotated solution produced a four-factor structure with acceptable sampling adequacy (KMO = 0.70; df = 55; p = 0.00). In total, 77.2% of the variance in the observed items was explained by this solution. Results of the factor analysis for barriers of purchasing local food are presented in Table 5.

Table 5. Factor analysis for barriers of purchasing local food

Barriers of purchasing local food	Component			
	Buying inconvenience	Lack of marketing	Lack of trust	Inadequate quality
I don't purchase local food because it is inconvenient	0.787			
I don't purchase local food because to do so is time consuming	0.716			
I don't purchase local food because I have to travel further to do so	0.884			
I don't purchase local food because it requires extra efforts	0.862			
I don't purchase local food because the range of products is limited		0.726		
I don't purchase local food because it is not well promoted		0.838		
I don't purchase local food because it is not clearly branded as local		0.813		
I don't purchase local food because I cannot trust it is actually local			0.910	
I don't purchase local food because I cannot trust that all of the ingredients are local			0.919	
I don't purchase local food because it is not good quality				0.816
I don't purchase local food because it has a bad appearance				0.863
Variance explained (%)	35.12	16.27	13.87	11.91
Cronbach's coefficient alpha	0.86	0.75	0.88	0.70

The first factor incorporated four items and accounted for 35.12% of variance in the model. These items relate to the non-fiscal costs involved in purchasing local food, therefore this factor was named buying inconvenience. The second factor consisted of three items and explained 16.27% of variance in the model. These items relate to inadequate marketing of local food, therefore this factor was labelled lack of marketing. The third factor contained two items and accounted for 13.87% of variance in the model. These items relate to lack of trust that the product or all of the ingredients in the product are actually local, therefore this factor was named lack of trust. The fourth factor incorporated two items and explained 11.91% of total variance in the

model. These items relate to unattractive physical properties of local food, therefore this factor was labelled inadequate quality. The internal consistency of all factors was found to be above the 0.7 threshold with alpha coefficients of 0.86, 0.75, 0.88 and 0.70, respectively.

## CONCLUSIONS

This study aimed to identify the meaning of local food to consumers in Lithuania, to examine the interest in purchasing local food and to uncover the main drivers and barriers towards purchase of local food.

In relation to the definitions of local food, several main points can be concluded. First, a majority of Lithuanian consumers perceived local food as being produced within more than 100 km from their home.

Second, respondents strongly agreed with the definitions of local food as food grown or produced in Lithuania and food sold directly by Lithuanian farmers to consumers.

As a majority of respondents considered Lithuanian made food as local food, the term local food may be understood similarly to domestic food.

Three quarters of Lithuanian consumers regularly purchased local food and one fourth of respondents rarely or never purchased local food. Socio-demographic characteristics were not dominant factors in determining who purchased local food.

The range of factors identified from this study have been categorised as three drivers and four barriers of purchasing local food: social conscience, health concern, shopping benefits, buying inconvenience, lack of marketing, lack of trust and inadequate quality. Social conscience was found to be the most important driver of purchasing local food. Alternatively, the most important barrier was identified as buying inconvenience. Understanding drivers and barriers of purchasing local food is useful to farmers, food producers and retailers in order to improve their market effectiveness and provide consumers with fresh, natural and seasonal food.

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