

Ph.D. Dissertation

**Structural changes in the agriculture of the South Great
Plain since the change of regime
(procedures and possibilities)**

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I. The justification and the actuality of the chosen subject-matter

The years following the regime change has put the Hungarian agricultural industry into a completely new situation. From the years of planned economy and through the years of mixed economy, we have arrived into the era of market economy. There have been changes in the ownership relations and in the estate structure while the mass agricultural industry system has broke into pieces. The incomes have substantially decreased in value. The number of employed in the agricultural industry has also significantly decreased. It became more and more harder to make the living from the agricultural industry. The profitability of the agricultural industry has decreased and the marketing of the goods became harder, inland and abroad as well. The consumption of the domestic agricultural goods has decreased with the liberalisation of the foreign trade. The former markets of the East European countries have crumbled and Hungary's trade relations became mostly Western oriented. The vigorous market competition ment a huge obstacle in the sales of Hungarian agricultural goods on Western markets. The sales of agricultural goods became very unpredictable. The EU accession has obliged the Hungarian agricultural industry to meet new conditions and standars. The quality standars have increased for the Hungarian agricultural goods while the possibilities to close the gap between us and the modern and developed EU countries and the subsidization in the transitional period have not changed at all. This has put the Hungarian agricultural industry into a deep crisis. Some of these troubles could be backtracked to the inadequate structures of the Hungarian agricultural industry.

This is my reason for choosing the theme of the alteration of structural changes in agriculture of the South Great Plain since the change of regime. This dissertation is written in the form of comperative examination.

II. The aims of the research and the applied methods

The agricultural and the food industry has played a major role in our national economy in the last centuries and in the last decades. During the years of planned economy and forced industrialisation the role of the agricultural industry has significantly decreased compared with the years before 1938. This decline has happened beside a dynamic development and growth. The mass agricultural industry systems restructuring in 1961 has produced great results. Durings the mid 80s the Hungarian agricultural industry was front ranked in many indicators despite that there have been many unfinished tasks in the fields of annual yields, production costs and structures, adaptation of market economy standards and in the creation of concordance between the vertical elements of the food industry. We can conclude that there have been a dynamic development and growth in the

agricultural industry until the mid 80s which was followed by tensions and some unbalanced developments.

The changes after the regime change has further decayed the agricultural industries position. The production has decreased, the composition of some species has become more composite, the production structures became more irrational, the annual yields have decreased in many case and there were huge marketing troubles. The profitability has decreased in the whole agricultural industry and some activities have become uneconomic.

In my view, the building of appropriate structures has to play the central role between the above mentioned problems. Although the agricultural structure is inadequate in the whole country, in this dissertation I will examine only the region of the South Great Plain. I do this because I live in this region, I know this region more than the others and the agricultural industry plays a more significant role in this region compared with the other regions of the country. During my examination of the South Great Plain I will compare the results of my analysis with the whole countries situation to enable me to valuate this theme in more complex way.

In this dissertation I will examine the **structural changes** in the agricultural industry of the South Great Plain after the regime change and compare it with the whole countries results. One can think that after the regime change the market economy through its regulatory force brought a more rational structure into the place. The practise contradicts that. During this examination I will try to determine the course of the changes in the South Great Plain region, its extent, quality and compare it with the whole countries results, emphasizing the desired ones and the possibilities.

I have applied many **methods** of the geography in this disseration. During my examination I start from one particular case and go to the genaral ones using inductive method – examinig the sectors, branches, the land development branches, the plant and animal species role and its changes. On the other hand I start from the general and go to the particular by examining how the problems of the whole national economy surface in the region. In this examination I use the statistical methods of the geography, partition and dynamic ratio, standard deviation, average values and trends. The received results are presented by illustrations.

In my expectation this disseration will help me to determine the distinctiveness of the structural changes happened in the agricultural industry of the South Great Plain since the regime change, (contrary to the changes happened in the countries other regions) its direction and scale, to point out the desired changes, unavailed reserves, to draw up a more complying agricultural structure to the market economy, to present the food industry branches with the necessary alterations for the future development, to provide a more vital role for the agriculture in our national economy and in the development of the region to enable its employed to make a decent living from it.

III. Scientific results

1. Allocation system structures after the regime change, in the years of the mid 90s the South Great Plain could be characterized as a region where less joint enterprises have operated than it had been the average of the other regions of the country. Later, in the year of 2004 the percentage of private farms was still higher than it was in the other regions of the country. This difference was 5 and 6 % in 1995 and 5.3% in 2004 compared with the average of the other regions of the country. This means that in any given time the private farms formed a majority in the regions agricultural industry compared with the average of the other regions of the country. This is the main reason and indicator for the diversified agricultural production in the region.

The situation within the region can be described as heterogeneous. The number of private enterprises is the highest in Csongrád County, followed by Békés County and Bács-Kiskun County. This was the order in 1995 and in 2004 as well. By 2004 there had been a decrease by few percentile in the number of private enterprises in Békés County and in Csongrád County while in Bács-Kiskun County the number of private enterprises has increased. This way the difference has decreased between the three counties of the region. In 1995 the regions percentage was 81.4% and by 2004 it has decreased to 79.3%.

2. The proportion of the main agricultural branches has significantly decreased in the years after the regime change. It has decreased up to the level of the 70s. Crop farming has become again the major agricultural activity in the region which has started a harmful process. Our capabilities would demand the major role for the animal husbandry within the agricultural industry. The more animals could provide more organic ordure which is relevant for the soilpower preservation. Furthermore, the fluid pig and cattle addle could be used as a bioenergy nowadays. It is also important to emphasize the problems of the liquidation of the cereals. It is more useful if these cereals are given to the animals, this way it means an added value and it also provides the nations economy with addition advantages.

Unfortunately in the South Great Plain region the pig and poultry stocks have decreased the most, much more then in other regions of the country. These two kinds of species are the biggest consumers of the cereals which are mostly produced in the region. This means that the harmony of crop production and animal husbandry has significantly decayed in the region, more than in other regions of the country. At the same time the region cannot cope with the excess of the produced crops. The experts nowadays say that the best way is to export it under the skin of the animals because this means an added value. Unfortunately our region does not follow this recommendation.

3. Analysing the land development in the region we can conclude that the percentage of ploughlands, grapes, lawns, fishponds and farmlands are much higher in the South Great Plain region than in other regions of the country.

Instead of the years of 1989/1990 I choose the year of 1986 for the base

year of my examination of the land development's structural changes after the regime change. I think this is reasonable because some tensions and disproportions have showed up in the agricultural industry in the years of 1985 and 1986. This means that the changes slowly started to take place in those years. I have compared the cultivation method symmetry of the South Great Plain with the country's average indicators from 1986 to 2005. In many case the indicators are almost exactly the same. This is the result in the case of ploughlands, lawns, farmlands, forests and also with land which was not under crop.

In the case of kitchen gardens the situation is very variable in the South Great Plain and also in the whole country. After 1991 there was a significant decrease in their numbers which was followed by slow nationwide increase from the year of 1993. This increase in the South Great Plain region happened only five years later and from the year 2000 it is the same in the region as in the other regions of the country.

In the case of grape production and orchards there is a much larger decrease in the South Great Plain region then in the other regions of the country. The size of the reedy area is also very variable in the South Great Plain region. Untill 1993 it was the same as in the other regions of the country and then there was a huge increase. Nowadays it is almost the same as it is in the other regions in the country.

Summarizing the changes which took place after the regime change in the South Great Plain region we can conclude the followings.

The growth of afforestation in the region is above the nationwide indicators and still in steady rise.

The decrease in grape production is in accordance with the EU expectations and goes faster then in the other regions of the country.

It would be desired to have an increase in the number of orchards in the region. It is still under the nationwide indicators. (The differences in the climate and soil capabilities could lead to significant territorial differences within the region.)

In case of ploughlands the indicators show the same decrease in the region as in the other regions of the country. There have not been structural changes in regard to produced crops which could make the agricultural industry more profitable, more competitive on the world market and which could help to solve our nationwide problems (for example: shortage of energy sources).

4. The following changes have taken place in the South Great Plain region in the crop productions:

The **wheat** production have not decreased in the region. Due to the changes in the production area and in the yields there have been some weaker years (1992, 1993 and 1999). About 1. 6 million ton is produced in the region (2004) which is the same as it was in the years before the regime change. In the year of 2004 the production in the region is more by 2.36 then in 1999, the nationwide indicators show that in year 1988 the production was more by 2.64 than in 1999.

These indicators show that the nationwide production indicators are more variable than the ones in the South Great Plain region.

The overproduction is still present in the region and even nowadays in the year of 2006 we have some wheat from 2002 in our containers. This leads back to the regions traditions and also to the adherence to the old structures. It is also important that wheat production is mostly mechanized, so it does not need much living labour. It is also important to emphasize that the farmers do not want to change easily to other crops. They do not know other crops well and do not want to take risks. We have to mention here that there is not much help for them. No one really help them with information what else would be more profitable to produce.

In the case of **rye** production we can see that it is the some nowadays then it was before the regime change.

There was a decrease in the crop yields of **barley** production between 1986 and 2004. The years of 1987, 1993, 1996, 200 and 2003 were the rock bottom of barley production. The least production of barley was in 1987 (124 944 ton) and in 2003 (151 351 ton). The year of 2004 was a bumper crop in barley production.

Corn production plays a major role in the South Great Plain region. The crop yield in the region is almost the same as it is in the other regions of the country. The average crop yield in the South Great Plain region was 1 510 619 ton between 1986 and 1990 and 1 343 404 ton between 1990 and 2004. These indicators show that there were almost no changes in corn production in the region. We have to take into the account that the EU corn intervention will cease from the year of 2007.

Sugar beet production is also almost the same as in the other regions of the country. There is a huge decrease in the production of sugar beet. In the years of 1986-1990 the annual yield was 1059.7 ton while between 2000 and 2004 it was only 442.1 ton. This decrease shown that there is almost no future for sugar beet production in the region. The sugar-beet factories in Sarkad, Mezőhegyes and Kaba are all closed. There are only 4 sugar-beet factories operating in the country and their production costs are much higher the world market price. This means that the sugar beet production will further decrease in the region and we have to find an answer how to use the freed soil the most profitably.

Sunflower production is in rise in the region. The rise from 2000 to 2004 is the following:

Area:	Annual growth:
Bács-Kiskun County	12530
Békés County	27701
Csongrád County	82735
Dél-Alföld	48497
Hungary	175500

The sunflower production rose in all three counties of the South Great Plain region. The most in Békés County, the production has doubled there (it was 64 022 ton in 1986 and 138 592 ton in 2004).

Potato production is also almost the same in the region for the last 19 years.

5. Grape production plays a major role in the region. The regions production gives 29.6 % of the nations production. There is a huge variation in the yearly production of grapes in the region. The wine produced in the region is hardly marketable and the EU also stimulates the producers to decrease their grape productions.

Fruit-growing is also important for the region. Peach production is significant in Domaszék and Szatymaz area, apricot production in Kecskemét area and apple is grown almost everywhere in the region. There is a slow decrease in fruit-growing since the mid 1980. The weakest years were 1992, 1995, 1999 and 2002.

6. Looking at the structural changes happened since the regime change in the South Great Plain region we can conclude the following:

The animal husbandry has decreased in the region. The pig and poultry stocks have decreased the most. This brought a disharmony to the two major branches of the agricultural industry.

Forestry in the region looks like it is in the other regions of the country. The South Great Plain region has 12,3 % forest.

The first illustration shows the changes from 1986 to 2005. There is a decrease in the area of kitchen gardens and grape fields while forestry, reed, fishponds and the uncultivated areas have increased. There is a decrease in wheat, rye and sugar-beet production while barley, corn, sunflower and potato production increased in the region.

The second illustration shows the changes in the nationwide indicators.

The comparative examination shows the following results:

- There are only two positive changes in the region:

- growth in afforestation
- growth in the number of fishponds .

- The wheat, corn and sunflower production took up 61.8% of the agricultural are in 1986. Nowadays it is 65.8%.

- The production of other crops have not changed a lot in the region. The production structure was very immobile and **the desired diversification did not happen at all**. Our containers still have some of the wheat produced in 2002.

- The sugar-beet production has decreased a lot in the region. More than in any other region of the country.

- The production of barley has increased by 54% and the potato production also increased by 48% in the region. These show higher indicators by 15% and 19% then the nationwide average.

- The animal husbandry has decreased regionally and nationwide as well. The cattle population has decreased by 57% in the region. This is better by 2% than the nationwide average. The sheep population also decreased by 31% in the region.

7. The agricultural problems and the possibilities of structural changes of the South Great Plain region are the same in many ways to the whole country's. There are still some which differ a lot.

These are the following:

- Fragmented soil ownership and the question of leasehold. Landconcentration is the way for development.
- It is impossible to develop in isolation and without trust. It would be desired to join into some cooperations.
- The production structure has to be more flexible in order to meet the needs of the domestic and foreign markets. The produced products have to be marketable and profitable as well.
- We have to find the possibilities for sales on the EU market.
- We have to go back to the old eastern markets to sell our products.
- We have to put quality first.
- We have to take advantage of the demand for the **bioproducts**.
- We have to **increase** our livestock numbers by raising more pigs, sheep, poultry, cattle and horse. We have to take into the account the fat-meat percentage as well. Farmers have to be stimulated to raise more of 'mangalica' pigs and gray longhorn cattles.
- The raise of livestock numbers will help to ease the overproduction of crops.
- The produced dung and addle could be used as an energy source.
- We have to decrease the numbers of the hardly saleable crops.
- Afforestation has to be continued.

8. The South Great Plain regions agricultural structure possibilities are huge. The regions unused reserves are the biggest in the country. The structural change in the region almost did not happen since the change of regime. The regions structure did not adjust itself to the domestic and foreign market changes. The old production structure has petrified in the region. There is almost no flexibility and readiness for innovation.

In my opinion this could be backtracked to the lack of information, concept, readiness for innovation, low venturing appetite and low risk taking will of the farmers.

We cannot refer to the problem that we do not have enough skilled experts in the agricultural industry. We have some high level schools, many students and experts but still many of them do not participate in the most important trainings. This kind of information shortage prevents the development a lot. Nowadays only well informed professionals can make adequate decisions, change production structures, write winning applications, increase profitability and compete with others.

What are the new utilization possibilities?

There is a good opportunity for **bioproduction** in the region. Unfortunately this has no traditions in our region. There will be an increasing need

for bioproducts in the domestic and foreign markets in the near future.

Due to the natural resources and traditions in the region vegetable and fruit production will go on. Only the easily transportable and high quality products will be marketable on the foreign markets. If necessary we have to change over to other breeds without hesitation. We need to provide exigent packing and storage facilities to increase the competitiveness of our products.

We have to take care about the **herb** production in the region. The available workforce and the experience could bring great results to the region.

According to the EU specification there is also a great possibility for the utilization of the revolving bioenergy sources. Biomass, plant based fuel and biofuel are particularly important. The production of the previously mentioned goods could completely change the agricultural structure of the South Great Plain region. The biomass production can help to overcome the nowadays crisis in the regions agricultural industry. It could give a chance to the regions entrepreneurs to change their positions to a better one.

It also helps, that the best bio propellants are produced on large areas in the region.

The substances of the bio-propellants

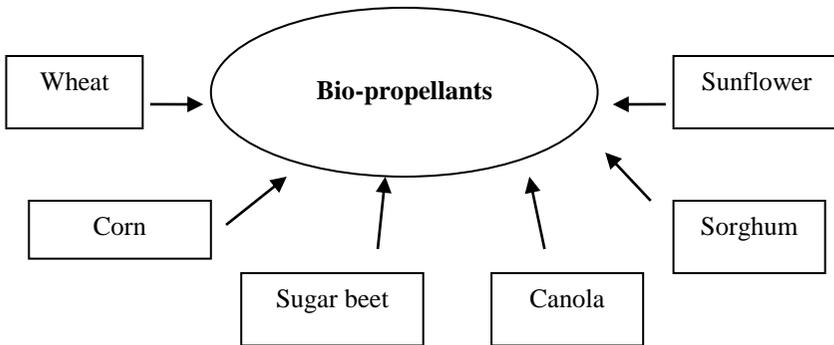


Illustration No. 3
Author: Levente Komarek

The establishment of biogas and bioetanol factories is in far-gone stage in the region (Illustration No. 4). Unfortunately it looks like that the South Great Plain region has already fallen behind the other regions of the country in this competition and the leaders do not know how to make the best use the territorial diversification. It would be great to have a well organised and optimally aligned areastructure worked out for this matter.

Planned biogas and bioethanol factories in the South Great Plain region (2006)

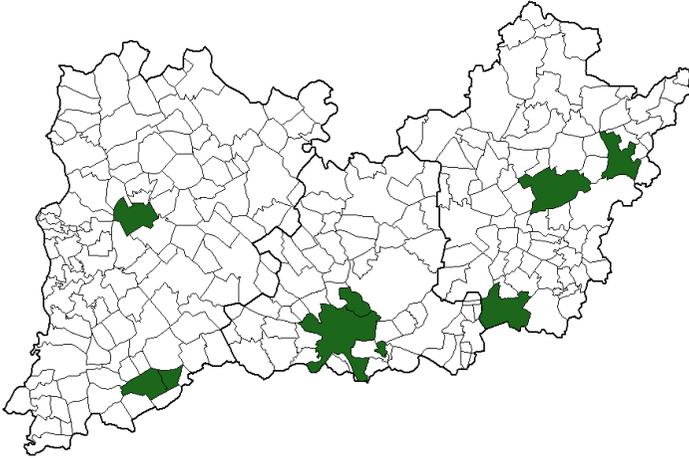


Illustration No. 4
Source: Authors research

Author: Levente Komarek

Planned biogas and bioethanol factories in the South Great Plain region (2006)

Chart No. 1

County (Settlement)	Factory, performance
Bács-Kiskun County	
Bácsalmás	Biogas-bioethanol factory
Bácsszöllős	Biogas-bioethanol factory, 0,5 – 2 MW
Kiskőrös	Biogas-bioethanol-burning factory, 5 – 8 MW
Békés County	
Békéscsaba	Biogas burning factory
Mezőhegyes	Bioethanol-biogas factory, 5 – 8 MW
Sarkad	Bioethanol-biogas factory, 3,8 MW
Csongrád County	
Algyó	Bioethanol-biogas factory, 5 MW
Klárafalva	Biogas factory, 0,5 MW
Szeged	Bioethanol-biogas factory

Source: Authors research

In this dissertation I have touched upon the regions positive changes in the forestry many times. There are plenty of reserves in Békés and Csongrád County for further afforestation. It would be great to go ahead with the afforestation of the uncropped land in the region and primarily in these two counties.

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