

Full Length Research Paper

Research of consumption and competitiveness of homemade products for manufacturing improvement: A case study from Montenegro

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The aim of this study is to determine the level of consumption and competitiveness of homemade (agricultural) products from the area of Montenegro and establish thereby an adequate information base for making business and managerial decisions, related to the improvement of production and placement of traditional homemade products from Montenegro. Based on the analysis, the following "key domestic products" were singled out: cheese, clotted cream, honey and brandy. The research was focused on monitoring the demand and the supply of these products, areas of their consumption, criteria of their competitiveness and quality, adequacy of their prices and thus, the measures for improving the production of domestic product were defined.

Key words: Homemade product, agriculture, manufacturing, consumer, consumption, competitiveness.

INTRODUCTION

Agricultural productivity and efficiency improvements have been the priority concern of the government in developing countries due to severe pressure imposed by declining agricultural prices, as well as prevailing highly competitive trade environment (Sanzidur et al., 2012). In recent years, the primary agricultural production in Montenegro has a specific growth in most major industries, resulting primarily from the overall support to private sector development through the placement of assets allocated by the agro industrial budget funds and the implementation of international projects in this sector. For a relatively small area, the Montenegrin agriculture is highly diverse – from growing olives and citrus in the coastal area, through growing early vegetables and tobacco in the central part, to extensive livestock farming in the north. On the other hand, the commercial production of wheat, maize, sugar beet and oilseeds is practically absent; this significantly differentiates Montenegrin agriculture even from the nearest

surrounding countries.

Improving agricultural sustainability is an important goal (FAO, 2002). This imperative has arisen because conventional agricultural practices (CAPs), which are widely employed at the present time, are widely criticized for jeopardizing sustainability (Poursaeed et al., 2010). Agriculture is among the more climate sensitive human activities; therefore, possible global climatic changes associated with increased atmospheric concentrations of greenhouse gases are likely to affect the efficiency of agricultural production systems. Economic impact assessments of climate change on agriculture were previously reported by Adams et al. (1988, 1990). A dynamic agricultural sector in developing countries is crucial for overall national development, poverty reduction and food security (Orden et al., 2004). Raising the level of awareness of the necessity of discussing permanent solutions to this problem and their implementation, helps create ideas and solutions with all their characteristics and specifics. The sustainability principle has to be the base for discussion and suggested solutions; it has to be treated as a condition for survival and advancement of manhood (Brkljač et al., 2012).

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Compared to several countries of the European Union (EU), the economic importance of agriculture in Montenegro is much higher, accounting for about 15% of the gross domestic product. When coupling the primary production sector and the manufacturing sector, over one-fifth of gross domestic product (GDP) appears to be generated by the food and beverage industry; thus, as indicated by the importance and contribution of this sector, the state investments in this sector should be increased. Agricultural areas account for 38% (518,067 ha) of the total territory of Montenegro. The amount of agricultural land of 0.82 ha per capita is an important resource since Montenegro according to this indicator is among the top European countries. However, Montenegrin agriculture cannot meet the population's need in food, so the food stability depends largely on imports. The reason for this is not only in the small-scale of homemade production; instead, it is in low marketability and competitiveness of the overall manufactured products. Consumers are also motivated by habits of consuming homemade products for hygiene and taste reasons (Zaibeta et al., 2004). Given the lack of contracted production, the placement of certain groups of seasonal products (vegetables, Mediterranean fruit, and lamb meat) and the purchase of milk by the state is a particularly problematic area.

The structural characteristics of agriculture, which are important for the development of homemade products, are rather unfavorable: agriculture is dominated by small family farms, fragmented and parceled lands with low productivity, resulting ultimately in the relatively low competitiveness of most agricultural products and restraining large scale production. The significance of agriculture for the rural community is still by far the most important activity of the rural population. It is labor intensive and plays the important role of a social "shock absorber", with more than 60,000 of rural households entirely or partially providing their livelihood in agriculture. It is particularly important in the less developed northern part of Montenegro, where the multiple role of agriculture is manifested to the full extent. The present study included the following four key domestic products: Homemade cheese, homemade clotted cream, natural honey and homemade brandy ("plum").

MATERIALS AND METHODS

Taking all this into consideration, there is a reasonable need for undertaking research to determine the level of consumption and competitiveness of homemade products, as well as the ability to promote their further production. Based on the above, the objective of this study is defined as an effort to determine the level of consumption and competitiveness of traditional "homemade products" from the territory of Montenegro, and to propose appropriate measures for the improvement of the existing methods of production and marketing these products. Recognizing the general research objective, it is possible to formulate the purpose and task of the investigation, which consist of the following: to collect data on awareness, consumption, competitiveness,

possibilities and opportunities of traditional (agricultural) homemade products on the territory of Montenegro, and on the basis of these information to propose appropriate measures that would be useful for further production and placement of these products.

Considering the criterion of determining product competitiveness as one of the key criteria, it was justified to conduct the research on the territory of entire Montenegro because the ultimate goal is to obtain maximum quality results that contribute to the understanding of the actual situation. The research instrument consisted of a standardized questionnaire containing 72 questions. The sample consists of 401 male and 608 female respondents (1009) from 21 municipalities in Montenegro. This gender composition of respondents is also consistent with questionnaire designing rules, given that similar studies have shown that females are the most relevant and most involved in purchase of food products (therefore also of products that are the subject of this research).

The question regarding professional qualification was answered by 1003 examinees; results were as follows: the highest number of respondents was those with secondary school qualification (488 or 48.65%); the lowest number of respondents was those without any qualification (72 or 7.18%). The question "What are your approximate monthly incomes" was answered by 723 (71%) respondents. Most of them (42.32%) answered that their average monthly income is between 251 and 400€, which corresponds to the average monthly wages in Montenegro. In the overall structure, the incomes of 19% of respondents were less than 250€. The same is the percentage of respondents with the incomes between 401 and 600€. This question was, however, not answered by 51 (7.05%) respondents.

Research design

In this part, it is necessary to define the data collection methods and give a brief description of the problem. In the present study, primary data were collected using the classical method in the following two ways: through a direct survey ("field research") and through a phone survey. In both cases the same questionnaire was used, previously compiled by eminent economists and psychologists. Based on exploratory research, the "key domestic products" were differentiated, and further course of research was based on the combined method of field and telephone interviews (the so called "CATI" method). Out of the entire sample, 437 respondents were interviewed using the method of field research, while 572 respondents were telephone-interviewed.

Considering the analysis of consumption and competitiveness, as well as the promotion of production and marketing of these types of products, the basic hypothesis was as follows: It is possible to identify the competitive and comparative advantages of the area of Montenegro in the production of traditional domestic products, especially having in mind the particularities of both geographic and natural environment. From the standpoint of geographical dispersion of Montenegro and the various climates in the country, the target markets consuming these product categories can be defined as well. The research task is to identify the products standing out as the "key domestic products", and based on further research to define their areas of consumption, the criteria of quality, the adequacy of supply and the price of:

- (i) Homemade cheese
- (ii) Homemade clotted cream
- (iii) Natural honey
- (iv) Homemade brandy ("plum")

Specifically, dairy (especially cheese and clotted cream), brandy (especially of "grape" and "plum") and honey products fall into the product category for which Montenegro is already recognized in the region and beyond; many believe that these should be the basis

both of their competitive and comparative advantage. The fact that these products are manufactured mostly in a traditional way further contributes to their quality. Hence, with the expansion of both coastal and mountain tourism, there is a growing interest for these products. As individual research tasks, the following can be singled out:

- (i) To review the total market potential (analysis of conditions existing in the subject areas on the Montenegrin market);
- (ii) To select the existing traditional homemade products consumed by citizens in Montenegro, as well as the ability to produce new types of products;
- (iii) To assess competitiveness of homemade products from Montenegro;
- To identify the strongest/nearest competitors in local markets;
- (iv) To review the communication issues between manufacturers and distributors of the underlying product groups.

The survey was conducted between January and June, 2011 on the entire area of Montenegro.

RESULTS AND DISCUSSION

This section consists of a clear and concise description of research results with appropriate recommendations provided to the producers from the territory of Montenegro for making managerial and operational decisions. Taking into account the scope of the paper, primarily the issues of the utmost importance will be analyzed for proving the hypothesis. Based on the defined research objective and hypotheses, the research and statistical analysis of data are presented and explained in details herein. In the part of the questionnaire relating to diet and food products in Montenegro, respondents were given a set of statements (attitudes), where respondents had the opportunity to respond with "strongly disagree", "disagree", "not sure", "agree", "strongly agree".

(a) The first statement is related to the opportunity of buying high quality food in Montenegro; this question was answered by 1004 (99.5%) of the total respondents. Overall, 357 (35.56%) respondents agreed that it is possible to buy high-quality food in Montenegro; 18.03% (181) of respondents disagree, while 6.47% (65) of respondents strongly disagree with this statement. Based on the above results it can be concluded that almost half of the respondents believe that Montenegrins are provided with the opportunity to buy high quality food. Meanwhile, 294 respondents (29.28%) were not sure about it.

(b) The statement that food in Montenegro is properly controlled and healthy was responded by 992 examinees. In all, 9.17% (91) of the respondents strongly disagreed, while 28.83% (286) disagree, which together makes up almost a third of the respondents who believe that food in Montenegro is not properly controlled and healthy. However, 15.83% (157) of the respondents agree, while only 3.73% (37) of the respondents strongly agree with

the above statement.

(c) The statement that food prices in Montenegro are acceptable was answered by 1001 respondents. More than 2/3 disagrees with the above statement, while only about 10% agree.

(d) The next statement was that the diet of population is adequate and healthy. This statement was answered by 1003 respondents. More than half of the respondents disagreed with this statement, while only 10% of respondents agree.

(e) The statement that homemade products are much healthier than the industrial is responded by 1001 examinees; more than 80% of them agree with this statement, while a small number of about 7% disagree.

(f) The statement that it is difficult to obtain homemade products in Montenegro was strongly disagreed by 4.88% of the respondents; 38.05% disagreed, 20.52% were not sure, 29.08% agreed, while 7.47% strongly agreed. This statement was answered by 1004 respondents, while the results indicated a rather divided opinion about this matter.

(g) The statement that homemade food is better and of higher quality than the industrial was answered by a total of 1004 respondents. More than 80% of the respondents agreed with the above statement, while a small number (approximately 7%) disagreed.

(h) The statement that the consumption of traditional (homemade) products is rather low was strongly disagreed by 4.47% and disagreed by 21.45% of the respondents; 22.14% of respondents were not sure, while 42.30% of respondents agreed and 9.63% strongly agreed. This question was answered by a total of 1007 respondents, and thus, the conclusion is that more than half of the respondents believe that the consumption of homemade products is low.

(i) The statement that today almost all the products are imported was answered by 1001 respondents. Overall, 4.9% of the respondents strongly disagreed, 21.08% disagreed; 27.97% of respondents are not sure, while 36.96% of the respondents agreed and 9.09% strongly agreed. Results suggest that almost half of the respondents believe that most products are imported.

(j) Regarding the statement that homemade food is rather expensive, more than 40% of the respondents agreed, while only a quarter of the total number of respondents do not share their opinion.

(k) Finally, the statement that Montenegro is famous for its homemade food was answered by 1002 respondents, with approximately 60% of the respondents agreeing and approximately 16% of respondents not sharing their opinion.

Based on the above results and the analyzed respondent attitudes, the general conclusion is that almost half of the respondents believe that in Montenegro, it is possible to buy food of acceptable quality, while almost a third of the respondents believe that food in Montenegro is not

Table 1. Consumption of domestic products.

Product	Consumption of domestic products	Number	Percent (%)
1	Homemade cow cheese	769	35.10
2	Homemade natural honey	446	20.36
3	Njeguš Smoked ham	427	19.49
4	Homemade grape brandy	129	5.89
5	Homemade clotted cream	191	8.72
6	Homemade plum brandy	79	3.61
7	Homemade goat cheese	53	2.42
8	Homemade sheep cheese	37	1.69
9	I do not consume homemade products	18	0.82
10	I am not sure, I do not know	42	1.92
Total		2191	100.00

Table 2. Regions with the best homemade products.

Region	Regions with the best homemade products	Number	Percentage (%)	Percentage of the sample (%)
1	Njeguši	367	28.02	37.95
2	Berane and Bihor region	120	9.16	12.41
3	Coastal region	118	9.01	12.20
4	Durmitor-Pljevlja region	390	29.77	40.33
5	Podgorica region (Kuča and Morača)	109	8.32	11.27
6	Kolašin-Bjelo Polje region	206	15.73	21.30
Total		1310	100.00	

properly controlled and healthy. Also, more than two-third of respondents are dissatisfied with food prices in Montenegro. The research results suggest that more than 80% of respondents believe that homemade products are much healthier than the industrial, with almost the same percent of them believing that homemade food is of higher quality than the industrial. Summarily, the future orientation of producers from the area of Montenegro should be directed towards producing quality food that is properly controlled, while prices of homemade products should be kept on reasonable levels.

Consumption of domestic products

In the above set of questions, respondents were able to check one or more answers. For this reason, the number of respondents (992) was different from the number of answers (2191). Accordingly, survey results for these kinds of questions are given as a percentage of the answers, and not in relation to the number of respondents (Table 1). Results of this part of research are as follows:

- (a) In 35.10% of the answers, one of the most commonly used homemade product is cheese;
 (b) In 20.36% of the answers, one of the most commonly

used homemade product is honey;

(c) In 19.49% of the answers, one of the most commonly used homemade product is Njeguš smoked ham;

(d) In only 3.61% of the answers, one of the most commonly used homemade product is plum brandy.

Based on these results, the conclusion can be drawn that out of all homemade products, most respondents consume homemade cheese, homemade honey and smoked ham. This means that one of the recommendations for manufacturers from the region of Montenegro is their possible focus on the production of these product categories.

Regions with the best homemade products

Here, respondents were also offered the possibility of multiple answers. A total of 1310 responses were tested, while there were 967 respondents. As shown by the survey results (Table 2), most respondents (29.77%) consume homemade products from Durmitor-Pljevlja region, while the number of respondents consuming products from Njeguš region is somewhat lower (28.02%). The least consumed products are those from Podgorica region, coastal region and Berane-Bihor region (approximately 8%).

Table 3. Criteria of competitiveness.

Criteria	Criteria of competitiveness	Number	Percent (%)	Percentage of the sample (%)
1	Quality	582	61.78	79.51
2	Price	152	16.14	20.77
3	Design	139	14.76	18.99
4	Some other feature	69	7.32	9.43
Total		942	100.00	

Criteria of competitiveness

When answering the questions about the key criteria of competitiveness of homemade products as compared to that of industrial ones, the respondents were asked to give more than one answer. More than 60% of the respondents (61.78%) believed that quality is the key criteria of competitiveness of homemade products, while 16.14% consider price as a decisive factor (Table 3). The abovementioned attitude of the respondents further confirms good prospects of production of homemade products on the territory of Montenegro.

Availability of homemade food in Montenegro

Table 4 presents a set of questions regarding the procurement of homemade food in Montenegro. Over a third of the respondents (36.84%) believe that cheese should be procured from relatives, friends or on recommendations. Given the attitude of 36.94% of the respondents, the opinion is almost identical regarding the acquisition of clotted cream. The survey suggested that the respondents' opinion regarding the procurement of honey and plum brandy is almost identical (36.52% of the respondents believe that honey should be procured from relatives, friends or on recommendation, while 35.61% of them believe that plum brandy should be bought in the same way).

Furthermore, it is interesting to note that over a third of the respondents believe that industrially manufactured products are "better designed" (packed) as compared to homemade products. More than half of the respondents believe that the manufacturing process of industrial products is better controlled as compared to homemade products. Despite this attitude, more than third of the examinees prefer homemade products regardless to the manufacturing control process. Based on these results, the common recommendation is that in the production of homemade goods small producers (small family farms) have particular advantage, which is compatible with the profile of farmers from the area of Montenegro. Furthermore, the quality and design of homemade products needs special attention, as modern consumers expect adequate product design in addition to its quality.

Measures for promotion of manufacturing homemade products

In the part relating to measures for the promotion of production, respondents were offered seven statements; they were also allowed to propose specific measures for increasing and promoting production of homemade products. Thus, they proposed the following: expert consultation in the production process, assistance of appropriate institutions specialized in agriculture (Institute of Biotechnology, Faculty of Agriculture), a larger role of marketing and raising national awareness, reducing the price of homemade products, higher benefits from the state, awards and other incentives for farmers, greater support for one of the traditional occupations in Montenegro which will result in retaining a number of educated young people in rural areas. Results of the survey (Table 5) indicated the following:

- (a) Regarding the statement that more help from the state is needed (government), 48.95% of the total number (997) of respondents agreed and 36.01% strongly agreed, which makes 2/3 of the respondents; somewhat more than 6% believed the opposite, while 8.93% are not sure.
- (b) Regarding the statement that it is necessary to establish associations and cooperatives for the production of homemade products, more than half of the respondents (497 out of 974) agreed, 273 strongly agreed, while approximately 8% disagreed, meaning that there is almost a unanimous opinion of respondents with respect to the above.
- (c) More than half of the respondents (540 out of 998) agreed with the statement that it is useful to open small dairies and processing facilities for the production and processing of homemade products, and 32 disagreed.
- (d) As to the need for better distribution of products in regions which lack homemade production, more than 2/3 of the total number of respondents (996) agreed, while only 27 respondents (2.71%) disagreed with this statement.
- (e) 2/3 or approximately 75%, of the respondents believed that the state is required to purchase homemade products, 160 respondents were not sure, while 33 disagreed.
- (f) Regarding the need for prices guaranteed by the state,

Table 4. Availability of homemade food in Montenegro.

Food	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
a) Homemade food is available in almost every store					
Total number: 1001	169	460	211	121	40
Percentage: 100.00%	16.88	45.95	21.08	12.09	4.00
b) Homemade cheese is available only at the market place					
Total number: 998	65	313	183	336	101
Percentage: 100.00	6.51	31.36	18.34	33.67	10.12
c) Homemade cheese should be acquired only from relatives, friends or on recommendation					
Total number: 980	70	211	137	361	201
Percentage: 100.00%	7.14	21.53	13.98	36.84	20.51
d) Homemade clotted cream is available in stores					
Total number: 967	109	311	281	214	52
Percentage: 100.00%	11.27	32.16	29.06	22.13	5.38
e) Homemade clotted cream is available only at the market place					
Total number: 990	57	308	244	297	84
Percentage: 100.00%	5.76	31.11	24.65	30.00	8.48
f) Homemade clotted cream should be bought only from relatives, friends or on recommendation					
Total number: 999	70	181	161	369	218
Percentage: 100.00%	7.01	18.12	16.12	36.94	21.82
g) Homemade honey is available in stores					
Total number: 996	103	354	234	239	66
Percentage: 100.00%	10.34	35.54	23.49	24.00	6.63
h) Homemade honey is available only at the market place					
Total number: 999	96	330	283	221	69
Percentage: 100.00%	9.61	33.03	28.33	22.12	6.91
i) Homemade honey should be bought only from relatives, friends or on recommendation					
Total number: 983	57	144	191	359	232
Percentage: 100.00%	5.80	14.65	19.43	36.52	23.60
j) Homemade plum brandy is not available in stores					
Total number: 985	92	191	283	265	154
Percentage: 100.00%	9.34	19.39	28.73	26.90	15.63
k) Homemade plum brandy should be acquired only from relatives, friends or on recommendation					
Total number: 997	41	108	258	355	235
Percentage: 100.00%	4.11	10.83	25.88	35.61	23.57
l) Homemade brandy has higher quality than industrial brandy					
Total number: 994	38	64	265	325	302
Percentage: 100.00%	3.82	6.44	26.66	32.70	30.38
lj) Homemade wool products are not available in stores					
Total number: 987	51	142	271	364	159
Percentage: 100.00%	5.17	14.39	27.46	36.88	16.11

Table 4. Contd.

m) A significant number of homemade products are mostly received as gifts					
Total number: 958	54	131	286	350	137
Percentage: 100.00%	5.64	13.67	29.85	36.53	14.30
n) Homemade products are better designed (packed) than industrial products					
Total number: 961	84	262	317	209	89
Percentage: 100.00%	8.74	27.26	32.99	21.75	9.26
nj) All homemade products are available on the market place					
Total number: 970	35	199	317	334	85
Percentage: 100.00%	3.61	20.52	32.68	34.43	8.76
o) The manufacturing process of industrial products is better controlled than the homemade products					
Total number: 1001	57	124	274	387	159
Percentage: 100.00%	5.69	12.39	27.37	38.66	15.88
p) Given that the manufacturing process of industrial product is better controlled, the quality and safety of these is also better than homemade products					
Total number: 964	75	209	366	209	105
Percentage: 100.00%	7.78	21.68	37.97	21.68	10.89

Table 5. Measures for promotion of manufacturing homemade products.

Measures	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
a) Better government assistance is necessary					
Total number: 997	26	35	89	488	359
Percentage: 100.00%	2.61	3.51	8.93	48.95	36.01
b) It is necessary to establish associations and cooperatives for the production of homemade products					
Total number: 974	22	56	126	497	273
Percentage: 100.00%	2.26	5.75	12.94	51.03	28.03
c) Establishing small dairies and facilities for processing homemade products					
Total number: 998	25	32	108	540	293
Percentage: 100.00%	2.51	3.21	10.82	54.11	29.36
d) Better product distribution in regions which lack homemade production					
Total number: 996	20	27	87	549	313
Percentage: 100.00%	2.01	2.71	8.73	55.12	31.43
e) Purchase of homemade products by the state					
Total number: 969	38	33	160	472	266
Percentage: 100.00%	3.92	3.41	16.51	48.71	27.45
f) System of government "guaranteed prices"					
Total number: 905	21	62	134	413	275
Percentage: 100.00%	2.32	6.85	14.81	45.64	30.39
g) Taking a loan from appropriate financial institutions					
Total number: 982	15	31	105	521	310
Percentage: 100.00%	1.53	3.16	10.69	53.05	31.57

more than 2/3 of the respondents agreed, while only a small number of them (6.85%) disagreed.

(g) Finally, the statement that the state should provide a loan for the manufacturers was agreed by 521 (out of 982) respondents, while it was disagreed by 31 (3.16%) respondents.

Based on the results regarding the measures for promoting production, it is interesting to note that the statements in this part of the survey were answered with "agree" or "strongly agree" by more than 2/3 of the respondents, so that a general conclusion can be drawn. It could be summarized as follows: the opinion of the majority of the respondents is that generally in Montenegro, it is necessary to provide greater support, that is assistance from the government, particularly in relation to the system of "guaranteed prices"; that homemade products also need to be purchased by the state; and that specialized financial institutions need to provide necessary financial support for the producers.

Conclusion

Agriculture in Montenegro is increasingly assuming the characteristics of multi-functionality, making it completely compliant with the agricultural policy of the European Union which emphasizes the preservation and enhancement of agricultural multi-functionality (Lenihan and Brasier, 2008). The emerging concept of food sovereignty refers to the right of communities, peoples, and states to independently determine their own food and agricultural policies (Beuchelt and Virchow, 2012). On the basis of this research, the perception of consumers towards the Montenegro agricultural and food products are determined and for those manufactured in households. As indicated by this research, users believe that compared to industrial products, domestic food has higher quality and it is much healthier. Most users choose domestic cheese and honey among all domestic products. As a product, cheese is highly represented in the consumption of residents of Montenegro, making it an opportunity for all the manufacturers of this product category.

Based on this research, it can be concluded that in the upcoming years, there will be a significant growth in the production and sales of domestic products on the territory of Montenegro, and that there is significant potential for the placement of these products on foreign markets. All

these suggest that the future development activities of Montenegrin producers should be based on the existing significant market potentials of Montenegro for the improvement of existing and potential development capacities. What is necessary in this area is the support and assistance, particularly from the government, as well as from other financial institutions that would also find their interest in it. Accordingly, it is necessary to initiate the establishment of associations, cooperatives, small dairies, as well as other facilities that are specialized for the production of homemade food, since their number from today's perspective is highly dissatisfying.

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