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Original Contribution

INTEGRATION PROCESSES IN BULGARIAN ANIMAL HUSBANDRY

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ABSTRACT

The analyses of animal production situation in Bulgaria in the period following 1990 were done. The indices of these analyses included the following: capacity, structure of animal husbandry and the EU requirements for developing the industry. In addition, the role of the State and NGOs was studied within the context of economic integration in the production, purchase, processing and implementation of animal products. Special attention was paid to the relationship between science and animal production in Bulgaria. Integration processes were studied in the chronological order of the established connections between feed production and animal production, integration in the production and processing of milk, meat, and wool. A suitable example for well-developed vertical integration connections was the good poultry-farming practice in Bulgaria. To a large extent the financial and institutional aspects of integration processes in animal production outline the possibilities and perspectives for developing this branch in the period prior to Bulgaria's accession to the European Union.

Key words: Animal Science, Integration Processes, Production and Processing Industry, Institutional Aspects, Financial Aspects

INTRODUCTION

The main purpose of this report was to analyze the reasons and outline the directions for further development of Bulgarian animal production to meet the requirements necessary for future integration of the republic of Bulgaria with EU countries.

The analysis of the results showed that the transition to a market economy has been slow, difficult and attended by mistakes. Fragmentation of the land and liquidation of consolidated stock-breeding farms and complexes had lead to disintegration of animal production, to purchasing and processing of the products both on the horizontal and vertical as well as to the abrupt reduction in the volume and quality of the produce. This then calls for a discussion of ideas for establishing a new structure and integration system in the production and processing of animal products with a view to making them meet present world trends.

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ANALYSIS OF THE STATE OF ANIMAL PRODUCTION DURING 1990-2003

Agrarian industry is a strategic sector in the economy of the Republic of Bulgaria. Ensuring the food balance of the country primarily with meat products was a task of major importance of state policy at this stage. Our country has a significant natural resource, the effective use of which was necessary to produce such products. That is particularly important in view of the agricultural discussion with the European Union part of which demanded a stable, predictable and to a large extent self-sufficient agrarian production.

The concept of the free market was applied at the beginning of the Transition Period as an amendment to the central planning and economy (1990-1994). The state has almost entirely withdrawn itself from its roles and responsibilities in agriculture giving economic freedom to business circles to solve their problems by themselves. This radical change occurred much too early at a time the objective conditions necessary to apply the market economy in the sphere of agrarian production was still lacking. For example, there were still situations of disintegrated equipment and structure, lack of export, partial privatization and indiscriminate restructuring of production structures. It turned out that the national production complex was unprepared and incapable of facing that challenge. This period has to be analysed and evaluated in detail because the most severe damage on Bulgarian agriculture happened at that time.

It is evident from the records in **Table 1** that during this period the number of animals of all species decreased by half. The decrease by species is as follows: cattle – 52.4%, sheep – 53.7%, pigs – 52.2%, poultry – 49.9%, bee hives – 45%. The decrease in the number of key animals is also evident, although the percentage is a little lower, which for cows was 32.1%, for ewes 43.3% and for sows 48%. The reduction in the number of animals has led to a decrease in production growth for animal products.

Table 1. Number of farm animals on January 1 (x1000)

Types of animals	1990	1994	Decrease in times to 1990	1997	2001	Decrease in times to 1990
Cattle	1575 617	750 419	2.1 1.47	582 358	634 419	2.48 1.47
Buffalos, incl. Buffalo-cows	23 11	17 10	1.35 1.1	11 7	8 5	2.87 2.2
Pigs, incl. sows	4331 381	2071 198	2.09 1.92	1500 157	1144 137	3.78 2.78
Sheep, incl. ewes	8130 5007	3763 2839	2.16 1.76	3020 2000	2286 1758	3.55 2.84
Poultry	36338	18211	1.98	16227	14991	2.42
Beehives	615	338	1.81	226	349.5	1.76

From the data in **Table 2** it is evident that during this period the milk was reduced by 40.5%, meat by 40%, wool by 58.6%, eggs by 26.6%, honey by 64.5% and cocoons by 80.2%. The internal market was significantly narrowed, and the livestock products sector decreased abruptly. Yet again Bulgaria lost exceptionally important and traditional markets.

Table 2. Animal Products

	1990	1994	1997	2001
Meat /animals sold to slaughterhouses and slaughtered in farms, carcass weight/ thousand tons	1272	512	512	494
Milk – million liters	2385	1420	1436	1655
Unwashed wool –thousand tons	27.8	11.6	7.4	7.4
Eggs – million numbers	2460	1751	1734	1489
Honey – tons	10550	3749	5008	5337
Cocoons - tons	1290	255	150	46

The data given expressively shows that the transition from central planning to a market economy was slow, difficult and attended by gross mistakes that are difficult to explain. This has led to fragmentation of the land, to liquidation of the main means for production created by the state at the cost of a lot of efforts and capital. It has led also to disintegration of production, to purchasing and processing on the horizontal, as well as on the vertical resulting in the abrupt decrease of the volume of agrarian production. In addition, it has led to reduction in the quality and standard of life for the majority of Bulgarian citizens. Yet again our country lost important and traditional markets, which had a crucial impact on the Bulgarian economy.

CAPACITY AND STRUCTURE OF ANIMAL PRODUCTION

Integration of animal production is unimaginable in the absence of being concentrated and specialized. As we have already pointed out the result from the random liquidation and disintegration in agrarian production abruptly reduced the size of areas and the number of animals in the farms. According to data from the Bulgarian Ministry of Agriculture and Forestry (Agrarian Report, 2002) there are 764 000 farms belonging to physical persons in the country, the average farmland used being 12 dka. The farmland used by agricultural cooperatives is on average 6000 dka. Only 3% of all farms raise more than 10 cows, which stands for 19.6% of the total number of cows in the country. About 85% of the farms raise 1-2 cows each.

According to information from ANDA /1995/ in France (the country with the best developed agricultural production and export in Europe, second in the world after the USA) the average size of a farm is 320 dka. Farms over 500 dka constitute 59% and there is a marked tendency towards large-scale agriculture. Of all the available land only 12% is not used for agriculture (lakes, marshes, mountains, towns and villages).

According to data from Kildsen /1995/ farms in Denmark are also family farms, their average size being 380 dka. A typical Danish farmer has on average 60 milk cows or 100 sows. The average milk-yield per cow is 7300 liters for lactation; each sow produces an average of 21 piglets and the average yield of cereals is 510 kg/dka. All farmers belong to professional farm organizations.

Milk production in Denmark and France is defined by means of individual quota for every farmer. Together with the quota there is an operating system for a minimal purchase price.

The first step in building the production structure of animal husbandry and establishing a complete integration system is increasing the size of the farms.

A research conducted by experts in stock-breeding and economic analysis carried out by agrarian economists showed that it is not economically rewarding to invest in farms with a capacity that falls short of 20 cows and buffalo-cows, 50 sheep and goats, 20 sows, 100 hogs, 5000 hen-fowls, 10 000 broiler chickens, 50 doe-rabbits. Data showed that these were the minimum approximate numbers meeting professional stockbreeding and relying on family business. This is the minimum we consider to be the basis for defining the criteria for crediting and subsidizing of our stockbreeding.

The second important issue that is connected with achieving the belated transition from central planning to a market economy is setting up the structure of stock-breeding production. This extremely important issue can be considered from several aspects.

Structure of the species and the breed

There are conditions and possibilities in our country for breeding all types of animals that have traditionally been bred on the Balkan peninsular, namely, cattle, buffalos, sheep, goats, horses, donkeys, pigs, poultry and rabbits. Very important and significant to the Bulgarian stockbreeding practice and economy are apiculture, sericulture and game breeding. Aqua production is popular not only in our country but worldwide as well.

Panayotova *et al*. /2002/ believe that the main direction in future should be intensive breeding of cattle, i.e. not so much to increase their number as to increase their average output. The milk-yield of a cow should increase from 3200 kg to 4080 kg.

Aleksiev et al. /2002/ propose a programme for increasing the number of buffalos and estimate that by 2006 their number will have increased to 18 000, and buffalo-cows will count 11 500. They will be kept particularly for milk production from the new Bulgarian breed “Bulgarian Murra”.

Panayotov et al.. propose immediate and specific measures to be adopted in order to revitalize Bulgarian stockbreeding. The authors suggest boosting the establishment of large-scale farms, for the purpose of which under programmes for agricultural activities financial stimuli and alleviations are granted to farmers who raise over 50 sheep or goats. The specialized milk-yielding breeds will have the biggest share in sheep-breeding (about 60%).

Kaitazov et al.. consider that by 2006 egg and poultry production will have increased by 16%, the consumption of eggs by 16% and the consumption of chicken by 10%.

The data presented shows that the possibilities and prerequisites necessary to raising animals from all the enumerated and traditional species are at hand. The gene fund required for the quick reorganization of Bulgarian stockbreeding is available.

EU REQUIREMENTS FOR THE DEVELOPMENTS IN VIEW OF THE FORTHCOMING INTEGRATION

Bulgaria was invited to open negotiations with the European Union (EU) on 10th December 1999. Under cover of Ordinance No.3 of the Council of Ministers dated 20th January for coordinating preparatory actions for accession to the European Union and for conducting the negotiations Bulgaria established its **structures for negotiations** which started work in February, 2000. Similarly the Ordinance provided for the establishment of a Council of Ministers of a Council on European Integration. All relevant ministers are Members of the **Council on European integration**. A **Coordination Council for**

Preparing the Republic of Bulgaria for Accession to the EU was established to the Council for European integration. The Ministries represented in the coordination council, established **specialized units for European integration**.

Based on the invitation for membership and the responsibilities ensuing thereby in the field of agriculture, our country has formally stated its position for negotiations on Chapter 7 “Agriculture” at the beginning of July 2001 and it was recorded as a document at the intergovernmental conference in Brussels on 6th July 2001.

Chapter 7 “Agriculture”, being one of the negotiation chapters for membership in the EU, is based on the decrees of the Contract for establishing the European Community, which provide for the **Common Agricultural Policy (CAP)**.

Chapter 7 “Agriculture” is the most voluminous one, because the legislation in this field covers about 50% of the overall EU legislation. Chapter “Agriculture” consists of two independent parts that pertain to different parts of EU legislation, but are unified under their relation to agriculture.

One of these parts of EU legislation is the one which provides for the **Common Agricultural Policy /CAP/**. This part of the legislation regularizes the mechanisms controlling marketing of different agricultural products, the schedules for boosting the incomes of growers, the development of rural areas and their funding.

The other part of EU agrarian legislation is related to the functioning of a united internal EU market. It aims at protecting the consumers from the whole Community and ensuring the safety of foods.

Bulgaria’s position on chapter “Agriculture”, concerning stock-breeding is classified mainly in three directions:

- **Establishing of an Integrated System for Allocation and Control (ISAC).**
  Within this system Bulgaria is in the process of identifying the animals and the stock-breeding sites. An Accounting System of the farms will be introduced subsequent to the completion of the thorough agricultural census in 2003.
- **Trade Mechanisms.**
  A licensing system which does not require licenses in the import or export of farm animals and animal products from Bulgaria. By the end of 2005 a mechanism for allocation of export subsidies will be introduced in the export of that type of product. By the end of 2006 full compliance will be achieved in relation to customs legislation and the required administrative bodies for its application will be established.
- **Quality Policy.**
  By the end of 2004 a specialized body for issuing certificates on the specific nature of animal products and foods shall be established to the Ministry of Agriculture and Forestry. By the end of 2005 compulsory marketing standards for the quality of animal products shall be introduced and so shall be standards for payment of export subsidies in the export of quality non-processed and processed animal goods.
- **Biological Stock-breeding.**
  In 2001 an Ordinance was introduced which provides for the biological approach to raise animals and produce animal products and foods with animal origin. The requirements for the biological approach to raise animals and the biological production of animal products were introduced under cover of this ordinance.
- **State Subventions**
  Governmental support of stock-breeding is accomplished on the basis of the Law on supporting growers. By 2005 a Reimbursement Agency and an Intervention Agency shall be established in line with EU law. Bulgaria shall adhere to the regulation of the EU with regard to governmental support. Nevertheless Bulgaria will insist that the contracts between “Agriculture” State Fund and growers, concluded prior to accession continue to be in force.
- **Common Organization of the Market (COM).**
  In compliance with the requirements of the EU there are or are about to be established administrative structures for application of COM – the Ministry of Agriculture and Forestry (MAF), as an institution responsible for the governmental policy in the field of agriculture as well as in rural regions. MAF controls the administrative bodies who implement this policy, issues ordinances and statements to provide for the primary legislation in this field.
  By the end of 2005 to ensure all reimbursements under COM will establish the Reimbursement Agency to “Agriculture” State Fund.
- **Common Organization of the Market by products.**

Milk and Dairy Products

Setting up a milk board is envisaged in the sector. Its purpose will be to allocate and control the quotas for the production of milk and dairy products as well as to monitor the milk market in the country.

Meat

MAF has elaborated a programme for developing stock-breeding in 2001-2006. It envisages stabilizing of the cattle sector, increasing the share of breeds for meat and incorporating of the small farms. In view of the future application of direct payments amendments and additions to be adopted in 2003 are envisaged in the Law on supporting growers for beef and veal. The future Reimbursement and Intervention Agencies will apply the market mechanisms in the sector. The Republic of Bulgaria wishes to be granted rights for obtaining premiums.

ESSENCE OF THE ECONOMIC INTEGRATION IN THE AGRARIAN SECTOR

There aren't any economic conditions and administrative preconditions for a genuine capital integration of growers and the processing industry. This very important element in the development of the common economic policy of the state towards stock-breeding and agro industry has always been underestimated and wrongly directed /Stankov et al. 2002/.

Integration of the agrarian sector is evident in specific forms of subordination and coordination of the activity of farm subjects in a quest for effective alternative options with limited production resources, the purpose being to obtain economic profit.

The development of integration relations in the agrarian field is established as an objective process, regardless whether they cover horizontally intra-branch proportions and ratios or consecutive stages of the inter-branch reproduction chain on the vertical – supply with production factors, production, purchase, processing and trade.

The state of production in our country calls for the conclusion that there is a necessity for horizontal integration of separate production subjects. In order that the desired integration relations are accomplished, greater professional training and production culture are needed, which for the time being are predominantly lacking. **Horizontal integration is possible with farmers only – professionals and specialized cooperative farms of a new West European type.**

STATE AND DEVELOPMENT OF VERTICAL INTEGRATIONS

The organizational structure in the country that has been established for the last 10-12 years, namely the great number of small individual farms and production cooperative farms, /Trendafilov et al., 2002/ is an objective precondition for development of integration relations. This necessity is clearly marked with the small farm subjects who rely on mutual support.

Integration in the form of trade associations still has limited application, but in the future it is possible to find a wider application. Horizontal as well as vertical integration can be carried out in the guise of these associations and companies, by means of establishing specilised or integrated trade associations – agro companies, limited and non-limited liability companies, joint stock companies, holdings, etc.

INTEGRATION BETWEEN COMPOUND FEED INDUSTRY AND ANIMAL PRODUCTION

Integration between compound feed industry and stock-breeding belongs to the so called vertical integration. The process first began in the USA and has been significantly accelerated since 1960. Today the main production of eggs, chicken and pork in the USA is carried out in integrated, under a different form, companies. Integration in the production of compound feed and animal products is accomplished in other countries as well but to a smaller degree than in the USA. In Europe this integration covers very small percentage of the total production in both fields.

In our country in 1970-1990 about 170 feed departments were established to Argagian Production Complexes (APC), producing compound feeds or total mixed rations for ruminating animals for their own purposes. Thirty of the feed departments to APC were big companies with silos for storing grain and equipment that would allow the direct production of compound feeds or the use of protein concentrates. Subsequent to privatization processes in 1990-2000 most of these units initiated the production of compound feeds for the purposes of sales and trade. Consequently integration was destroyed.

INTEGRATION BETWEEN PRODUCTION AND PROCESSING OF MILK

Since the liquidation of large dairy farms at the beginning of the 90s, two types of milk production sectors have gradually emerged: open and closed. The open to the market produces milk part of which is offered freely to the milk processors, while the rest of it is intended for the so-called direct consumption. The closed milk production sector is thoroughly integrated with the milk-processing sector and together they form the so-called “closed production cycle”.

Reference prices of end products shall account for a series of circumstances, including:

- A mechanism will be formed in fixing the reference purchase price of crude milk. Later reference price will be dropped and a market price will be established. Quality mechanism will also be included in forming the price of milk;
- Small dairies with old equipment will not be able to keep up to the higher prices of quality types of milk and will drop out of the production competition;
- Small farmers who work with no technological equipment will not be able to make their produce compliant to the quality requirements for the milk and will also have to quit the market game;
- Reference prices of end products will force the player from the sales sector to reduce their ‘marge, which means that there will be less compression on the market.
- All sectors in the integration structure of milk production constitute communicating vessels and any change in the levels of one sector will bring about a respective disruption in the leveling of the other sectors. It is evident that now there is a marked discrepancy between the economic levels of the milk processing and trade sectors and the production sector – hence all the problems that shatter the production of milk in the country. There is need for a leveling that will place all constituent elements of the integration structure in a state of standard market relations, so that the steadfast development of the system as a whole is ensured.

INTEGRATION BETWEEN PRODUCTION AND PROCESSING MEAT

The high veterinary supervision and hygiene requirements of the EU to our meat production and meat processing enterprises called for reshaping of the existing companies and investing considerable sums for improving the technological conditions. On the part of MAF over 22 ordinances were issued under the Law on veterinary practice, sanitizing of farms and meat processing enterprises.

Due to market stagnation of meat and meat products, the low purchasing power of the population, etc., part of the companies found themselves incapable of reconstructing and modernizing the existing meat production companies.

A large number of slaughter houses are expected close by the end of 2003. The Association of Meat Manufacturers in Bulgaria (AMB) believe that the country needs at least four export slaughter houses and four export meat processing companies with industrial structures, as per the requirements of the EU. Capacity of meat processors operating on shifts has to be not less than 40-60 tons. All the necessary hygiene conditions in slaughtering the animals, the initial processing of the carcasses and the production of meat products, suitable for export in EU countries shall be created.

INTEGRATION IN POULTRY PRODUCTION

During the transition period to a market economy, the necessary equipment for poultry-farming was in practice entirely preserved, which preconditions a more favourable development in view of its concentration, specialization, and vertical production integration. Regardless of the fact that for the time being hardly 50% of the necessary equipment in the poultry-farming is used, its having been kept intact places poultry-farming in far more favourble conditions in comparison to other sub-branches in stock-breeding, including with respect to its concentration, specialization and vertical integration.

In the conditions of the current state and development of the market economy and the relations between market subjects, highly concentrated and vertically integrated companies for production and processing of poultry are more efficient and enduring. The more the market economy and the whole array of conditions are perfected, the more will the share of highly specialized poultry-farming companies grow and so will the need for their functional vertical integration.

FINANCIAL ASPECTS OF INTEGRATION OF ANIMAL PRODUCTION

The development of stock-breeding, respectively encouraging the consolidation of stock-breeding farms and integration processes presupposes adequate governmental and corporate financial policy.

Undoubtedly for the past 12 years of transition our stock-breeding production has undergone one of the most profound and lasting crisis in its development.

Among the most characteristic signs of the decline and stagnation of stock-breeding is the aggravating process of large-scale, permanent de-capitalization of the main economic subjects in the field of agriculture.

The absence of the required conditions for generating adequate incomes and fiscal accumulations for reinvestment is the main cause for the exceptional fragmentation of stock-breeding and the underdevelopment of integration processes.

The reasons for the present state of stockbreeding are complex, but the one that stands out among them as of extreme significance is the lack of consistent, (price, credit, tax, etc) long-term state policy.

PRE-ACCESSION ASPECTS IN THE COMMON AGRICULTURAL POLICY OF THE EUROPEAN UNION

The pre-accession period poses additional, very important problems to our financial policy and in general to governmental support for the agrarian sector, in part stock-breeding.

The “SAPARD” programme was created by the European Union to support the countries applying for membership in their preparation in the field of agriculture for the period 2000-2006.

Although there has been a delay of one year, with effect from 2001, the funds envisaged under the programme began to be effectively used for financing of specific projects on the following targets of the programme:

- Investment in farms;
- Improving, processing and marketing of farm and fish products;
- Developing and diversifying of economic activities, granting possibilities for multilateral activities and alternative incomes.

Funding of projects on other targets of the programme is forthcoming:

- Establishing of organizations of producers;
- Markets of the producers and market places for fruit, vegetables, flowers and fish;
- Sylviculture, forestation of arable lands, investment into forestry enterprises, processing and marketing of forest products;
- Reviving and developing of villages, preserving and protecting of rural heritage and cultural traditions;
- Developing and improving of transport infrastructure;
- Improving professional training.

The implementation of the programme is co-financed from the State Budget of the republic of Bulgaria at the amount of 25% of the total public subsidy.

Within the preliminary agreements under the “SAPARD” programme the funds allocated by the European Union to finance projects amount to 53 000 Euro annually. The programme will run for the period 2000-2006. During this period 371 000 Euro from the EU and 121 000 Euro national resource from the state budget are expected to be spent.

From the very beginning of 2003 a complex financial programme is necessary to be developed and applied to support stock-breeding production until our accession to the EU (i.e. the pre-accession period) as well as in the 5-6-year period after our integration in the EU.

FINANCIAL ASPECTS OF HORIZONTAL AND VERTICAL INTEGRATION RELATIONS

- Capital integration of growers and using the possibilities of corporate capital to establish joint cooperative enterprises.
- Initiating economic conditions and administrative prerequisites for capital integration of growers with local and regional processing companies.
- Allocating bigger financial resource from the state budget for the integration impact on stock-breeding production and expanding the state regulatory roles in the activity of “Agriculture” State Fund. Crediting and subsidizing several fixed stock-breeding programmes with a marked national significance.

The due introduction of state regulatory (interventional) roles in the activity of "Agriculture" State Fund is of utmost necessity. If the interventional impact is to be effective, it is necessary for a 5-6 fold bigger financial resource to be allocated from the state budget.

Updating the requirements for applying for preference investment as well as for capital and non-capital subsidies via specialized programmes (mainly the "SAPARD" programme and the recently introduced local programmes of "Agriculture" State Fund). A programme for alternative farming in the Rhodopes as well as a programme for northeast Bulgaria is of utmost necessity.

This is called for by the incapability of ordinary growers to meet the provisions and the high requirements for participation in the programmes and most of all the lack of legally operating accessible resources (bank, fund, guarantee schemes and others for financing business projects).

CONCLUSION

The most essential conclusion that we have to draw is that for Eurointegration to become a fact, first and foremost we have to establish our Bulgarian integration relations or accomplish our Bulgarian integration. Then we will have the real chance not only to correlate but also to feel Europeans.

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