

COMPARING BULGARIAN AND NORWEGIAN AGRICULTURE WITH EMPHASIS ON EXPERIENCE'S LESSONS

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Abstract

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In the article is given a short review of Norwegian agriculture via presentation of its most distinguishable characteristics relating to use of main productivity factors in agriculture, structural development and some economic results in the sector as a whole. The factors affecting the sector are analysed and special attention is paid to state agricultural policy being an example of national responsibility regarding an important part of the country's economy. The problems in agriculture are shortly described and the perspectives of its development are discussed on the background of some challenges facing agricultural science and practices as a whole.

Key words: Bulgarian. Norwegian, agriculture, comparisons, perspectives

Introduction

The purpose of the study has been to figure out how countries like Norway, having only 3.2 percent of the territory as used agricultural area, organize their agriculture in an effective way with respect to farmer's activities and strong government protection of and support for the sector's development. Another aim of the work has been to examine how interactions among the following groups: farmers, agricultural scientists, government, and institutions affect the Norwegian society as a whole. Last but not least, the article provides a possibility for its authors to present their views regarding perspectives and challenges facing not only Bulgarian but also Norwegian agriculture as well as European and world development of the

sector, having perhaps the closest relation with human survival.

The article is a part of the project "Sustainable development of mountain agriculture in times of economic and ecological crises; from Norwegian experience to Bulgarian strategies". The work has been financed by the EEA and Norway Grants Program of the European Economic Area (EEA), established to reduce social and economic disparities across Europe, via mediation with the Bulgarian Ministry of Education, Youth and Science. The project was executed at the Norwegian Agricultural Economics Research Institute (NILF) during May, 2010.

As a part of project, the article is an expression of conviction by its authors that one of the ways to improve results from agricultural activities and put

them onto the way of efficiency and sustainability is by investigation of Agro-Food System models elsewhere and implementation of their experience in the national sector's policies with emphasis on local specifics and priorities.

Main Text's Exposition

Since more than 20 years after the fall of communism, Bulgarian agriculture continues its restructuring and modernization process. On the background of these historical traditions, as well as Bulgarian agro-climatic conditions, and the country's rich nature of resources, Bulgarians more or less successfully continuous to search for strategies to improve efficiency and sustainability of its agriculture. It is helped by Bulgarian state efforts and in recent years also by instruments of Common Agricultural Policy (CAP) of the European Union (EU). But the trying structural changes are not obviously a patent of a future Bulgarian farming system. During the transition, staying ahead of contemporary challenges and threats, one another agricultural sector, Norwegian, focus efforts of civil and scientific societies in its stream to reorganize and adapt itself to the coming changes.

By the way, an example of a well working mechanism, illustrating these collaborative efforts in Norway, is the collaboration among the Norwegian Institute of Agricultural Economics Research (NILF), the Royal Ministry of Agriculture and Food (LMD), the two farmer's organizations and some key farmers in the country. NILF is financed by the LMD, the Norwegian Research Council (NFR) and by assignments from public and private clients. One main task is to document some of the basic economic results of the sector, in particular the farm account statistics similar to the FADN statistics of the EU. Besides NILF acts as Secretariat for Budget Committee for Agriculture (BFJ) and publishes annual account statistics on aggregate agricultural production in Norway. By doing research and analyses of agricultural policy, food industry, commodity trade, economic analy-

sis, farm management and rural development, the scientific capacity of NILF is one of the key factors for documenting agricultural development of Norway and a comparison could be of interests to Bulgarian experts and institutions involved in the sector. The reference period of the study covers the last decade of development of agriculture in both countries.

The total agricultural area in Norway is only 3.2% of country's territory and the agricultural area can be characterized as scattered and on small units which could be a sign of a less effective farming system. But they are not. To these negatives, due to topography, could be added some factors limiting production in particular length of the vegetation period and the temperature regime as well as the climate as a whole, determining and limiting growing of many important crops. Despite of that, the Norwegians do not let pass the positive role of the climate for stopping of the spread of many diseases and pest on plants (e.g. the Colorado beetle). Under these rough conditions the growing of fodder crops is the only alternative in many parts of Norway so that it can easily be derived that grass-based livestock production is the core of Norwegian agriculture engaging presumably most of the peoples? in the sector i.e. farmers, scientists, politicians and in general all decision-makers. According to the Budget Committee for Agriculture (2007) the total agricultural area was 1 037 100 ha in 2006 out of which 172 800 ha were natural and surface only cultivated grassland and about 860 000 were arable land. The arable land is distributed among main crop as follows: cereals and oilseed: 325 900 ha; potatoes: 14 000 ha; root crops and green fodder: 14 800 ha; other and fallow crops: 19 700 ha, and cultivated grassland: 489 900 ha. As for comparison, having 3 057 740 ha arable land in Bulgaria (59.8% of all agricultural area of the country), for the same year there are five times less natural and surface cultivated areas and there are the same area five times more than Norway's natural and non-cultivated meadows and pastures. It reveals a lot about the state of ruminant

husbandry in Bulgaria as well as about the culture regarding use and management of these areas.

In general, during the last years a slight decrease of land use is observed in Norway, mainly for cultivation of cereals and grain-cereals crops while on the other hand the areas of cultivated grasslands has increased. Probably, the most reliable explanation that could be given for the registered increased use of arable land for cultivated grasslands is the 1989 implementation of the farm's acreage's and animal subsidies in Norway. Apart from increase of profitability via replacement of arable lands by cultivated grasslands, this direct support scheme acts as a stimulus for farmers to declare the full size of their grassland's areas used as well as to keep the landscape unaffected and attractive for tourism. Thus the state policy for direct support to a sector such as agriculture affects the deployment to other sectors and practically to a large degree prevents appearance of abandoned lands. The abandoned land in Bulgaria in 2007 constituted 4.9 percent of country's territory and ... percent of the agricultural area. One only can hope that the CAP's instruments and not the national priority such as in Norway's example, of direct payments per hectare and for grasslands management in Bulgaria will achieve the intended effects obtained in Norway since more than twenty years ago.

The grain production, as a dominating plant crop sub branch, predominates in the lowlands in East and central Norway. However, its geographic distribution does not have only climatic and topography causes. The role for "channeling" cereals to the mentioned areas is due to the prevailing agricultural policy of the country since the end of 1950s. Thus beside of the best conditions for cereals, these areas allow relatively easy access to the non-farm employment for producers of low-profitable grains. And the opposite: more labour intensive but more profitable roughage-based livestock production has been channeled to the areas with poor conditions for growing cereals and less good opportunities for off-farms employment. This is the second example of the sector's policy

affecting economic, social, and ecologic and even the anthropologic profile of the Norwegian society, which multiplicities effects are of benefit for various social stratum.

The yields for all main crops in Norway are lower than in most European countries, which is a logical consequence of the climatic conditions. However, during the last decade it can be observed a tendency of stabilization e.g. the wheat yield is approximately 4.50 tons per hectare. It will be relevant to remark that in reading Bulgarian statistic data regarding the annual average yield of wheat for the last production year, we can observe the figure of 4.17 tons per hectare. Giving to the 2007/2008 a positive assessment according to climate conditions, Bulgarians might well ask for how long 4.17 t/ha will be counted as "high average yield" if for the Norwegian statistics underlines yield of 4.50 t/ha as unsatisfactory and low, but it is a subject of another discussion. The main factors determining the positive stability of the yields obtained are improved plant varieties, well-adapted to Norwegian climatic conditions, increased use of mineral fertilizers, and improved methods of production. And it is also logical that behind these successes of agriculture a staying Norwegian agricultural science has been acknowledged as a key development factor for agriculture since many years ago, and having all recognition and success of the society. What might raise questions of the development, and needs to be addressed in the future, is the occurrence of fungi in Norwegian produced grains, particularly in some wet years, a problem that well may increase if global warming continues.

The review of the livestock of Norway underlines that the main farm animal products are milk, meat, eggs and wool as well as furs and honey. According to cattle breeding it has to be mentioned that the number of dairy cows has been declining steadily and from 318 000 in 2000, the cow's population in 2006 is 266 000. This is due to a decline of milk consumption while at the same time the milk yields have increased. The

milk yield increased steadily from around 2500 l/cow in 1959 to 5800 l/cow in the early 1990s. This level remained stable in the 1990s but from 2002 it started to increase again. In 2006 the average milk yield per cow was 6264 l and the increase could be explained by quota sales and the establishment of joint dairy farm operations which enabled the profitable utilization of cow's production potential. The average dairy herd size had increased from 11.7 cows in 1989 to 13.8 in 1999. By 2006 it had increased to 17.6. In a European context, Norway dairy herds are small and this fact affect the competitiveness of the industry which could explain aspiration of some farmers for scale-up of the farm's and herd's sizes. There is the same trend in Bulgaria too due to the similar main reasons related to farm's activities optimization. But for Norway it is questionable whether the profits from volume and milk production's intensification ever will be competitive to these in the neighbour countries. It can be noted that there are currently more dairy farms in Norway than in Sweden and Denmark together due to considerable larger dairy herds in those countries. In addition we have the question of a possible coming abolition of the milk quota system. May be the niche for dairy milk sector in the country must be searched in organic production conducted on small farms and helped by state so that saving of the Norway customs of the people and traditions. Another niche might be special mountain dairy products not produced in nearby Sweden and Denmark.

These questions are also to a great extent also related to the Bulgarian milk sector. Norwegian farmers have to orient themselves speedily because the organic production's niche is almost occupied by the countries having developed practices in this way of activities like Denmark, Netherlands and Sweden. As much as Bulgaria is concerned, the regulation not allowing direct sales from the farm which is one of the possibilities especially for predominated structures in our agriculture – small and middle size cattle farms are still to be expected. Direct sale of milk is also not allowed

in Norway, the farmer may however take out milk for own family from the milk tank.

As a whole, the countries cattle population remained stable at approximately one million animals: 920000 for 2006. The pig population varies considerably from year to year but have more or less been between 500 000 – 600 000 in the 80s and 90s. Concerning pig and cattle overproduction in the late 1990s, it is interesting to mention the different instruments implemented for market regulation, such as rewarding the slaughtering of young animals. The goat population has shown annual variations but there has been a general downward trend for the past years. The milk yields of dairy goats have increased so goat milk production is stable. In 2001 the Goat Health Services of Norway initiated a program to sanitize for caprine arthritis encephalitis (CAE), Para tuberculosis (Johne's disease) and caseous lymphadenitis (CLA) in dairy goat herds ("Healthier goats"). The program which is still running seems to give substantial increase in milk yields. It is financed by the government and aims to remove these diseases completely from the country by 2013-15.

The sheep population in Norway increased significantly from 1975 to 1996 the profit of sheep farms was relatively good. In 2006 there were 8% fewer sheep than in 2003 in spite of the fact that it is easier to combine sheep production with off-farm employment than many other forms of livestock farming. The alarm that sheep husbandry is going to loose its place in the traditional set of specializations of Norway's livestock due to more and more spread opinion about the need of stronger state support of sheep farming ensuring its survival as a farming activity as well as for traditions. Moreover the free grazing in outfield areas, in particular by sheep, is gradually threatened by more and more protected predators; there are five of them in the country: brown bears, wolves, wolverines, lynx, and golden eagles. The brown bears and wolves were almost completely eradicated from Norway, but are now being reintroduced, particularly in border areas with Sweden. Sheep losses to preda-

tors are considerable, the compensation payments amounted to ca NOK 75 millions (<http://dnweb10.dirnat.no/Rovforum/ErstSok.aspx>) in 2009¹. Still the system leaves to farmers to document the cause of losses which is difficult and causing a lot of frustration for the sheep industry.

The next characteristic of Norwegian agriculture is connected with the productivity of labour and its use in agriculture. As a non-member of EU, Norway measures the labour inputs by so-called man-years which are about the same as annual working units (AWU) unified for statistic use in EC. The hours equal to work by a person employed on a full-time basis during a year. During the reference period there was a decrease in agricultural labour input from 81 600 AWU in 1999 to 62 980 AWU in 2006 (-22.8%), which was not followed by a similar decline in working hours inputs on the farms. On average the work load per holding was 2266 hours in 2006 compared to 2161 hours per holding in 1999, i.e. + 4.9%. As a trend, intensity of labour input, measured as men-years per holding, in Norwegian agriculture decreased from close to 3000 h 1960 to under 2000 h in 1990 but has increased ever since to 2266 M-Y/Holding in 2006. The main reason for the continued decline of the total farm labour input is the continuous reduction of farms number.

In spite of the decline in total farm labour input the use of agricultural land remains relatively stable in the country. The land on the inactive farms is very often let out to the active ones allowing them to grow. On an average 38 percent of the area is hired (112 out of 296 decares) on farms in the farm account statistics. Farmers are sometimes required by the local government to let out their land in case it is not used. Young farmers taking over farms have a mandatory period to farm or let out the land for at least five years and to live at the farm for that time as a minimum. Farmers hiring the land may sometimes need a 10 years contract to ensure they have land in case of investments in buildings are needed. The government is con-

sidering making ten years contracts mandatory, however for some situations (vegetables) that is not so practical due to rotation needs

The combination of farming and other occupation is another long-lasting tradition in Norway and off-farms income plays an increasingly vital role in Norwegian farm households. For illustration, from 50336 operating farms in 2005 38% has less than 10% of their income from farming. The part of farmers forming their household income mainly of agriculture; (over the 90% of net income) is 18%. Different kinds of combinations have developed in different parts of the country. Around Oslo and Trondheim farmers has converted the farm to grain, mainly barley and oats, which is combined with wage earning in central areas. In these areas there are good opportunities for other work and often both the farmer and the spouse have another job. Farm businesses or other businesses for one or both of them are also common. In more rural or mountain areas this combination is common for sheep farmers mainly, and sometimes only for one of the two as employment opportunities outside the farm are not so good. Traditionally there used to be a combination between agricultural livestock farming and forestry in south eastern Norway and fishing along the coast. However, that has declined due to more use of entrepreneurs in forestry, whereas larger modern fishing vessels have replaced smaller 2-3 person fishing boats. Despite of a dominating trend of extra occupation of farmers facilitated by a stable developing economy during the last several years, when questioned about their work the farmers having off-farm activities answer that they are proud of being farmers. The prestige of farmer's occupation in the Viking country is especially high and in Norway as everywhere in old Europe despite of the sex, at least one of the farmer's inheritors has traditionally gone to the agricultural school to be educated and to pick up farm's traditions. However, as the number of farms decline fewer agronomists will ever become professional farmers. As for comparison the big

¹Another 57 million for reindeer losses <http://www.rovviltportalen.no/content.ap?thisId=500039476>

decline of labour input in farming observed in Bulgaria during the recent years are due mainly, besides of reduced farm and size number, to the bad prestige of the occupation in the country: farming and agricultural activities in Bulgaria is still low paid and low socially valued work.

Despite of decrease of farm number in Norway during the last years mentioned above, their farmland is constantly increasing. From 95 080 in 1990, the number of agricultural holdings in 2005 were 50 336 and particularly since 1999 the decline has continued at a high rate. As the amount of farmland is constantly increasing the average farm size that was 14.7 ha in 1999 became 20 ha in 2006. It has also been discovered that the decline of farm numbers accelerates when there are high economical growth and plenty of alternative employment opportunities in the country. In many ways growth in size of farmland per farm through voluntarily letting out the land seems to have worked better in Norway than enforced structural changes in Bulgaria. This process is perhaps on its way in Bulgaria after EU membership in 2007 following the rules and subsidies of the Program for Development of Rural Areas (PDRA). What might delay the development might well be demand for labour by other sectors of the economy.

Another important structural development in Norwegian agriculture is the substantial decline in the number of livestock farms as the trend is a concentration of livestock production in fewer farms without any decrease in the production volume. A decline from 55 308 livestock farms in 1999 to 34 566 in 2007 means a decrease of 37.5% during the recent only eight years, which is more than the declining number of farms in the same period. The observed concentration and specialization of plant and livestock farming in Norway could be explained with contemporary economic, politic and market adjustments by farm management and agriculture and the flexible adaptation to the changing external conditions as well as by the technological development observed.

Another aspect of the development that has

initiated a discussion in the country is the question of red or white meat. As white meat from pork or poultry is produced on concentrated feeds it is dependent on grain production and use of imported feedstuffs, particularly soybeans. Red meat may be produced on grass and other roughages and on pasture which takes place in rural area. In recent years white meat consumption especially poultry has increased while red meat production has been stable. Meat consumption is determined by consumers but influenced by agricultural policies. The proponents of red meat maintains that we are left with a system where local resources of grass and pasture are being replaced with production on imported fertilizers and concentrates leaving few production opportunities for sheep and cattle producers in rural or mountainous areas. Besides also sheep and cattle is more and more based on concentrate rather than locally produced feed from grass and pasture.

The third but not least in importance productive factor, the farmer's capital is formed in general by loans and by saving. For Norwegian agriculture, sheep and cereals farmers have relatively few liabilities in relation to their assets. Breakdown of farm assets depends mainly on farm type: grain growing farms have little or no livestock assets whereas stocks in store on these farms (fertilizers, seeds, grain etc.) represent a large share of the capital when compared to typical livestock farms having higher capital liquidity. In this respect Norwegian livestock farmers (apart from the sheep farms) have some advantages compared to plant growing farms so that pure types of plant profile almost do not exist and they are turned into the mixed plant-animal breeding farms aiming to decrease the risks level of capital resources used. The development of the capital depends on investments and the figures for Norwegian agriculture as a whole gross investment and depreciation (excluding livestock) are since 1980s. There are the same trends as for Bulgarian agriculture related to capital and investments during the last years. According to loan's recourse's access of Norwegian

farmers, the bank market is extremely open and competitive in spite of the relatively high interest rates. Besides the land is also not preferred mean of guaranty as in Bulgaria.

The EEA and current WTO agreements both influence the national agricultural policies of Norway and they through trade policies (import protection), and regulations of inner support and export subsidies. In spite of that the establishment of a political framework for the benefit of agriculture and consumers is much in the hands of national policy makers. Consequently many people consider uncertainties related to farm policy as the main and only risk factor in Norwegian agriculture. In general, there are two types of support for Norwegian farmers: market price support (tariff based import regulations), and budget support (direct allocation via the national budget). The WTO agreement allows three schemes of support depending on how product specific and how strongly they stimulate production: green, amber and blue. Green is non-products-specific scheme, and amber support is a product specific one. Blue scheme has an intermediate place due to certain production limitations. To a great extent the ceiling has been set by the amount of amber support which limits the freedom of Norwegian politicians to carry out a national farm policy. Determine the support level allowed the WTO calculates AMD (Aggregate Measurement of Support) for all kinds of support. According to the OECD Norway has one of the highest levels of support for agriculture in the world in line with that of Japan and Switzerland. The OECD method of estimation of agricultural support in national economies of its member states is called PSE (Producer Subsidy Estimate) and it indicate the relative share of subsidies in the total production value. The other support measures are in relation to social and welfare programs in agriculture. Another side of the farm economy is determined by the agricultural product costs formed by the general price level, the public farm policies and the natural conditions for farming. Agricultural policy in Norway since

the 1990s has aimed at reducing the level of costs in agriculture in order to contribute to reducing consumer prices and the level of public support. The main tools used to achieve this goal is reducing grain prices thus enabling a drop in feed concentrate prices and thereby reducing prices for animal products. The prices of concentrated food are the only ones that can be controlled via the agricultural negotiations and a reduction thus result in an immediate cost effect. Other costs (also affecting farm's structure?) can be influenced by regulating the agricultural policy framework e.g. decreased farm commodity prices. Total agricultural costs for 2006, as calculated by the Budget Committee for agriculture, amount to NOK 20.3 billion, and representing an increase of 2.9% from 2005. The biggest share in cost structure is purchased feed (23.8), depreciation (28.3) and "other costs" (18.1). It follows silage additives, packaging, freight costs, veterinary expenses and insurance. The structure of Bulgarian total agricultural costs is: 28.6% for forages expenses; 20.1 for fuels; 10.6% for services and 7.3% for seeds. This structure is relatively stable excluding the fuel's part which has increased due to the crescent oil prices.

The financial results of Norwegian agriculture at the national level are based on the Economic Accounts for Agriculture. This statistics is computed by NILF annually by collecting farm accounts for up to 1 000 farms each year, and similar to the FADN statistics of the EU. The farms are grouped into several farm types depending on production system. The results are focused on farmer's return to labour and own capital per man-year. Thus the agricultural sector can be compared to income development of other economic groups of economy. The agricultural income per man-year increased by 7.3 percent from 1996 to 2006, according to the statistics. In the same period, the yearly wages for industrial workers, paid by hour, increased by 46.2 %. Return to labour and own capital is defined as farm income minus all costs except the cost of hired labour. From 1996 to 2006, in most years return to labour and own capital were the

highest for combined grain and pork producers, followed by combined dairy and beef farming. Dairy and beef production are less affected by yield fluctuations than the combined grain and pig farming, and the price variations are also rather small. Average labour input varies considerably between the different farm types. Combined dairy and beef farming has the highest labour input, with about 1.8 man-years (at 1845 hours per man-year). Labour inputs for other productions are 1.6 man-years for combined grain and pig farming, 1.2 for sheep farming, and 0.5 for cereal farming (monoculture).

Net farm income is what is left to cover family labour input and interest on farm assets. The level of net income from agriculture depends on the production's volume and profitability. During the past decade, net income in dairy production has been quite stable. It is clearly shown that the combined cereal and pig farming gives the highest rate of return, and also that profitability is poorest in sheep farming. The statistics also computes net family income in total for the family, taking into account all sources of income for the family. In 2005 net family income on dairy and sheep farms were NOK 483000 and NOK 491300 respectively. Net income on cereal farms is NOK 657700 – slightly higher than on combined cereal and pig farms having on average net income of NOK 642200. Total net income fluctuates significantly from year to year, but there seems to be an increasing trend towards the latter years. However, agriculture's share of the family's total net income has clearly declined in the statistics. For 2005 approximately only 16 and 18 percent of total family income of grain and sheep farms is derived from agriculture while about 29 and 34% of the farm's total income is related to the farms' total recourses, including i.e. forestry and farm businesses. For families on sheep and monoculture grain farms non-farm employment is the main source of income. On the combined dairy and beef farms and combined grain and pig farms 49 and 55% respectively of the total income is derived from agriculture. On these farm

types, 57 and 62% respectively the total income is related to the farms' total resources.

Last but not least it must be emphasized that for many years Norwegian farm policies have aimed at levelling out regional income differences. The results in 2005 of the farm incomes of several dairy farms with 12-18 cows in seven Norwegian regions showed that profitability (measured as ability to pay) is highest in the lowlands of eastern Norway, followed by other areas in central Norway. Thus one still has an unsolved problem with income distribution and levelling among different geographic areas of the country leading to some social and anthropology problems still existing.

Discussing too is the problem related to predomination in Norway of grocery trade compared to food retail chains which make some pressure for standardization of products marketing and affecting farmer's incomes too. The internationalization of the food market is another factor which will increase its influence on the incomes of farmers as well as consolidated international food retail and food processing industry against which the individual Norwegian market players will not be competitive as well. It is the place to be mentioned that the interest rate (currently high) and the labour market are the second important factors affecting agriculture. In Norway where the most farmers don't have agricultural activity as the only occupation the labour market influence their capability to find off-farm employment and to provide farm labour as well. The most important factor is the price of the farm work (wages) and the supply of farm labour force: depends on whether farmers decide to employ someone, to do the work themselves or to increase the level of mechanization as a way of solving these problems.

Another one is augmentation of foreign workers in the sector who in the past only were occupied in fruit and vegetable growing and currently in livestock breeding as well. Technological factors are affecting the sector too because implementation of new technologies is a matter of labour safety up as well as of capital investments. But much

technological implementation depends on farm volume and specialization as a general existing lack of labour power in all sectors will put agriculture in a strong competition and it may assume that Norwegian agriculture will have hard times to find sufficient workers for farm activities. The question of more use of foreign workforce must be raised. In this stage of view some specialists consider that the question of use of foreign labour power has to be reconsidered and carefully regulated because of raising importance of their impact to the Norwegian society as a whole.

And finally to finish our characteristics of Norwegian agriculture about gross annual output some words about gross annual value of sector's production. Calculated according to the principles of the national Norwegian accounts the output of agriculture and forestry has been slightly above NOK 30 billion per year during the past few years whereas the value of inputs has been slightly more than NOK 15 billion. The corresponding annual gross product of agriculture and forestry was thus NOK 15-16 billion of which slightly less than NOK 5 billion was generated by forestry. For comparative purpose the value of gross production of Bulgarian agriculture (by basic prices and including all subsidies) for 2008 is 8 738 100 BGL. It represents an increase of about 34.7% compared to 2007. Let us hope that it is beginning of one positive trend in the development of Bulgarian agriculture which will lead us (speedily and closely) to that organizational status, efficient resource management and financial results of Norwegian agriculture just presented in brief.

Conclusion

After the short review of Norwegian agriculture did and mainly after numerous of discussions with different specialists involved into the sector it could be stated that the more important challenges which will facing Norway's agriculture in a longer term are related to increasing internationalization and competition rate of the sector as well as its

development growth connected to the ecologic and economic conditions existing. Beside of the external environment, putting certain limits on their agricultural development, Norway's authorities and institutions are convinced that they have to continue to support the sector against increasing external competition and the support must become larger and variable on the basis of negotiations with Norwegian key farmers and organisations. Another main challenge the Norwegians see is a transformation of subsidies to green support (non-product) without affect on localization and scope of productive and hi-technological capacity of the sector obtained. In an on-going process is the establishment of a national strategy planning development of rural agro business and administrating special support directed to rural areas resources for liquidation of still existing regional economic, social and cultural inequalities in the country.

Importance of the question about restructuring of dairy cows, sheep and goats sector as well as the questions about use or non-use of grazing regarding to land use and landscape management still will staying. It is waited that intensification of operation in dairy enterprises by use of flock's yield potential, buildings and technological innovations will raise questions about concentrate feeding and their source, about conventional and organic way of production.

Internationalization and globalization of agricultural markets and policies may be will impose necessarily of new negotiations about WTO limitations ahead Norwegian agriculture and national policy makers shall find comprehensive approach to a broad scope of agricultural policy areas as well. There are and some other challenges related to climatic changes coming according which may be Norway will benefit from them even these hypothesis are still not too brave.

At last I would like to finish with conviction that there are too so many lessons for Bulgaria concerning the way of Norwegian organization, management and support targeted to agriculture, related to national agricultural policy and institu-

tional structure of the sector as well as related to collaboration among all involved in its development players. In general, the future of Bulgarian agriculture is a big challenge and the main key is in both of them: farmers and agricultural authorities.

During the long transitional period Bulgarian agriculture was experimental field for different economic policy instruments and in spite of declarations of all kinds of political parties that agriculture is priority sector for them the results shows something else especially on the background of self appearance comparison to the just presented Norway agriculture. On the ground of Norway's agrarian policy even only marked in this article it is evidence that the Bulgarian agricultural policy is not so clear differentiated part of common economic policy of the country and its mechanisms are still under development.

The farm's modernization; the establishment of some working, effective and profitable cooperation or consolidation of land and capital use; opened access to the investment sources and tools for sector's bank guarantee; transformation to the organic farming, diversification of rural activities, contemporary land use and landscape management, education and extension services for farmers providing, increasing of administrative capacity of the sector, development and implementation of new technologies and recreation of the science - practice relationship....there are only a small

number of numerous challenges facing Bulgarian agriculture. The rest are connected to the EU membership agreements and obligations gained which must study to respect; to the procedures for adoption of European funds for sector development which have to learn to understand and execute according to transparency and lack of corruption needed. Last but one of the major challenge which we are obliged to meet and turn into our advantage is that to turn back the taste of our food, to rebuild and save our production and market traditions in the sector having for Bulgarians since the ages not only part of country economy but fate and livelihood. And as I still believe – FUTURE.

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