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# TRENDS AND DEVELOPMENTAL POSSIBILITIES OF MEAT INDUSTRY*

*Radojica Sarić[1], Svetlana Roljević[1], Bojana Bekić[1]*

## Abstract

*Meat has great significance in diet of population from the aspect of biological and nutritive value. Development of meat industry and permanent research of meat products market represent important assumptions for future development of agriculture, agro-industry and economy in general. Important assumption for long-term market stabilization and larger export is bigger, more stable, structurally more adequate and more quality livestock production, especially production and processing of meat and meat products. Main goal of this paper is to point out on current trends in meat industry development, for the purpose of easier identification of possibilities concerning defining of strategically sustainable solutions. In this paper, based on „Desk Research" method, data collected from various relevant scientific, professional and statistical publications from domestic and foreign literature are going to be used, processed and analyzed.*

***Key words**: meat industry, meat and meat products, market, trends, strategically sustainable solutions*

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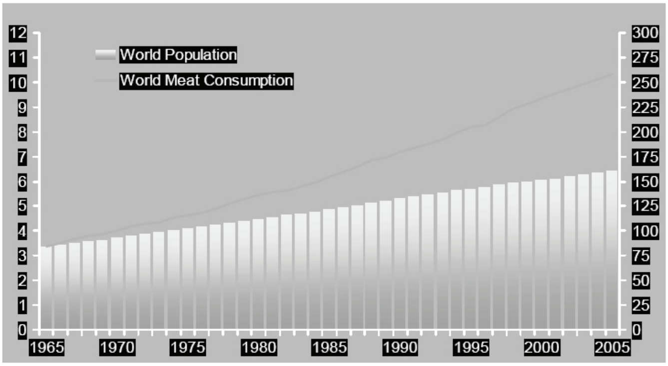
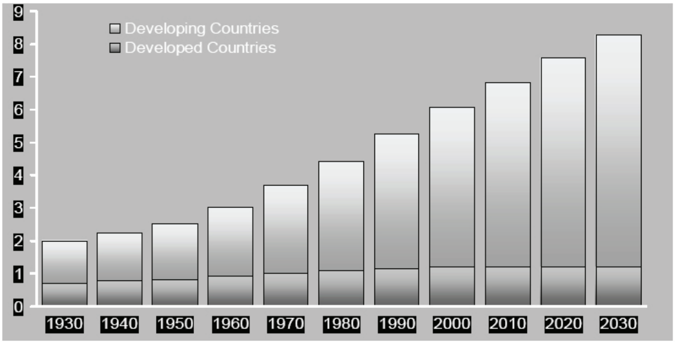
Radojica Sarić, Researcher trainee, e-mail: radojica_s@mail.iep.bg.ac.rs, Svetlana Roljević, Researcher assistant, e-mail: svetlana_r@mail.iep.bg.ac.rs, Bojana Bekić, Researcher assistant; e-mail: bojana_b@mail.iep.bg.ac.rs, Institute of Agricultural Economics Belgrade, Volgina 15, 11060 Belgrade, phone: +381 (0) 11 29 72 842.

## Introduction




According to FAO data, meat consumption in the world has larger growth rate than growth rate of human population, and that growth is especially expressed in developing countries, with the predictions that it is going to be even faster in the future.



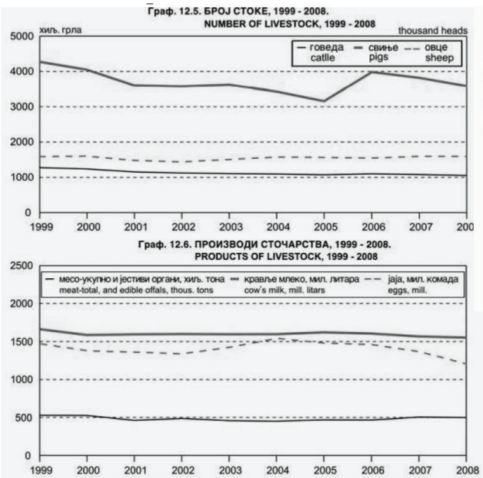

According to some researches and prognosis, in year 2050 human population on Earth will reach 9,2 billion people. Their need for food, mainly meat and meat products, due to growing trend, will be significantly greater than today when number of people is about 6 billion. Considering the previous, as main worldwide problem in near future will be production of enough quantities of nutritionally valuable and safe food. Also, the problem will be providing of solid and functional connections between production and processing of meat, from the aspect of interest and quality. Solutions for overcoming of these problems are restructuring of food production, creation of functional connections between certain production segments and connection of meat production and processing in unique agro-industrial complex that is based on strategically sustainable solutions. Meat industry has major role in all that, considering that it is an important factor of agricultural development and development of agro food industry, namely agro-industry, and thus domestic and world economy.

## Assessment of current state in Serbian meat industry

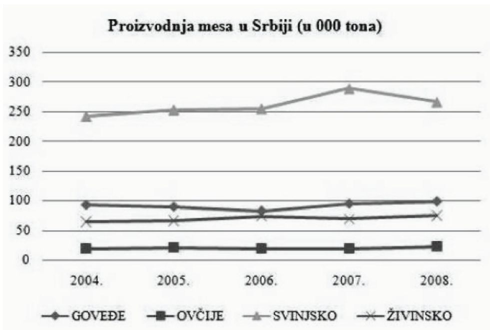
In Serbia, production of meat and meat products has long tradition. Serbia is the largest producer, exporter and consumer of all types of meat among CEFTA countries. However, this production is significantly smaller comparing to production in EU countries. In the last few decades, production of meat and meat products has continous negative trend. Also, it has structural problems and it is uncompetitive. Among main problems are cyclical production, uncompetitive price, comparing to producers from EU, and impossibility of export at EU market, because of unfulfillment of basic quality and safety standards for meat and meat products. Overcoming of these problems is one of the basic goals of agrarian politics in period 2009-2011, from the aspect of improvement of production of meat and meat products in the future.

Having all this in mind, we can conclude that this production faces with large challenges, during process of accession of Serbia to EU, with emphasizing that it is also the greatest chance for future development of livestock production in the country, and thus agriculture and national economy in general. Generaly speaking, in the past ten years, livestock fund and livestock products show stagnation and even tendency of decrease, except slight growth of production of certain meat types. In 2009, meat production in Serbia was 457.000 t, which was 1,5% lower comparing to year 2008. This reduction is a consequence of the world economy crisis and decrement of population purchasing power in the country. In the first half of 2009, Serbia exported about 40% less meat while export of meat products was lesser for 25% comparing to the same period 2008. At the same time, meat import was increased for about 17% while meat products import was slightly decreased, about 0,4%.

*Picture 1. Cattle number and livestock products in period 1999-2008.*




*Picture 2. Meat production in period 2004-2008.*




*Source: Statistical Office of the Republic of Serbia and Serbian Chamber of Commerce*

Although pork meat production is by quantity the largest production comparing to production of other types of meat in Serbia, cattle production has the largest participation in total livestock production in Serbia, due to higher meat price and cattle value and the fact that most cattle serve for milk production. Cattle production participates with about 38% in total livestock production, while in total meat production participates with about 21,4%. Two main cattle breeds in Serbia are Holstein-Friesian breed and Simmental breed. Present production of cattle and beef meat is determined by: processing capacities, quality of diet, economic position of the producer and situation on meat and milk market. Last few years there is a worrisome trend of decreasing of number of cows and heifers, which is decreased for 32% in period 1996-2006.

Right next to cattle production, from the aspect of percentage participation in total livestock production, is production of pigs. Also, of all meat types, pork meat has the largest percentage share in total meat production, about 55%. However, what worries is certainly decreasing trend of pig meat production, year after year. Comparing to 2008, pig meat production in 2009 decreased for about 5,3%. Production of pigs and pig meat is traditionally dominant at family farms and it is predominantly directed toward production for own needs. Production of sheep and sheep meat in Serbia will have great developmental perspective in the following period considering the natural potential of our country, especially in highland mountain areas. Possibilities for export are very low, due to current production, which can not satisfy the needs of population in the country. It mainly refers to lamb meat. Main characteristics of sheep production in Serbia are extensiveness, lack of purchase organization, old production technologies and insufficient utilization of present processing capacities. Production of sheep and lamb meat is the most frequent in the private sector (about 98%). Due to that, the largest attention in the future developmental programs should be given to that sector, but also to new production technologies which deal with intensification of sheep and lamb meat production.

In the last years, production of poultry meat was often varied, which points out the instability of this production. Instability of production is connected with instability of market prices, which are caused by turbulent market conditions that are dictated by disorganized and uncompetitive producers. Namely, production is based on fulfillment of current local market needs for poultry meat, which significantly varies during the year (season) so that there is production *„when needed“* rather than continuous production. Trend of production had smaller/larger oscillations during the last years, but considering the period 1996-2006 numbers of poultry was decreased for 28%. Main problems in poultry meat production in Serbia are underground economy and lack of vertical connections in the production chain of meat and eggs.

Consumption of meat and meat products in Serbia is small comparing to EU countries. Trend of consumption of meat and meat products is in direct correlation with their price and purchasing power of the population. In Serbia, average consumption is 36 kg of meat per capita which is two times less than in EU where average meat consumption is 86,7 kg per capita. In terms of meat consumption only Albania is after our country. Participation of Serbia in total world meat consumption is extremely modest, about 0,17%. In this, production of beef and poultry meat is about 0,1%, and production of pig and sheep meat is about 0,2%. Participation of Serbia in international meat trade is very modest, but also very uneven depending of the product: export of sheep meat (0,01%), export of beef (0,1%), import of beef (0,001%), import of pig meat (0,05%). Export of meat and meat products is mainly directed to Macedonia, Italy, Greece, Russia, Hungary, Bosnia and Herzegovina, Montenegro, Croatia etc. Import of meat and meat products is mainly from Austria, Slovenia, France, Greece, Germany, Hungary, Italy, Bosnia and Herzegovina, Croatia, Macedonia, Spain, Holland, Denmark etc. The largest participation of domestic foreign trade exchange of meat and meat product is conducted at European market, mainly in surrounding countries. Export should expand into larger number of countries in the world and at the markets whose consumers have greater purchasing power.

Regarding meat products they can be found in a slightly more than 50% of retail objects in Serbia. From the aspect of sales channels about 60% of meat products are being sold in hypermarkets and supermarkets. Little less than 1/4 goes into large shops, while the rest is being sold in small shops. The largest part of meat products, about 40% is being sold in Central Serbia, 1/3 is being sold in Belgrade, while the rest goes to AP Vojvodina. Five the most important meat producers in Serbia occupy nearly 3/4 on the market of meat products: *Agroživ*, *Karneks*, *Neoplanta*, *Perutnina Ptuj* and *Juhor*. Among five the most significant trade marks of meat products which can be labeled as Serbian brands are: *Karneks*, *Neoplanta*, *Perutnina Ptuj*, *Poli* and *Juhor.* Among meat products on the market the most dominant are salami (83%), ham (8%), breasts (3%), sliced meat (2%), pršuta (2%) and other products (2%).[2] At the market, the most present are meat products made of poultry meat (58%), made of pork (26%), made of beef (12%) and made of other meat types (4%).[3]

Negative trends in production of meat and meat products in the last two decades, which can be seen in halved livestock fund and decreased production and processing, point out the need for restructuring of agriculture with larger participation of livestock production in total agricultural production of Serbia. Stabilisation of so far unfavorable economy trends in the livestock production sector, requires quick reaction by the creator of agrarian policy trough adoption of adequate strategic developmental programs. Aim is defining strategic concept of sustainable development of livestock breeding in Serbia, which would contribute to growth of production capacities in livestock production, measured by number of livestock unit and by weight gain per cattle unit. Changings in this sector are slow, long, hard and influenced by three most important elements:

(1) Ending of transitional process;
(2) Integration and accession to EU;
(3) Radical reconstruction and modernization of entire agricultural/agro food sector.

In the sector of production of meat and meat products, it is necessary to develop long term developmental politic, which is going to be supported by financial means from the agrarian budget, and implemented trough adequately defined program of strategic improvement of this sector. With this approach, more adequate preconditions

2 Source: Agency for research „Nielsen“ (data for period June 2008 - May 2009 of years which refer to quantitative participation at the market of Serbia), notice: special shops for food sale and butcher shops are not included.

3 Ibidem.

for creation of favorable environment for future development of meat industry in our country are going to be created. At long term, it would mean improvement of business of producers in meat industry trough: reduction of expenses, increment of productivity and profitability and also realization of safety and quality of meat and meat products. Such approach, as socially responsible, considers finding of new developmental possibilities trough implementation of concrete measures and strategically sustainable solutions from the aspect of:

(1) Building of supporting institutions directed toward developmental politics at micro and macro level, and improvement of capacities for defining, conducting and control of developmental politics;
(2) Creating of regional clusters in the field of livestock production;
(3) Defining and conducting of investment support for modernization of processing capacities and livestock fund (through breeds selection and their larger application in production as well as improvement of their living conditions);
(4) Growth of livestock production on the market, trough vertical integration in the sector of production of meat and meat products, with adequate marketing and export stimulations, for the purpose of concurrency growth and stronger breakthrough on international markets;
(5) Adoption and application of necessary standards from the aspect of quality and safety, and implementation of adopted legislation related to production, processing and trade (implementation of ISO standards, mainly ISO 9001:2000, ISO 14001, ISO 8000, ISO 26000 and ISO 22000, but also the HACCP system and standards derived from it).

## Production and international trade of meat in the world

World production and international meat trade are characterized by positive developmental trends. With average annual growth rate of 2,5%, world meat production in period 2006-2008 reached the level of 286 million tons. Over 75% of world meat production is in Asia (44,9%) and America (30,3%). Participation of Europe (18,3%) is significantly lower, especially low is participation of Africa (4,4%), Australia and Oceania (2,1%). According to this, average world production of meat per capita is about 43 kg. Meat production per capita in Asia (32 kg) and especially in Africa (13 kg) is significantly below world average. In the structure of world meat production, the leading position has pig meat with participation of about 41%.

On the second place is poultry meat with participation of about 30%. Participation of beef meat is about 23% - third place, while the participation of sheep and goat meat is about 5% - fourth place. The last, fifth position, with participation of 1,5%, belongs to other meat types (horse meat, donkey meat, mule meat, rabbit meat, game meat, bird meat, camel meat and snail meat). However, this production volume significantly lags behind optimum alimentation needs of the world population. Volume, dynamics and structure of meat production very differs and it’s very uneven per continent and per country, mainly because of different regional position and level of development of numerous natural, economic and social factors. As the most important factors are: livestock fund (number, structure and breeds composition), level of economic development of the country, development of the agriculture and agro food industry, level of scientific, technical and technological achievements and measures of agrarian and economical politics of the country.

From the point of economical development, developed countries make larger part of world beef production (about 55%), while undeveloped countries and countries in development have larger participation in production of pork (about 57%), poultry (about 53%), sheep and goat meat (about 56%) in the world. Comparing to the production, international trade of meat has more dynamic growth rate. With average annual rate of 4, 6%, international trade in period 2006-2008 has reached the level of 33 million tons, which represents only about 12% of total world meat production. Relatively modest participation of meat in international trade, comparing to the volume of world production, is determined by specific technological/commercial characteristics of the products, wide dispersion of production and longing of all countries in the world to cover domestic needs for meat mainly by own production, which especially refers to undeveloped countries and countries in development.

Regional distribution of trade is very different and uneven, by volume and structure, and also by type of meat. Europe (42%) and America (41,1%) make over 83% of world meat export. Participation of other continents in world export of this product is much lower. Asia participates with 8,6%, Australia and Oceania with 8,1%, while participation of Africa is nearly symbolical 0,2%. Also, Europe has high participation, in the export of meat in the world, even 51,2%. After Europe, there is Asia (26%) and America (15,9%), while participation of Africa (5,2%) and especially Australia and Oceania (1,7%) is very modest. Regarding all meat types, except import of poultry meat, developed countries comparing to undeveloped and developing countries have larger participation, both in total export and total import of these products.

## Conclusion

Volume and structure of domestic meat production significantly lag behind available resources and demands of domestic/international market. Meat industry must adjust itself to new and complex business conditions at the world market, especially conditions in EU. It considers opening of new possibilities for development of this sector in our country but also change of so far business system for the purpose of more successful and more quality business. As one of the possible development approaches, is defining of integral system of production and processing of meat and meat products, which would be in the function of sustainable development. This system should contribute to: optimal usage of available resources, protection of ecosystem and biodiversity, increment of production of biologically valued and healthy safe meat and meat products.

Long term speaking, it would mean reduction of differences between rich and poor regions in the country trough rising of level of life quality of local communities, trough overall improvement of population status in rural areas and trough encouragement of the population to stay in less developed regions. Also, it would contribute to achievement of stability of cattle production at the level of the country, which would create conditions for continuous investing and increment of export potentials in this sector. Surely, this would influence at the prosperity of agro industrial complex, but also national economy in general. Large role in all that should be given to properly defined legislation which represents basis for successful functioning on the market. Implementation of laws and standards must guarantee fair competition in this sector and its goal is protection of consumer's interest.

## Literature


1. Алексић С., Пантелић В., Радовић Ч. (2009): *„Livestock production - present situation and future development directions in Republic of Serbia“,* journal Biotechnology in Animal Husbandry, Institute for Animal Husbandry, Belgrade-Zemun, vol. 25, no. 5-6, pp. 267-276.
2. Барас Ј.К., Тадић Р. (1997): *„Систем производње меса у еколошки компатибилном агроиндустријском комплексу“*, часопис Технологија меса, Институт за хигијену и технологију меса, Београд, вол. 38, бр. 2-3, стр. 99-104.
3. Ђоровић М.Т., Милановић М., Симић Ј., Лазић В.М. (2005): *„Специфични аспекти истраживања тржишта хране“*, часопис Маркетинг, вол. 36, бр. 2, стр. 73-80.
4. *Нацрт Националног програма пољопривреде Србије 2009-2011.*, Влада РС - Министарство пољопривреде, шумарства и водопривреде, март, 2009. година.
5. Петровић М.М. (2005): *„Livestock production in Serbia on its way to EU“,* journal Biotechnology in Animal Husbandry, Institute for Animal Husbandry, Belgrade-Zemun, vol. 21, no. 5-6, pp. 1-8.
6. Ransom E. (2008): *„Mapping the Global Meat Industry: Identifying Key Actors in the Livestock Industry“ ,* paper presented at the annual meeting of the Rural Sociological Society, Manchester, New Hampshire, Jul 28.
7. Шарчевић Д., Јаничић Р., Турубатовић Л. (2009): *„Значај корпоративне друштвене одговорности у индустрији меса“*, Међународно 55. саветовање индустрије меса *„Meat and meat products - Safety, Quality and New Technologies“*, 15-17.06., Тара.
8. http://www.fao.org
9. http://www.market-srbija.com
10. http://www.meatprocess.com
11. http://www.pks.rs
12. http://www.stat.gov.rs
13. http://www.sustainablemeatindustry.org