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Editors' welcome

Welcome to numbers 3 and 4 of the 5th volume of Applied Studies in Agribusiness and Commerce (APSTRAC). This Official Periodical of the International MBA Network in Agribusiness and Commerce (AGRIMBA) has been established to provide an opportunity for publication of reviewed papers presenting original research findings, techniques and comments dealing with all aspects of the agribusiness and commerce. Subjects considered appropriate for publication in the APSTRAC include scientific papers, PhD and MBA dissertation summaries, MBA international news, interim reports of AGRIMBA and reviews. The APSTRAC provides timely communication of results of basic and applied research, as well as reviews and syntheses of information, principles, conclusions, and interpretations on key issues of agribusiness and commerce. It encourages publication of reports and summaries on the findings and conclusions of PHD and MBA studies conducted by students of International MBA Network.

In this number selected papers the International Tourism- and Sport Management Conference are also presented. Conference was organized by the University of Debrecen Faculty for Applied Economics and Rural Development joined by other educational institutions, businesses and institutions with touristic and sport services. The conference was held on 27–28th May, 2010 in Debrecen. Experts from Hungary, other EU countries, but even from South-Africa, Thailand were representing themselves. The main reason for the event was the fact that new trends are emerging in the field of Sport and –Tourism service sectors. Environmental awareness and behaviour of tourists is getting more significant considering decision making on travel. With parallel of that, health and sport tourism sectors are in focus.

One of the major topic at the conference was the economic aspects of sport services, which provides 23 thousand jobs, 350 billion HUF total income in Hungary.

Debrecen, 30th of March 2011.

Editors

ECONOMICS OF GM CROP CULTIVATION

András Nábrádi and József Popp

University of Debrecen, Faculty of Applied Economics and Rural Development

Abstract: Asynchronous approval of new GM crops across international jurisdictions is of growing concern due to its potential impact on global trade. Different countries have different authorisation procedures and, even if regulatory dossiers are submitted at the same time, approval is not given simultaneously (in some cases, delays can even amount to years). For instance, by mid-2009 over 40 transgenic events were approved or close to approval elsewhere but not yet approved – or not even submitted – in the EU. Yet, like some other jurisdictions, the EU also operates a zero-tolerance policy to even the smallest traces of nationally unapproved GM crops (so-called low-level presence). The resultant rejection of agricultural imports has already caused high economic losses and threatens to disrupt global agri-food supply chains. The risk that feed supplies could be affected by a low-level presence of non-EU approved GM material could be resolved if the EU allowed a tolerance for this, rather than operating a strict zero tolerance as now. The Commission has undertaken to come forward with a non-legislative technical solution to address the difficulties created by a strict zero tolerance policy. To what extent this would be helpful will depend on the nature of the proposed solution.

Key words: crop cultivation, GM, supply chain of commodity crops

Introduction

The commercial cultivation of genetically modified (GM) crops began in 1996 and has been continuously expanding ever since, both in industrialised and developing countries. By 2009 it had reached a global area of 134 million hectares, cultivated by 14 million farmers in 25 countries [James, 2010]. However, acceptance of GM crops is very heterogeneous. Public opinion in Europe is mostly seen to be critical (whether because of a lack of perceived personal benefits, ideologically motivated judgements, emotional responses or diffuse mistrust of governments and the media), while most people in the rest of the world are rather indifferent or (if they are farmers) increasingly in favour of GM crops [Brook Lyndhurst, 2009].

Differences also exist regarding both the number of GM crops authorised in different countries and the timing of their authorisation. The major GM crops – soybeans, maize, cotton and rapeseed – are also those crops that are the most heavily traded internationally, providing vital export revenues for many countries and industries but also providing a crucial supply of cheap feed and fibres for many importing countries, including the member states of the European Union (EU). For climatic and agronomic reasons, the EU is unable to produce most of the oilseed meal and other protein-rich feedstuffs required to feed its livestock. In fact, the EU imports about 80% of its protein needs. Protein-rich soybean meal, as well as Corn Gluten Feed (CGF) and Distillers Dried Grain with Solubles (DDGS), are needed by livestock producers in the EU to achieve a balanced diet for their animals, especially as far as protein is concerned. There is no prospect for developing large scale domestic production

of protein rich plants. Even with the increased land sown to oilseeds for biofuels and stepping up production of protein crops such as field peas, field beans and sweet lupins to provide alternatives to soybean, at most they could only replace between 10–20% of EU imports of soybeans and soybean meal. Without an adequate supply of these feed ingredients, the EU's livestock production will lose competitiveness and European livestock producers will lose market share. All EU imports of meat are produced from animals which may legally be fed with GM plants not yet authorised in the EU [EC, 2007].

The supply chain of commodity crops (e.g. soya and maize) is complex. The EU livestock sector uses imported soybean, soybean meal and maize by-products as animal feed. Countries exporting these crops are growing both EU-authorized and non-EU-authorized GM crops, as well as non-GM crops. The EU decision-making regime for GM products is relatively slow in comparison with the rest of the world (asynchronous GM approvals). The supply of non-GM commodity crops is decreasing as a consequence of an increase in the volume of GM crops being grown and the potential for non-EU authorised GM varieties to enter the non-GM supply chain as adventitious presence is becoming greater. Combined with the EU's zero tolerance for unauthorised GM products, this threatens to create a situation where traders are reluctant to import any commodity into the EU (GM or non-GM) that might have a trace level of unapproved GM material. Organic livestock farmers are legally required to use non-GM feed. Brazil has been the main source of non-GM soya, for which a variable price premium has applied over recent years. There is concern within the EU feed and food sectors that it is becoming increasingly difficult

and costly to maintain a non-GM supply chain, and that it may become unsustainable at some point in the future.

1. Global status of commercialised GM crops in 2009

Since 1996, when the first GM soybean was harvested, biotechnology and its adaptations by the food industry have become one of the most controversial and most disputed topics. However, the adoption of GM crops is occurring at a rapid pace. The global area planted to GM crops in 1996 was approximately 1.7 million hectares. GM crop production has increased each year since then, with an estimated 134 million hectares of GM crops planted in 2009. The United States is the leading producer of GM crops accounting for 64 million hectares of the total GM crop area. Brazil is second, producing GM crops on 21.4 million hectares. Argentina had 21.3 million hectares of GMO area in 2009. Brazil displaced Argentina to become the second largest grower of biotech crops in the world (Table 1).

Table 1. Area of GM crops by country (2009)

Country	Area	GM crops
USA	64.0	Soybean, maize, cotton, canola, squash, papaya, alfalfa, sugarbeet
Brazil	21.4	Soybean, maize, cotton
Argentina	21.3	Soybean, maize, cotton
India	8.4	Cotton
Canada	8.2	Canola, maize, soybean, sugarbeet
China	3.7	Cotton, tomato, poplar, papaya, sweet pepper
Paraguay	2.2	Soybean
South Africa	2.1	Maize, soybean, cotton

* 8 biotech mega-countries growing at least 2 million hectares of GM crops
Source: James [2010]

Almost all of the global biotech crop area consists of soybeans, maize, cotton and canola (Figure 1). In 2009, GM soybeans accounted for the largest share (52%), followed by maize (31%), cotton (12%) and canola (5%).

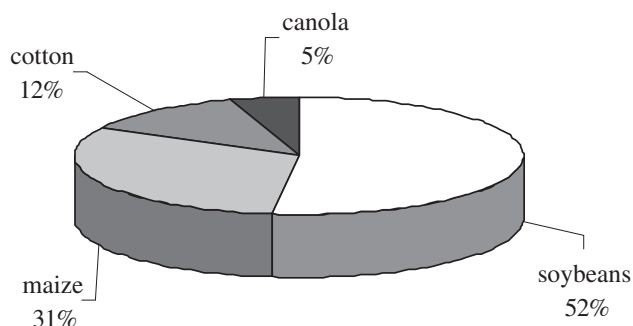


Figure 1. GM crop plantings 2009 by crop

Note: * base area: 133 million hectares; additional GM crop plantings accounted for 1 million hectares
Source: James [2010]

In 2009, GM crops were cultivated on about 14 million farms in 25 countries. The main producers of GM crops are, with the exception of the United States and Canada, all developing countries, i.e., Brazil, Argentina, India, China, Paraguay and South Africa. Developing countries have continued to increase their share of global GM crops by planting 61.5 million hectares, or 46% of the global area of 134 million hectares. In 2009, of the 27 countries in the European Union, six – Spain, Czech Republic, Portugal, Romania, Poland and Slovakia – planted Bt maize on 95 thousand hectares compared with a 2008 total of 108 thousand hectares. The decrease was associated with several factors, including the economic recession, decreased total plantings of hybrid maize and disincentives for some farmers due to onerous reporting of intended plantings of Bt maize.

Despite the severe effects of the 2009 economic recession, record hectares were reported for all four major biotech crops occupying 133 million hectares. For the first time, biotech soybean occupied more than three-quarters of the 90 million hectares of soybean globally, biotech cotton almost half of the 33 million hectares of global cotton, biotech maize over one-quarter of the 158 million hectares of global maize and biotech canola more than one-fifth of the 31 million hectares of global canola. In terms of the share of total global plantings to these four crops, biotech traits accounted for 77% of soybean plantings. For the other three main crops, the biotech shares in 2009 were 49% for cotton, 26% for maize and 21% for canola (Figure 2). In November 2009, China issued biosafety certificates for biotech varieties of rice and corn. As rice is the most important food crop globally, feeding half of humanity, and maize is the most important feed crop in the world, these biosafety clearances can have enormous implications for future biotech crop adoption in China, Asia and the world.

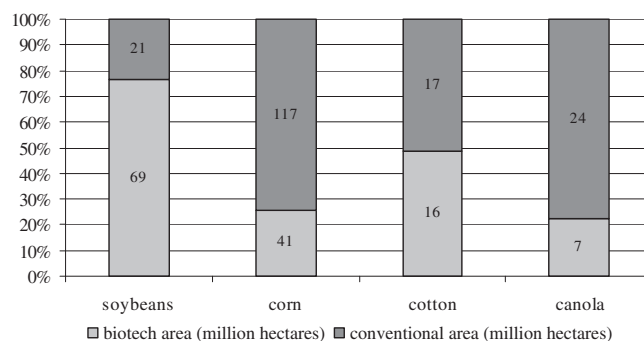


Figure 2. Share of GM crops in global plantings of key crops in 2009*

Note: * base area: 133 million hectares; additional GM crop plantings accounted for 1 million hectares

Source: James [2010]

The percent adoption of biotech crops continued to grow in 2009, for example, for GM maize to 85% in the USA, to 50% in Argentina and to 30% for the summer maize and 53% for the winter maize in Brazil. The adoption rate of GM soybean was 98% in Argentina, 91% in the USA and 71% in Brazil. Percent adoption of GM canola increased to 93% in Canada. The percentage of exports of transgenic soybean

from the USA, Argentina and Brazil is growing from year to year, in proportion to the rate of adoption of GM soybean by farmers in the soybean exporting countries. This means that the animal compound feed industry in the EU is gradually replacing conventional soybean for its GM counterpart, without any serious repercussions in the market. In the USA, the relative share of conventional soybean cultivation amounts to around 9% of the total soy plantings, while in Argentina the comparative figure is around 2% for the past four years. In Brazil there is still room for more transgenic soybean expansion, as the current relation between GM and conventional varieties in production amounts to 29% (Table 2).

Table 2. Adoption rate of GM crops in the leading exporting countries of maize and soybean (2009)

GM crops	Country	Adoption rate (%)
Soybean	USA	91
	Argentina	98
	Brazil	71
Canola	Canada	93
Maize	USA	85
	Argentina	50
	Brazil*	30–53

Notes: * In Brazil the cultivation of GM maize (MON 810, Liberty Link) was approved in February 2008 (adoption rate in 2009: summer: 30%; winter: 53%)

Source: USDA [2010], ISAAA [2010]

The economic benefits of genetically modified (GM) crops are undeniable and with adoption only likely to increase, and the commercial pipeline suggests that product quality traits will be increasingly prominent if seed companies are going to maintain decent margins from the technology. The claim by GM critics that yield increases over conventional varieties are not there, thus undermining their economic benefits, is too simplistic. The economic gains are not necessarily in direct yield gains, they come from easier agronomy, better protection from insects and lower input costs. If you had 30% loss from insects, then you add protection, there is your gain. The economic bottom line is undeniable. The economic gains worldwide split almost equally between developed and developing countries as the latter have caught up in terms of adoption. But there is a significant premium in seed prices too [Brookes and Barfoot, 2010].

2. Effects on the feedstuff market in the EU

Maize and maize-byproduct imports

The United States grows about 40% of the maize world production (around 800 million tonnes a year). Other major maize producing countries include China, the EU, Brazil, Mexico, India and Argentina. The United States is not only the world's top maize producer, but also the top exporter. On

average, about 20 percent of U.S. corn is exported. **The United States, Argentina and Brazil are the the world's three largest maize exporters with above 80% share of world maize trade.** The U.S. share of global maize trade is around 60%, Argentina with a small domestic market is the world's second largest maize exporter. In the last several years, Brazil has targeted the EU's demand for non-genetically modified maize. This marketing situation is assumed to decline as Brazil continues to expand the planting of GM maize varieties (Table 3).

Table 3. Global maize trade

	Million tonnes	
	2009/2010	2010/2011*
Global trade	86.0	88.5
Exporters		
USA	49.5	50.8
Argentina	12.0	13.0
Brazil	7.5	7.0
Ukraine	5.0	5.0
South Africa	2.5	2.5
Importers		
Japan	16.3	16.3
Mexico	8.0	9.1
South Korea	7.8	8.6
Egypt	5.0	5.4
EU-27	2.5	2.5

*Forecast

Source: USDA [2010] és Toepfer International [2010]

In fact, **the EU has not been able to import maize from the United States since 1997** because there has not been a harmonisation of approvals in the EU and the United States. Other countries, primarily Argentina, have provided a substitute for the previous exports from the United States. However, in 2007 there were also substantial problems with the **importation of maize from Argentina** for the starch industry as well as for the feed sector due to a GMO trait (event GA21 or "Herculex") not approved in the EU. Until this trait was approved in 2008 maize could only have been exported from Argentina to the EU if the Argentinean authorities had issued an analysis certificate for each shipment confirming the absence of GA21. This time demand for maize in the EU was concentrated on maize from Brazil, which has intensified the **acceleration in prices on the feedstuff market**. The compound feed producers in the EU had to pay up to 50 €/t more for maize from Brazil.

The EU used to import significant quantities of maize by-products from the USA for use as animal protein feed (CGF and DDGS). However, this trade declined sharply from 2007 because the USA adopted new GM maize crops before they were cleared for EU import. This was the first example of an asynchronous GM approval problem for the EU feed and

livestock industries. The reduced import of US maize by-products has been replaced by the use of other feed materials, at a cost to feed compounders and livestock farmers, especially in the ruminant sector.

Protein feed imports

Many countries with limited opportunity to expand oilseed production, such as China and some countries in South Asia, have invested heavily in crushing capacity in recent years. As a result, import demand for soybean and other oilseeds has grown rapidly. China's expansion of crushing capacity changes the composition of world trade by raising global import demand for soybeans rather than for soybean meal. Argentina, Brazil and the United States account for 90% of world export of soybean and soybean meal.

The **USA, Brazil and Argentina dominate soybean cultivation worldwide accounting for 80 to 85% of global production** (250 million tonnes a year). Other significant producing countries are India, with an output of 7 to 8 million tonnes (3%) and the People's Republic of China with 16 million tonnes (7%) a year. China is not at all of significance as an exporting country; it is instead by far the leading soybean importing country. Imports into China amounted to 46 million tonnes in 2009/10, or 54% of world soybean trade. While China has generally no exports, India exports 3 to 4 million tonnes of soybean meal a year mainly to the Asian region. Thus, **there are no real alternatives to imports from the three large producing countries**. Soybean global trade is about one third of its total production. The **USA, Brazil and Argentina contribute 90% of total world soybean exports**. Besides China and India, all the other soybean and soybean meal producing and exporting countries have for the most part switched the cultivation of soybeans to the GMO varieties (Table 4).

Table 4. Global soybean trade

Million tonnes

	2009/2010	2010/2011*
Global trade	85.4	87.9
Exporters		
USA	39.6	36.7
Brazil	28.4	28.9
Argentina	7.5	12.5
Paraguay	5.4	4.8
Importers		
China	46.0	49.0
EU-27	13.0	12.6
Japan	3.6	3.6
Mexico	3.5	2.5
Taiwan	2.5	2.3

*Forecast

Source: USDA [2010] és Toepfer International [2010]

Soybean meal is the most used vegetable protein feed as an animal feed ingredient. Soybean meal is considered premium to other oilmeals due to its high protein content. **The USA, Brazil, Argentina and India are the world's major producers and exporters of soy meal**. The USA is the biggest producer but Argentina is the leading exporter followed by Brazil and the USA. The United States also has a big domestic demand whereas Argentina has limited local demand. Soybean meal world production was 161.6 million tonnes in 2009/2010. Generally, the United States, Argentina and Brazil contribute 55% of the world soybean meal production, while China imports soybeans from these countries in huge and increasing quantities for crushing. In recent times China has overtaken the U.S. in soybean meal production.

Soybean meal world trade is around 56 million tonnes, which is approximately one third of its total production. **Argentina, Brazil and the USA**, the world's first, second and third largest meal exporters, **account for 85 to 90% of total world soybean meal exports**. Argentina exports around 98% of its soybean meal production. **No real alternatives exist to imports from the three large producing and exporting countries** since South East Asian countries are major markets of Indian soybean meal. India has a freight advantage over American countries for supply to Asia (Table 5).

Table 5. Global soybean meal trade

Million tonnes

	2009/2010	2010/2011*
Global trade	56.0	56.6
Exporters		
Argentina	26.0	29.3
Brazil	12.0	11.8
USA	10.2	8.0
India	2.2	3.1
Importers		
EU-27	22.5	23.5
Vietnam	2.6	2.7
Indonesia	2.5	2.6
Thailand	2.2	2.2
Japan	1.9	1.9
South Korea	1.9	1.9

*Forecast

Source: USDA [2010] és Toepfer International [2010]

EU-27 imports more than 40% of the soybean meal available in world market. Though China is a biggest consumer of soybean meal it does not directly import meal but beans for crushing. EU-27 is the major destination for Argentinian and Brazilian soybean meal. **The EU imports soybeans and soybean meal from the three large soybean producing countries**. Of total imports in 2009 the amount of 12.9 million tonnes of soybeans, 8.9 million

tonnes came from Brazil (69%), 2.2 million tonnes from the USA (17%) and just 0.1 million tonnes from Argentina (1%). The remaining 1.7 million tonnes were imported mainly from other South American countries. Dominating **soybean meal exports** into the EU is Argentina and Brazil. Of total imports of 20.7 million tonnes, 11.2 million tonnes (54%) came from Argentina and 8.7 million tonnes (42%) from Brazil. The USA supplied only 0.3 million tonnes (Table 6).

Table 6. EU-27: Imports of soybeans and soybean meal, by country

Megnevezés	2007 (million tonnes)	2008 (million tonnes)	2009 (million tonnes)	2009 (%)
Soybeans	15.1	14.4	12.9	100
thereof: Brazil	9.5	8.5	8.9	69
USA	3.3	3.7	2.2	17
Argentina	0.3	0.3	0.1	1
Soybean meal	23.6	23.2	20.7	100
thereof: Argentina	14.6	13.2	11.2	54
Brazil	8.5	9.1	8.7	42
USA	0.2	0.5	0.3	1

Source: Eurostat [2010]

The world's largest producer of GM-free soy is still Brazil. In 2009, 29% of Brazilian soybean production in 2009, or 17 million tonnes, was cultivated as GM-free. Of this quantity, 9.4 million tonnes, or 16.3% of the Brazilian soybean harvest, of soybeans certified as GM-free (NON-GMO-Standard) – i.e. with guaranteed traceability with respect to origin and purity – were available. The discrepancy between the quantities of soybean cultivated as GM-free and the quantities of GM-free certified soya is a result of the fact that products that have undergone the certification process are more costly and only if traders are certain that they can pass on the price surcharge to their customers will they subject their harvest to such a process. If there is no specific demand for GM-free soya, then it may simply be mixed with GM soy and sold as genetically modified. How much GM-free soy is actually delivered to the EU depends on local needs, i.e. on European producers of animal feed and food, on food retailers and on demand from farmers and consumers [Céleres, 2008].

Besides grain, **oilmeals** also play an important role for the feedstuff supply. In total, 56 to 58 million tonnes of protein-rich feedstuffs are used in the EU in a marketing year. To a large extent, the oilmeals are not produced in the EU but rather imported from third countries. Of this, soybean meal alone accounts 30 million tonnes, or 53%. Around 21 million tonnes are imported directly as soybean meal, while 13 million tonnes come from the processing of soybeans into soybean meal and soy oil in the EU. The use of rapeseed meal is also expected to increase further from the current 12 million tonnes. In addition, 7 million tonnes of sunflower seed meal is used as feed in the EU (Table 7).

Table 7. EU-27: Feedstuff balance

	Million tonnes			
	Total domestic use 2008/2009	Total domestic use 2009/2010	Imports 2008/2009	Imports 2009/2010
Total oilmeals, grain byproducts, citrus, beet, pulp pellets, pulses, tapioca	82.6	85.0	35.6	34.7
Oilmeals	56.2	57.8	30.4	30.4
Grain byproducts (CGF, DDGS, corngermmeal, wheat bran)	12.6	13.8	0.5	1.0
Citrus/Beet pulp pellets	5.3	5.9	1.4	1.3
Pulses (peas, feedbeans, lupins)	2.4	2.4	0.3	0.2
Molassis	5.9	5.2	2.8	1.8

Source: Toepfer International [2010]

Hungary is a large exporter of maize without any imports. Presently, no GM crops are produced in Hungary due to the introduction of a moratorium on the production of GMOs in 2005. Most of the protein feed used in Hungary is imported. Soybean meal accounts for 0.7 million tonnes a year (Table 8). Demand for non-GMO soybean meal is negligible (petfood producers are the only customers of a small quantity of non-GMO meal) since the premium of 50 US\$/t is not paid by the market.

Table 8. Hungary: Imports of feedstuff

	Tonnes		
	2007	2008	2009
Bran, sharps etc from working cereals and leg plants (2302)	420	1 031	2 964
Residues of starch mfr or sugar mfr or brewing etc (2303)	22 024	25 785	42 676
Ssoybean oilcake and other solid residue, wh/not ground (2304)	831 571	796 139	654 648
Oilcake etc nesoi, from veg fats and oils nesoi (2306)	92 441	54 730	74 408
Cereal groats, meal and pellets (1103)	374	1 463	2 176
Flour and meal of oil seed & olea fruit (no mustard) (1208)	5 390	4 183	3 979
Rutabagas, hay, clover and other forage products (1214)	3 743	3 708	796

Source: Hungarian Central Statistical Office [2010]

As can be seen from the example of "Herculex" (GA21), delays in the approval process have already had significant effects on the feedstuff supply in the EU. Due to the delayed approval process for "Herculex", imports into the EU of CGF and DDGS started to decline dramatically. While 2.6 million tonnes of CGF and 0.7 million tonnes of DDGS had been imported in the 2005/2006 marketing year, it was only

around 0.5 million tonnes of CGF and 0.5 million tonnes of DDGS in 2009/2010. The products imported were those produced from maize grown in 2006 and exported from the USA to the EU until December 2007 (Table 8). Another example was the new herbicide-tolerant soybean (MON89788, known as Roundup Ready 2 or RR2 soybean), which was submitted in 2006 for approval to United States and EU authorities. Problems of asynchronous approval in soybean imports with significant increases in feed expenditure costs were expected for the case of RR2 soybeans, thus avoiding the expected problem of low-level presence in soybean imports to the EU RR2 was authorised by the European Commission rather quickly at the end of 2008 [EC, 2008].

Together with the Corn Refiners Association in the USA, the exporter and importers created an action plan that attempted to ensure that no Herculex GMO would be found in any delivery of CGF and DDGS into the EU. However, in two thirds of all samples tested, Herculex corn was found. This confirms the high sensitivity of the specific testing method (basically a single changed gene in a sample is sufficient to result in a positive signal) and that in spite of the greatest possible separation of the flow of goods, **absolute zero tolerance cannot be guaranteed**. In addition to CGF and DDGS, rapeseed meal also could not be imported into the EU in 2008 because the approval had not yet been received for a trait that was cultivated in Canada. In the past, the EU imported up to 0.6 million tonnes of rapeseed meal from Canada [Toepfer International, 2008].

In the case of CGF and DDGS, it will be possible to once again import larger volumes in 2010 following the approval of three maize events by the EU Commission in November 2009. The volume of imports depends heavily on the competitive pricing of these commodities. The amount of feedstuff imports to the EU will also depend in the future on further developments in the area of green genetic engineering. In particular this affects maize and soybean imports from North and South America. Since 2006, genetically modified maize events have been grown in the USA and Canada which until November 2009 were not approved in the EU. Thus importing maize and maize byproducts (corn gluten and DDG) from the USA was only possible until this time at high risk. With the approval of three maize events (MON 89034, MON88017 and MIR604) in October and November 2009, imports of corn gluten and DDG once again became possible [Toepfer International, 2010]. However, new events, for example "stacked" event (a combination of multiple events) will be available in the future for cultivation that has not yet successfully passed the EU approval procedure. The rule on **complete zero tolerance** continues to apply to such **GMOs that have not yet been fully approved in the EU** so that even the smallest, non-quantifiable traces of non-approved GM events result in a marketing ban. That was the case in 2009 when traces of the trifid linseed event were proven to be in Canadian linseed.

Against this backdrop, European associations in the food and animal feed chain have asked the EU Commission to come up with a proposal for a technical solution as soon as

possible. Otherwise trade distortions and competitive disadvantages once again threaten the EU's agricultural and food industry. In addition the approval procedure, as originally provided for in the legislation, must be placed on a purely scientific basis in order to speed up the approval process and achieve greater harmonisation with approvals in the export countries. Binding regulations on the existence of minor traces of genetically modified materials (low-level presence) are also urgently needed. This is the only way of sustaining the EU agricultural and food industry in the long term and of maintaining the highest possible level of domestic food production.

3. The authorisation process in practice

The problem with GM is the way it has been introduced, primarily as a way of maintaining the sales of pesticide companies. In less than three decades, a handful of multinational corporations have engineered a fast and furious corporate enclosure of the first link in the food chain. The concentration of corporate power in commercial seed and agrochemical production is unprecedented, as is its crossover with the powerful US-based commodity trading corporations Cargill, ADM and Bunge. In 2007, intellectual property rights have been applied to 67% of the global seed market (Table 9). Three companies – US-based Monsanto, DuPont and Swiss-headquartered Syngenta – controlled nearly half of the total global market in proprietary seeds. Just six companies – the above three plus Bayer, BASF and Dow AgroSciences – control over two-thirds of the global agrochemical market [ETC Group, 2008].

Table 9. World's Top 10 seed companies

Company	2007 seed sales (US\$ millions)	% of global proprietary seed market
1. Monsanto (US)	4,964	23
2. DuPont (US)	3,300	15
3. Syngenta (Switzerland)	2,018	9
4. Groupe Limagrain (France)	1,226	6
5. Land O' Lakes (US)	917	4
6. KWS AG (Germany)	702	3
7. Bayer Crop Science (Germany)	524	2
8. Sakata (Japan)	396	<2
9. DLF-Trifolium (Denmark)	391	<2
10. Takii (Japan)	347	<2
Top 10 Total	14,785	67%

Source: ETC Group [2008]

Every GMO that is allowed to be placed on the market in the EU is **required to be labelled** if it contains more than 0.9% GMO. If it has less than 0.9% GMO, it does not have to

be labelled, provided that this amount is either adventitious or technically unavoidable. In the USA, Canada, Japan and Taiwan, food with a content of up to 5% of approved GM material can be classified as “non-GM”; however, in Australia, New Zealand, South Africa, Brazil or China, all food with more than 1% approved GM material has to be labelled as “GM” [Ramessar et al., 2008].

Although the approval process for a GMO is subject to clear rules and regulations, time and again these rules and regulations are more or less overridden. This does not apply to the **scientific risk assessment**. Article 18, Section 1 of Regulation 1829/2003 stipulates that the EFSA (European Food Safety Authority) should attempt to give its opinion within a period of six months from receipt of a valid application. However, the EFSA does at times take an extremely long time to complete the risk assessment. There have also been cases in which delays were due to incomplete applications received from the companies. However, to a large extent it is the EU Member States who are contributing to the delays in the approval process. An example of this is the “Herculex” corn: The Commission granted the approval for “Herculex” corn (DAS 59122-7) effective October 24, 2007 two years and nine months after the application had been filed [DG AGRI, 2007]. The EU GMO approval system takes more time than in other countries (average of over 30 months compared to 15 months for example in the USA (Table 10).

The commercialisation of GM crops is a regulated activity, and countries have different authorisation procedures. New GM crops are not approved simultaneously. This asynchronous approval in combination with a zero-tolerance policy towards low-level presence of nationally unapproved GM material in crop imports is of growing concern for its potential economic impact on international trade. There is an obvious

difference between traces of nationally unapproved GM material due to asynchronous approval and isolated foreign approval or due to the accidental presence of research events: in the former two cases the source of the traces is a GM crop that –

Table 10. Asynchrony of first approvals of GM crops for any use between the United States and the EU (2009)

GM crop	USA	EU	Delay (years)
Roundup Ready soy (MON 40-3-2), Monsanto	1994	1996	2
Bollgard cotton (MON531), Monsanto	1995	1997	2
Roundup Ready cotton (MON1445), Monsanto	1995	1997	2
NaturGard KnockOut maize (Bt176), Syngenta	1995	1997*	2
LibertyLink maize (T25), Bayer	1995	1998	3
YieldGard CB maize (MON810), Monsanto	1996	1998	2
Agrisure CB maize (Bt11), Syngenta	1996	1998	2
Agrisure GT maize (GA21), Syngenta	1997	2005	8
LibertyLink canola (T45), Bayer	1998	1998	0
LibertyLink soy (A2704-12), Bayer	1998	2008	10
Roundup Ready canola (GT73), Monsanto	1999	1996	-3
InVigor canola (MS8xRF3), Bayer	1999	1999	0
LibertyLink rice (LLRICE62), Bayer	2000	Assessment	Current AA
SeedLink canola (MS1xRF1), Bayer	2002	1996*	-6
SeedLink canola (MS1xRF2), Bayer	2002	1997*	-5
TOPAS19/2 canola (HCN92), Bayer	2002	1998*	-4
Roundup Ready 2 maize (NK603), Monsanto	2000	2005	5
Herculex I maize (1507), Dow/Pioneer	2001	2006	5
Bollgard II cotton (MON15985), Monsanto	2002	2003	1
YieldGard RW maize (MON863), Monsanto	2002	2006	4
LibertyLink cotton (LLCotton25), Bayer	2003	2008	5
Widestrike cotton (210-23x24-236), Dow	2004	Assessment	Current AA
Herculex RW maize (59122), Dow/Pioneer	2005	2007	2
Roundup Ready sugar beet (H7-1), KWS/Monsanto	2005	2007	2
YieldGard VT maize (MON88017), Monsanto	2005	Assessment	Current AA
Roundup Ready Flex cotton (MON88913), Monsanto	2005	Assessment	Current AA
Mavera High Value maize (LY038) Renessen/Monsanto	2006	Assessment	Current AA
Roundup Ready 2 soy (MON 89788), Monsanto	2007	2008	1
Agrisure RW maize (MIR604), Syngenta	2007	Assessment	Current AA
Amylase maize (3272), Syngenta	2007	Assessment	Current AA
YieldGard VT PRO maize (MON89034), Monsanto	2008	Assessment	Current AA
Optimum GAT maize (98140), Pioneer	2008	Assessment	Current AA
Optimum GAT soy (356043), Pioneer	2008	Assessment	Current AA
3 events in soy and cotton	Submitted	Submitted	(0)
1 event in potato (BASF's amflora)	Not submitted	Approved	Isolated foreign approvals
7 events in maize, soy, cotton, and alfalfa	Submitted	Not submitted	
>60 events in maize, soy, cotton, canola, potato, rice, and sugar beet	Approved	Not submitted	

Notes: (i) Apart from asynchronous approval (AA) and isolated foreign approval of GM crops between the United States and the EU, there is also a rising number of GM crops from other countries (China, India) that contribute to this issue.

(ii) Differences in approval time can also be due to the timing of the submission of the respective dossiers by the developer.

(iii) Approvals in the EU that are marked with an asterisk (*) have already expired and no renewal has been sought by the developer.

(iv) In the case of canola, which is of less importance in US agriculture, there are also cases where the event was approved in the EU first.

Source: Stein and Rodriguez-Cerezo (2009b)

somewhere – presumably has passed some kind of safety evaluation and has been authorised for commercial use. By contrast, traces of research events necessarily come from crops that are not authorised for commercial use anywhere [Stein and Rodriguez-Cerezo, 2010b]:

1. There can be “asynchronous approval”, i.e., at least one cultivating country has already authorised a GM crop while other (importing) countries have not.
2. There can be “isolated foreign approval” (or “asymmetric approval”), i.e. a cultivating country has authorised a GM crop but its developer does not seek approval in (potential or unattractive) importing countries.
3. There can be “low-level presence” of research events, i.e., a country has authorised the cultivation of a GM crop in field trials only but, due to accidental admixture, traces end up in the commercial crop supply.

Another question is what level of nationally unapproved GM material constitutes a “low” level that, depending on the country, may be tolerated in crop shipments or not. In the United States, for instance, GM crops as such are not regulated; it is rather their use (e.g. as food or as pesticide) that may require their approval. As long as a GM crop is similar to a conventional crop, no authorisation is needed for its cultivation or use; only if the crop fulfils, for example, the function of a pesticide (as insect-resistant or herbicide-tolerant crops do) does it need to be regulated as such. Hence, if traces of a GM crop are detected that has not been submitted to the regulatory agencies, the latter determine on a case-by-case basis whether the GM crop could pose a risk and take proportionate measures [USDA, 2007]. In Switzerland traces of unapproved GM material of up to 0.5 per cent are tolerated in food if the respective GM crop is already authorised in another country where comparable procedures are followed or if a danger to human health can be excluded after an ad-hoc science-based evaluation [Federal Authorities of the Swiss Confederation, 2008].

And even in the EU the unintentional presence of other substances is treated differently. For instance, for certain chemical substances that are present in the environment as pollutants, levels higher than zero have been set to protect public health [EC, 2006]. However, there are no tolerance thresholds for the presence of unapproved GM events, and in practice low-level presence of unapproved material is associated to the detection level of laboratory tests. Recently the introduction of a technical solution for the allowance of measurement errors has been suggested by Fischer Boel, the former EU Commissioner for Agriculture to instill confidence into the detection methods and to avoid false positives [Fischer Boel, 2009]. At present any traces of unapproved GM material above the detection level are considered to represent low-level presence.

Strict regulations in politically powerful or economically relevant countries may have a detrimental impact on the development of potentially welfare-enhancing crops. If developing countries even have to fear the loss of markets for economically important export crops because of possible but unavoidable traces of unrelated GM crops, these countries may become still more hesitant to adopt GM crops for domestic use that could potentially enhance productivity and farmers’ welfare [Graff et al., 2009].

Low-level presence problems can be expected to intensify when more new GM crops are commercialised in the coming years in more countries. By 2015 there could be over 120 different transgenic events in commercialised GM crops worldwide – compared with over 30 GM events in commercially cultivated GM crops in 2008 (Table 11). Although the commercialisation of the crops shown may be technically possible by 2015, the practical – or rather regulatory – feasibility may be more questionable (e.g. for rice in particular), given that in some of the developer countries no GM (food) crops have been authorised so far [Stein and Rodríguez-Cerezo, 2010b].

Table 11. Events in commercial GM crops and in pipelines worldwide, by crop

Crop	Commercial in 2008	Commercial pipeline	Regulatory pipeline	Advanced development	Total by 2015*
Soybeans	1	2	4	10	17
Maize	9	3	5	7	24
Rapeseed	4	0	1	5	10
Cotton	12	1	5	9	27
Rice	0	1	4	10	15
Potatos	0	0	3	5	8
Other crops	7	0	2	14	23
All crops	33	7	24	61	124

Notes:* The total number of GM crops by 2015 represents an upper limit, given that by then some of the current GM crops may have been phased out. Source: Stein and Rodríguez-Cerezo [2009a]

Another development with GM crops is the emergence of more players. While currently private companies from the United States or Europe develop most of the GM events and crops (which are generally first authorised and cultivated in the United States), over the next few years more GM crops will be supplied by private and public entities from Asia in particular from China and India (Table 12). In the longer term, even more developing countries may commercialise GM crops [FAO, 2009]. Hence, while in the past GM crop adoption spread from North America to other parts of the world (with asynchrony of approvals following the same path), in the future the adoption pattern may change fundamentally, with more new GM crops being adopted first in Asia and then potentially spreading from there.

Table 12. Events in commercial GM crops and in pipelines worldwide by region of origin

Developer country*	Commercial in 2008	Commercial pipeline	Regulatory pipeline	Advanced development	Total by 2015
United States/ Europe	24	7	10	26	67
Asia	9	0	11	34	54
Latin America	0	0	2	1	3

Source: Stein and Rodríguez-Cerezo [2009a]

This changing pattern, with more new GM crops coming from Asia, has consequences for the issue of low-level presence. In Asia, GM crops are usually developed for domestic consumption and not for export and therefore the respective events are less likely to be submitted for approval in the EU or the United States. Hence, incidents due to isolated foreign approval or asymmetric approval could become more common (Table 13). However, as has been seen in the recent cases where traces of GM maize in soybeans led to the rejection of the soybean shipments, under certain regulatory settings (in particular zero tolerance towards low-level presence) the cultivation of one type of crop may even affect the marketability of other types of crops. This means that if third countries want to authorise GM varieties of crops that are welfare-enhancing for their societies, in future they may also consider the potential impact of cross low-level presence in different, but export-relevant, crops. The extent to which this situation shapes the approval and development of future agbiotech innovations remains to be seen. Unfortunately, past experience with the use of GM crops shows that irrational fear of export losses represents a significant impediment to biosafety policymaking [Stein and Rodríguez-Cerezo, 2010b].

Table 13. Asynchronous and isolated foreign approvals as potential sources for low-level presence

Crop	Asynchronous approvals*	Isolated foreign approvals#	Total sources for low level presence
Soybeans	2	1	3
Maize	6	5	11
Rapeseed	0	1	1
Cotton	3	9	12
Rice	1	4	5
Potatoes	0	2	2
Other crops	0	8	8
All crops	12	30	42

Notes: * Number of individual events authorized for commercial use in at least one country worldwide, and submitted but not yet authorised in the EU. # Number of events not submitted for authorisation in the EU but already in the regulatory pipeline in at least one country worldwide.
Source: Stein and Rodríguez-Cerezo [2009a]

By 2009, there were already more than 40 individual GM events that may become potential sources of low-level presence. And although some of the major exporters of agricultural commodities – like Argentina and Brazil – so far have considered trade implications when authorising new GM crops, it is by no means guaranteed that this situation will last. Other countries, like China could gain importance as importers of these commodities (of soybeans in particular), or the advantages of cultivating certain new GM crops in exporting countries could simply outweigh the potential loss of sensitive markets. Moreover, increasing biotechnology know-how in emerging economies themselves can strengthen “South-South” technology transfers, which

could boost the acceptance and adoption of GM crops in cultivating countries. In this case, the number of alternative suppliers of non-GM crops decreases, thereby making it more and more difficult to simply redirect trade flows by matching exporters of GM crops with “easy” importing countries and letting the remaining exporters supply the more sensitive markets [Vaidyanathan, 2010].

In the early days there was no concept of using GM to improve product quality; this would be the way for the future, including traits that improve water use, nitrogen uptake, salt and drought tolerance, as well as better nutritional properties such as Omega-3 or fat profiles. In addition to the increasing number of new GM events, there is also the tendency to generate new products by combining different GM traits in one plant, i.e. through the stacking of already approved GM events. When individual authorised GM events are “stacked” by conventional crossing, the resulting new plant may have a different regulatory status in different countries. For instance, the EU requires each stacked GM crop to go through the regulatory system as a new GM crop, irrespective of whether the parental GM events were already authorised or not. Given the increase of individual GM events that are to come to market in the next years, eventually hundreds of combinations of these events can be quickly developed by stacking – meaning that the number of GM crops that could be submitted for approval could increase dramatically.

4. How real is the threat of a major feed supply problem?

The **profitability of livestock production** is influenced by many factors. While its success depends in part on the demand for the produced products, the operating costs influence the success or failure of production. Operating costs refer mainly to feedstuff costs but also to transaction costs such as environmental regulations, labelling and animal welfare requirements. In 2008 200,000 tonnes of conventional animal feed – mainly soy and maize – were refused entry to the EU when they were found to contain small amounts of GM maize varieties. Then linseed from Canada was found to contain traces of a GM variety named CDC Triffid that was withdrawn from commercial sale in 2001. Following a ban on linseed more than 100 shipments were rejected, but trade is slowly resuming. The rejected volume is only a fraction of the 35 million tonnes of feed imported each year. But it leads to delays to subsequent consignments, higher prices and a reluctance by importers to risk further shipments.

Although the EU depends much less on imports for maize than for soybeans, the experience with Bt10 and the Herculex maize has shown that low-level presence in maize can still have considerable economic repercussions throughout the EU’s supply chain. Following the detected presence of GM maize variety Bt10 (not authorised in the EU) in imports from the USA in 2005, and more recently the potential for the accidental presence of the unauthorised GM maize Herculex, the feed industry has stopped importing CGF and

DDFS from the USA. Where cargoes have been rejected due to the presence of unauthorised GM varieties these have been re-directed to other markets. Alternative cereal proteins have been sourced but at an additional cost to livestock producers. Moreover, especially for maize the stacking of events can quickly generate more crops that are considered new GMOs under the EU's regulatory framework.

A possible situation of asynchronous approval of RR2 soybeans was avoided by their approval by the European Commission before first commercial plantings took place. Soybean imports are vital for the EU agrifood sector: more than 90% of the soybeans used in the EU are imported, and more than 80% of these imports come from only two suppliers, namely Brazil and the United States. Therefore, asynchronous approval in soybeans could not only result in economic losses for traders and users of soybeans, but in combination with zero tolerance towards traces of unapproved GM material, it could pose a real threat to the EU supply of food and feed. However, the approval of the RR2 soybeans has not solved the problem of asynchronous approval in soybeans in the long run as there are several new GM soybeans in the regulatory pipeline and much more in the advanced R&D pipeline worldwide. Future problems due to low-level presence in soybeans cannot be excluded.

In 2007, the first approvals were granted in the USA for the planting of the **second generation of transgenic soybean, namely Roundup Ready 2 (RR2)**. The farmers had shown a great deal of interest in the new varieties. These imports were at risk because the three traits had not been approved in the EU until the end of 2008. Consequently, a large part of the protein feedstuff needed in the EU would have been absent but also the supply of soy oil and lecithin as raw materials for the food industry would have been severely endangered. Significant increases in feed expenditure costs were expected for soybeans but the problem was solved by the timely authorisation of RR2 soybeans by the European Commission [EC, 2008].

With the continued increase in GM soya cultivation in the main exporting countries (Argentina's production is already 98% GM, the US's cultivation is about 91% while that of Brazil is 71% and rising) and this is being used in large volumes as a compound feed ingredient in the EU. The EU feed and food sectors are worried that it will become impossible to maintain the current non-GM soya supply chain. The situation is of more immediate concern for parts of the animal feed industry due to the volume of soybean and soybean meal imported for feed use. Certified non-GM soya costs more than GM, with the premium varying according to the supply and demand situation. It has been anywhere from US\$5/tonne to US\$80/tonne in recent years. At the beginning of 2010, the premium was around US\$50-60/tonne. Demand for non-GMO soybeans and maize for human consumption fell in Japan and South Korea as well where threshold levels of up to 5% have been set.

The adoption of GM technology by commodity-exporting countries, particularly in North and South America, means that imported feed materials will contain an

increasing proportion of GM-derived products. The demand for non-GM feed has been decreasing with parts of the EU livestock industry moving away from organic or identity preserved conventional feed. It was estimated that over 90% of compound feed fed to livestock in the EU contains one or more GM events. According to surveys of Toepfer International around 3 million tonnes of soybean meal are used that are not subject to required labelling [Toepfer International, 2008]. Soybean meal not requiring labelling thus has a share of approx. 8.5% of total soybean meal consumption in the EU, so that this can still be referred to as a **niche market**. This soybean meal is used almost exclusively in the broiler sector.

There will be sufficient supply to cover the demand for soybeans not requiring labelling as long as the premium requested by the Brazilians is paid. A prerequisite for this, however, is the authorisation without delay of the new traits of transgenic soybeans in the EU for placing them on the market and processing them. If a non-EU approved GM feed crop is being grown in a supplier country at the same time as non-GM and/or EU-approved GM varieties, the use of strict segregation and Identity Preservation systems can reduce the risk of feed supplies being affected by finding non-approved material, but they cannot eliminate the risk completely.

Economic theory also suggests that changes in price differentials would militate against the use of non-EU approved GM soya lines by Brazil and Argentina. Adoption of non-EU approved varieties would be expected to create two distinct markets, for EU-approved and non-EU approved material respectively. As the price gap for soya products between the EU and the rest of the world widens there would be a strong incentive not to switch to non-EU approved crops, and to invest in Identity Preservation systems to enable EU export sales to continue and to benefit from the much higher prices for EU-approved varieties. In contrast to the above it is highly likely that Brazil and Argentina will in future adopt new types of GM soya before EU clearance is in place. Since developing countries like China have a big and increasing demand for soya imports, the EU is no longer such a crucial market for suppliers, and therefore the EU market demand may no longer dictate what Brazil and Argentina choose to produce. Even if it is unlikely that there will be an asynchronous GM approval problem directly in relation to soya supplies from Brazil and Argentina there is still a risk that as soon as a new GM soya variety is used in the USA it might lead to trace levels being detected in supplies from other countries, because of the possibility that a bulk cargo vessel is used to ship material from both North and South America.

In addition, the EU's significance in world soybean and soybean meal trade is declining. Imports of 2009 into the EU in the amount of around 13 million tonnes of soybeans and 21 million tonnes of soybean meal represent only one fifth of world trade – a declining trend that is continuing due to sharply increasing demand from the Asian region, primarily China. Soybean imports into China in 2009 alone represented 54% of world trading volume. Biosafety

certificates for GM rice and maize issued by the Chinese Ministry of Agriculture in 2009 represents one of the most high-profile challenges to China's aggressive policy for the adoption of transgenic crops. Prices will be higher in the future owing to a growing market for American farmers selling crops to China, which accepts mixed shipments. Increasing numbers of GM crop varieties are on the way, making screening trickier than ever. In addition, livestock production, especially in Brazil but also in Argentina, is growing rapidly. Demand for feedstuffs, particularly for soybean meal, will increase and domestic consumption is therefore likely to rise. With international demand for meat growing rapidly at the same time, Brazil and Argentina will attempt to use all advances in production in order to expand the production of soybeans and soybean meal correspondingly. This includes the speedy introduction of new varieties of transgenic soybeans. The supply of non-GM soya to the EU market could be reduced as exporters switch to supplying the rapidly increasing demands in the Chinese and Indian markets.

If low-level presence problems have already occurred in the past, when worldwide only about 30 events were marketed, these are not likely to disappear over the next several years when there may be more than 120 events in the global market. More and more countries will plant genetically modified plants regardless of the length of time necessary for the approval process in the EU. Individual ad-hoc measures like the quick approval of one new GM crop or the other will not and cannot address the underlying structural problem of low-level presence, as has been shown by the recent cross low-level presence of GM maize in soybean shipments. Inevitable more trade disruption will come from the differences in approval processes in the EU and the rest of the world [Hornby and Felix, 2009].

Strict laws designed to keep the European Union free of unauthorised GM crops and products are not working, and are posing problems for the EU's €150 billion livestock industry (production of animal farming in the EU was worth nearly €150 billion in 2008). Under Europe's "zero-tolerance" laws on GM contamination, introduced in 2007, the presence of even a few seeds of unauthorised GM material will rule out an entire shipment. Proposed solutions cover the need to replace the EU's current zero tolerance towards traces of EU unapproved GM material by practical low-level marketing thresholds above the detection limit. A more pragmatic screening approach is setting a threshold – say 0.5 per cent – beneath which GM contamination is tolerated since such "tolerances" operate for other contaminants, including pesticides and heavy metals. So why not for GM material, much of which has been cleared for human consumption elsewhere in the world? Moreover the need to address the current situation is also highlighted where the official testing of imports takes place only once the shipments have already reached the port of destination (thus increasing the economic risks of the rejection of the shipment). Other solutions proposed include the streamlining of the regulatory systems, mutual recognition of risk

assessments of new GM crops and the implementation of Codex Alimentarius guidelines.

EU livestock farmers are less dependent on CGF and DDGS feed imports from the USA but much more dependent on soybean and soybean meal feed imports from Brazil, Argentina and the USA. These three countries supply about 90% of EU soybean and soymeal imports. Soya is the most favoured vegetable protein feed because of its nutritional efficiency and competitive cost. If this supply chain were disrupted due to asynchronous authorisations it could have serious adverse effects on the livestock sector (and potentially on consumer prices). A significant reduction in EU livestock production could also have a range of consequential effects on land use and the environment. It is however difficult to predict these with any certainty or precision. The precise impact would depend on the extent and duration of the shortfall in soya imports. If soya imports were halted from Brazil and Argentina, there might be scope to secure alternative supplies of soya from non-GM producer countries like India, but this would not be expected to cover a significant shortfall in the current supply (total EU imports of soya commodities in 2009 were 34 million tonnes, whereas total production in non-GM exporting third countries was about 25 million tonnes).

There is potential for a shortfall in soya imports to be replaced in part by imports of alternative protein crops like oilseed rape from countries such as Russia and the Ukraine, although this would be of a lower nutritional value involving higher costs and reduced productive efficiency. There would be limited scope to replace the use of imported soya by increasing domestic production of other protein feeds – for example co-products from bio-fuel production – in order to reduce the EU feed industry's dependence on imported soya. However, the feed industry's research has shown that EU protein production could only replace 10-20% of the protein supplied by imported soya. What is clear is that soya remains the most important source of protein in animal feed at present. If soya product imports were halted or reduced soya feed would have to be replaced by the use of other, less effective and more costly feed materials. This in turn would impact negatively on the productive capacity and profitability of the livestock sector. The pig and poultry sectors would be affected in particular.

5. General conclusions

Consumer concerns regarding GM technology tend to fluctuate with time and may increase particularly in response to increased media coverage. There is a legal requirement to label both GM food and feed ingredients. Consumers therefore are able to make an informed choice regarding GM food ingredients (if these are being used). Many consumers are unaware of the extent to which GM feed is used as there is no legal requirement to label products from animals fed on GM feed. Retailers have differing stated policies regarding the use of the terms 'GM', 'non-GM' and 'GM-free', which

can lead to confusion for consumers. Regardless of retailers' policies regarding animal feed for EU livestock, animal products imported from outside the EU are likely to have received GM crop varieties that have not been through the EU approval process in their feed since there is no legislative requirement in the EU to label products from animals fed GM feed. Some products from animals (e.g. meat) imported from third countries, where non-EU authorised GM crops were fed to livestock would undercut EU producers, thus distorting competition. Consumers are unable to distinguish between sources of products from animals and are likely to be unaware that GM feed is widely used. Country of origin labelling would not tell consumers if animals have been fed GM feed. Consumers may feel that they are being misled.

Most people in Europe may be surprised to discover how far GM has already penetrated the food supply. Every year millions of tonnes of soya enter the food chain. About 80% of soya imported into the EU is genetically modified [Céleres, 2008]. The vast majority of this comes from the United States, Brazil and Argentina and is used as animal feed, although most people remain unaware. Shipping in GM soya is perfectly legal so long as the varieties imported are ones that have been authorised by the EU. With so much imported GM soya in the system, it seems increasingly unlikely that food on the shelves in the EU is free of GM. There is just so much GM coming in, the probability is that, if you tested food from the supermarket shelf, you would find traces of GM in it.

Costs of maintaining non-GM supply chains are currently absorbed mainly by farmers and feed compound producers rather than being passed on to consumers. However, in the longer term these costs may result in increases in the price of products from animals (e.g. milk, meat and eggs) for consumers. The rise of the premium for non-GM feed for would eventually restrict consumer choice as products from third countries would be cheaper. The use of non-GM feed by EU producers could therefore be driven out by market forces. It may be timely to inform consumers of the issues surrounding GM and non-GM supply chains so that they have a clear understanding of current science, the status of the non-GM market being reliant on only a few exporting countries, and the steady increase in GM production.

There will always be a niche [market] that wishes to consume non-transgenic soybean, but today more than three-quarters of the population in these countries is consuming GM soybean and have been doing so in a steady form for the past ten years. People mostly consume soybean in the form of meat from livestock that has been fed with compound feed. This consumption has not grown even higher only because of a trend of stabilisation or slight decline of compound feed production in the EU, which was accompanied also by an increase of meat imports from third countries, including from Brazil.

The EU is dependent for more than 80% on imports of vegetable proteins for which there are no substitutes in the short term. GM and non-GM-soya as a source of protein is imported from the USA, Argentina and Brazil. Demands from the EU differ to those from third countries with respect

to the GM varieties grown, and which are authorised for import into the EU. This could potentially cause problems where low level adventitious presence of non-EU authorised GM varieties in imports of GM and non-GM feed would result in the entire consignment being illegal under the EC regulatory framework. This presence is likely to arise from material which is being grown as part of field trials. This could cause supply problems for the animal feed industry, and ultimately supply of food to consumers.

While the absence of CGF and DDGS could be absorbed by rapeseed meal, palm kernel meal and grain (at a higher price, however), soybean meal can only to a very small extent be substituted by other protein feedstuffs. The availability of other protein sources on the world market is nowhere near enough to substitute to an appreciable extent for soybean meal. This is true for the animal protein feedstuffs, fishmeal and meat and bone meal, as well as for the alternative plant protein feedstuffs, such as feed peas, field beans, lupins and also rapeseed meal. Also from a nutritional perspective, soybean meal can be substituted only to a small extent because of the optimal composition of essential amino acids. Moreover, it cannot be expected that other countries will be able to provide the substitute for the exports from the South American countries. First of all, the necessary climatic conditions for soybeans limit the number of countries where soybeans can be cultivated. Secondly, it can be assumed that because of the increasing competition between grain and oilseeds (especially soybeans) for hectareage worldwide, soybean acreage will grow only relatively moderately. This makes it all the more important to achieve higher yields on existing crop land. This, too, makes it seem improbable that Brazil and Argentina will make allowances for the EU when it grants the approvals for the new traits of transgenic soybeans.

Asynchronous approval of new GM crops across international jurisdictions is of growing concern due to its potential impact on global trade. Different countries have different authorisation procedures and, even if regulatory dossiers are submitted at the same time, approval is not given simultaneously (in some cases, delays can even amount to years). For instance, by mid-2009 over 40 transgenic events were approved or close to approval elsewhere but not yet approved – or not even submitted – in the EU. Yet, like some other jurisdictions, the EU also operates a zero-tolerance policy to even the smallest traces of nationally unapproved GM crops (so-called low-level presence). The resultant rejection of agricultural imports has already caused high economic losses and threatens to disrupt global agri-food supply chains.

The risk that feed supplies could be affected by a low-level presence of non-EU approved GM material could be resolved if the EU allowed a tolerance for this, rather than operating a strict zero tolerance as now. The Commission has undertaken to come forward with a non-legislative technical solution to address the difficulties created by a strict zero tolerance policy. To what extent this would be helpful will depend on the nature of the proposed solution.

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GLOBALISATION OF COMMERCIAL THEME PARKS

Case: the Walt Disney Company

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Abstract: In this contribution we focus on the globalisation of commercial theme parks with Walt Disney Company as the best known case study. After definitions and historical background of theme parks, we analyse the visitors key factors. For the Walt Disney Cie we start with some historical facts, we set up a SWOT-analysis and focus then on Euro Disneyland Paris, the biggest theme park of Europe.

Key words: Theme Parks, Walt Disney Company, Euro Disneyland

1. Introduction

The Economics Research Associates (ERA) defines a theme park as “A gated attraction that contains rides and/or shows in a themed environment, offers a pay-one-price ticket for its guests and attracts at least 500,000 annual visits” (ERA, 2007).

A more detailed description for theme parks is given by Philip L.Pearce (in *Jafar Jafari*, 2000, p.124–5): “Theme parks are capital intensive, highly developed, self-contained recreational spaces which invariably charge admission. The entertainment, rides, speciality foods and park buildings are usually organised around themes or unifying ideas such as a specific period in history or a particular geographic region. These themes are crucial to the operation of the parks as they create a feeling of involvement in a setting which is in stark contrast to daily life. A distinction can be drawn between the commercial theme parks, which are well describes by the theming and entertainment elements mentioned, and outdoor museums or historic theme parks, which may be less commercial in emphasis and have goals in heritage preservation and public education”.

Theme park is the basic term for a compilation of rides and other amusement attractions pull together for the purpose of entertaining a group of people. The theme park is more complex than a simple city park or recreational area. This park is a type of amusement park, built around one or more topics (i.e. American Far West theme or Pirates of the Carribean). Theme parks developed in Europe from leisure gardens. The oldest amusement park of the world (since 1583) is “Bakken” at Klampenborg (north of Copenhagen) which is still in operation. In the USA, world fairs and expos induced a real expansion of the amusement park business. (www.weitzlux.com)

A theme park includes a combination of attractions which can be classified into several categories: thrill rides, roller coasters, family rides, water attractions or (indoor) dark

rides. Major part of theme parks’ revenue comes from entrance fees. Standard admission for a pay-one-price park is (normally) more than \$30 with discounts for children and senior residents. Most theme parks also charge for car parking and ticket prices do not include food, which can be very costly. Almost all amusement parks operate using one of two admission principles: Pay as you go (= pay for rides individually) or Pay one price (= one big admission charge, for (almost) all of the attractions).

1.1 History of theme parks

The Feast of St.Bartholomew (since 1133 yearly hold in England), is the father for amusement and theme parks. Theme parks became popular at the beginning of the Industrial Revolution, such as the Vauxhall Gardens (1661) in London, or Prater (1766) in Vienna.

Another type of fair is the World Exhibition or Expo. World Expos started in 1851 with the Crystal Palace in London’s Hyde Park. The World’s Columbian Exposition in 1893 in Chicago is an early pioneer of the modern theme park and introduced the Ferris Wheel. (P. De Groot, 2006, p.38–39).

In 1894, Paul Boynton Water Chutes opened the world’s first new amusement park and charged entrance for the rides. In 1895, he also built a park at Coney Island (New York), which is still very popular. By the early 1900s, there were hundreds of theme parks worldwide, and it was the period of the “golden age” until the late 1920s, mainly due to the increase of income and the decrease of labour time. In the 1930s during the Great Depression and World War II the decline of the theme parks was a fact. After the WWII the influence of television was negative and families visited theme parks seldom. (www.ultimaterollercoaster.com). The historical overview and location of the main European theme parks is showed in *figure 1*. The pioneers are situated in the period before 1955.

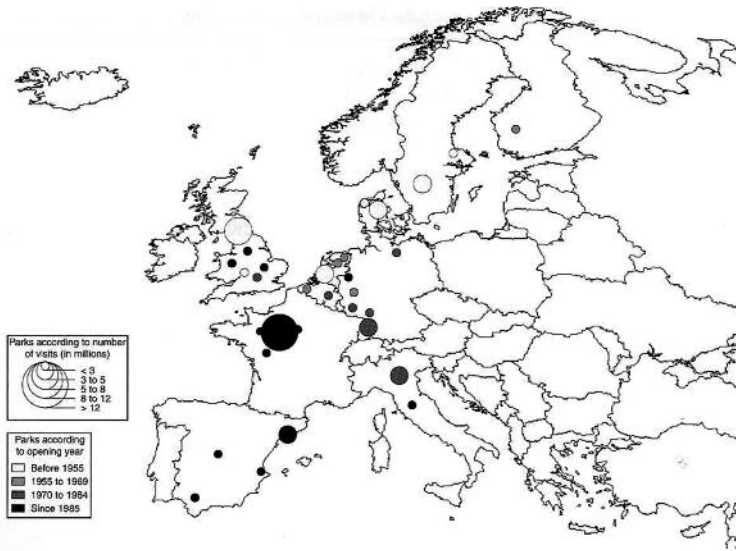


Figure 1: History and location of the main theme parks in Europe
Source: Clave A., 2007, p. 68

Universal Studios illustrates the progress of an attraction (= originally train ride tour of the studios in Hollywood) into a complete theme park. In 1990, Universal Studios Florida in Orlando was opened. Universal Studios is now the second-largest theme park group in the world, only competed in size with Disney itself. During the 1970s, the theme park business initiated to mature as a mixture of refreshed traditional

amusement parks and new projects financed by bigger firms emerged. Most of today's major theme parks were built in the 1970s and belongs now to some major globalised groups (table 1), with Walt Disney (table 2) in the USA as the biggest, and for Europe: Merlin Entertainments (GB), Euro Disney SCA (F), Parques Reunidos (E) and Compagnie des Alpes (Grevin)(F).

1.2 Visitors key factors

Products, experiences, and people are the lifeblood of the theme parks. Managers must take into consideration a lot of influencing factors. The origins of the International Association of Amusement Parks and Attractions (IAAPA, www.iaapa.org) goes back to 1918, as a USA association (formerly the National Association of Amusement Parks). Now it is the world's premier amusement association with headquarters in Alexandria (USA) and the European one in Brussels.

Based on the survey of May 2007 (www.iaapa.org) we see that adults with higher incomes (figure 2) are more visiting theme parks. An yearly average of 80% adults would visit a park again in the next year. Repeat visitors are of significant importance for the continuous success of theme parks. For the adults, spending time (figure 3) with family and friends was their preferred characteristic of a visit theme park (43%). Second were rides (24%), shows (9%), games (5%),

Table 1. Top 10 Amusement/Theme Park Groups worldwide (2007)

Rank	Theme Park Attraction Chain	2007 Attendance (millions)
1	WALT DISNEY ATTRACTIONS	116.5
2	MERLIN ENTERTAINMENT GROUP	32.1
3	UNIVERSAL STUDIOS RECREATION GROUP	26.4
4	SIX FLAGS INC.	24.9
5	BUSCH ENTERTAINMENT	22.3
6	CEDAR FAIR ENTERTAINMENT COMPANY	22.1
7	PARQUES REUNIDOS	12.0
8	COMPAGNIE DES ALPES (GREVIN)	9.6
9	HERSCHEND FAMILY ENTERTAINMENT	8.9
10	EVERLAND	8.6

Source: TEA/ERA, 2008, Theme Park Attraction Attendance Report 2007., p.VI

Table 2. Theme parks of the Walt Disney Group (2006)

1. WALT DISNEY ATTRACTIONS
Estimated 2006 Attendance: 112.5 million

- BLIZZARD BEACH at Walt Disney World, Lake Buena Vista, Florida
- DISNEY-MGM STUDIOS at Walt Disney World, Lake Buena Vista, Florida
- DISNEY'S ANIMAL KINGDOM at Walt Disney World, Lake Buena Vista, Florida
- DISNEY'S CALIFORNIA ADVENTURE, Anaheim, California
- DISNEYLAND, Anaheim, California
- DISNEYLAND PARIS, Marne-La-Vallee, France
- WALT DISNEY STUDIOS PARK, Marne-La-Vallee, France
- EPCOT at Walt Disney World, Lake Buena Vista, Florida
- MAGIC KINGDOM at Walt Disney World, Lake Buena Vista, Florida
- HONG KONG DISNEYLAND, Hong Kong, China
- TOKYO DISNEYLAND, Tokyo, Japan
- TOKYO DISNEY SEA, Tokyo, Japan
- TYPHOON LAGOON at Walt Disney World, Lake Buena Vista, Florida

Source: ERA, 2007, p. 10

Diagram 1B: Respondents who visited an amusement/theme park in past 12 months, by annual income (May 2007)

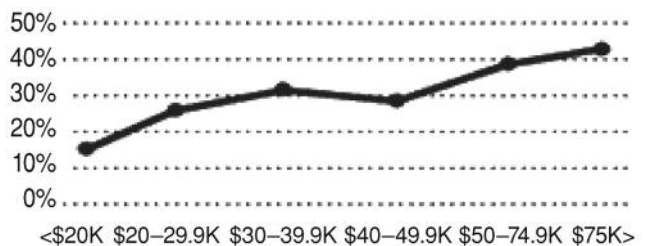


Figure 2. Relationship between visitors of a theme park and income (May 2007)
Source: www.iaapa.org

Diagram 4: Favorite thing about visiting an amusement/theme park (May 2007)

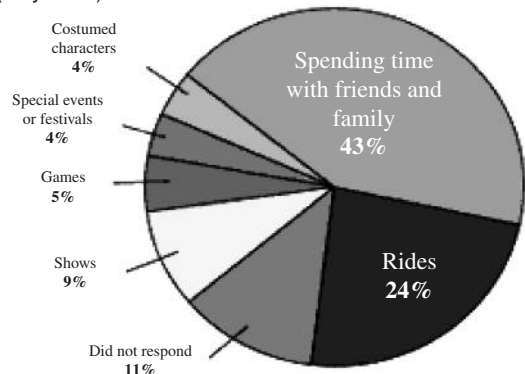


Figure 3. Activities of visitors in a theme park
Source: www.iaapa.org

and both costumed characters and special events (4%). The percentage of adult whose last theme park journey (figure 4) contained an overnight stay has risen slightly during 2005-07 to an average of 33%.

Diagram 5A: Respondents who last amusement/theme park visit included an overnight stay, by age

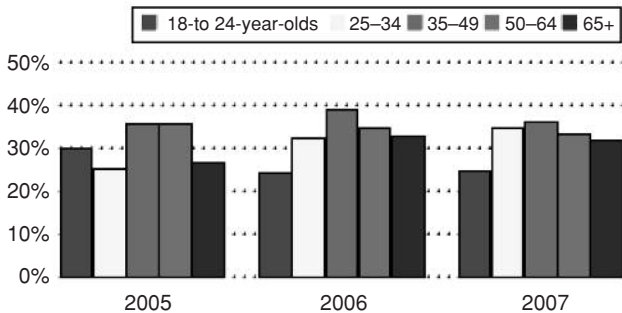


Figure 4. Relationship visitors of theme parks and overnight stays
Source: www.iaapa.org

Table 3 shows the total attendance for the world’s Top 25 theme parks in 2007. Disney’s Magic Kingdom in Orlando was the most world’s popular theme park with 17,060,000 guests. Eight of the top 10 parks across the globe were Disney parks. The Latin America market is less expanded compared to North America and Europe because of a difference in income levels. Asia is experiencing stronger expansion, mainly spectacular in China where the middle class is increasing rapidly. Some major attraction plans are in the channel with the region including a Universal Studios

Table 3. Top 20 Theme parks worldwide (2007)

Rank	Park and Location	2007 Attendance
1	MAGIC KINGDOM at Walt Disney World, Lake Buena Vista, FL, USA	17,060,000
2	DISNEYLAND, Anaheim, CA, USA	14,870,000
3	TOKYO DISNEYLAND, Tokyo, Japan	13,906,000
4	TOKYO DISNEYSEA, Tokyo, Japan	12,413,000
5	DISNEYLAND PARIS, Marne-La-Vallée, France	12,000,000
6	EPCOT at Walt Disney World, Lake Buena Vista, FL, USA	10,930,000
7	DISNEY’S HOLLYWOOD STUDIOS at Walt Disney World, Lake Buena V.	9,510,000
8	DISNEY’S ANIMAL KINGDOM at Walt Disney World, Lake Buena Vista, FL	9,490,000
9	UNIVERSAL STUDIOS JAPAN Osaka, Japan	8,713,000
10	EVERLAND, Kyonggi-Do, South Korea	7,200,000
11	UNIVERSAL STUDIOS at Universal Orlando, Orlando, FL	6,200,000
12	SEAWORLD FLORIDA, Orlando, FL, USA	5,800,000
13	DISNEY’S CALIFORNIA ADVENTURE, Anaheim, CA, USA	5,680,000
14	PLEASURE BEACH, Blackpool, UK	5,500,000
15	ISLANDS OF ADVENTURE at Universal Orlando, Orlando, FL, USA	5,430,000
16	OCEAN PARK, Hong Kong, China	4,920,000
17	HAKKEIJIMA SEA PARADISE, Yokohama, Japan *	4,770,000
18	UNIVERSAL STUDIOS HOLLYWOOD, Universal City, CA, USA	4,700,000
19	BUSCH GARDENS TAMPA BAY, Tampa Bay, FL, USA	4,400,000
20	SEAWORLD CALIFORNIA, San Diego, CA, USA	4,280,000
21	HONG KONG DISNEYLAND, Hong Kong, SAR, China	4,150,000
22	TIVOLI GARDENS, Copenhagen, Denmark	4,110,000
23	EUROPA-PARK, Rust, Germany	4,000,000
24	NAGASHIMA SPA LAND, Kuwana, Japan	3,910,000
25	PORT AVENTURA, Salou, Spain	3,700,000

Note: Percent changes for 2007 for certain parks (noted by *) are based on adjusted/updated figures for 2006, thus not directly comparable to published TEA-ERA list for 2006/05

Source: TEA/ERA, 2008, Theme Park Attraction Attendance Report 2007, p.VII

theme park in Singapore in 2010. European parks are being well sustained and reloaded by ongoing private investment. (www.themeit.com/attendance_report2007.pdf)

The 2007 total attendance for the Top 20 theme parks in Europe (table 4) was 60.9 million, standing for a growth rate of 3% compared to 2006 (cf. 2.6% for North America). Table 5 shows the evolution of number of visitors in the European theme parks (1995–2007). European theme parks have a process for expanding the season that has little to do with including infrastructure, such as the Christmas market. Tivoli has been the top player in Europe in successfully expanding its season – with a new Halloween celebration in October. Both events extensively increased the park’s attendance and incomes. In general, the European theme parks are relatively stagnant compared to the United States or Asia. The Top 20 have not changed greatly. Geography and strong national character are major aspects. Each country has one big park and one lead market. Apart from Disney, European theme parks are local ones. (www.themeit.com/attendance_report_2007.pdf)

Table 4. Top 20 European theme parks (2007)(+ change over 2006 in%)

Rank	Park and Location	2007 Attendance	% Change
1	DISNEYLAND PARIS, Marne-La-Vallée, France	12,000,000	13.1%
2	PLEASURE BEACH, Blackpool, UK	5,500,000	-8.3%
3	TIVOLI GARDENS, Copenhagen, Denmark ¹	4,110,000	-6.5%
4	EUROPA PARK, Rust, Germany	4,000,000	1.3%
5	PORT AVENTURA, Salou, Spain ²	3,700,000	5.7%
6	DE EFTELING, Kaatsheuvel, Netherlands	3,200,000	0.0%
7	GARDALAND, Castelnuovo del Garda, Italy	3,100,000	0.0%
8	LISEBERG, Gothenburg, Sweden ¹	3,050,000	3.4%
9	BAKKEN, Copenhagen, Denmark	2,700,000	0.0%
10	WALT DISNEY STUDIOS, Marne-La-Vallée, France	2,500,000	13.6%
11	ALTON TOWERS, Staffordshire, UK	2,400,000	0.0%
12	PHANTASIALAND, Bruhl, Germany	1,900,000	0.0%
13	THORPE PARK, Surrey, UK	1,700,000	0.0%
14	MIRABILANDIA, Savio, Italy	1,700,000	0.0%
15	LEGOLAND WINDSOR, Windsor, UK	1,650,000	11.5%
16	PARC ASTERIX, Plailly, France	1,620,000	-4.7%
17	LEGOLAND BILLUND, Billund, Denmark	1,610,000	10.3%
18	FUTUROSCOPE, Poitiers, France	1,600,000	6.7%
19	PARQUE DE ATRACCIONES, Madrid, Spain	1,500,000	0.0%
20	HEIDE PARK, Soltau, Germany	1,400,000	16.7%

Note: + indicates a tie.

¹ Attendance for Tivoli and Liseberg includes Christmas market operations

² Attendance for Port Aventura is for theme park only (excl. waterpark - separate ticket)

Source: TEA/ERA, Theme Park Attraction Attendance Report, p.XI

2. The Walt Disney Company

The Walt Disney Company works as a diversified amusement company worldwide. The corporation's Media Networks sector contains networks of Internet, mobile operations, radio and television. The Walt Disney Company's Parks and Resorts sector holds and controls the Walt Disney

Table 5. Evolution of number of visitors (in million) in the European theme parks (1995–2007)

Parknaam	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1. Disneyland Resort Paris	10.7	11.7	12.6	12.5	12.5	12.0	12.2	10.3	10.2	10.2	10.2	10.6	12.0
2. Blackpool Pleasure Beach	7.2	7.5	7.8	6.6	6.9	6.8	6.5	6.4	6.2	6.2	6.0	6.0	5.5
3. Tivoli Gardens	2.4	3.1	3.2	2.8	3.1	3.9	3.9	3.8	3.3	4.2	4.1	4.4	4.1
4. Europa Park	2.5	2.5	2.7	2.7	3.0	3.0	3.1	3.3	3.3	3.3	3.9	4.0	4.0
5. Port Aventura	2.7	3.0	3.0	2.7	3.0	3.1	3.3	3.3	3.1	3.1	3.3	3.5	3.7
6. Efteling	2.7	3.0	3.0	2.7	3.0	2.9	3.1	3.0	3.2	3.2	3.3	3.2	3.2
7. Liseberg	2.2	2.4	2.5	2.5	2.6	3.0	3.1	3.1	2.8	3.0	3.1	3.0	3.1
8. Gardaland	2.5	2.4	2.7	2.7	2.8	2.9	2.9	2.9	3.0	3.1	3.1	3.1	3.1
9. Bakken	2.4	2.1	2.1	2.0	2.3	2.5	2.5	2.8	2.7	2.5	2.6	2.7	2.7
10. Alton Towers *	2.7	2.7	2.7	2.5	2.8	2.4	2.3	2.5	2.5	2.4	2.4	2.4	2.4

* Since 2007 Walt Disney Studios (Marne-La-Vallée) is number 10 with 2.5 million visitors. Alton Towers is number 11.

Source: P. De Groot, based on TEA/ERA reports

World Resort that contains theme parks, hotels, dining, entertainment and sports complex, conference centers, water parks and other leisure facilities. It also manages Disney Cruise Line (cf. the Disney Magic was the first ship, 1998), Disneyland Resort Paris (1992), and Hong Kong Disneyland (2005) and Tokyo Disney Resort (1983). The corporation's Studio Entertainment sector produces, purchases, and allocates animated action pictures, musical recordings, home entertainment, video-on-demand, pay television, and free television markets. Disney Company distributes its products (i.e. books and magazines, computer software and video games) through Disney Stores (esp. in North America and Europe) and www.DisneyShopping.com.

2.1 History of the company

Walt Disney, and his legacy, especially given that he was born on 5 December 1901, just as the 20th century was beginning while it would be several decades before he would have a significant impact on the world, his contribution would eventually have a lasting impression in the hearts and minds of millions. The Walt Disney Company started on 16 October 1923 in Burbank as the Disney Brothers Cartoon Studio, a joint venture of Walt Disney and his brother, Roy. In 1926 the company had created two movies and bought a studio in Hollywood, California. Difficulties in distribution rights nearly went down Walt and his company, but the design of Mickey Mouse (1928) and Donald Duck saved a dropping boat. The ensuing years would bring with them merchandise licensing, full-length animated

features like Snow White and the Seven Dwarfs (1937) and Pinocchio, television programs (like The Mickey Mouse Club since 1955), live-action movies, and, of course, one of Walt's most ambitious projects, a theme park called Disneyland. (D. Smith, S. Clark, p.21–27)

In 1955 opened the first Disney theme park, Disneyland in Anaheim. Disney maintained its rise in popularity, and

Table 6. Comparison of World's Disneyland Resorts

Walt Disney World Resort	Disneyland Resort	Tokyo Disney Resort	Disneyland Resort Paris	Hong Kong Disneyland Resort
				
Location Orlando, Florida, USA	Location Anaheim, California, Orange County, USA	Location Urayasu, Chiba, Japan	Location Marne-la-Vallée, Paris, France	Location Penny's Bay, Lantau Island, China Hong Kong
Opening Day Magic Kingdom Park October 1, 1971 Epcot October 1, 1982 Disney-MGM Studios May 1, 1989 Disney's Animal Kingdom: April 22, 1998 Water Park River Country: 1976 Disney's Typhoon Lagoon: June 1, 1989 Disney's Blizzard Beach: April 1, 1995	Opening Day Disneyland July 17, 1955 Disney's California Adventure Park February 8, 2001	Opening Day Tokyo Disneyland April 15, 1983 Tokyo DisneySea September 4, 2001	Opening Day Disneyland Park April 12, 1992 Walt Disney Studios Park March 16, 2002 Disney Village: 1992	Opening Day Hong Kong Disneyland September 12, 2005
Resort Facilities Theme Parks: 4 Water Park: 3 Other Major Facilities: Downtown Disney - Florida Disney Hotel: 22	Resort Facilities Theme Parks: 2 Other Major Facilities: Downtown Disney - California Disney Hotel: 3	Resort Facilities Theme Parks: 2 Other Major Facilities: Ikspiari Disney Hotel: 7	Resort Facilities Theme Parks: 2 Other Major Facilities: Disney Village Golf Disneyland Disney Hotel: 7	Resort Facilities Theme Parks: 1 Other Major Facilities: Park Promenade Inspiration Lake and Recreation Center Disneyland Resort Pier Disney Hotel: 2
Area Total Resort Area: 27,001 acres Epcot: 300 acres Disney-MGM Studios: 135 acres Disney's Animal Kingdom: 500 acres Magic Kingdom Park 107 acres	Area Total Resort Area: 512 acres Disney's California Adventure Park: 54 acres Disneyland 163 acres (Original Area: 84 acres)	Area Total Resort Area: 494 acres Tokyo DisneySea: 121 acres Tokyo Disneyland 126 acres	Area Total Resort Area: 4,800 acres Walt Disney Studios Park: 126 acres Disneyland Park 141 acres	Area Total Resort Area: 311 acres Hong Kong Disneyland 99 acres (Developed Area: 37 acres)

Source: www.skyscrapers.c

stayed alive even after the death of its founder in 1966. His brother Roy took over control at that time, and then was succeeded by a management team in 1971. In 1983, Disney went international with the opening of Tokyo Disneyland. (www.disneyworldtrivia.com)

In the past few decades, Disney has went into a wider market, starting The Disney Channel on cable and creating subdivisions like Touchstone Pictures to make films other than the usual family-oriented fare, achieving a firmer balance on a broader series. In the 1970s and 1980s, the company experienced from takeover efforts, but got well thanks to successful team, leading Disney to continue its tradition of brilliance into a new century.

Walt Disney is now an expanded entertainment company, working in 4 business segments: media networks, studio entertainment, parks & resorts, and customer products. The company got recently increasing net profits (esp. in 2007–8). *Table 6* compares Disneyland Resorts in the USA, Paris, Hong Kong and Japan.

2.2 SWOT Analysis

The Disney Company (*table 7*) faces domestic weaknesses and strengths, which can to a certain level be controlled. The outside forces like opportunity and threats are more complex to manage, and Disney has to adopt and take advantage to those forces.

Disney's major **strength** is in its resources, practice in the entertainment business and its low-cost strategy. Moreover, the company evidently has expanded a very strong and well known brand name over 80 years. The company has also been able to spread its operations and products to evade against declining transactions in product lines. In recent

years it has redirected into Film, Home Video, products, Radio and Television and in Theme Parks. It has also successfully worldwide diversified its business from USA to Japan and Europe. The main strengths in domestic resources refer to human resources and financial solidity. Employees in the Disney studios appear to be very innovative and in recent years they have created several productions. A corporation without new inspirations has a trouble in today's aggressive business environment. The low-cost company's strategy is an advantage for them. The company can manage costs, and still make quality goods and services. Financial risks have been reduced by sharing initial investment costs with the highest number of outside participants.

Disney's main **weaknesses** are: very large work force, frequent change in top-management, and high operating costs. The corporation mainly manages in the USA and has worldwide 137,000 employers in 2008 (cf. 60,000 in 1991). This fact shows potential communication difficulties, and a high administration level within the Disney Company. By expanding into more sectors and niches, the company's work force will rise even bigger, and the managerial structure has to be able to hold a growth of the work force. The fact that the company very often changes its corporate officers makes the company structure even more complex. There are many positive things that come with changes, but modification is also connected with struggle, and big expenditures. Great operating costs are typically direct results of a large work force and a big number of fixed assets. For example, ticket prices should not be able to go above 33\$ for entry to Disney's theme park. Visitors are not prepared to spend more money than that. As a result, operating costs should be strongly observed to match the price that customers are willing to pay for the goods and services offered.

External **opportunities** must be recognised, examined, and responded to in a very early phase. The Disney Company is facing numerous external opportunities like positive government attitudes towards its operations, barriers of entry, large group of loyal visitors and the entertainment industry itself. Official and governmental forces are usually recognised as being negative external features to a company. Paradoxically, in Disney's case, the French government donated significantly in the Euro Disney plan with over USD 1.2 billion, built transport facilities, and gave Disney tax relief's on expenditure of goods sold accounts. Also, since the difficulties of entry into the greatly specialised business in which Disney is operating, competition will find it complicated to infiltrate the company's highly

Table 7. SWOT Analysis of Walt Disney Company

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none"> • Experience in the entertainment business (over 80 years), • Tourist attraction, • Strong reputation and brand name, • Wide company's product range- different types of attractions and products, • Disney's attractions adjusted to changes in visitor's preferences, • Familiarity, • Financial stability, • Qualified and educated employees, 	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none"> • Large work force, • Many changes in top-management, • High operating costs, • Different culture, • High price for tickets, • Design duplication, • Cultural imperialism, • Visitor Spending – European visitors not spend as much as American visitors,
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> • Highly diversified product and service, • Positive government attitudes, • Barriers of entry, • Large group of loyal clients, • Expansion on foreign markets, 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> • Over saturated markets, • Increasing number of serious and actively operating competitors, which address their offer to the same segment of clients (e.g. Six Flags) • Bigger elasticity of competitors in adapting to particular segment of clients thanks to the smaller volume of sales, • Increasingly competitors offer, which is perceived by clients and retailers as a wider and better available,

Source: own research

diversified product and service mix. In addition, huge initial capital investments are needed to come into the business.

Main **threats** to the Disney Company are over saturated markets and foreign competition. As the supply of services and products in the entertainment business was starting to saturate the markets, competition is more powerful, and the most dominant companies survived. Some of its functions, such as the Network-television division may not be able to handle the force from the Cable-giants like Turner Broadcasting Systems (TBS).

3. Euro Disney Resort in Paris

The **Euro Disney SCA** Group's major action is the operation of the Disney Resort in Paris (*figure 5*). It was built in the New Town Marne-La-Vallée (32 km east of Paris) by 1,700 companies and 10,000 workers from 2 August 1988 until the official opening on 12 April 1992. The features contain the Disney land Paris Theme Park, several theme hotels, symposium facilities, the Disney Village amusement center including 15 cinemas, 3D adventure screens and golf lessons. The Group also controls the real estate growth and expansion of the related infrastructure of the assets; they possesses Disneyland Park, Hotel Disneyland, Walt Disney Studios Park and Ranch Davy Crockett. (www.eurodisney.com)

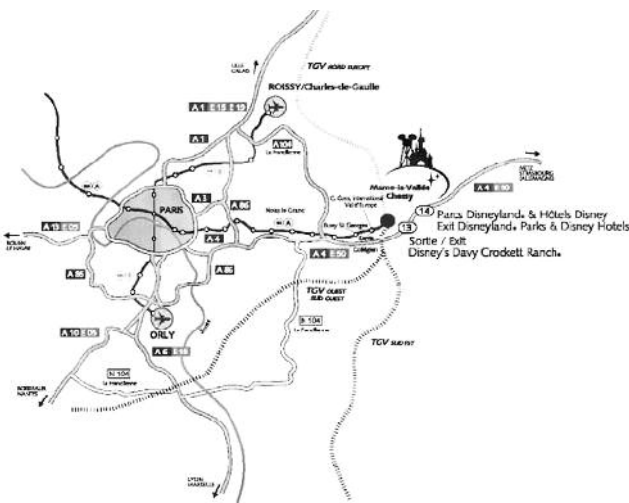


Figure 5. Location of Euro Disneyland Resort in Marne-la-Vallée
Source: www.eurodisney.com

3.1 Historical background

The plan of a European amusement resort and park complex had been developing within Disney since the early 1980s. In 1981, the company began a worldwide bidding procedure for situating Euro Disney, originally involving Germany, Spain, France and others. With continued success of the three existing parks, the promise of a new European Union was too much to resist. The most important detail was the location. The choice was to be made between Spain and France. Despite worse weather conditions and less generous offer from

France, in 1985 the decision has been made. Two years later, Michael Eisner and Jacques Chirac, signed a contract for the building of a Disney theme park at Marne-La-Vallée with Robert Fitzpatrick as the president of Euro Disneyland. Next to the proximity of Paris (one of the world's tourism capitals) the central location with large potential visitors from Germany and Great Britain (cf. The Chunnel) was another decision reason.

Despite over 7 years of planning and doing research, Euro Disney quickly developed in one of the most costly mistakes in company history. In the first 2 years of operation, Euro Disney lost close to 1.03 billion \$. They were close to go bankrupt. Initial failure can be connected with the? European Recession. Just as Euro Disney opened, Europe was in the middle of an economic slump. Disney felt that they could overcome this issue; however, Europeans had little spending power at that time (1992-4) and the decline in France's GDP resulted in a decrease of disposable income among the French population. Many other European countries were experiencing similar problems.

Furthermore Disney didn't expect the huge cultural differences between the Americans and the Europeans. The whole resort was planed along the identical principles as the original Disneyland in the USA. When they were opening the Disneyland in Tokyo, Japanese people were saying that they don't want being Japanese, but they came there to see America and for Disney. They wanted to know America. Disney thought that the Europeans would react in the same way. But they didn't. There were many differences in which French couldn't agree. Consequently, Euro Disney was not accepted between the European societies. The problem was also with the marketing policy. Euro Disney was promoted wrongly to the consumers. The resort was advertised in the American-style of "bigness and extravagance". Instead, Euro Disney should have concentrated on the emotional aspect, marketing that visitors would have a unique, unusual experience they would not forget. (www.eurodisney.com)

3.2 Financial problems

Many additional domestic and external factors gave the opening failure of Euro Disney. Contact gaps, increasing interest rates, decrease in the real estate market, operational mistakes, and high labor costs all gave the 1 billion \$ total loss in 1992 and 1993. Fortunately for Disney, many of these issues were accurate. By 1995, Euro Disney was able to make a profit of 15.6 million \$. Euro Disney SCA. is a Société en Commandite par Actions. Under French regulation, this structure establishes an obvious characteristic between the Gérant who is responsible for working the Company and the management board, which administers the management of the Company.

Disney Company is Euro Disney's largest shareholder (*figure 6*), with 39,8% of its stock. 10% of shares belong to Prince Alwaleed (Nephew of Saudi King Abdullah, world's wealthiest Muslim businessman, Saudi Arabia) and his family. Other shareholders possess 50,2% of its stocks. Since 1 November 2005, Euro Disney SCA share are only issued on the Paris Stock Exchange. (www.eurodisney.com)

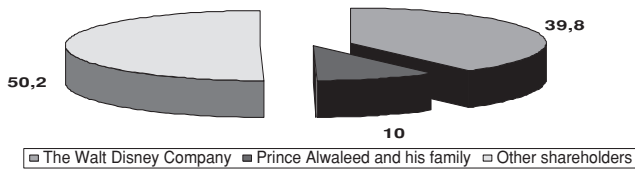


Figure 6. Euro Disney – shareholder’s structure
Source: www.eurodisney.com

Euro Disney Paris is one of Europe's top family vacation purposes. In 2004 park’s attendance (figure 7) was equal to 12, 4 millions of visitors. But in 2005 this number decreased slightly by 12,3 million (1%). During 2006, the company continued its development strategy planned to attract and keep theme parks’ tourists and hotel guests, and started to see some first profits. Theme Parks attendance for fiscal year 2006 increased to 12,8 million. Euro Disney Paris has 49,000 direct and indirect jobs, including more than 13,000 employed at the Resort itself.

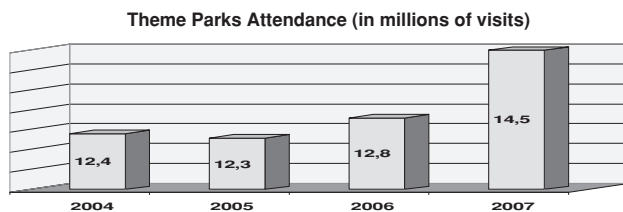
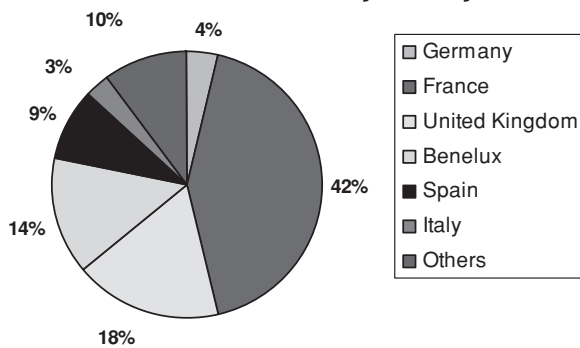


Figure 7. Theme Parks Attendance
Source: own calculation based on eurodisney.com

Breakdown of Attendance by country in 2006



Breakdown of Attendance by country in 2007

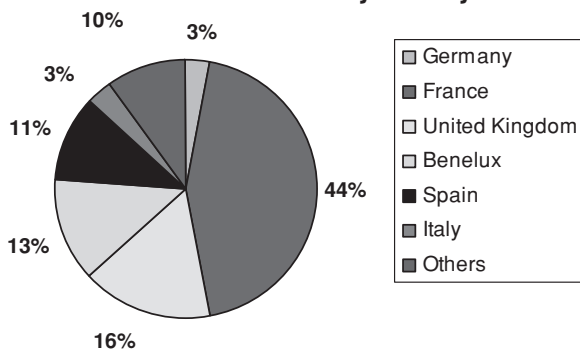
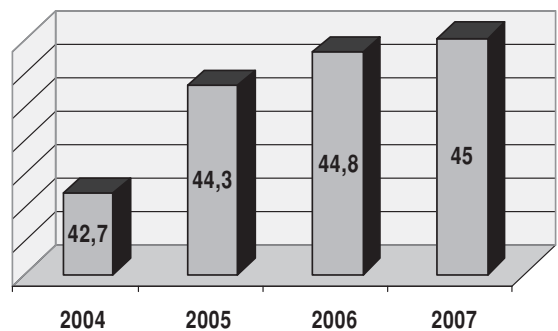


Figure 8. Breakdown of Attendance by country
Source: own calculation based on eurodisney.comOnderkant formulier

In 2007 and 2008 records of 14.5 and 15.3 million of visitors were registered, and so it is the top-visited tourist attraction/destination of Europe. The increase in theme parks attendance primarily reflects growth in the French, Spanish and United Kingdom markets (figure 8). Euro Disney’s strong figures were credited to increased guest expenditure and theme park attendance, partly balanced by upper operating costs. Increased visitor spending was due to higher expenditures for food, beverage and merchandise, higher average ticket prices and higher average daily room rates. In 2007 spending per guest was equal to €45 and spending per room €197,9 (figure 9).

Theme Parks Spending per (in euros, excl. VAT)



Hotels Spending per Roo (in euros, excl. VAT)

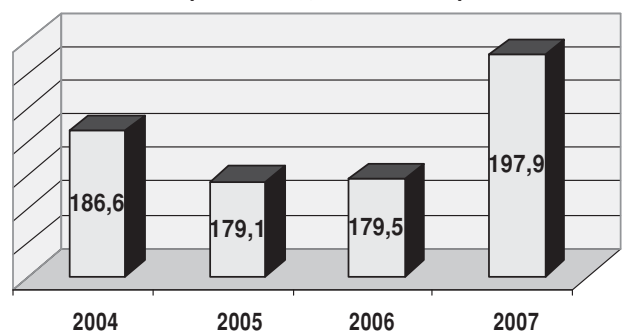


Figure 9. Theme Parks Spending per Guest
Source: own calculation based on eurodisney.com

During 2007, the company celebrated the Resort's 15th anniversary, though continuing with its expansion strategy designed to increase both visitor volume and spending at the Resort by attractive products and services to best meet the visitors’ needs and to take benefit of what management believes are significant opportunities to attract and keep visitors. The hotel occupancy rate improved by 5,8%, compared to fiscal year 2006 to 89,3% in 2007 which was the result from an incremental 123,000 room nights compared to previous year 2006. This raise was also driven by more guests visiting from Spain, United Kingdom and France.

3.3 Future and Conclusion

As Disney walks into the new millennium, it is impossible to predict all changes and advances that will

occur within the Company. While there are many plans for particular films, theme parks, attractions, television series, and other projects. No one can forecast precisely what the 21st C has in store for Disney, but one thing is sure: the Company is leading to meet the next hundred years by continuing and increasing upon its presence in all current areas of effort while reaching into some that have not yet even been considered.

Certainly, through the past 100 years several generations have been touched by Disney's characteristic brand of original magic world. Some may believe that the Disney Company has done all there is to do, but Walt's never-ending creative vision lives on within the animators, actors, imaginers, musicians, and other people world wide who are responsible for concreting the road to Disney's future. Just by looking at the plans stated for the first few years of this new millennium, one can see that the future at Disney is both exciting and filled with a character of fantastic originality. As Walt marked, "I only hope that we never lose sight of one thing- that it was all started by a mouse".

The Walt Disney Resort has come an extensive way from marshland to vacationland. Through some land purchases in the last twenty years, it now covers 30,500 acres. Its initial number of Cast Members has grown from 5,500 to 36,000. Attractions, Resorts, and even added theme parks are in expansion for years to come. The Vacation Kingdom of the World has considered and informed people young and old from all over the world (Tombs Dominic & Quinn Brian, 2005, p.255). Nowhere else on the globe can one meet a snow skiing alligator or robot transport pilots fly a magical pirate boat above the clouds, or ride a real vapor train through the Old West or discover a haunted hotel or stylish greenhouses, where growing systems platform the future of our planet's food supply. It promises every tourist that anything can really happen when they desire to be a star. And it is the realized vision of one man who believed that anyone can achieve what they set their brain to: Walt Disney.

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- <http://www.skyscrapers.cn>

THE APPLICATION OF BALANCED SCORECARD IN TEAM SPORTS

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Abstract: The present article discusses the application possibilities of the Balanced Scorecard strategic planning and controlling device for businesses managing team sports with the goal of professional efficiency and its long term sustainability.

Key words: Balanced Scorecard, balanced indicator system, team sports

1. Introduction

In the last decades an increasing number of clubs, associations, and partnerships behind professional team sports have become business enterprises as well; as regards their income and number of employees, there are numerous companies managing sports clubs in the medium sized enterprise sector. By nature of being businesses that manage sports, successful performance is usually the number one strategic consideration, however for the implementation of professional goals and their sustainability in the long run, the existence of a stable financial background and quality organisational process structure is absolutely necessary.

In order to develop and manage a suitable business strategy, a growing number of sports companies use processes applied in business solutions; the German football team VfB Stuttgart can be seen as an example, being the first in Bundesliga to introduce the Balanced Scorecard method for the definition of strategic directions and process control (IFUA Horváth and Partners, 2004).

A large number of national and international professional writings and case studies have dealt with the Balanced Scorecard (BSC) system therefore the emphasis in this article is not on the general introduction of the planning-management tool but on its presentation in a sports management context. Following the section on theory, I will examine the application possibility of the method in the case of a team sport managing company, which has in the centre of its strategic objectives a team of solid capital, having stable management, successful reserve and competitive sports and which aims at the deliberate development of the strategy, its division into clear areas, and operative implementation of subtasks.

2. Balance Scorecard Philosophy

In 1992 R.S. Kaplan and D.P. Norton realized that financial indicators alone are not suitable for the

management of a company, as competition and the dynamically changing environment make these past-oriented indicators outdated already at the time of application; therefore such tools should be involved also that provide information regarding factors influencing future performance (Imre, 2004). The authors developed the Balanced Scorecard (hereafter referred to as BSC) model for the operative translation, representation, and tracking of corporate strategy. The model represents corporate management and controlling from four significant – and balanced – perspectives: financial, customer, internal processes, and learning and growth potential (Kaplan-Norton, 2000).

The primary objective of using the BSC is to support the implementation of corporate strategy, for which the following are essential in advance: development of adequate vision, the clear definition of strategic objectives, the visual representation of objectives with the help of strategy maps, and the division of objectives into parts of objectives that can be measured by indicators with the designation of necessary target values (Bitó-Czerny, 2010).

3. Balanced Scorecard in Sports Management

The BSC model may serve the realization of a strategy along three corporate levels: optional number of scorecards (mapping of corporate strategy to be followed), perspectives that can be created within particular scorecards, and indicators controlling the implementation of the strategy (or parts of the strategy).

3.1. Corporate Strategy

In the case of businesses managing sports associations or sports clubs, the number one strategic perspective is almost always to perform successfully in the long run, the perspectives of which are presented in *Figure 1*. The strategic

objectives can be further divided on the basis of several criteria, we may examine the parts of the strategy in relation to a time horizon (short, medium, and long term), but one can also define partial strategy objectives for the reserve or adult teams of a sports club, in which case strategic goals are defined and divided according to age groups.

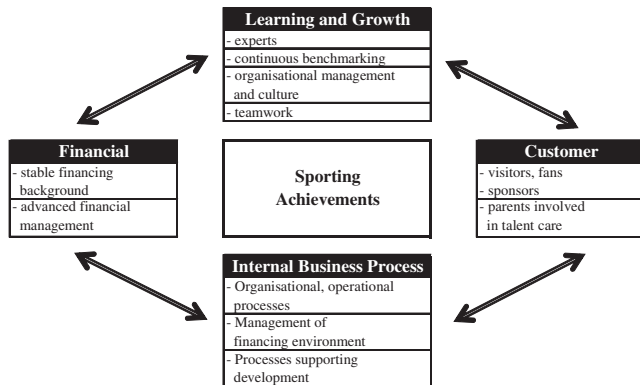


Figure 1. Perspectives of BSC
Own illustration on the basis of (Kaplan-Norton, 2000)

3.2. Perspectives of BSC

The perspectives of a sports enterprise BSC have a lot in common with the scorecard of a general producer or service provider company, as the existence of adequate financial management, well defined and effectively operating internal processes, necessity for development, or the management of the customer environment is just as important for successful operation as in the case of other business enterprises. The major difference is that it is not financial performance that serves as the final measure for the success of a particular organisation but the achievement of results in the profession of sports, which can become part of value creation as intangible assets.

Table 1. Customer Perspective in the BSC of a sports enterprise

	Fans	Sponsors	Parents
Customer perspective	<ul style="list-style-type: none"> - good performance by the team - good quality matches - suitable ticket prices - quality of service - team image - club loyalty - merchandise - VIP section service 	<ul style="list-style-type: none"> - valuable and effective advertising space - sponsorship with returns - media presence - growing corporate value - management of sponsors - number of fans, match attendance 	<ul style="list-style-type: none"> - successful adult team - adequate vision for the reserve team - talent care with high professional quality - appropriate information regarding plans and objectives

Source: Own illustration

The Customer Perspective

In the case of businesses managing sports clubs, we can define various customer segments, target groups: visitor and

fan groups, sponsors, and the parents behind reserve teams. These groups differ not only in terms of their composition and structure but also because for the particular customers different achievements serve as components of performance. In all three cases satisfaction, preservation, and growth can serve as acceptable measures of success, however different customer value propositions have to be placed in the centre of strategy in the different cases (Kaplan, Norton, 2004).

The Business Process Perspective

Value creation is implemented through internal business processes, performance through these serves as the basis for improvement from the point of view of customers. The internal operation processes can be divided into four additional areas: basic, customer, innovation, and controlling/social processes. By basic processes we refer to a system which governs the general operation of the business through internal documentation systems, the relationship between the management and coaches, coaches and players, and the systems monitoring general and professional work. Customer management controls the system of contacts with the groups defined in the customer perspective, the development of contractual relationships with sponsors, the creation of processes to acquire and keep fans, as well as the management of parental background behind reserve teams. In the case of producer and service provider companies, innovation processes involve R+D, in the case of sports this is implemented in the area of talent care with the continuous development of educational and training methods (Staudt, 2004).

Table 2. Business processes of BSC

Basic processes	Customer management	Innovation	Controlling and social processes
Processes influencing the general operation of the organisation	Processes increasing customer value	Search for new opportunities in the processes of value creation	Processes aimed at the improvement of the environment and community

Source: Own illustration

The Learning and Growth Perspective

The learning and growth perspective includes studies in connection with the skills and motivation of employees. Organisational growth can be realized if all employees are aware of the corporate strategy and can identify with it.

It is important for the organisation to have the ability to change through its employees and in order to achieve this, its workers, coaches have to be trained continuously, and a proper information base has to be established for the implementation of processes (Kaplan-Norton, 2002). The continuous improvement of trainings, the development of sections of talent care (additional trainings, sports psychology, etc.) can be aspects of growth.

The Financial Perspective

The strategic aspect of the financial perspective is the development of an enterprise of solid capital which is able to finance operational costs and necessary investments. Financial objectives are usually connected to profitability, typically through the increase in income and the return of invested capital (Kaplan-Norton, 2004). The long term proprietors' value, as the main goal in the financial perspective, includes two strategies: efficiency and growth strategy with the following segments: improvement of cost structure (reduction of expenses, solution of deficiencies), improvement of asset management; extension of income opportunities (new income sources), increasing of customer value (improvement of the profitability of customers).

In the case of profit-oriented companies, the increase of shareholder value is the number one financial objective, for the achievement of objectives in the profession of sports, the financial perspective aids the realization of strategy.

3.3. Indicators

"You cannot manage what you cannot measure. You cannot measure what you cannot describe." (Norton-Kaplan, 2004). The above quotation serves as the basis for the use of indicators of the balanced scorecard. If the enterprise has already defined its strategic objective and has divided the targets into the strategy sections according to the four perspectives, the realization of the objective becomes measurable and controllable with the use of key performance indicators. Simultaneously with the definition of indicators, the designation of target values is also needed, which can be used as points of reference during the realization of the strategy.

4. Practical Use of Balanced Scorecard in the Case of Team Sports

With the help of BSC, I am going to present the strategy of an enterprise the aim of which is to participate in the first league and to establish an extensive reserve basis. The case study presupposes a financing environment (sponsors, local government, payments by parents, etc.) which can provide the financial background of the enterprise until the realization of the strategic objective. Besides those mentioned above, the necessary infrastructure (training, competition locations) is also available for the achievement of the objective providing the necessary training time capacity for trainings and competitions required by the enterprise.

First let us examine the cause and effect relations between the perspective level objectives of the enterprise, the graphic representation which is often facilitated in a so called strategy map (in the strategy map the perspectives are above one another according to the strategy of the enterprise).

In the case of the enterprise under consideration, the financial perspective was placed at the lower part of the

strategy map, that is it does not suppose primarily profit-oriented activity (in the strategy map of these enterprises the financial perspective is at the top of perspectives built on one another), but a financial approach that can ensure and finance long term operation. During the examination of the financial perspective two strategy sections are distinguished: the efficiency and growth strategy. The efficiency strategy can be further divided into operational cost structure and asset acquisition and management related examinations. During the development of the cost structure, all types of costs that can emerge until the realization of the strategic objective have to be considered; following their definition, it is practical to create a clear cost classification. Aspects of the cost structure can be for example the direct costs attributed to particular reserve age groups (renting of training location, competition costs – travel, accommodation, referee fees, etc.) and the indirect costs (administration costs of the management or for example the wage costs of the masseur). The other aspect of the efficiency strategy involves the management of processes in connection with asset acquisition and asset utilization which can also be divided to asset management in connection with general and reserve teams as mentioned above.

The other segment of the financial perspective is the implementation of growth strategy objectives, which – similarly to the efficiency strategy – can be arranged around two strategy section aspects. The recognition and adequate utilization of income opportunities is one of the major aspects of growth opportunities which manifest itself in the definition of income sources that can be realized and in the maximisation of income opportunities. From the perspective of the enterprise, membership fees, ticket sales, sponsorship contracts, services provided during the matches, television broadcast rights, tendering sources, and local or national government subsidies can be income opportunities.

Following the study of the financial perspective, the learning and growth perspective defines what type of human, information, and structural capital is necessary for the support of internal processes (Kaplan-Norton, 2004). One of the crucial aspects for the fulfilment of professional objectives is the existence of a training staff with appropriate expertise and management conducting general tasks. Within the learning and growth processes of human capital, special attention should be paid to the adequate training of the coaching staff (benchmarking in countries with well developed sports, participation in further trainings for coaches) and the field of talent care.

The next segment of the strategy map involves the examination of the internal processes perspective. If the company has well definable strategic goals, besides the learning and growth perspective, the internal processes will show the opportunity to implement the strategy. Internal processes can be grouped around four aspects: structural processes defining basic processes, management of customer environment, study of development processes, and the controlling processes. In the case of a sports organisation, we can define activities in connection with general operation,

management, and human resources as basic processes, while activities in connection with talent care can be interpreted as a special section of the last one.

The perspective of customer environment management includes those financing the sports organisation, with special regard to sponsors and parents paying membership fees. In the case of sponsorship contracts, it is necessary to create a media offer which includes the marketable spaces of the enterprise, its events, as for example the sale of team shirt advertising space or sponsorship of the match, event. The management of relationships with sponsors requires maintaining contacts with the sponsors continuously following the conclusion of the contract.

At the end of the case study let us summarize the strategic objectives and indicators connected to a particular perspective.

Table 3. Strategic objectives and indicators

Perspectives	Strategic objectives	Indicators
Financial perspective	Increase of income	Income from sponsors
Customer perspective	Increase of sponsorship contracts	Number of contracts
Internal processes perspective	Selection, talent management	Increase of selection criteria
Learning and growth perspective	Development of professional work	Number of trainings for coaches

Source: Own illustration

5. Conclusion

Similarly to business enterprises, companies managing team sports also need to develop an appropriate strategy and introduce and continuously use systems supporting implementation. The Balance Scorecard model is suitable for sport businesses because it is capable of presenting not only the financial processes but also the elements of vision and strategy so crucial in sports. With the designation of a target value connected to non-financial perspectives, the customer, learning and growth, and internal structural perspectives

connected to organisational performance can also become quantifiable and through the assigned indicators the development tendency can be measured and controlled.

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NEW TYPES OF TOURISM AND TOURISM MARKETING IN THE POST-INDUSTRIAL WORLD

László Arva and Zsuzsa Deli-Gray

Abstract: At the end of the 20th century in the most developed countries economy and society went through profound transformation. The emerging post-industrial society can be characterised by the dominance of service industry, more leisure time of the population, higher disposable income and more conscious consumers. These conscious consumers are more and more quality orientated and reject undifferentiated mass products. New customers of tourism and hospitality industry are not only more affluent – so less price conscious – and more quality orientated but they are also seeking activity, participation, fantasy, and experience. These new types of tourists are interested rather in aesthetic aspects of life and are seeking highly differentiated, personalised experience. In the following article the authors, professors of the French ESSCA business school overview theoretical aspects of new, post-Fordist tourism demand and present examples of the new tourism and hospitality products having emerged in the developed countries during the last years.

Key words: tourism, tourism marketing, post-modern marketing, consumer behaviour, product development, new types of tourism

1. Shift from Fordist to Post-Fordist Tourism Consumption and Production

In order to be able to understand those new forms of tourism which emerged during the last decades, starting from the new types of educational tourism through the youth music festivals till the new types of entertainment centres at the highways, we have to overlook the new developments of tourism consumption theories briefly.

After summarizing the latest findings of tourism consumption theories, based on the works of *Miles* (1998), *Saunders* (1981) and *Bourdieu, Shaw and Williams* (2004) described the development of tourism consumption in the developed countries from Fordist type consumption to post Fordist consumption patterns.

Fordist type consumption was the product of the post WWII economic development, with longer paid holidays, wide use of cars, and increasing purchasing power. This tourism can be called mass tourism and according to *Shaw and Williams* (2004) its characteristics are the following:

- o collective consumption by undifferentiated tourists
- o Collective gaze of tourists – focused on signifiers designed to concentrate tourists' seasonally polarized consumption
- o Demand for familiarity by tourists
- o Undifferentiated product – similarity of facilities and experiences
- o Rigidity of production – highly standardised, large scale, dependent on scale economies
- o Low prices – importance of discontinuing and price cutting
- o Large numbers of tourists to a circuit of mass production

The Fordist type of tourism consumption was the result of the “trente glorieuses”, the thirty-year-long rapid economic development in Western Europe and in the USA between 1945 and 1975. The first and second oil crisis (1973–1977) and consequently, the introduction of new technologies – computers, IT technologies, satellite communication – and new production methods – Toyota just in time system, foreign investments and multinational company structures – speeded up the process of creation of the “Global Village” (*McLuhan*, 1962). In this “global village” information spreads at speed of light and the IT based technologies make the development of tailor made, specialised products for a differentiated market easier. With the spread of foreign investments and the development of the multinational companies, income differences also have started to grow rapidly and this contributed to differentiation of tastes and demands. The formerly homogenous middle class has become more differentiated and Bourdieu's definitions (1984) “new bourgeoisie” and “new petit bourgeoisie” have emerged.

This “new bourgeoisie” and “new petit bourgeoisie” are important taste makers, they are highly educated but their life-styles are different from that of the traditional bourgeoisie. The new bourgeoisie is active mainly in service industry and rich in economic and cultural capital, as the “new petit bourgeoisie” has much more modest economic capital but their educational level is very high (*Shaw, G., and Williams, A.M., 2004*). Representatives are mainly professors, teachers, journalists, and civil servants.

The emergence of the “new bourgeoisie” and New Petit Bourgeoisie” contributed to the appearance of the “post-industrial or post-Fordist mentality” and “post-industrial or post-Fordist consumption patterns”.

It is important to note that philosophers and sociologists are referring to this complex post-industrial attitude as post-modernism, stating that the modernist philosophical and artistic movement of the 20th Century are greatly the offspring of the industrial, mass society with its mass consumption attitudes (see in the works of Lyotard (1984), Brown, (1997) or Shaw and Williams (2004)).

After the book of Urry (1995) Shaw and Williams summarized the pattern of post-Fordist or post modern tourism in the following table:

Characteristics of post-Fordist consumption	Tourism examples
Consumers are increasingly dominant and producers have to be much more consumer orientated	Rejection of certain forms of mass tourism (holiday camps and cheaper packaged holidays) and increased diversity of preferences
Greater volatility of consumer preferences	Fewer repeat visits and the proliferation of alternative sights and attractions
Increased market segmentation	Multiplication of types of holiday and visitor attraction, based on lifestyle search
Growth of consumers' movement	Much more information provided about alternative holidays and attractions through the media
Development of many new products, each of which has a shorter life	Rapid turnover of tourist sites and experiences, because of rapid changes of fashion
Increased preferences expressed from mass forms of production/consumption	Growth of 'green tourism' and forms of refreshment and accommodation individually tailored to the consumer (such as country-house hotels)
Consumption as less and less functional and increasingly aestheticized	'De-differentiation' of tourism from leisure, culture, retailing, education, sport, hobbies

New types of tourism demand have profoundly changed tourism supply and tourism marketing activities as well. Differentiated product development and differentiated marketing became more important and generation of experience became important practically in all tourism products. At the same time, visitors are not only passive consumers of experience but would like to participate in the generation process of the experience actively.

In the next pages we will present examples of these new-typed tourism products and new types of tourism marketing activities from Hungary, by describing some new types of motorway highway stations, new forms of festival tourism and new forms of educational tourism.

2. Analysis of new tourism products

2.1. Motorway highway stations

Post-modern tourism experience can perhaps be illustrated the in the best way by the example of new types of motorway service stations in Europe.

The development of highway service stations started in Europe after the WWII with the highway construction boom

in Germany, Italy and France. Traditionally highway service stations have offered the travellers gasoline and some snacks in small rapid restaurants in the vicinity of the filling stations. Sometimes smaller motels were built in the area mainly for long distance truck drivers.

As in the 60s personal cars became more widespread in the middle class and as people could enjoy longer holidays, more and more families started to travel by cars to the seaside or to the mountain ski resorts. This was the time of mass family tourism and highway service stations started to get adapted to the changing demand.

The first step of adaptation was generally the enlargement and modernization of the cafeteria at the filling station in order to attract other clients than the long haul truck drivers. The next step in Western Europe, mainly at the end of the eighties and at the beginning of the nineties was, that separate catering and hospitality centres appeared at the highway service stations, generally approximately 100–150 meters from the filling stations. In these catering and hospitality centres everything was about to serve the middle class travellers. Restaurants, grill bars, coffee shops, souvenir shops, business lounges and even smaller conference rooms are waiting for the travellers in the new catering and hospitality centres, which in Austria are mainly operated by the Rosenberger, the Marché or the Italian Autogrill companies. In these catering and hospitality centres also smaller, 3 star hotels with 5–10 rooms can generally be found. The hotel facilities are also aiming the families and business voyagers instead of the truck drivers. The choice of food and beverages are much greater in these centres than in the old-fashioned quick restaurants at the filling stations or in the traditional road side inns. They are targeting the typical demanding, well off new middle class travellers, let they be on business trips on family excursions.

In Hungary similar centres have just been built beside the M1 highway at Mosonmagyaróvár and at the Budapest MO periphery highway. They are all operated by the Swiss Marché group.

Though these new catering and hospitality centres are relatively new establishments, targeting new middle class travellers, this is not the last word of the development of the catering and hospitality centres beside the highways.

The new, we would say "post-modern" catering and hospitality centres at the highways are different from the traditional catering and hospitality centres not only in their appearance but in their marketing philosophy as well. As the traditional centres do not want to be anything else than high quality and efficient places beside the highways, where middle class travellers can have a shorter or longer stop-over, and where they can eat, refresh or perhaps spend a night or can have shorter company meetings, the new "post modern" centres want to give special experience to the travellers.

Typical example of these post modern catering and hospitality centres are operated by the Austrian Oldtimer company. The Oldtimer catering and hospitality centres are highly visible from the highways. These centres – there are four ones in Austria today – are rather eccentric

architecturally, and catch the eyes of the travellers. Beside one of the Oldtimer centres there is an oversized pirate ship, where children can play if they wish. The internal setup of these centres is also unique and rather eccentric, too. In these centres travellers can also find restaurants, coffee shops, conference rooms and small hotels, just like in the more traditional catering and hospitality centres, but the internal decoration of these facilities is different. Some old furniture can be found here; there is an old motorbike and at the corner an armoured cavalier is watching the guests. The walls are covered by wooden sculptures in the famous Hundertwasser style.

The Oldtimer Centres are close relatives of the Disneyland castles and their aim is also the same: to create special experience for children and for the adults who have kept the child in their hearts. Naturally these centres are not only passive spaces of the childhood nostalgia as in case of special Oldtimer car meetings, special country music festivals and other events.

Children play a special role in the marketing philosophy of the Oldtimer centres. The marketing managers of the Oldtimer company have realized that more and more middle class families travel on the highways with children. Business travellers travel by airplanes or express trains but families generally prefer cars as it is easier to carry all the equipment, toys and sport gears needed for the children than by airplane or by trains. And as the children are the apples of the middle class families, naturally they will have a short stop-over where the children wish – and they prefer pirate ships, wonderland and the armoured cavaliers of the Oldtimer Centres.

The Oldtimer Centres are typical examples of Disneyfication of tourism and catering – creation of experience in the everyday activities, even in the middle of the highways, between Vienna and Graz.

The slogans of these centres are: activity, participation, fantasy, entertainment and fun.

2.2. New types of educational tourism

Students travelled to faraway places even in the Middle Ages in order to be able to learn from the best professors of their time. Universities were founded in the peripheral countries in Europe only later, and never became as important as the traditional Western Universities in Heidelberg, in Berlin, in Paris.

Till the emergence of “new educational tourism” universities had practically only one unique “marketing tool” to attract foreign students: to invite the best known professors to their cathedras.

Today higher educational mobility has a completely different new aspect. Educational mobility today is getting more and more as much a tourist activity as an educational one. In our days according to the OECD more than 4 million students study abroad at colleges and universities all over the world. Half of the students arrive from the newly industrialized countries and they are sons and daughters of the new middle class, who can afford to travel to the

developed countries. The proof of it is that the majority of the students arrive in the USA, Western Europe and Australia.

Naturally, one of the major aims of the foreign students arriving at the universities of the developed countries is to learn, but the emphasis from the big names of certain professors has shifted to the general judgement of the universities which is mainly measured by the university ranking list, produced generally by the great journals and magazines.

But besides learning other aspects are also getting more and more important for the students arriving from abroad.

These aspects are the following:

- o the general level of development of the country where the university is working
- o ambience of the university town
- o tourist attractions in the vicinity of the university
- o sporting facilities and other entertainment possibilities of the university
- o general ambience of the university.

As priorities of students regarding to their university choice are changing, the marketing activities of the universities also have to develop. In case of ESSCA, Ecole Superieure des Sciences Commerciales d'Angers, the leading business school of France, besides providing high level academic programmes, which is the highest priority, internationalization and organizing programs for the students getting more and more important. That is why ESSCA has created filials in Budapest and Shanghai where students who have started their studies in France can continue their studies and can get acquainted with completely different general and company cultures. Internationalization makes it necessary to have partnership with other universities from where students and professors arrive at ESSCA, and naturally students of ESSCA also can spend one or two semesters in these partner universities.

Beside the internationalization it is extremely important to provide facilities for students for their after-learning hour activities. Sport halls, entertainment centres are also provided for the ESSCA students. As after-class entertainment is regarded very important, special evenings are organised for the students by the university where they can present their home culture for the students of other nations.

For universities it is very important to have foreign students as in the developed countries their number is generally declining because of the well known demographic trends. To attract students they need well designed marketing activity, where, beside the traditional academic values, tourist aspects have to be taken into consideration as well. Naturally it is a great danger to overemphasize tourist aspect against the traditional academic values as even today the core product of the universities should be knowledge, but the auxiliary tourism products around it is getting more and more important.

2.3. New musical youth festivals in Hungary

Before 1990 different musical groups organized summer camps for their fans and similarly folk music and folk art camps and events were also organised sporadically. At the

beginning of the 90s two independent initiatives emerged to organise summer youth festivals, where not only the fans of one type of activities or of one music style could find their interesting programs but these several-day-long festivals could attract youth having completely different interest. The idea was to organise a festival with highly differentiated products for highly segmented customers.

As we have mentioned this idea came to the mind of the group leader of the successful Hungarian pop group, named Sziami, Peter Muller and independently from him to the avant garde composer, Istvan Marta.

Though the target group in each case was the same, realization of the “product” was different: Peter Muller started to work out a Music Festival in the heart of Budapest, István Márta wanted to organize his festival in the countryside. In both cases the main target group were the well off young people, interested in music, but in case of Muller’s project the stress was on pop music, in case of Marta’ project folk music and amateur performances were also part of the menu.

From Peter Muller’s idea the famous Sziget Fesztival (Island Festival) has emerged which has become one of the most important music festivals of Europe with nearly 400 000 visitors in 2009, and from Istvan Marta’s idea the also famous Kapos Art Festival was born, which has also attracted tens of thousands of young Hungarian and foreign visitors during the last years.

As both festival were highly successful regarding the number of visitors, the Sziget Fesztival of Peter Müller has generated increasing volume revenue and profit, Kapos Art Festival was a financial disaster and in 2009 it seemed that it would die away forever because of the financial problems.

What were the causes of these differences in profitability of the two festivals? First of all, Sziget Fesztival as a product has attracted largest number of visitors because besides the local groups real big pop stars could be invited just because of the solid and every year increasing revenue of the event. On the other hand Kapos Art Festival could never get rid of a certain flair of amateurism, as the events were dominated by less widely known performers and ensembles.

But it was more important that in case of Sziget Fesztival the whole process was organised in an excellent way, while the process of the organisation was more haphazard and occasional in case of Kapos Art Fesztival.

In case of Sziget Fesztival, the events were organized in the hearth of Budapest, at an easily accessible place, on an island. It is important that to this island the visitors can enter only through a limited number of entrances, across bridges, so entrance fee can be easily collected. Companies were also eager to sponsor the event as very large number of visitors gathered at a relatively limited place where their information had a large chance to reach the young people participating at the festival.

In case of Kapos Art Fesztival, events were scattered around a dozen of villages, and the entrance of visitors could not be controlled and entrance fees could not be collected as there were altogether more than 7 big roads and numberless side roads where anyone could enter the festival sites.

Revenue of the festival entered into the owners of the restaurants, hotels and even gardens where visitors had to pay for tent places. Sponsors were not happy with the participation of large number of villages in the festival as relatively small number of visitors presented at each site.

Regardless of the differences in financial performance of the two festivals, both are good examples of the new types of festivals aiming the demanding and relatively well off new middle class youth as target group. It is also important that in both cases the festival offers good opportunities for young people to meet each other, and this aspect of the events perhaps has attracted as many visitors as many big names of pop music, who performed at these festivals.

In both festivals – regardless of the relatively large number of participants – the programmes are highly differentiated for the different audiences. For the participants active participation and interaction are very important elements.

3. Some conclusions

As in service industry generally, in tourism the changing demand is generating new products, and/or changing the faces of the old products. New bourgeoisie and new petit bourgeoisie with their new post-modern attitudes demand products which are radically different from the old style mass tourism products. These new customers are more informed, have higher disposable income, need more freedom in their choices, reject “passive gaze” and are more active. As they are spending a lot of time in front of the computer, they are not only more informed but at the same time they live in a virtual world as well, so they need more fantasy – some Disneyland effects are always welcome by these customers.

Tourism marketing also has to get adapted to the new consumer behaviour.

Old products are reappearing in new forms and completely new products are developed in order to meet the changing needs of the new customers.

The life cycle of products is getting shorter, market segmentation is getting more difficult and the market segments are getting smaller. Products are more targeted.

In the previous examples we could see that activities, which had formerly no or insignificant tourist elements – like education –, today have a lot of tourist aspects. We saw that traditional, even a little “boring” services like highway-side service stations can be transformed into Disney-like fantasy land entertainment centres, universities get tourism aspects and single product music festivals are changing into multi product, week long festivities.

The slogans of new tourism marketing are:

- **“Participation,**
- **Entertainment**
- **Fantasy**
- **Personalization and**
- **Fun”**

These are the basics of tourism product development in our days and these could guarantee the satisfaction of the new, affluent, informed and educated customers in tourism.

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EFFECT OF CLIMATE THERAPY AND REHABILITATION IN MÁTRA MEDICAL INSTITUTE

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Abstract: Our research we organised at the Mátra Medical Institute in Mátraháza and Kékestető among sick of asthma, COPD and hayfever. Our aim was to prove the effect of climate therapy in the Mátra Medical Institute. The subalpine climate to plays a very important role in the cure of the Respiratory diseases, because to improve the life quality of the sick and reduce the medicine uses after the therapy. Our research took part more than 100 respiratory diseased. We analyse the data with SPSS.version 16. We measure average, standard deviation, Chi² probe, t-probe. You can see our results in the article.

Key words: asthma, pulmonology illnesses, climate therapy, life-quality

Introduction

The asthma of all ages is a serious public health challenge worldwide. Asthma is the 25th reason included in the Disability Adjusted Life Years ranking in 2001, prevalence and quality of life and the impact of health spending under considerable pressure and gives the task of doctors working in primary care as well.

Nearly 300 million people are concerned worldwide, prevalence is observed between 1–18%.

Determining the prevalence of asthma in a wide repertoire of domestic literature (Nagy et al., 1997; Mora, 1998; Gönczi, 1998; Páll et al., 2001; Virágh, 2004).

Hungary, a significant increase in asthma over the last few years. In 2005, 196 thousand were number of asthmatics registered in the network of lung clinic and while it was only 78 thousand based on historical data 10 years ago (Somfay, 2007).

The number of getting asthma rising with 18,000 every year. Outstanding is the rapid increase in the number of children with asthma. Examining each group of ages, cases of the 20–30-year-old all makes up 1/5 of all patients.

County Zala and Fejér and lead the distribution of number of asthmatics, while in Borsod-Abaúj-Zemplén and Pest County are less "infected" counties. This figure is much worse, if we check the asthma, together with changes in the number of patients of hay fever and bronchitis treated since 2000 from 390 to 650 thousand in 2006, an increase in the number (CSO, 2006).

The use of natural curative factors gets special attention to diseases in both domestic and international context, which could cost the drug treatments. The treatment of respiratory diseases, a number of useful medicinal factors: climate, salty air of the cave or the beach.

Mátra hospitals is the only sub-alpine air medical institution in our country where in treatment of the asthmatics, COPD patients and hay fever patients climate impacts were added to the medicinal and the movement-therapy treatments good results have been achieved in improving the quality of the patients' life and their needs of medicine. Mátraháza unit is about 700 m the unit Kékestető is 1000m above sea level. On this is height the house dust mites cannot live and the ragweed occurs extremely rarely. The clean air, dust and pollen free environment are extremely favourable conditions for the health institution. These are also favourable conditions for the use of respiratory diseases, as they are popular practice spots for cure-terraces, Terra cure and the respiratory route.

Literature review

The affect of climate on healthy and sick people has been dealt for a long time. Genersich Andor, Hungary's chief medical director, opened the first 300-beds lungclinic in 1932 on 15 June. Official name: Hungarian Mátra (Royal), Miklós Horthy hospital. The Director of the Institute defined climatology that it deals with all the effects of the wider meteorological factors in living organisms. Based on his empirical experience he found that tuberculosis gets better and recover quickly with a certain climate. (Genersich, 1932).

Several international researches report the possibilities of high-mountain climate therapy. Mátraháza is known as „The Hungarian Davos”. Skiplaces of Switzerland, like St. Moritz, Davos, Arosa, Saasa Fee, Pontresina and Interlaken, function as skiplaces in winter and climate medical holiday home in summer. The first lungclinic was in Davos. The mountain

climate, clean air and plenty of sunshine seemed to ensure all main ingredients that were needed for the treatment of tuberculosis before effective therapy treatments. Davos means attraction for the growing number of people suffering with asthma, other allergic diseases and atopic skin disease. There are currently more than 14,000 patients treated every year who came from Switzerland, Germany, the Netherlands and other countries here. The main aim of the Swiss Allergy and Asthma Research is to start an overall study to made the immune system and its controlling more understandable. (Kurt Blaser, 1989).

According to the researchers conducted high-altitude climate therapy it is a very accepted method, which improves the clinical symptoms of asthma. The climate therapy reduces airway inflammation and regulates the lymphocytes (lymphocytes) activity (Karagiannidis C. et al., 2006), which is also an international research report.

Previous studies (Müller-Kerényi, 2009), performed by the Medical Mátrai treated 50 patients with asthma, allergy and COPD showed that after the first month of the treatment of the examined patients' suffering the 3 types of disease needed significantly less medicine, than a half year later.

Materials and Methods

September–October 2009 launched a research in the circle of asthma, hay fever patients and COPD patients in a medical background. Pest Anna chief medical officer, internal medicine, pulmonary rehabilitation specialist, and Peter Kenyeres Dr, chief medical officer, anesthetist took part in it from Mátrai Medical Centre.

With our research we aim to prove that two units of Mátra hospitals in Mátraháza and Kékestető play a significant role in treating patients with respiratory problems, improving quality of life of patients and reduce the needs of medicine.

Ask questions:

- How are asthma and allergy healing and the quality of life coming out after a medical treatment completed with climate therapy in the institution of Mátra and Kékestető hospitals?
- What factors affect patients to choose institutions?
- What is patient satisfaction like?

Hypothesis:

- After hospitalize asthma, allergy and COPD patients their quality of life improved and their needs of medicine reduced. After the hospital treatment the effect of treatment reduces with time.

From 2009 October 2010 until January in the institution, the patients with asthmatic and allergic symptoms filled out questionnaires, which, was internationally standardized, based on St. George life quality (simplified by Professor Somfay) and Asthma Control test. In the questionnaire was used both closed and open questions. The questions have been done alternative answers, which facilitated the completion of the questionnaire. The medical questionnaire

measurements (BMI index, FEV1, FEV1/FVC, 6-minute walk test) was added.

The internationally validated Asthma Control Test (ACT) and the also validated St. George life quality test were used, completed with other issues as well. The part of these issues were questioned about the social-demographic data of patients, smoking habits, continuing physiotherapy, development of the medicine demand after the 6-month interwall treatment of the institution.

Primarily analysed the life quality of asthmatic patients, COPD patients and hay fever patient.

The results of a questionnaire processed by the SPSS 16.0 software. Expected average, standard deviation, median and Mode values were calculated. The examination of coherence the Pearson Chi² test was used.

A sample:

In the main study, 113 (male n = 19, female n = 94 persons) respiratory patients were participated who had been treated more in the Mátrai Medical Institute. The questionnaire was filled out by every fifth patient, who were treated asthma, rhinitis or COPD disease from September of 2009 til January of 2010 the department of pulmonology hospitals Mátra.

35.4% of the patients were in Mátraháza, while 74.6% of them were in Kékestető for 3 weeks. The 16.9% were male, 83.1% were female of the survey respondents.

14.2% of the respondents live in the villages, 31% in town, 30.1% in county and 24.8% live in the capital city. Mátra hospital has nationwide authority, which was included in the sample of patients as evidenced by residence because all regions were represented.

The average age of the patients was 61.54 years (SD = 9.489), and therefore the 76.9% of the patients were retired. Among the free time activities of the patients were not found anything, which would be heavy physical stress or high load to them. Typical recreational activity were the followings: reading, watching TV, rebus, needlework, hiking.

72.6% of the patients (82 persons) were asthmatic, 33.6% (38 persons) were hay fever patient and 37.2% (42 persons) had COPD disease were diagnosed and treated. The most commonly occurring respiratory disease was the asthma then the COPD and the lowest the hay fever patients. In the sample 14 people were participated who have asthma and COPD disease together, 35 people had allergic asthma accompanied hay fever and the 4 people main who had COPD disease and hay fever were at a time.

Results and Discussion

The motivation was questioned of choosing institution. For this question, we have more alternatives and the patients could mark more than one. 91.2% of the respondents (103 people) mainly visited the institute because of the healing, the same, 103 (91.2%) people because of the climatic spa-factor. Therefore the most of patients know the climatic, spa-factor. Thus, the considerable history, the good reputation,

the developments of the last decade, and the well-introduced brand in the home healthcare market resulted the very high proportion of recurrent patients. Physician's recommendation was a determining factor, which was marked by the 68.1% of the patients (77 persons). 68.1% of the patients (77 persons) marked the previous positive experience, which motivated choosing the institution.

Activities	The formation of the average and deviation values of the certain functions compared the 1-6 months after the treatment in Mátraháza or Kékestető					
	1. month average (sd)	2. month average (sd)	3. month average (sd)	4. month average (sd)	5. month average (sd)	6. month average (sd)
Walking	0,23 (0,50)	0,37 (0,657)	0,6 (0,688)	0,99 (0,785)	1,35 (0,894)	1,58 (0,864)
Stair climbing	0,63 (0,734)	0,82 (0,782)	1,13 (0,829)	1,42 (0,863)	1,64 (0,887)	1,77 (0,886)
clothing	0,20 (0,446)	0,23 (0,463)	0,35 (0,563)	0,50 (0,709)	0,67 (0,881)	0,76 (0,909)
Washing	0,19 (0,454)	0,19 (0,460)	0,31 (0,552)	0,50 (0,683)	0,63 (0,804)	0,69 (0,727)
Shopping	0,41 (0,727)	0,50 (0,746)	0,76 (0,805)	1,12 (0,825)	1,41 (0,852)	1,50 (0,888)
Housework	0,40 (0,688)	0,50 (0,698)	0,89 (0,828)	1,20 (0,836)	1,50 (0,836)	1,58 (0,863)
Working	0,50 (0,733)	0,63 (0,734)	0,96 (0,828)	1,29 (0,831)	1,58 (0,843)	1,63 (0,858)
Hobby	0,14 (0,351)	0,16 (0,369)	0,32 (0,524)	0,54 (0,721)	0,71 (0,841)	0,76 (0,841)

chart 1. The disease is confined to the core activities of the extent of hospital treatment after compared 1 – 6 months

In the chart, can be observed that after the hospital treatment in the first month in almost all activities, the average low is between 0 and 1, which means that patients in the hospital treatment after the first month the illness were not or only slightly limited in the everyday activities and work. 6 months later, the averages have increased, which indicates the reduction of the impact of the treatment and their illnesses or symptoms are more limited in the above named activities.

The results of the hospital treatment after the first and sixth months were compared with two-sample t-tests, and walking, climbing stairs, dressing, washing, shopping, housework, working and hobbies showed a very strong significant difference ($p < 0.001$). Thus, demonstrated that after the therapeutic treatment in the Mátra Medical Institute for (medication, physiotherapy and breathing exercises) in the first months the asthmatics, allergy and COPD patients could more easily carry out the test activities, then after the treatment in the sixth month. This fact is important because doing these daily activities without limits ensures the patient's convenience and significantly affected of the quality of life.

After the complex therapy not only the patients life quality was better, but also decreased the medicine demand. The results after the first and the sixth month of hospital

treatment were compared with two-sample t-tests and significant differences were experienced:

- o After the first month of hospital treatment the demand of Steroid and Medrol of COPD patients was less than after the sixth month. ($t = -3,767$ $df = 41$, $p = 0,001$).
- o After the first month of hospital treatment, the Allergic rhinitis (hay fever) patients took less allergy medicine then after the sixth month it increased significantly ($t = -3,582$ $df = 37$, $p = 0,001$).
- o After the first month of hospital treatment, the Allergic rhinitis in (hay fever) patients used less nasal spray than after the sixth month. ($t = -3,822$, $df = 37$, $p = 0,000$). The results shows a very strong significant difference ($t = -3,822$, $df = 37$, $p = 0,000$).
- o After the first month of hospital treatment, the asthmatic patients used is less inhalative device (Ventolin, Berodual, Berotec) than after the sixth month ($t = -9,815$, $df = 81$, $p = 0,000$).
- o After the first month of hospital treatment the patients used less steroids ($t = -2,840$, $df = 81$, $p = 0,006$) and intravenous injection ($t = 1,997$, $df = 81$, $p = 0,049$) than after the sixth month.

These data partly confirm that the personal hospital treatment, climate therapy of Mátraháza added, significantly improves the life quality, health status of asthmatic patients and reduce the medicine demand. The research results confirm that the investigations being continued with more people under treatment.

Discussion

Treatment of asthma went through significant improvements in the last few years. Today, the inflammatory nature of asthma proven and accepted fact. Therefore the steroid-contained antiphlogistics play important role in the treatment of asthma. These drugs are very expensive and it sets a significant burden on individuals and society as well, because of the growing number of asthmatics.

The medicine demand can be significantly reduced by hospital treatments, climate and movement therapy, which were justified by the examinations of patients who were treated in the Mátra Medical Institute.

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CHANGING PATTERNS IN HOTEL ROOM DEMAND – CASE STUDY OF THE AQUATICUM DEBRECEN THERMAL AND WELLNESS HOTEL

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Abstract: Aquaticum Debrecen Thermal and Wellness Hotel is a very successful lodging property not only in Debrecen but also in the Northern Great Plain Region and in the Eastern part of Hungary and in point of fact in Hungary. In the past years Aquaticum Thermal and Wellness Hotel has been the leader in the region by revenue per available rooms (RevPAR). RevPAR indicates the overall performance of properties, accordingly it is the most commonly used statistical indicator in comparison to competitors in Hotel industry.

In the past years, demand for Hotel rooms has changed. This changing has several signs. For instance the occupancy rate, the rate of domestic and foreign guests, the nationality of foreign guests, the time between booking and travelling, and many other demand patterns have changed. During the last year, the changing has been accelerated by the global economic crisis.

Guests are waiting with their bookings hoping for better rates and last minute offers. The forecast of demand became much harder than ever before. These forecasts are basic ingredients of the revenue management systems, which systems are in use or will be in use by Hungarian Hotels. These systems are necessary to keep RevPAR at a higher level and to help Hotels to achieve better performance.

Key words: demand, Hotel, market, Aquaticum, revenue management

1. Introduction

In this chapter, I briefly introduce the Aquaticum Debrecen Thermal and Wellness Hotel and its role in the tourism of Debrecen and in the Northern Great Plain Region.

The four-star Aquaticum Debrecen Thermal and Wellness Hotel is situated in the first nature conservation area of Hungary, the leisure-time zone of Debrecen, in the heart of Great Forest of Debrecen. The Hotel is located in Aquaticum Medical and Bathing Centre, where thermal baths, indoor swimming pool, outdoor pools, the indoor Mediterranean Water Park, a medical department, a wellness island, a Thai Massage Centre, a Dental Centre and restaurants offering Hungarian specialties, provide complex services to the Hotel guests.

In the air-conditioned Hotel, 56 double rooms and 40 comfortable apartments await the guests. Each room features a balcony, bathroom with tub or shower, television, pay-tv, movie channel, WI-FI Internet connection, minibar, in room safe, hair-dryer, and bathrobes.

Aquaticum Mediterranean Water Park can be accessed directly from the Hotel via a glass-walled corridor. This direct connection is the most valuable facility of the Hotel. The abundant tropical flora and adventure elements of the special water centre conjure summer out of every single day of the year.

In the Mediterranean Water Park, a wave pool, children and baby pool, 12 slides, a climbing wall, slow-river corridors, water massage jets, water mushroom and neck showers, cave pools, pleasure paths and water choppers offer great entertainment. The Mediterranean Restaurant, Thai Massage Centre, as well as a Sauna Centre equipped with a Finnish sauna and steam chambers serve the recreation of the guests.

Nowadays the Hotel and the Water Park together is a paradise for families with little or bigger children. However, if we look back to the past we can see a different picture.

The Hotel was built in 1998 in order to provide services for guests who had rheumatic diseases. That time the market of medical tourism was large. The neighboring city Hajdúszoboszló had been world famous for its thermal water and known as the „Mecca of rheumatics”. The ingredients of the thermal water of Hajdúszoboszló and the thermal water of Debrecen are nearly the same. This fact and the success of the medical tourism in Hajdúszoboszló were the main drives of the idea of planning and building a Thermal Hotel in Debrecen in 1998 for treating guests who have rheumatic diseases. The largest part of the guests of Hajdúszoboszló was from Germany, especially from Eastern-Germany. In 1998, 40 apartments were built in the 96-room Aquaticum Thermal and Wellness Hotel in order to make the long stay of

German guests more comfortable. These guests arrived for a 2 or 3 week-long cure. In the first five year, the average occupancy rate of the Hotel was 52% and the management realized during those years that the potential of this market segment had been decreasing. A new target group had been set and the first indoor Mediterranean Water Park of Hungary opened in Debrecen in 2003. The success has exceeded the expectation.

2. Materials and Methods

Secondary data were obtained from the database of the Hungarian Central Statistical Office. Primary data were obtained by carrying out my own analyses and field research and from data collected in the Hotel. First, I had focused on primary markets of the Hotel and analyzed the changing of guest nights and guest arrivals from these markets.

Additionally, 9678 room reservations and price offer requests have been analyzed based on the time when the reservation or the request was received and based on the date of arrival of the guests. These inquiries were sent by individual guests from 01.01.2009 to 31.03.2010 through the website of the Hotel.

Furthermore, I have analyzed the booking curves of three-highlighted season in 2008, 2009, and 2010. These seasons are the New Year’s Eve, the weekend of the Hungarian national holiday, 15th of March, and the Easter.

At last, I have analyzed the tendency of booking through the Hotel’s website.

The analyses and comparisons were carried out by means of the software Microsoft Excel 2007.

3. Results and discussion

3.1 Guest arrivals and market share in the past years

As I mentioned before the nationality pattern of the guests has been changed. The main inbound markets are Rumania, Germany, Slovakia, and Ukraine. While the increasing number of Hungarian and Ukrainian guests has been refracted by the global economic crises, guest arrivals from Rumania and from Slovakia are increasing continuously (Fig. 1, Fig. 2).

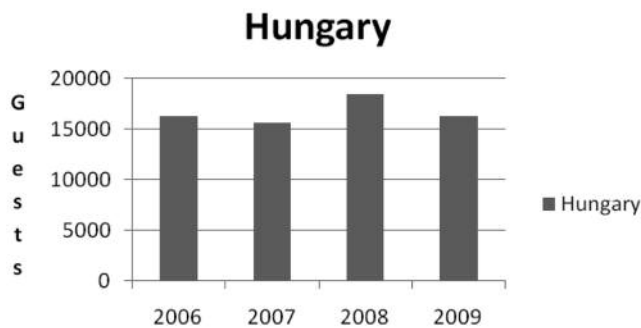


Figure 1. Number of guest arrivals from Hungary to the Aquaticum Hotel in the last four years. (Source: Aquaticum Hotel database)

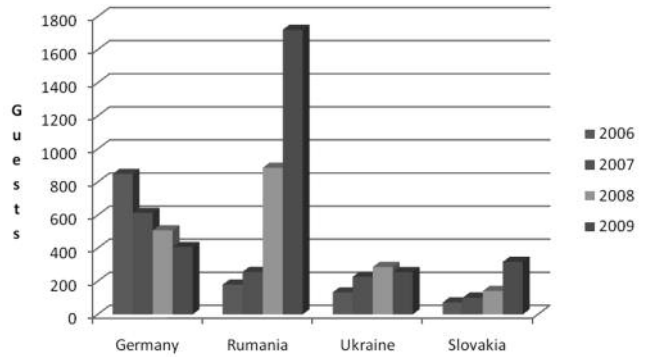


Figure 2. Number of guest arrivals from the main inbound markets of Aquaticum Hotel in the last four years. (Source: Aquaticum Hotel database)

The number of guest nights shows almost the same picture (Tab. 1).

Table 1. Number of guest nights by key markets in the last four years

	2006	2007	2008	2009	Index (2009/2008)
Hungary	41563	39753	44785	41139	91.9%
Germany	5105	3316	2895	2246	77.6%
Rumania	351	579	2289	4332	189.2%
Ukraine	528	742	1120	974	87.0%
Slovakia	138	232	384	857	223.2%

(Source: Aquaticum Hotel database)

The demand for Hotel rooms of Aquaticum from Rumania and from Slovakia doubled in the last two years. In 2009, Hungary became very cheap for Slovakian guests because of the HUF/EUR rate. HUF was weak and Slovakian guests got more HUF for their EUR. On the other hand, the negative impact of the global economic crises in Rumania was lower than in Hungary or in Ukraine. Demand from Germany decreased not only in Aquaticum Thermal and Wellness Hotel but also in other regions of Hungary. The competition among the countries on the German outbound market became bigger and bigger and it seems that Hungary has dropped behind.

In the last years, the ratio of the domestic and foreign guest nights has changed. While in 2007 the proportion of domestic guest nights was 82%, in 2009 it was 76% (Fig. 3).

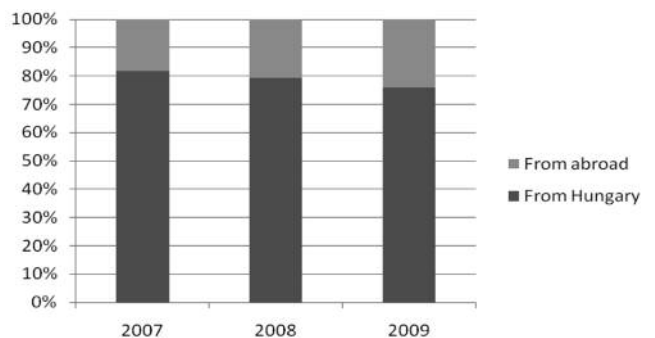


Figure 3. Ratio of guest nights. (Source: Aquaticum Hotel database)

Aquaticum Thermal and Wellness Hotel plays a key role in the tourism of Debrecen and in the tourism of the Northern Great Plain region as well. In spite of the global economic crises in 2009, the Hotel’s market share of guest nights spent in the Hotels of Debrecen and in the Hotels of the region was greater than ever before (Tab. 2).

Table 2. Guest nights spent in Hotels and market share of the Aquaticum Hotel in the last four years.

	Debrecen	North Great Plain Region	Aquaticum Hotel	Market share (Debrecen)	Market share (Region)
2006	318 322	1 237 761	52 348	16.4%	4.2%
2007	304 510	1 252 821	48 602	16.0%	3.9%
2008	288 800	1 243 771	56 525	19.6%	4.5%
2009	232 162	1 081 029	54 159	23.3%	5.0%

(Source: Hungarian Central Statistical Office, Aquaticum Hotel database)

3.2 The time of making the reservations by the guests

First, let us have a look at the time scale of receiving the inquiries (price offers and reservations) by the days of the week. Fig. 4 shows that the proportion of inquiries received on business days is much higher than those ones received on the weekends. On business days, a decreasing trend can be identified from Monday to Friday and it seems as if the guests were getting tired when the weekend is coming.

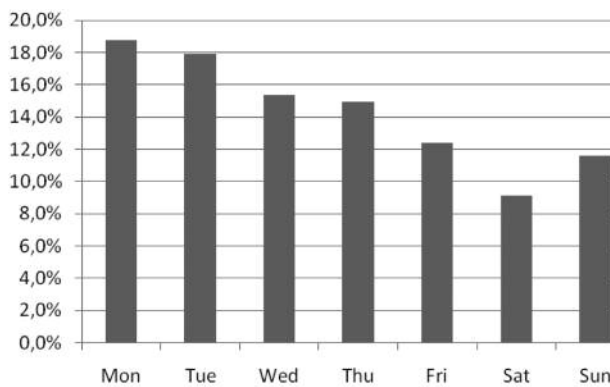


Figure 4. Ratio of received reservations and offer requests by day-of-week. (Source: Aquaticum Hotel database)

When we investigate the exact time of receiving inquiries on a day (Fig. 5) it shows that most of the inquiries have been sent during the business hours followed by a valley at 4–5 pm. (getting home) and there is another peak in the evening at 8 pm.

Aquaticum Thermal and Wellness Hotel is a great destination for families for a weekend. Weekends are high seasons in the Hotel. Fig. 6 proofs that most of the guests arrive on Friday. If we consider that the average length of stay is 2.6 days it is clear that, the busiest days in the Hotel are Fridays and Saturdays. Although the occupancy rate on weekends and on special Holidays (Easter, Christmas, etc.) was high enough both in 2009 and 2008, the demand for Hotel rooms has changed.

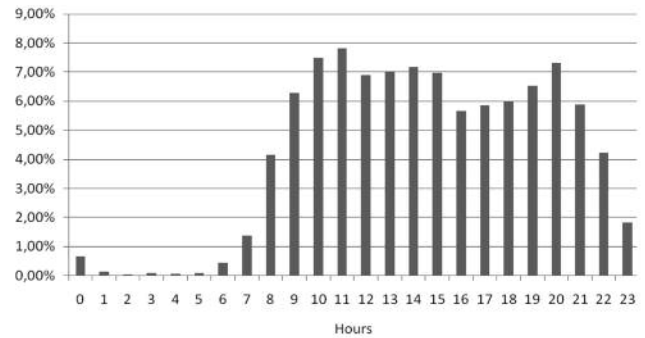


Figure 5. Ratio of received reservations and offer requests by hour-of-day. (Source: Aquaticum Hotel database)

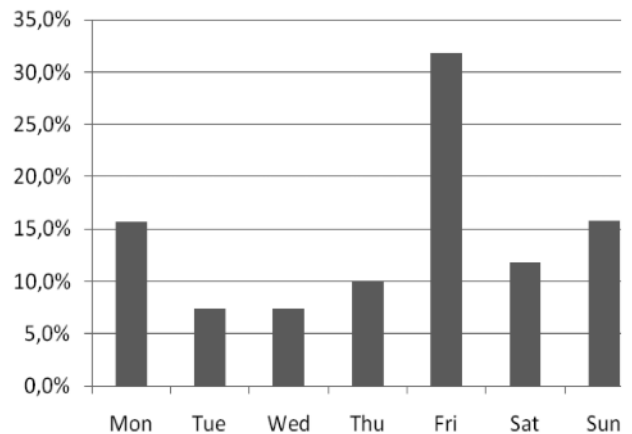


Figure 6. Ratio of guest arrivals by day-of-week. (Source: Aquaticum Hotel database)

Demand forecasting plays a key role in the management operations of a Hotel. Every Hotel wants to maximize its revenue. Achieving this aim is unimaginable without demand forecasting, which is a very important ingredient of a revenue management system (Brewer-Marek, 2006). The fluctuations of demand made accurate forecasting very difficult and accordingly made many problems for revenue management systems (Sedat, 2007; Kimes, 2001). To manage the changing in demand for Hotel rooms is a great challenge for these systems.

3.3 Analyzing the booking curves

The evidence of the changing in demands can be discovered on the booking curves. The booking curve is a chart of occupancy rate of a given day, recorded at regular intervals. These intervals might be months before arrival, weeks before arrival, or days before arrival. The booking curve is a picture of the accumulation of bookings in the weeks leading up to an arrival date. Based on historical data, this curve provides information about general tendencies in booking behavior that can be very useful in forecasting future bookings.

Booking curves, like forecasts, can be created for specific days of the week, rate classes, or market segments or the data can be an aggregate of all reservations on hand.

If we have enough data to work with, we may want to create an average booking curve using averages of data sets.

An average booking curve may provide stronger evidence of general trends than a booking curve based on just one data set, because it draws on a greater number of experiences (Kimes, 2010).

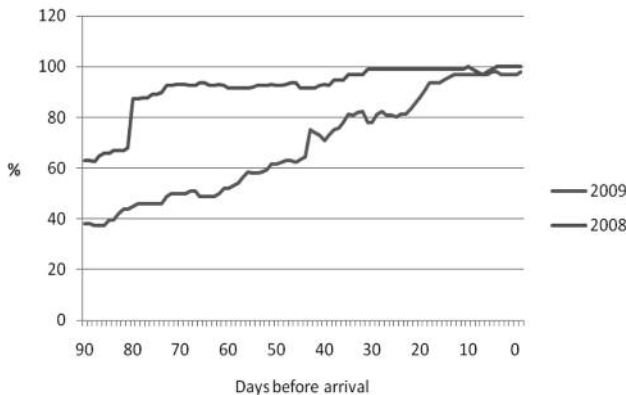


Figure 7. Booking curve of the New Year's Eve. Occupancy rate by the days before arrival. (Source: Aquaticum Hotel database)

Examination of booking-pace data can lead to some surprising results. In 2009, 60 days before arrival the occupancy rate for the New Year's Eve was only 52% while in 2008 the occupancy rate was 92% 60 days before arrival. In 2009, a significant number of bookings are still taken, in the 40- to 15-day window prior to arrival. When the Hotel realized last year that they had much fewer reservations on hand, than they had a year before, they had to make an important decision. According to the literature Hotel rooms are generally price elastic because substitutions are available thanks to the high competition on the market and because the room rates make up a large portion of the consumer's total budget (Jagels-Ralston, 2007; Kimes, 2010; Seve, 2008). It means that a little reduction in prices may cause high increasing in demand. On first sight, the only thing that Aquaticum Hotel could do was to reduce price for the New Year's Eve in order to increase demand. However, the Hotel chose another way; they took the risk of not reducing their prices. Finally, success attended this strategy because the hotel had 98% occupancy rate for the New Year's Eve season in 2009.

The economic crises showed that price elasticity of demand for a Hotel room is not a simple question. A study made by the Hungarian Association of Hotels in March of 2010 pointed out that in spite of the decreasing rates the demand for Hotel rooms unfortunately did not increase dramatically (HAH, 2010). This study has given a proof of that the right decision, the right strategy is not to do panic, not to drop prices immediately. Aquaticum Debrecen Thermal and Wellness Hotel has applied the same room rates in 2010 than they applied in 2009 and 2008. As the graphs illustrate on the figures (Fig. 7, Fig. 8, Fig. 9) the Hotel can reach almost the same occupancy rates on the highlighted days than it could reach in the previous year.

In 2010, 11 days before arrival the occupancy rate for the 15th of March was only 36%! Finally, the Hotel could reach

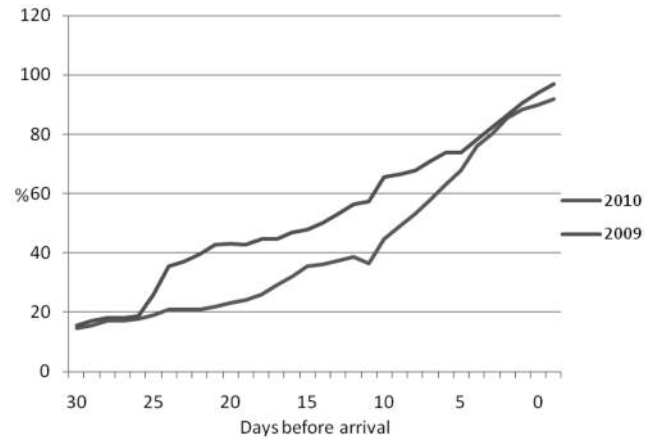


Figure 8. Booking curve of the National Holiday (15th of March). Occupancy rate by the days before arrival. (Source: Aquaticum Hotel database)

92%! Almost 61% of the reservations were received in the last 11 days. Such a great increasing in an 11 days term had never been registered before. The time interval between the date of booking and the date of travel decreased dramatically. This fact makes accurate forecasting nearly impossible.

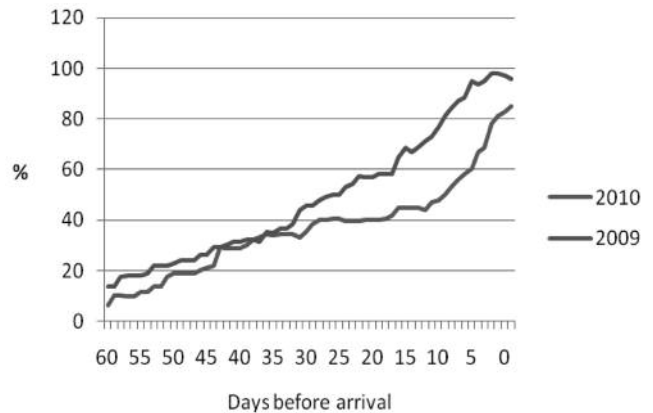


Figure 9. Booking curve of the Easter. Occupancy rate by the days before arrival. (Source: Aquaticum Hotel database)

3.4 Reservations received through the Hotel's website

The Hotel received 3890 bookings through their website for 2009. These bookings were made by individuals, so the reservations of groups were not included. Every booking means different room nights. I have summarized the room nights of the bookings received through the website for the four quarters of the year 2009. These quarters had been denoted by Q1,Q2,Q3,Q4. Then I compared these sums to the total number of room nights booked by individuals and received in any kind of way (website, e-mail, phone, fax, etc.) (Fig. 10).

I analyzed the ratios instead of the natural numbers of room nights because the room nights vary month by month.

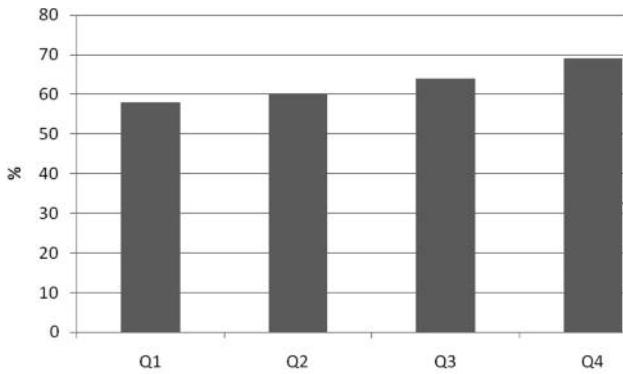


Figure 10. Proportion of individual's room nights booked through Hotel's website to the total room nights of individuals.
(Source: Aquaticum Hotel database)

This chart shows that the proportion of room nights booked through the Hotel's website by individual guests has a growing tendency.

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NETWORKING ON THE UTILIZATION OF LOCAL NATURAL RESOURCES

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Abstract: Together with its partners, Szolnok College is planning to evaluate a new project for networking on the utilization of local natural resources. This project is based on a research work (using the findings of the surveys completed by the representatives of hosts living in the eastern part of Hungary).

The project itself is based on the adaptation of the theory of tourism into practice by presenting existing natural values in the supply portfolio of tourist service providers. A unique natural environment can be found alongside a 120 km-long stretch of River Tisza. These natural values interlink and complete each other with respect to Lake Tisza and River Tisza. Regions and settlements situated further from the specified settlements are also rich in natural values which guests will definitely be pleased to get acquainted with. The six landscape centres (including LHH regions) alongside river Tisza (in the two regions) symbolise the interdependent system of the sample area of the project while a single landscape centre in the Pásztó Minor Region embodies a unique character.

A register will be prepared for each landscape centre containing unique natural values that can be involved in the tourist supply and handicraft/economic activities (e.g. basket weaving, floodplain economy) that are or can be built on these natural values.

A pictorial English/German-Hungarian professional dictionary summarises the distinctive nature of landscape centres.

The education material demonstrating the registers is going to be developed both in conventional and electronic form; its spatial IT appearance on the Internet is considered a special feature. The education material will be supplemented with other information currently missing such as those related to environmentally friendly economy, and the legal context.

The methodology allows the adaptation of the method in other regions, even in the whole country.

The new qualifying and benchmarking system and the trademark managed by a profession-specific cluster that strengthens network co-operation and controls the development guarantee the achievement of high quality tourism.

Key words: networking, cluster, register of unique natural values and handicraft/economic activities

Introduction

The regions of the North Plain and Northern Hungary have rich natural resources, of which only a small proportion has been utilised intensively in tourism and has acquired the required reputation accordingly (e.g. Hortobágy, the Aggtelek Karst). Besides natural resources, the two regions have significant farming and cultural traditions as well (e.g. overbank farming, pottery), of which the involvement in the offer for tourists is still low.

The actors and professional organisations of the tourism market do not have extensive information on the values mentioned above (which already exist in their micro-environment) and on the method of their sustainable utilisation. The representation and further utilisation of existing good examples – national and foreign best practices – (e.g. in education) are also unsatisfactory.

The role of the institutions of higher education that can be found in the above mentioned regions is especially important from the point of view of teaching the young experts e.g. in the field of tourism. Szolnok College represents one of those institutions that try to involve students in different research

work and in working out projects for different applications, connected to tourism.

This paper contains the results of a research work (based on the assessment of the surveys carried out by the students) and of a project using partly the findings of this research process.

1. Material studied

1.1 Research work

The research work was about getting information on the work and opinion of the hosts living in the settlements, where our students came from, in the eastern part of Hungary. (So the results were not representative but gave useful information to students and to the teachers about the way of thinking of the hosts, as well. *Table 1.*)

This paper highlights only three of the questions that are mostly related to the aims of the project below. The hosts were asked whether they could mention some reasons that made their settlements and its surroundings attractive.

Table 1. Denomination of the counties

County	Number of hosts (person)	Number of hosts (%)
Jász-Nagykun-Szolnok	21	53,85
Békés	6	15,38
Szabolcs-Szatmár-Bereg	2	5,13
Heves	2	5,13
Csongrád	1	2,56
Hajdú-Bihar	4	10,26
Pest	2	5,13
Borsod-Abaúj-Zemplén	1	2,56
Altogether	39	100

Resource: surveys

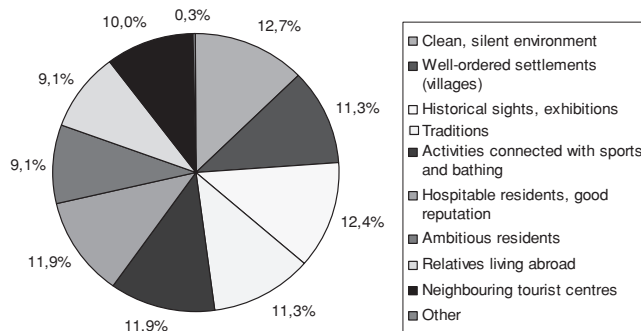


Figure 1. Attractive values of the settlements and their surroundings

Resource: surveys

Figure 1 shows that (in most cases the rural) settlements and their environment, the traditions and the existing tourist centres can be mentioned as the elements of the desirable tourist supply. It is obvious that a varied range of the natural environment and traditional activities, existing even in our days, could be involved in the tourism supply in the eastern part of Hungary.

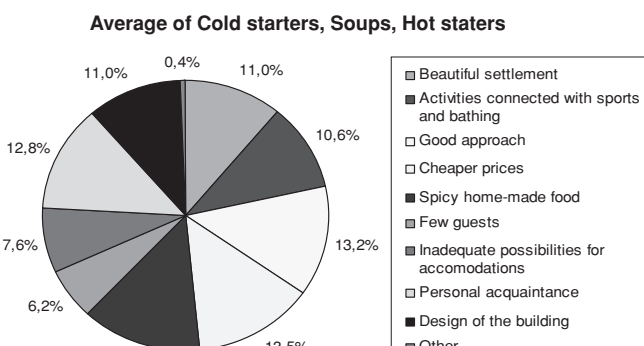


Figure 2. Reasons why tourists visit the settlements in question

Resource: surveys

Figure 2 gives information on the hosts'/tourist service providers' opinion on the reasons why tourists visit their settlements and choose the accommodation offered by them. Some elements of the region's values can be found as the most important factors (activities connected with sports and bathing, home-made food, beautiful settlements, etc.)

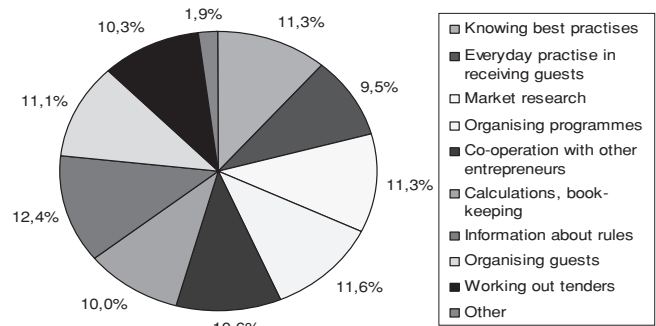


Figure 3. List of activities, hosts need help in

Resource: surveys

We wanted to get some information on the activities that they need help in. We got the list of the most common answers, like learning about the experiences of others in the given field, market research, organising programmes, co-operating with others etc. (Figure 3) The findings of this question prove the importance of networking and taking part in different training programmes (about getting the latest information on the legal regulations, best practises, tenders, etc.) in the future

2. Area description

2.1. The planned project

After all the answers of the survey have been analysed, we found an application for planning teaching programmes and tourism destination related to tourism hospitality in the North Hungarian and North Plain Regions.

In preparing the project for the application we used the results of the above-mentioned research work, while 76.92% of the surveys were completed in the counties, belonging to these two regions.

The regions forming the focal areas of the project are among the most depressed regions of Hungary in terms of social and economic levels. Several LHH small regions and settlements can be found in the regions.

2.1.1. Project objective

The basic objective of the project is the development of sustainable tourism – especially eco-, and rural tourism – and the enhancement of its weight and competitiveness in the given regions. The employees of these two areas obviously work in regional settlements, thus the project contributes to narrowing the economic and social disparities between the developing urban centres and the rural (peripheral regional) areas as well as between Hungary and the more developed countries of the EU in general.

The project fully fits into the international, national, regional, county, small regional and local development and touristic strategies. The most important of these are: National Strategic Reference Budget, National Tourism Development

Strategy, Development Concept and Strategic Programme of the North Plain Region, Eco-Tourism Strategy and the Strategy of Tourism of Lake Tisza.

Practically, all the above designate the development of eco-, and rural tourism as a priority / highlighted area including the development of attractions, infrastructure, services, marketing and the organisational framework. All activities to be completed within the framework of the project are included in the areas of development directly or indirectly.

Finally, the objective of the project can be summarised as the enhancement of sustainable development together with its economic and social dimensions. It shall enhance the participants' environmental awareness, the active protection of environmental and natural values, the possible access to and quality of environmental information; unemployment shall decrease in the region; the competitiveness of the region and the number of the participants in the field of tourism shall increase. Partners shall undertake the protection of the quality of environment, establishment and operation of co-operation forums, and effective social participation during their implementation.

2.1.2. Project description

All the above-mentioned facts justify that the service providers of tourism and the dispersedly operating economic actors should co-operate to become organised in a profession-specific cluster (mostly in the area of rural eco-tourism). Therefore the enhancement of the information level of the market actors is justified by means of the transfer of practical knowledge (trainings, e-learning, conferences, websites, etc.)

Tasks to be solved (with the participation of the students of Szolnok College):

- Mapping of elements existing in the two regions and linked to the utilisation of local natural resources and their involvement in the offer for tourists (in the form of cadastre to be elaborated) and the development of related methodology and standards.
- Introduction of services, display areas and programmes available in the rural regions, development of the basic technical infrastructure of rural events.
- Generalisation of the professional qualification of accommodations of rural tourism. Beyond the nationally accepted "sunflower" evaluation system the union of enterprises operating in the sector must be created within the regional framework by means of establishing a rural cluster for example. A regional quality assurance and evaluation system can be developed for the categorisation and specialisation of accommodation, such as a manor of craftsmanship, tradition preservation or organic farming.
- Strengthening of professional NGO-s and organisations facilitating sales, support of the establishment of an integrator system for selling products.
- Organisation of education, training, in-service training in the form of short courses (knowledge-transfer for hosts, vocabulary of terms in foreign languages, communication,

etc.), as well as successful examples by sharing the mutual experiences of organisations operating in tourism and connecting to other training programmes (e.g. house of knowledge) to be built into school education (e.g. familiarisation with traditions and their preservation), etc.

2.1.3. Public relations

It is necessary to elaborate and implement a PR and marketing plan with the following activities:

- Continuous liaison with printed and electronic media in the region of the project. Targets are: introduction to the work of organisers, activation of service providers, exposition of the project result, exposition of donors and the programme.
- Press conferences are a substantial part of this work. Opening and closing conference are important elements of dissemination.
- Use of Internet accessible for the wide public is especially important (e.g. homepage, links to the partners).
- Forums must be organised for the service providers of tourism, the municipalities, the public at large, within the frame of which the results obtained during implementation can also be disclosed.
- The curriculum to be elaborated is suitable for disclosing new pieces of information both independently and by means of utilisation in education.
- Implemented systems, registers increasing competitiveness and serving the accomplishment of quality tourism / Completed evaluations (impact of the project, further activities, development possibilities)

2.1.4. Target groups

It is important to list the target groups that can make use of the project, e.g.:

- Touristic SME-s applying (or intending to apply) aspects of sustainability and ecological view in the focal area (e.g. landlords, programme organisers, tourism entrepreneurs), employees of attractions
- Colleagues of NGO-s and organisations of touristic profile acting in the focal area
- Actors of the market of tourism interested in sustainable aspects and ecological view (e.g. landlords, programme organisers, touristic entrepreneurs, hotels)
- Colleagues of touristic SME-s, NGO-s and organisations of touristic profile interested in cooperation
- Colleagues of SME-s, NGO-s and (e.g. educational) institutions who facilitate and wish to apply the systems serving the implementation of quality tourism.

3. Results

The paragraphs below show the most important results (activities that we want to implement) in the future:

- An attitude-forming complex communication campaign serving the conceptual and framework system of sustainable tourism that supports the objectives and dissemination of the project in details, not only on the sample area. Professional events (e.g. campaign, conference and presentation), marketing and communication plan (articles, publications and website) for the purpose of improving the professional knowledge and guest-friendly attitude of tourist service providers.
- Compilation of a specific appeal register for the six landscape centres (completed by a seventh one in the Pásztó Region) alongside the 120 km stretch of River Tisza (discovering and systemizing tourist spectacles based on local natural, landscaping and settlement values) that contains unique natural values that can be involved in the tourist supply and handicraft /economic activities (e.g. basket weaving, floodplain economy) that are or can be built on these natural values.
- The education material will be supplemented with other information currently missing such as those related to environment friendly economy and the legal context. The education material demonstrating the registers is going to be developed both in conventional and electronic form (eLearning, spatial IT display); its spatial IT appearance allows for special display on the Internet.
- Preparation of a pictorial English/German-Hungarian professional dictionary that lists the spectacles of landscape centres.
- Organization and accomplishment of an educational series and training both online (eLearning) and in the designated decentres using the education materials being worked on.
- Development of a methodology that allows for the adaptation of the method in other land units.
- Foundation of a new qualifying and benchmarking servicing system that serves the accomplishment of high-standard tourism and increases the competitiveness of tourist participants, and a new tourist trademark. Organization and implementation of a profession-specific tourist cluster, for tourist service providers, that strengthens network co-operation and controls practical and trainee exchange (domestic and international) and educational and consultation programmes.

4. Conclusion

One of the main results of the paper is to show the importance and effectiveness of involving students in research work and analysis. Their work is useful for their studies and practical training and can be used as a background (see above) for other development work.

The project itself enhances the offer portfolio of tourism service providers by revealing the provincial (natural, economic) values existing in the two regions (not yet used in tourism), by elaborating the utilisation of craftsmanship, increases the force of retaining guests, and stimulates their satisfaction by applying sustainable tourism. It may facilitate the involvement in tourism of a larger sphere of actors and enhance their competitiveness. The register, methodology and vocabulary can serve as a model due to its originality; its results can be applied and adapted in other domestic and foreign regions as well. The cluster gives a real possibility for continuous networking.

We hope that having been completed the project can serve its general aim – in the field of tourism – of Hungary that (with the participation of well-trained experts) is to provide exclusive tourism supply for our present and potential guests.

THE UNDERSTANDING OF INTERNATIONAL TOURISM DEVELOPMENT

Marcus van der Wal

General Manager and Area Director Central Europe Kempinski Hotels

Abstract: Tourism is travel for recreational, leisure or business purposes. Tourism has become one of the major players in international commerce, and represents at the same time one of the main income sources for many developing countries. This growth goes hand in hand with an increasing diversification and competition among destinations (Unwto, 2010). Working and serving in this pumping industry means to understand and react to the needs of all these people moving around this “small” planet! Success is defined by those who understand these needs and fulfill them to the satisfaction. Unfortunately, our industry is rather slow and we can be characterized as reactive instead of innovative. We adapt too slow compared to other industries that define the needs of their costumers before the costumers actually calls for it!

Key words: tourism, motivation, market development, touristic services, destinations

Since there is Mankind there has been “tourism”. Maybe we have called it with different words to explain e.g.: hunting, discovering, invading, immigrating, etc. But at the end of the day, moving from one place to the other is “traveling” and overall that is “tourism”.

The fact is that on and around our planet the speed and ways to travel is developing and with it all the technology involved. With this development the cost of traveling is decreasing and ever more people have the financial means to do so. Our world is becoming smaller and smaller in sense of moving around. People are curious and continuously want to discover other places for business or vacation. Discover new destinations!

Tourism is travel for recreational, leisure or business purposes. The World Tourism Organization defines tourists as people who travel to and stay in places outside their usual environment for more than twenty-four (24) hours and not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity, remunerated from within the place visited. Today, the business volume of tourism equals or even surpasses that of oil exports, food products or automobiles. Tourism has become one of the major players in international commerce, and represents at the same time one of the main income sources for many developing countries. This growth goes hand in hand with an increasing diversification and competition among destinations (Unwto, 2010).

Working and serving in this pumping industry means to understand and react to the needs of all these people moving around this “small” planet! Success is defined by those who understand these needs and fulfill them to the satisfaction.

Unfortunately, our industry is rather slow and we can be characterized as reactive instead of innovative. We adapt too

slow compared to other industries that define the needs of their costumers before the costumers actually calls for it! A good example is the automotive industry that invests high amounts of money in developments of new models. By this, they create the need of the costumer and educate what the clients would like to have in the future. They kick off the desire to have these new cars and make the costumer dream! Obviously the industry understands and takes other external factors in to account, e.g. the lack of raw oil in the world.

In our popular industry we have still failed to notice the two largest potential markets that are up coming. China and India with their huge population will develop and dominate the future tourism movements soon. The tourism market in India shows an enormous development according to statistical analysis (Chaitip et al., 2010). Actually, I strongly believe that they will surpass the US and Europe fairly soon, just out of the fact that the population numbers are as big as they are. Again, we are reactive and observe that there will be born a need to satisfy these emerging markets. Again, I have not seen strong developments to prepare for these very large tourism movements.

Coming to Hungary one has to admit that we are not doing enough to make our very attractive destination known. My criticism has always been, that we are simply not understanding how people are not aware of us here in the heart of Europe! Lack of investment from the side of the Government is one of the reasons for this tragedy! But, where there is not enough money from the tax payers, there can not be money to strongly invest in the attractiveness of the country. This is sad and unfortunately, I don't see a fast improvement in the coming years! Our neighbors have done their homework better. Croatia for example as past us with very high speed and we stand next to the highway and have

no idea why. During these two days of this conference you can listen to valuable presentations on the emerging trends of medical tourism in Hungary from the aspects of potential Western-European patients (*Simor*, 2010) and of the service providers and Hungarian subregions – destinations (*Kormosné Koch*, 2010). Another important topics also will be discussed such as the touristic programs – product development, considering the local traditions, e.g. gastronomy (*Tóth-Török*, 2010) and the rural tourism as a whole (*Tikász et al.*, 2010). Considering the modern tourism section the importance of environmental awareness (*Kelemen et al.*, 2010), the connection of IT and tourism (e.g. *Hering*, 2010) will also be in the pot.

At the end of these two days our business is simple! We have to develop guest satisfaction; we need qualified new products and services, all that we call a good destination! Understanding your clients and provide them what they need. Keep up the pace with innovation and make sure you talk about it. This seems rather simple, but is this most difficult combination you can imagine as it requires understanding, time and money to prepare the road to success.

At the end I would like to mention the most important player in all this: our people! We are living in a service industry that depends strongly and utterly on the skills and friendliness' of our staff. Over the past years it has become more and more difficult to find adequate staff that works for rather low salaries with a smile in the face. Motivation and treating these people professionally well seems difficult for many colleagues. Having them participate in success is not

always financially possible. Nevertheless, do we all desperately depend on them, as they are the point of contact to our costumers at the end of the day!

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“TREASURES” OF DEBRECEN SELECTION OF AND ATTENTION TO SPORTS TALENTS IN THE SPORT SCHOOL OF DEBRECEN

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Abstract: The article is about a program selecting and attending sports talents in order to select and attend to the conscious sports talents so as to support convenient supply for the sections of the Sport School of Debrecen as well as for the adult sports organizations of Debrecen.

Key words: Sport, selecting talents, attention, choosing branch of sport

1. Introduction

“Sport is not only physical training but one of the most powerful tools of educating the soul. Sport opens our mind through our body.”

Albert Szent-Györgyi

There is an apparent and exciting tendency, that appears in sport. More and more countries and sportsmen take part in the Olympic Games. Moreover, during the past years achievements in sports have progressively increased. So considering the leading international results, it is obvious that only youths with prominent, peculiar faculties can be prepared (Harsányi, 2000).

Nowadays it is not an easy thing at all to decide what sport the child should choose. It is a difficult question for parents to know if they chose the right sport to their child according to his conditions. Or are there any possibilities to direct a child to the best kind of sport for him before starting any branches of sport?

It is well known that achieving a record is possible only with the sportsman of best faculties, but obviously the quality and the quantity of training are decisive factors as well. Today’s sport racing, international results require the continuous and objective measuring of sportsmen to help the process of selection and proving to be suitable of sportsmen (Révész- Géczi- Bognár- Tóth, 2005/ 4).

On the other hand, sport racing has to face more and more competitors just like television, computer, malls besides studying, furthermore in nowadays’ educational systems PE is pushed into the background. Because of faster life, changed value systems former methods of selection are not effective enough.

Kincskereső program was called into life exactly because of this situation. According to the problems mentioned above

we decided to select the ones with special, peculiar faculties and we initiate them into the planned, systematic training. There are many possibilities for parents and children to chose from the many-sided trainings, branch of sport specific trainings. The program gives an opportunity to the selected youths and to their parents to get acquainted with all the branches of sport of the sport school and then to decide – with the help of the experts of the sport school – which branch of sport stands closer to them in which they feel that they can be successful.

2. The theory of sports talent

According to Frenkl (2003) sports achievement is a human achievement refers to man as a biosocial being. The most accepted theory of talents in sports racing was created by Mönks and Knoers (1997). The multi-factor model emphasizes commitment for work, creativity and capacities above the average, contemporaneously these factors are influenced by the family, school and friends (Figure 1.). According to these Mönks (1997) said that talent comes from the interaction of the three terms of personality. For healthy development tolerant, supporting social background is needed from the side of the family, school and friends. In other words the interaction of the six terms causes the appearance of talent (Mönks–Boxtel, 2000).

On the basis of their researches they came to the conclusion that there are primary and secondary influential factors of sports talent. Primary effective factors: genetic, psychological factor and the process of training itself, while secondary effective factors: socio-cultural factors and conditions in connection with the context of the branch of sport.

Two basic categories are accepted in defining sports talent: in one of the categories the general talents are placed,

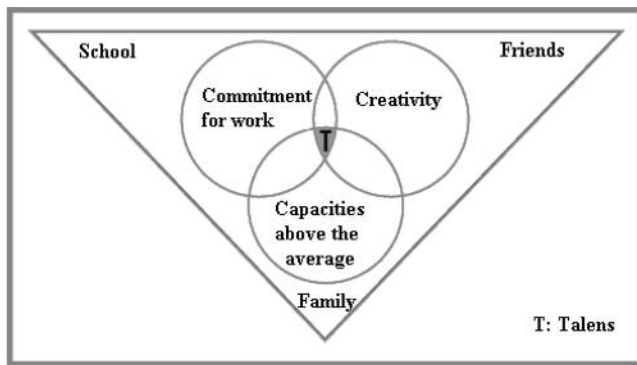


Figure 1. The multi-factor model of Mönks and Knoers (1997)

while in the other category there are the special talents. Sports activity is placed to the second category because all the sports activities take place in special surroundings, situations with special conditions (Harsányi, 2000).

2.1. Subject, definition and tasks of the sports talent theory

Sports talent is a person, whose state of health, mental, physiological, anthropometrical, motor and socialisation faculties – in a period of his development – are on a level and are developing in a rate during the periods of preparing, which – near convenient training and other, mostly social surroundings – possibly in his maximum output age lead to reaching high-level achievements in a branch of sports or on a sports event.

There are two big groups of the factors that influence sports achievements in interaction with each other:

- direct achievement-determining factors: level of conditional, movement-technical and tactical abilities and faculties
- indirect achievement-determining factors: physique, organ systems, functional level of informative and executive systems.

So sports talent theory deals with youths who have the characteristics mentioned above in their early ages. These achievement-determining factors are the results of partially heredity and partially the influences of the milieu.

Tasks of sports talent theory:

- measurement of hereditary faculties,
- measurement of the influences of the milieu,
- conformance of personality and branch of sport,
- organizational tasks,
- working out of tools and methods (Harsányi, 2000).

2.2. Choosing branch of sport, selection

One of the main aims of recognition and selection of talents is to recognize marks relating to talent and to train them satisfactorily (Herskovits, 2005). That's the main motto of Kincskereső program. The characteristics of the selection for leading sports had been examined since 1950's (Harsányi–Sebő, 1989). The aspects of selection are different

and specific in every branch of sport, they contain physical characteristics, motor achievements, motion-learning and important mental and cognitive factors according to the branch of sport (Baumgartner–Bognár–Géczi, 2005).

The number of the choosers of a branch of sport and their motivation in choosing that branch of sport determine the success of selection. According to Gál's study (2003) more than the half of the asked students chose the given branch of sport because they wanted to reach a selected level or first class classification. It is an interesting fact that one third of the asked ones says that they started sporting as a hobby or pleasure to spend their free time.

With the development of technique and science the methods and procedures of selection have changed as well. The significant methods of selection can be put into four groups: (1) natural selection, (2) indirect selection, (3) selection based on success and (4) scientific selection. Nowadays first of all scientific selection is the fundamental type of selection (Harsányi–Sebő, 1989).

According to the opinion of Rókusfalvy (1986) it is obviously not enough for any branches of sport to have certain physical and antropometrical faculties, mental suitability to the characteristics of the chosen branch of sport is also needed. Relying upon these findings that can be told that complex examination is an essential requirement of modern selection, that measures social, physical, mental a biological conditions, faculties with pedagogical methods.

3. Kincskereső program

The target group of selection and attention: 3rd class (8–9 years old). This selection is based on mixture of the natural and the scientific selection.

3.1. The structure of Kincskereső program

The process of “treasure hunt”¹ has three parts:

1. Visiting elementary schools. Selecting sports talents, indentifying the talent.
2. Examining those kids, who appears to be talented. (examination of health suitability by a sports doctor, gauging physical faculties, psychological examination if necessary)
3. Development and attention of sports talents. This part has two more parts:
 - a. The many-sided training
 - b. The branch of sport specific trainings.

After eight months of both of the two types of the trainings our “treasures” choose a branch of sport and are transferred to the chosen section where their training continues.

During the development of sports talent over and above the development of special faculties, we try to develop general, basic faculties as well, in case the kid wants to change to another branch of sport.

¹ Treasure hunt in Hungarian is the name of the program: Kincskeresés

**3.2. The realization of the program:
– Information of schools**

Before the process of selection some preparations always take place. We inform the principals, physical trainers, teachers of the elementary schools of Debrecen on a personal meeting about the program, its changes, so they get information about all the details of “treasure hunt”. During the meeting we collect all the necessary information for the selection about the kids.

Necessary preparations for starting the selection:

- To find out the number of schools, that want to take part in the program. The students of the given classes get into the computerized database of the Sport School of Debrecen based on the data sheets made by their teachers.
- To establish contact with the principles, physical trainers, teachers.
- To fix the date of the first surveys.

Only after these preparations can the process of selection be started in the sport school.

– The three parts of selection:

1. According to the preliminary visit of the school and the applying to the program – we ask the opinion of the physical trainer about the students. During the first surveys in the schools we check the kids’ motion and fighting faculties.

Selection is based on the actually reached results and personal experiences. We inform in a letter the parents of those kids who are qualified for the next round.

Considered points in the course of selection:

- good motion coordination,
- good physique,
- fastness, strength, staying power,
- fighting spirit, attitude,
- opinion, suggestion of the teacher.

2. The selected kids with their parents get into the Sport School. Here we talk to either the kids or their parents and we give them every necessary information. Then new surveys, examinations start, with the following parts:

- testing physical faculties,
- suitability examination by a sports doctor.

Considering the results we put the kids into groups (mixed groups, maximum 22 kids in each group).

3. This part does not contain only the selection of talents but their training, as well. A developing work takes place while the talents are selected by their own exercises, trainings.

It has two main parts:

- a. the many-sided training, where fastness, staying power, capacity, power are developed, and
- b. the branch of sport specific trainings, where coaches of our school introduces the branches of sport for students.

These are: athletics, judo, handball (for boys, for girls), football, badminton, ice-skate, swimming.

This third part is based on our own requirement system. Partially we imitate the “Finnish-model”, so our goal is to ensure optimal development of faculties in every group, this is why we get approximately the same quality and intensity of work in every group.

Besides our students get experiences in our branches of sports, two other significant things are in the selection of the branch of sport: we take them under sports psychological examinations and we measure their tolerance of monotony. After these the sports anthropometrical exam takes place – where we can estimate the physique and height of the adulthood considering the 24 physical parameters. Finally on the basis of all this we make a proposal for the branch of sport.

4. Results

Kingskereső program was established in order to make it possible to us to chose kids from a wide circle. Our goal was to make the selection of talents conscious. From the 38 schools of Debrecen we asked 32 to cooperate with us. On Table 1. it is visible that the popularity and acceptance of the program increased year by year.

Table 1. Schools of Kingskereső program

school year	number of schools participating in the program-	number of 3 rd classes	number of kids	“Treasures” put in Sport School
2007/2008	23	55	1252	120
2008/2009	28	60	1405	98
2009/2010	29	59	1403	Oct. 2010.

The successful past three years of the program shows that kids and parents need help in selecting a branch of sport.

We made a questionnaire to make a research among those parents, whose kids already pursue a branch of sport, and we get the following results:

- the program is attractive mostly because in the Sport School kids can try many branches of sport in the presence of coaches, physical trainers;
- kids and their parents get known the branch of sport and its coach as well during the program;
- kids and their parents like the swimming camp, where near swimming and other sports, there are many conversations, new friends;
- there are more point of views of the selection of a branch of sport: kid’s interest in something, popularity of the branch of sport, personality of the coach, results of the anthropometrical examination;
- regular sports and the time spent with it have no negative effects on the student’s school results.

When we talk about conscious, scientific selection of sports talent, it is necessary to mention sports anthropometrical examinations. During this examination we take 24

physical data and based on these data we can calculate the weight (kg) in an absolute value of the muscle, the bone, the fat and the residuum (internal organs), moreover the relative rate (%) of each physical components compared to the weight can be calculated. According to the constitution and the estimated weight of bones we can define the person's strengthening capacity. The expectable height can be estimated punctually with ± 2 cm.

We assume that kids and their parents will choose a branch of sport with the help of the coaches, trainers, examinations. There are many factors that participate in the selection of the branch of sport, in the first place there is the characteristic of the branch of sport, interest in the branch of sport, and the popularity of the branch of sport. Then comes the personality of the coach.

The development of sports talents takes place in mixed groups. Originally we wanted to make the groups according to the results of the members but it failed because parents preferred other factors, such as friends, schoolmates – so we based the groups on the model of Mönks.

Conclusion

The success of our program proves that in today's Hungary needs a global system selecting and training sports talents. Sport has a social and cultural and economical significance. According to some researches, nowadays 20% of the Hungarian population do sports regularly every week. This spells serious danger. The lack of sports is because of the lack of possibilities and the lack of purpose. This is what we want to change. This is a complex process. First of all a financial background is needed to support the employment of coaches, use of sports tools. On the other hand the part of the parents in this process is very important as well, just like the ideals, successful sportsmen, teams are needed as examples to kids.

Our main aim is to train young sports talents but to continue their training in their adulthood as well, and to develop internationally successful sportsmen in Debrecen for the society of Hungary.

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SAFETY AND SECURITY IN THE AGE OF GLOBAL TOURISM

(The changing role and conception of Safety and Security in Tourism)

István Kóvári – Krisztina Zimányi

Abstract: Safety and security have always been indispensable condition for travel and tourism. Research and education also has to face the issues of security and safety in tourism in order to prepare future specialists of the industry by incorporating new results of research to academic curricula.

Key words: Safety tourism, Security in tourism. Research and education

Safety and security issues in focus

Safety and security have always been indispensable condition for travel and tourism. But it is an incontestable fact that safety and security issues gained a much bigger importance in the last two decades in tourism. Changes in the World during the last two decades were enormous. Due to terrorist acts, local wars, natural disasters, epidemics and pandemics, that we were witnesses to, security has significantly decreased.

The travel and tourism industry could not avoid the negative impacts and consequences of these events. Moreover some of these events manifested the vulnerability of tourism both on global and regional levels. Therefore this fact necessitates the research and study of the relationship between security issues and tourism, including the creation of a new, up to date definition of the notion “security and safety in tourism”. Studying problems of safety and security became vital for the tourism industry.

Why did safety and security become so important in the Age of Global Tourism? What are the main factors influencing security issues? What are the key elements that are treated as belonging to security and safety problems and that are included nowadays in the notion “tourism safety and security”? How do safety problems influence the tourists when they are choosing their destination? What are the tasks and responsibilities of the actors in tourism – including tourists – in reducing menaces against tourists and their possessions as well as against people working in the industry and tourism infrastructure?

Answering these questions means not only satisfying the researcher’s curiosity, but has very practical objectives, that is to give a management tools and working plans to all actors and levels of the tourism to parry and/or at least to reduce the risks.

The changing role, perception and concept of safety and security in the Age of Mass Tourism

Safety and security issues have been treated as important condition of tourism. It is a well known fact that the Ancient Olympic Games were so important to the Greek Polises that all warfare was suspended for its duration. (There is still something what we could learn from Ancient Greeks.) The great extent of risks contributed to the decline of travel in the Middle Ages.

Safety and security issues in travel and tourism came to the front by the evolution of the mass tourism from the beginning of the 1950s. The main reasons determining this evolution process are enumerated hereinafter:

1. Travel and tourism is not any more an activity of a narrow social stratum or class but the whole widening middle class is getting progressively involved into it. This is direct result of the growth of personal incomes and free time in the developed countries.
2. Tourism scope covers more and more countries and regions in the world and not only highly developed countries enabled to generate out-going tourism flows are getting involved in tourism but also countries of the so called third world. For them tourism is part of their economic development strategy.
3. The rapid and scenic development of transport (aviation, automotive industry) contributed to the rise of (geographical) mobility.

Due to these reasons the safety and security issues gained a bigger and bigger importance as the tourism itself became one of the largest industries in the world economy (contribution to the GDP, number of people employed in the sector, extent of investments into the tourism industry etc). Also the saying goes tourism is the industry of peace, which is true but there is a perceptible disparity and inequality in

Table 1. Compiled by the authors
The changing concept of safety and security in the tourism (1950–2010)

<i>Period</i>	<i>Main characteristic</i>	<i>Features, attributes</i>
Mass tourism/1. 1950-1970 Mass tourism/1. 1950-1970 (cont.)	Safety and security in tourism as one of the problems in tourism Simplified approach in the perception of safety and security issues in tourism	<ul style="list-style-type: none"> – Tourism security is a one or two-dimension notion – Only few elements of security issues are in focus (public safety, health safety, road safety etc) – Within the elements of safety and security only a small number of factors were given importance (e.g. health and hygiene problems: 1. drinkable water, 2. necessity of vaccination, 3. cleanness of toilets) – Security problems are localized in time and space – Security problems may effect the image of a city or country but not the image of a whole region – Travel related risks and problems are not raised on the international level of tourism industry (excluding international transport regulations) – Solving problems of security depends mainly on the regulations of the national authorities
Mass tourism/2. 1970-1990	Period of enlargement of security concept of tourism	<ul style="list-style-type: none"> – Additional risk factors appear in travel and tourism (airplane hijacking, terrorist actions as a tool of social struggle) – Threats on security reach regional level in some regions of the world (Middle East, Basque country etc.) – Beginning of a wider international cooperation related to security issues – Technical improvements in safety e.g. air transport) – WTO draws attention on safety, security of tourists (Hague Declaration on Tourism, 1989) – Compact but specific (that is to say not general) solutions are created (e.g. the case of El Al Israeli airlines)
Transition to Global Tourism 1990-	Period of complex perception of security and safety in tourism	<ul style="list-style-type: none"> – Numerous new elements appear within the tourism security issues due to the omnipotent factors of globalization meaning that national/regional economies, societies and cultures become integrated through a worldwide network of communication (internet!), mobility (tourism!), trade of goods and services. (personal data security, environmental security, natural disasters, pandemics etc) – Security of travel has become a global problem that we can not disregard – Number of destinations, situations and tourists affected by the lack of security is increasing – Lack of security causes regional stagnation or decrease in tourist flows and even on global level (9/11.) – Basic changes in security concept in travel and tourism, understanding the necessity of common actions

point of interactions and impacts. Despite of the facts giving evidence of the increasing importance of tourism, the impact of tourism on politics is minor than in the reverse way.

Political situation in a given destination or in the whole world always had a crucial effect on the tourism security and safety issues. The evolution of political situation in the world in the last decades of the 20th Century was determinative on the tourism including safety and security problems. In conjunction with this fundamental fact, a wide range of changes and challenges in the world influenced the content of notion “safety and security in tourism”.

Towards a new approach and definition of safety and security in the Age of Global Tourism

Security and safety issues were treated by tourism researchers (named cognition based researchers or system approach researchers, such as Lengyel, Jaafari, Kaspar, Krippendorf, Cohen, etc) treated security as an element of supply in tourism. Michalkó characterized security as a fundamental condition of hosting tourists. Page and Connell

realized the changes in global security. After the tragic terrorist actions of 9/ 11 a line of researchers not only began to study problems of safety and security but these problems become a differentiated area of research and field study in tourism. The authors of these studies are trying to not only to give theoretical insight of security problems but also managerial responses and possible marketing actions in crisis situations due to security problems in tourism destinations (Hall, Timothy, Duval, Prideaux, J. and P. Hunter-Jones etc).WTO has set up a guide of Practical measures for Destinations.

Security and safety has become a complex multidimensional notion with a wide range of components belonging to it: political security, public safety, health and sanitation, personal data safety, legal protection of tourists, consumer protection, safety in communication, disaster protection, environmental security, getting authentic information, quality assurance of services etc.

Security has undergone a significant change: from a more or less passive factor it is now an active element of tourism, an imperative to act in order to protect tourists and their belongings as well as all the achievements of the industry.

Despite the results in studying problems of security and safety in tourism, there are several challenges for tourism researchers specialized in this field:

- Consequences of indivisibility of security problems in the global world
- Security related problems created by Internet
- Security in travel and tourism versus human freedom and rights.

The tourism and hospitality research and education has to face the new issues of security and safety in tourism in order to prepare future specialists of the industry by incorporating new results of research to academic curricula. This could be done by introducing new subjects (e.g. Risk Management in tourism) or by complementing the content of already existing subjects by the new knowledge of security and safety (e.g. marketing, Consumer Relations, Tourism Destination Management).

Is it absurd that in the future “Safety sells in tourism” will be an important slogan in the travel and tourism industry?

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COMPARATIVE ANALYSIS OF MENUS IN THE NORTHERN AND SOUTHERN GREAT PLAIN TOURISTIC REGIONS

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Abstract: The background of the study is based on previous studies dealing with the areas of Transdanubia and Central Hungary. Those works have proved the hypothesis of author that local ingredients and dishes represent minimum role on menus. The question is how similar or different the choice of menus of Northern and Southern Great Plain is from the previously examined areas of Hungary. Additional questions may also arise in terms of the usage of local ingredients available near catering units.

This piece of work has studied several menus of Northern and Southern Great Plain, Hungary. The material was collected from different types of restaurants, 'csárda'-s and inns. The methodology was two-tier: data collecting on the one hand, and the detailed examination of differences between the catering units on the other hand: the number of dishes, the right order of dishes, the appearance of local ingredients and dishes, the consideration of seasonality, the usage of different cooking methods and group of dishes.

The study reflects the main problems of countryside restaurants in Hungary. Only a minimum number of dishes could be connected to local dishes out of more thousands. All in all, dishes are not as precise and perfect as the 'old ones' used to be; that is why it is important for every expert to keep traditions alive in daily routines and by way of strategic means too.

Key words: Northern and Southern Great Plain touristic regions, catering, local ingredients, traditions

1. Introduction

The relevance of the topic is given by the global advance in tourism highlighting the choice of dishes offered by catering units. Restaurants, small restaurants (vendéglő in Hungarian) and roadside restaurants (csárda in Hungarian) should preferably offer regional dishes – prepared at least partly from local raw material – in their menu.

The analysis of the studied topic is a current issue since, in accordance with a present hypothesis, one of the problems is that procuring raw materials is much easier and cheaper in supermarkets. This is the reason why catering companies partly do their shopping in these commercial units and do not spend time on finding local products. Another problem is that local producers cannot always guarantee a constant level of quality and quantity of requested products. Lack of regional dishes appearing in the menu of catering units poses an additional problem.

Bases of the literature background 'Appearance of Regional Dishes in the Food Choice of the Southern Transdanubian Touristic Region' (Sándor D., 2008) and 'Analysis of Transdanubian Supply of Dishes – local raw materials, dishes' (Sándor D., 2009) provide proper ground for the present study focusing on the similar characteristics of the Northern and Southern Great Plain Touristic Regions. Earlier works covering the Southern Transdanubian region, the entire Transdanubia and the Budapest-Middle-Danube

region verified the hypothesis of the Author that local raw materials and regional dishes play an insignificant role in the restaurant menus.

Present study tries to give an answer to the question how the choice of dishes in the hot cuisine catering units of Northern and Southern Great Plain regions differs from that in the previously studied ones. It is also a question whether catering people of the region take advantage of procuring and using locally grown fruits and vegetables. Hungary has gastronomic traditions we should take care of by including authentic local foods and dishes of the region in catering units' menus.

2. Material studied, area descriptions, methods, techniques

The study aims to present the menu supply of the Northern and Southern Great Plain Touristic Regions in the years 2005–2008 by a field research of a non-representative sample. The main goal is to survey the choice of dishes and then to evaluate the supply of diverse hot cuisine units – restaurants, small restaurants, and roadside restaurants – by professional aspects. Accordingly we may have a view of the quantitative and qualitative parameters of the dishes listed on the menus.

Among others, the analysis covers the logical dish grouping and listing system, the number of dishes, the

diverse use of raw materials and preparation methods, and the supply of local specialities, traditional foods, creative menu compilations and explanation of ambiguous denominations used in menus.

The analysis of the choice of dishes is based on the menus of 40 restaurants, 10 small restaurants and 22 roadside restaurants used in the years 2005–2008. Catering units were randomly selected by a non-representative sample of the Northern and Southern Great Plain Touristic Regions. *Figure 1* shows the distribution of studied catering units.

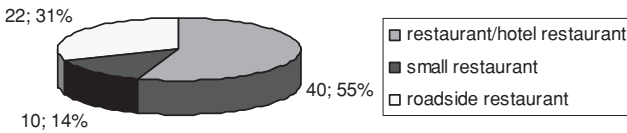


Figure 1. Distribution of studied catering units. Source: own research

After electronically recording the names and quantity of dishes listed on the menus, meals of certain dish groups were aggregated. Next the average number of meals in each dish group was calculated with handling different types of catering units (restaurants, small restaurants, and roadside restaurants) separately. To provide a more efficient visualization, several diagrams are included to present different distributions and average values.

The average number of cold starters, soups and hot starters by types of catering units can be seen on *Figure 2*. In accordance with Hungarian traditions, dishes starting the meal (cold/hot starters and soups) are dominated by Soups.

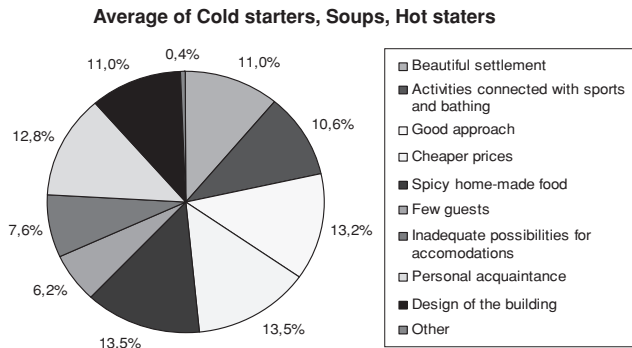


Figure 2. Average number of soups, cold and hot starters in the different hot cuisine units. Source: own research

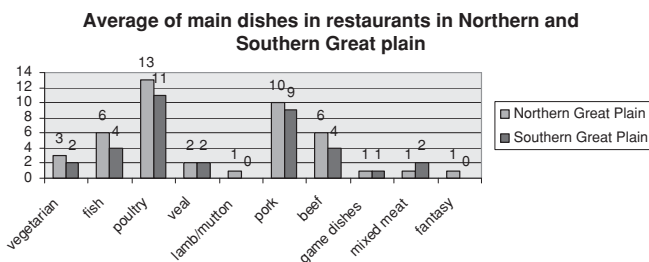


Figure 3. Average number of main dishes in restaurants. Source: own research

Figure 3 shows the average number of main courses in restaurants in the Northern and Southern Great Plain. With regards to main courses in restaurants, the number of poultry dishes is the highest.

Figure 4 presents the average number of main courses in small restaurants in the Northern and Southern Great Plain. In small restaurants the pork dishes are the most popular.

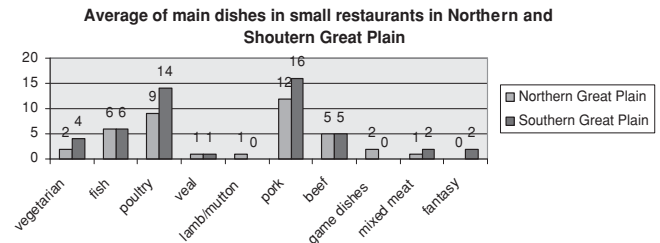


Figure 4. Distribution of main dishes in small restaurants. Source: own research

Figure 5 shows the average number of main courses in roadside restaurants in the Northern and Southern Great Plain. In roadside restaurants the pork dishes are the most popular and in the Northern Great Plain the average number 19 which is extremely high.

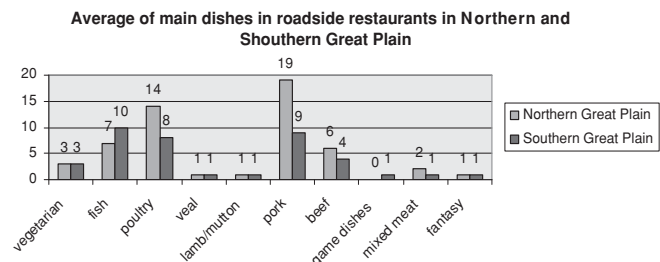


Figure 5. Distribution of main dishes in roadside restaurants. Source: own research

The total amounts of garnishes, Hungarian type of vegetables, salads and sauces (40 restaurants, 10 small restaurants and 22 roadside restaurants) indicate that the average number of different garnishes is 6. (see *Figure 6*). The average number of Hungarian type of vegetables is 0 in restaurants, small restaurants and roadside restaurants. Average number in case of salads is 7. In accordance with

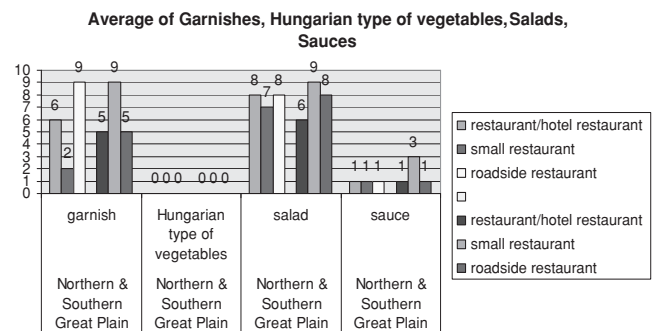


Figure 6. Average number of garnishes, Hungarian type of vegetables, salads and sauces in different hot cuisine catering units. Source: own research

Hungarian traditions, offering 6–9 different salads, which includes also pickles, is typical. The average number of sauces is 1 in case of every type of units except small restaurants in Southern Great Plain.

The number of cheese appearing in menus is quite low, namely 1. The average number of cold desserts is 3 both in restaurants and roadside restaurants, and 2 in small restaurants in Northern Great Plain while 2 in every type of units in Southern Great Plain. This figure is rather low. The average number of warm sweets is 6. The average number of offered fruits and canned fruits is 1. These figures are quite meaningful. Concerning the already studied regions, offering 2 kinds of fruits in a restaurant has represented the widest choice so far. How can the customers taste the seasonal tasteful Hungarian fruits?

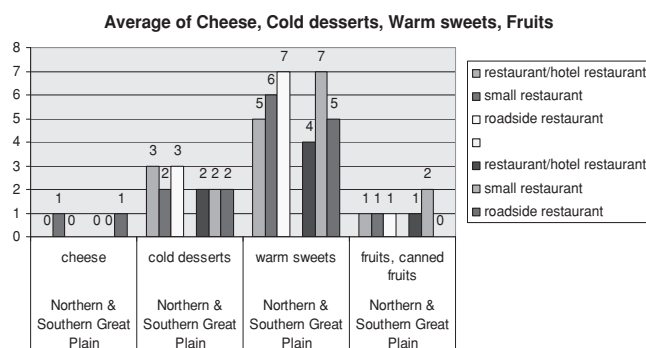


Figure 7. Average number of cheese, cold desserts, warm sweets, fruits and canned fruits in the different hot cuisine units.

Source: own research

3. Results and discussion

After processing the data from 72 menus, the primary goal of surveying the choice of dishes in the regions can be summarized as follows: the quality of menus in terms of their content reflects a quite diverse picture.

In some cases, dish groups are listed in menus in an order fashionable some decades ago. As a consequence of this, guests may encounter desserts earlier than main courses or salads.

It is also rather old fashioned to use the categories of readymade dishes and freshly made dishes. Foreign speaking guest may think in this case that the translated denomination of readymade dishes might refer to “meals not cooked at that time”. At the same time, several hot cuisine units apply logical listing order of the meals – based on the timeline of consuming.

Fortunately, in Northern Great Plain nearly a hundred dishes prepared of Hungarian raw materials including goose liver, goose cracklings, ewe cheese, ewe curd, salami, sausage, bacon etc. can be found. Regional dishes appear on the menus only at an insignificant frequency. Out of the nearly 3000 dishes surveyed only 100 dishes can be somehow connected to a given region. Often only the denomination of the dish refers to its regional character e.g.: Nyírség Meat Ball Soup, Hen Soup Szatmár Style, Fish Soup

of River Tisza, Pancake Hortobágy style, Catfish Tiszalök style, Stuffed Pork rib Szatmár style, Pork rib steak Kunság style etc.

In Southern Great Plain the same number and type of raw materials have been used as in Northern Great Plain. Unfortunately regional dishes appear on the menus only at an insignificant frequency as we could see in Northern Great Plain. Out of the 3000 dishes surveyed only 40 dishes can be somehow connected to a given region. Often only the denomination of the dish refers to its regional character e.g.: kecskeméti kakas rétes-béles, Bean Soup Szénás Style, Betyár Soup of Gyula, Hungarian Great Plain Soup with Dumplings, variations of chicken breast: Szatymaz Style, Maros Style, Félégyháza Style, Great Plain Style, Balástya Style etc.

In accordance with Hungarian traditions, dishes starting the meal (cold/hot starters and soups) are dominated first of all by Soups. With regards to main courses in restaurants, the number of poultry dishes is the highest, while in small restaurants and roadside restaurants the same stands true for pork dishes. Basic supply of vegetarian dish is still one-sided and quite limited (including most of the time only breaded cheese and mushroom).

The range of garnish covers 6 different types on the average, however, the question may arise why catering units don't offer directed main course-garnish pairs? As of international practise, main course is a complete dish including meat (or without meat), garnish and sauce. Fortunately, some of the surveyed menus included no separate garnish category. Strange and surprising, the number of Hungarian type of vegetables is less than minimal, that is zero in all the three types of units (restaurants, small restaurants, roadside restaurants). On the other hand, the average number of salads offered to main courses is 8. The range of sauces is not too extensive as well, with an average of 1 in almost every catering unit.

The average choice of cheese is 0; however, we can find 1 offer in small and roadside restaurants. The standard favourite of cold desserts are ice cream cups, sponge cake Somlo style and chestnut puree. Warm sweets are dominated by pancakes (60%) largely contributing to the base of this category. In roadside restaurants, cottage cheese pasta appears in the menu as the most frequent pasta. The choice of fruits, including also canned fruits, is rather narrow, the average figure being 1 in almost all catering units. Why are tasty Hungarian fruits missing from the menu?

There are some places where interesting fantasy names are given to these dishes, e.g.: Mystery of Kocsord, Chicken Breast as Marcsa likes, Hilly Shepherds' food, Women' dream, Favourite of Rózsa Sándor, Favourite of the Roadside Restaurant's Host, Jackals' Favourite.

In many cases there are formal mistakes in the menus, e.g.: the name of the place, the manager name or the name of the chef are missing, the word classification is used instead of categorization which was the terminology on force in the surveyed period, etc. Also spelling mistakes and misuse of terminology often appear in the menus, e.g.: “baconszalón-

na”, caviar, tuna fish, Gordon blue, beefsteak, etc. The proper use of these terms is as follows: bacon (or “húsos szalonna”). Caviar is the roe of a certain species of fish, namely sturgeon; otherwise it should be named salted roe or salmon caviar in case of salmon. Frozen fillet of sea fish is often referred to as tuna fish but these are generally hake fillets. The proper name of the dish is Cordon Bleu, while it should be spelt as beefsteak in Hungarian menus.

4. Conclusion

The following conclusions may be made from the analysis of choice of dishes offered in the menus of 40 restaurants, 10 small restaurants and 22 roadside restaurants in the years 2005–2008:

- A too extensive range of dishes listed in the menu may have an adverse effect on preparing dishes in consistently high quality
- It would be practical to keep selection within reasonable limits at the same time providing outstanding quality dishes for the guests
- Applying international menu formatting experience would be useful
- The terms “Readymade dishes” and “Freshly made dishes” should not be used any more, instead dishes should be included among main courses based on their main raw material
- Range of vegetarian dishes should be extended and made more diverse, and tasty vegetables dishes should be prepared with less or no ‘roux’ (thickening agent of flour and oil)
- The category of garnishes and sauces is not necessary when garnish and sauce are added to all main courses
- Selection of cheese and fruits should be reasonably widened
- Range of cold desserts should be made more flexible, there should be other desserts in addition to the magic trio of ice cream cup, chestnut puree and sponge cake Somlo Style
- Pancake dominance of restaurant warm sweets should also be weakened by expanding the choice of this category
- Fantasy dishes cause no problem when an explanation of the dish is added
- Range of regional dishes should be widened, since domestic and foreign tourists are mostly interested in local foods, accordingly it is a shame that out of nearly 6000 dishes only 140 can be attached to the region in any way
- Adding the name of a geographic location to that of the dish does not make the food an authentic local speciality in itself
- It is recommended to include traditional foods in the menus by applying professional literature and the related knowledge of local people
- Using local traditional and regional raw materials is an outstanding possibility for expanding the range of

regional dishes. Some of the local traditional and regional raw materials can be seen in *Figure 8*.

Traditional and regional raw materials, products of the Northern Great Plain Region: Hungarian Grey Cattle, Hortobágy Sheep, Sausage of Debrecen, Plum of Beszterce, Apple of Szabolcs, Cabbage of Hajdúság, Acacia-Honey of Nyírség, Plum pálinka of Szatmár.

In Southern Great Plain Region we can see the following traditional products: goose liver of Orosháza, sausage of Csaba, sausage of Gyula, grey catfish of River Tisza, apricot of Kecskemét, peach of Szatymaz, garlic and onion of Makó, tomato sweet pepper of Szentes

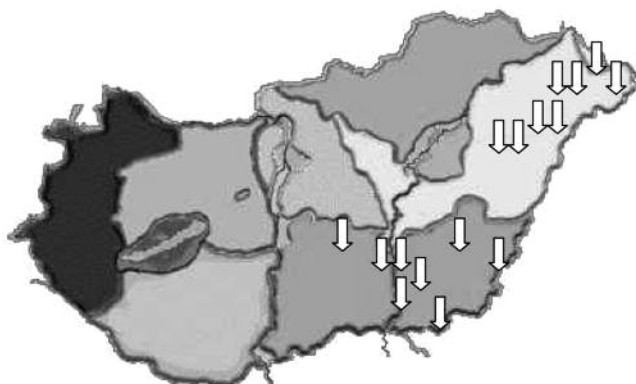


Figure 9. Traditional and regional raw materials and products in the Northern and Southern Great Plain Regions.

Source: <http://www.utikonyv.hu/0-release-2/hp-terkep.php?id=104&nyelv=2&sablon=360&tipus=regio&map=0&x=80000&y=24600>, Farnadi É. (szerk.) *Hagyományok, ízek, régiók*, 2002, and own

- A further possibility is to use local wines when preparing the dishes, however, it is not enough to indicate only ‘wine’ in the menu, it should be detailed e.g.: Venison Stew with paprika flavoured with 2007 Kunsági Zweigelt of Türi Cellar
- Areas to improve the most include the usage of an extremely limited range of raw materials and preparation methods, menu compositions often lacking creativity
- Therefore it would be practical to dismiss the most regular choice of dishes available in almost each and every restaurant and offer regional dishes prepared of local raw materials in the menu
- More attention should be paid to meeting the formal and spelling requirements of the menus
- All in all, current choice of dishes should be updated and a wider range of regional dishes should be offered; the above goals require the cooperation of all professionals in their everyday practise to observe our traditions in the future as well

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KNOWLEDGE NEEDS IN RURAL TOURISM IN CZECH REPUBLIC

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Abstract: Rural tourism has gone through an important development, but in the Czech Republic has only been possible to run a private business only in last 18 years. In Czech Republic that form of tourism is not very widespread, although there is great potential in it and the neighboring countries such as Austria or Germany are on a much higher level. For more intensive development and better competitiveness on the market a proper education is necessary especially on the secondary level. An inquiry investigation has been provided. The responders were owners and operators of small businesses in rural tourism. The first part of the questionnaire was focused on the matters of ownership, running the business, promotion, internet services, etc. The subsequent part of the questionnaire gathered the information about the capacity of the places, the types and prices of accommodation, and the facilities. It also surveys the surroundings of the place – both natural and cultural sights. The survey has brought interesting facts about the level of the rural tourism of selected regions. The inquiry investigation was made by trained persons who gathered much information above the framework of the questionnaire. Many demands and complains were concerned with lack of specialized education, needs of new study programs and branches. There are many specifics of this branches, the most important is that there are more than 90% of micro firms. If we want to keep the special features of the rural tourism we have to prepare future entrepreneurs and employees in completely different way than those for big hotels, spas or congress centers. The contribution deals with the present status of rural tourism in Czech Republic and the educational need of the people involved.

Key words: Rural Tourism, Inquiry Investigation, Knowledge Needs, Micro Business

1. Introduction

The rural tourism is not a completely new issue. The interest in this type of recreation was recognized since 19th century and is connected with the period of Romanticism. The modern form of rural tourism came into existence in the second half of the 20th century.

The political and economical situation in Czech Republic was not favorable to any kind of private business including tourism.

The development of rural tourism in all countries is closely connected with the development of small private farms and other small freeholders in countryside.

Czech agriculture after 1948 went through a forced nationalization. The result was the constitution of a small number of big state or co-operative farms. Many qualified people moved out (sometimes unwillingly). Even worse was the situation in border regions which have the best natural conditions for tourism. The original German population was displaced after World War II; the incomers were often not able to take care of the farms. Large acreage was taken over by state farms or there were constituted military areas with agriculture land and forests under control of a huge company “Military farms and forests”.

In this period many city people acquired their own recreation facilities. In these weekend houses they spent

majority of their free time often as an escape from bounded life in socialist reality.

Many firms also owned their own recreation facilities. During holidays they gave them up to their employees for recreation; in the rest of the year they used them for meetings, seminars, etc.

After 1989 part of the agriculture land and other facilities went through privatization and in ideal cases (there were many legal problems) was returned to the original owners or their children. Only a small part of these old-new owners were able and willing to run a small farm. Many farms remained of the same size; there was only change in the ownership and legal status of the firm (change from state or co-operative farms into joint stock companies). The whole agriculture sector went through industrialization and concentration to improve the effectiveness of the production and profitability of the companies (Houška, Beránková, 2008).

The few private farmers who started their own business in small private farms have gone through very difficult times. Those who survived are now more stabilized (some of them with the help of the EU) and many of them are trying new methods of farming especially production of ecological products and home made foodstuffs. These small farms have the best potential for rural tourism and some of them really have started the business in this sector.

The customers' demand has also changed. The majority of the firm recreation capacities were sold because the firm did not take care of them or the firms themselves became extinct. All Czech people were excited by the possibility to travel abroad which they did not have before 1989. They began to travel to seaside places abroad; highly popular have become trips to well known places in Europe and overseas. The possibilities for recreation at home country were neglected. Moreover, people preferred to stay in their own recreation houses if they decided to spend holidays in the Czech Republic.

On the other hand the Czech Republic opened its borders for tourists from abroad and the interest was really high, much over the disposable capacities (Šimková, 2000). Sad to say, the interest of investors concentrated only to high standard hotels mainly in Prague. The Czech countryside has been discovered latter in remarkably lower scale.

The rural tourism has been growing only in several recent years when the domestic demand raised unfortunately probably due to deterioration of global economical situation and lowering incomes of Czech citizens.

Because the rural tourism in Czech Republic has gone through non-continuous development and for many years was in fact only a part of a shadow economy there are not enough information in this field. It is necessary to map the situation in order to get effectual support from local, state and European institutions.

2. Goals and methods

The goal of this contribution is to determine the status of rural tourism in chosen regions of the Czech Republic. This will be followed by showing the imperfections, problems and potential possibilities of this form of tourism.

The information was gained in a questioner investigation focused on owners or operators of the object of rural tourism.

The questioner investigation is very effective method which enables the researches to get answers from many respondents with relatively low costs. The authors choose a method of a standardized interview with a question form. The method guarantees that the information from all responders are of the same type; all responders are asked the same questions in the same order.

The research file consisted from objects of rural tourism in chosen regions of Czech Republic. In the first phase the regions were chosen and than the object by random selection. This method makes possible to generalize the results.

The total number of respondents was 77, resp. 75 because two forms were not properly filled in. The data collection was realized by interviewers which led to better validity of data and higher percentage of returned filled in forms.

After collection of the question forms the open questions were encoded and than all answers were processed. The formal and factual check of the data was implemented. The data was prepared for analysis."

An explorative analysis was realized as a first. This analysis is useful for detail investigation of the data structure.

In the second step the relative frequencies of answers were calculated for basic orientation in the data file. In the third step marks with possible dependencies were defined. The analysis of contingency tables was applied for investigation of possible relations. A test of dependency was carried out in these tables. If the marks were proved as dependent the tightness of the dependency was verified.

3. Results and discussion

3.1. Business and labor

In most cases the object is owned by the responder and a member of his/her family (45%). The majority of respondents (90%) has a trade license and run a business as a physical person. The average time being in business is 9 years that means the sector is very young. The hypothesis: „Women do majority of works connected with touristic services” was proved – see *Tab. 1*.

Tab. 1. Share of men and women in touristic services

Who works	Relative frequency
Women	53,3
Men	26,7
Both	6,7
Answer missing	13,3

The number of women employed is very important because nearly all of them are able to combine work in the tourist service with care of small children, families, seniors, handicapped people, etc. The rural tourism is a great opportunity for them to find a job close to their homes.

3.2. Services and specifications

The tourism somehow connected with agriculture production is in 27% of objects but only in 16% there are homemade products for sale. Eco agro tourism is 27% in of object and the firm tourism in 22%. Only about one half of object offer also some form of boarding. – see *Tab. 2*.

Tab. 2. Food services

Type of service	Relative frequency
Cold and hot meals	45,1
No	47,9
Supply of foodstuffs	8
Answer missing	5,3

It is often possible to park near the house (95%) and bring pets (80%). In some objects there are also some specific facilities as:

- ✓ ski store – 34%,
- ✓ children's playground – 39%,
- ✓ table tennis – 31%,
- ✓ outside swimming pool – 24%.

The accessibility of the objects by public transport is good. The average distance to a bus stop is 1 km and 6 km to a train stop. Many localizers are ready to pick up their guests (68%) or at least transport their luggage (48%). The distance to the nearest post office, medical center, fast food and restaurant is 5 km in average.

In following question the accessibility of various recreation capacities as an open air pool, ski lift, roofed swimming pool, spa, ski and bicycle rent, ski school and golf course was investigated. The important distance was 20 km. If the capacity is within this distance it is rated as available. The percentage of positive answers (it means it is available) was 60%. Nearly the same result (60%) was with availability of cultural amenities, cultural and natural places of interest and doings as: natural preservation, castle, ruin, observation tower, chateau, cinema, theatre, concert, festival, ball, discotheque, etc.

3.3. Promotion, reservations and payments

The promotion is very important for getting customers. Some object are in catalogues of travel agencies but majority of customers is gained through the Internet (82% respondents). The other successful ways are personal contacts, friends and repeated visits (57%), information centers (40%), travel agencies (21%), hangers (15%) and insertion in newspapers (13%).

Communication with customers is also important. 91% of responders has own mail address, 87% has own WebPages and a link placed on some touristic portal exists for 83% of objects. Remarkably lower number are connected with on-line reservations (38%) and on-line

payments (17%).The providers are not much interested in these services and also automatic reservation systems are not very popular – see *Tab. 3*.

Tab. 3. Reservation methods

Method	Relative frequency
Hand made remark in calendar	45,3
Send post money order, a deposit must be paid in advance	4
Purchased a professional system	2,7
Own system	28
Other	10

3.4. Dependency measures

The dependency between answers was studied for several questions. A pivot table was always created for these questions and the dependency of marks was investigated by statistical tests (*Řezanková, 2005; Hindls et al.,1999*).

In the cases when the dependency was proved the contingency coefficients were calculated. Some more detail descriptions of dependency follows.

There is a dependency between opinion that the object is situated in a recreation area and tourism is a main source of

income. The dependency is medium with the value of the contingency coefficient is 0,458. The source of main income is also in correlation with natural and cultural places of interest. The dependency is again medium; the correlation coefficients are 0,445 and 0,414.

The following *Table 4* shows the dependency of income from tourist services on other factors.

Tab. 4. Dependency between income and chosen factors

Question	Dependency exists	Contingency coefficient	Cramer's V
Offer of firm tourism	Yes	0,487	0,558
Plans for changes in services	Yes	0,383	0,415
Plans for further equipment	Yes	0,384	0,415
Offer family celebration, sport events, etc.	Yes	0,520	0,430
Rental of sports equipment	Yes	0,466	0,320

The dependency was proved for all factors; the dependency is medium or mesoscale.

Another investigated dependency was the existence of an income from an agriculture production and other chosen questions. A mesoscale dependency was proved for sale of the own products (contingency coefficient 0,505) and for operating agro-tourism (contingency

coefficient 0,445). There is a medium dependency with usage of the object for a whole year (contingency coefficient 0,332) and operation of firm tourism (contingency coefficient 0,323).

The following *table 5* shows the dependencies between tourism connected with agriculture production and other chosen questions.

Tab. 5. Dependency between tourism combined with agriculture and chosen factors

Question	Dependency exists	Contingency coefficient	Cramer's V
The object is used whole year	Yes	0,260	0,269
We sell own products	Yes	0,305	0,320
Eco-agro-tourism	Yes	0,603	0,759
I am interested in education activities	Yes	0,398	0,430
Offer of foods	Yes	0,408	0,447
Organization of firm seminars	Yes	0,332	0,352
Rental of sports equipment	Yes	0,392	0,426

The results in the *Tab. 5* show that running a touristic object in combination with agriculture widen the offer of the objects and makes the object more interesting and possibly also the occupancy and earnings will be higher. Naturally the highest scale of dependency is for agro tourism. The dependency for other factors is medium.

The search for dependencies between the interest in educational activities and other questions disclosed dependencies between combination with agriculture, eco-agro tourism and firm tourism. These dependencies are mesoscale.

4. Conclusions

The pilot investigation on present status of rural tourism in Czech Republic brought some interesting results:

The sector is relatively very young; developing in last ten years.

The firms are small, usually owned by private persons and families.

Mostly women are working in touristic services.

The services offered and equipment are satisfactory in average; many owners plan improvements.

The environment is suitable; many places of interest are attainable.

We see opportunities in better promotion and marketing of the services. Higher number of customers is desirable but it calls for improvement of reservation and payment systems. It is necessary to face immediately the raising interest from Czech customers which is now coming together with worse economical situation. By our opinion it is an opportunity to gain new customers but it is necessary to do something to keep them.

Generally wider range of services offered also raises the number of customers. Many activities can be connected with the agriculture production. The best way is to make up new services, to come sometimes with something new and modern, to broaden the chance to spend active and interesting holidays.

The recreation potential of Czech Republic is high and has not been discovered in many places. So far the interest of touristic business has focused mainly to the capital Prague and several best known places as Český Krumlov or Karlovy Vary.

The Czech countryside is able to offer unforgettable experiences and adventures as well as days spend in calmness and wellbeing. The first who must be aware of this fact are the locals.

Acknowledgment

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TOURIST CONSIDERATIONS IN HOSTING A MEGA SPORT EVENT: 2010 FIFA WORLD CUP

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Abstract: Tourism enterprises can create public viewing areas where shared enjoyment and heightened emotive experiences could arise, as well as sentiments of patriotism, and ownership of the event itself. But, they must keep their base business happy; to ensure long term loyalty of existing customers.

Key words: Tourism, mega sport event, 2010 FIFA World Cup

1. Introduction

There are only two mega sport events namely the FIFA World Cup and the Olympics based on the scale of media interest (Davies, 2009:33-34, Pillay, Tomlinson & Bass, 2009:5). FIFA owns the event and provides the entertainment extravaganza in the form of football, for profit generation. Their costs are covered mainly by television broadcasting and marketing rights. Host cities are required to provide the infrastructure and services. Hosting the event promises to the nation, not only the excitement of the media exposure, but the expectation of a positive return on the considerable investment. However, this may not result to growth benefits in the short term, for one, because of displacement of business-related tourism. But, the success South Africa (SA) wish to attain is the longer term intangible and ambiguous benefit of reducing the widespread legacy of Afro-pessimism, by proving that it can manage the event to world standards (Czegeledy, 2009:294). This cannot be done through marketing campaigns, but only through lived experiences of such an event.

This paper will endeavour to elicit the risk of not living up to visitor expectations. It will focus on the experience of visitors to a comparable event in SA and their perception of the destination. In order to do so the paper is structured as follows: firstly a brief overview will be given of hosting mega events, followed by a description of the motives of event tourists, and then the challenges of delivering the desired experiences. The significance of the contribution lies in synthesizing various theories from a visitor perspective to elucidate challenges in preparation for 2010, and in contextualising international literature. The findings can be used to iron out problems and to promote experiences that are deliverable.

2. Hosting a mega sport event

Given the capacity to draw visitors mega events has become a prominent component of many economic develop-

ment plans (Kotler, Haider & Rein, 1993). They are likely to have long-term positive consequences for the cities and communities that stage them and provide opportunities for increased international publicity and recognition, by attracting attention to the locality (Deccio & Baloglu, 2002; Keller, 2001:31). They can also be strategically leveraged for business and investment development (O'Brien, 2006:241).

However, Crompton (1995) is of the opinion that the validity of many economic studies is less than reliable. In this regard, Tomlinson (2009:33) refers to lack of transparency, and Pillay et al. (2009:6) to deliberate misrepresentation. The benefit calculations thus cast a dark shadow on the return on investment claims. For example, studies mainly relate to the expenditure associated with the tourists who are attracted to the event, and care is needed in measuring the amount of expenditure that would not have occurred in the absence of the event. Lee and Taylor (2005:596-602) did that when they estimated the impact of the 2002 World Cup, by using an input-output model, but conclude that measuring all the economic impacts associated with a mega event is an impossible task. According to Daniels (2007:335) meaningful economic impacts seldom result from mega events such as the World Cup, because site options are narrowed by the necessity of sophisticated infrastructure and significant public investment. Central cities consequently gain more than remote ones because of their location. Sport tourism may thus exacerbate regional imbalances in development (Pillay & Bass, 2009:11,77). Daniels (2007:344) therefore suggests that planners of mega sport events should work closely with Destination Marketing Organisations (DMOs) from different areas, to ensure that all areas realize an equitable share of the event's cost and benefits. Rogerson (2009) supports this argument, but base it on the size of the enterprises and not the cities.

On the enterprise level, there are also risks. For example, accommodation occupancy the eight weeks before and after a mega event may be down compared to the same time the previous year, as was the case in Germany in 2006 (Du

Plessis & Maennig, 2009:68; Van Meerendonk, 2009:2). But, revenue per available room will be up because of rising prices. A study among operators in the major source markets also ascertained fear about disrupted supply and displaced business as a result of the 2010 FIFA World Cup, and only 56% of SA-based operators thought the event would be good for their business (Now Media, 2009:27).

With respect to the less tangible benefits, Rogerson (2009:337) is of the opinion that mega events are increasingly significant phenomena because they can generate long-term outcomes for the host locality by enhancing and regenerating it, and promoting or re-creating its image. For example, the UK redefined soccer in the 1990 World Cup, by using Pavarotti's *Nessun Dorma* as the BBC's theme tune, and moved it away from its former associations with violent masculine thuggery (Whitelegg, 2000:803). However, previous studies suggest that mega events may not translate into image enhancement that translate into tourist visitation (Smith, 2005:227) and may have profound negative impacts as they are likely to result in such problems as traffic congestion, difficulties of law enforcement, and increased crime. They may damage the image of the host destination or diminish its attractiveness because of inadequate infrastructure, poor facilities or improper practices (Keller, 2001:40, Mihalik, 2000; Ritchie, 1984). Negative impacts are often ignored prior to hosting a mega event while glorifying the expected benefits (Kim, Gursoy & Lee, 2006:88). To limit this risk, it is necessary ascertain cautionary pointers from a visitor perspective, prior to hosting a mega event and to establish what motivates them to attend.

3. Motives of event tourists and intent to attend

Event spectator appeal will affect the visitor attendance (The Economist, 2002:2), and the destination development that an event engenders is largely driven by the attendance it is expected to generate (Kim & Chalip, 2004:695). Estimating visitation is not an easy task. For example, the actual foreign arrivals of 403,466 to the 2002 World Cup was 37% less than the 640,000 the organising committee predicted, and of these, only 57.7% (232,800) were direct football tourists (Lee & Taylor, 2005:599,601).

Travel intentions are influenced by both pull and push factors (Crompton & McKay, 1997:425; Yoon & Uysal, 2005:54). Pull factors are related to external sources, including destination attributes, and push factors are commonly studied with reference to reasons, or motives for travel, but motivation is an insufficient basis for understanding the drivers of sport event attendance. The most common response obtained by sport motivation researchers, why visitors attend, is that it is *fun*, but fun explains nothing (Green & Chalip, 1998:287); the relationships between motives and behaviour are complexly determined (Crompton & McKay, 1997:427). A conceptual model of event interest and intent to attend is

depicted in figure 1. Besides demographic variables, there are five other types of travel motivations: fan motives, travel motives, event interest, travel constraints and attendance intentions. Fan motives are multidimensional which include aesthetic experience (beauty and grace of soccer), vicarious achievement (sense of personal achievement, or status a spectator feels when his team wins), eustress (stimulation and arousal from watching soccer), interest in

players (fan of one or more players) and identification with the national team (degree to which spectators consider themselves to be a fan). The event interest captures the celebratory atmosphere that is common to mega events. This is one of its key appeals to attendees, and the aspect that media coverage is least able to capture (Kim & Chalip, 2004:703).

Green and Chalip (1998:276) suggest that the flow of tourists to sport events is equivalent to the historic religious pilgrimage and argue that spectators come together to celebrate the subculture they share. It is a statement about who they are; a shared and valued identity. Sport events create situations, or extended occasions in encapsulated spaces, for spectators to affirm their personal identity, for socialisation and camaraderie. The fundamental attraction is neither the place nor its people; it is the players and other spectators that participate. These findings are confirmed by King (2002:107) who expressed the opinion that travel is increasingly more about experiences, fulfilment and rejuvenation than about *places* and *things*. The hardware is less important than the benefit. The DMO's role is to facilitate the connection between the visitor and the experience they are seeking; to convert tourism products into relevant tourism experiences.

Only a small portion of the total revenue from mega sport events comes from ticket sales (Davies, 2009:34). Visitors typically spend money in eight categories; transportation, accommodation, food and beverage, recreation/entertainment, tour/sightseeing, game tickets, retail shopping, services (such as laundry), and miscellaneous (Daniels, 2007:339; Daniels, Norman & Henry, 2004:185-186; Lee & Taylor, 2005:598). Economic impact research revealed that visitors who travel greater distances to an event typically spend more than tourists from nearby and that first time event visitors spend considerably more than repeat visitors (Qi Tang & Turco, 2001:33). Similarly, the perceived attractiveness of the host community (i.e. alternative attractions,

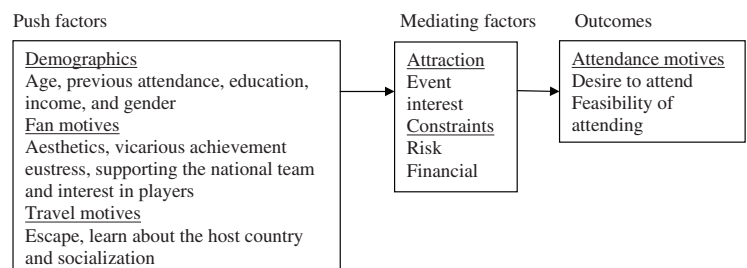


Figure 1. Conceptual model of event interest and intent to attend
Source: Adapted from Kim and Chalip, 2004:698-701.

climate, proximity to relatives, friends, etc.) may elicit larger visitor groups, and the nature of its tourism accommodation may stimulate more spending.

With respect to activity patterns, first time visitors spend more time at the attraction and visit more attractions. They are inclined to explore more possibilities and the difference in their activity patterns is moderated by the use of information about the available activities (Kemperman, Joh & Timmermans, 2003:1-6). In addition, many other exogenous factors may influence activity patterns such as economic considerations, accessibility and the reputation of the destination. For example, SA has gained a reputation for being an unsafe place to go on holiday; especially going out after dark and using public transport (George, 2003:576,581).

4. The challenges in delivering on the desired experience

South Africa is to host the 2010 FIFA World Cup which has the potential to raise its profile as a tourist destination, if it delivers on the desired experience (Williams, 2006:493). This is in line with the broader objectives for tourism in SA, namely to ensure a lasting social legacy, to advance the competitiveness agenda, to maximise tourism value during the event, and to maximise value for SA after the event; in sustainable GDP growth, redistribution and transformation (SA Tourism, 2008:91-97). SA Tourism concedes to the following ten challenges for 2010: 1) poor access to channels of tourism information, 2) insufficient accommodation, and 3) compelling attractions and activities, 4) inadequate service levels and skills shortage, 5) inadequate public transport, 6) insufficient focus on tourist safety and security, 7) limited institutional capacity, 8) managing expectations, 9) demand management and 10) displacement of general tourists.

The support of the host community is also important for success (Gursoy & Kendall, 2006:604). According to a survey by FIFA (2009:4), 83% of the respondents felt SA will be ready to host the 2010 Cup, and 94% were proud that SA is hosting the event, 89% said it would bring long term benefits to the country, 92% believed it will lead to an upgrade in infrastructure, notably public transport, roads and telecommunications, and 86% said their interest were unaffected by the performance of the national team. Whilst 90% believed it would improve SA's image abroad, 59% had a concern for inflated prices, and 58% thought crime would be a concern for visitors, and anticipate increased congestion problems.

In the opinion of SA tour operators Value for money experiences is the main consideration (91%) for travellers considering SA as a destination, and according to them, crime reduction (78%) and better priced air access would

help increase business (Now Media, 2009:26). By contrast, value for money was a strength (96.77%) in terms of SA's competitiveness, among 150 inbound tour operators, about a decade ago, (Saayman & Du Plessis, 2003:60).

5. The purpose of the empirical study, research method and sample

The primary purpose of the research was to ascertain if the target market for a mega sport event, namely the 2010 FIFA World Cup were of the opinion that SA could host it successfully, and if not, what had to be improved upon prior to the event. The secondary purpose was to uncover how the target market experienced a similar sport event, namely the SA 2009 FIFA Confederations Cup.

The study is based on secondary sources, supplemented by an empirical study. It is an exploratory, descriptive, and predominantly qualitative study, and the sample was a non-probability, convenience sample. Spectators to the penultimate match were interviewed, whilst waiting to enter the stadium, and completed the questionnaire with the assistance of fieldworkers. It was piloted, and improvements were made; especially with respect to directing questions specifically to SA residents or foreigners. A total of 205 spectators took part in the study and the composition is reflected in table 1.

Table 1. Composition of the sample

Gender %	Age %	Language %	Matches attended	Duration of visit	Country of origin
Male 82	15-25 20.3	English 21.7	1 41.2	3-5 days 25.9	SA 18.4
Female 18	26-35 43.5	African 16.5	2 21.4	6-8 14.8	Rest of Africa 4.5
	36-45 23.7	European 7.5	3 16.6	9-11 7.4	Europe 10.5
	46-55 9.7	Oriental 5.4	4 7.0	12-14 18.5	East 5.4
	56-65 1.4	Afrikaans 1.9	5 4.3	15-21 7.4	Americas 5.4
	66 + 1.4	Undisclosed 47.0	6+ 9.5	longer 26.0	Undisclosed 55.8
100	100%	100%	100%	100%	100%

n=205

The questions posed were both fixed response and open ended, and for purposes of this paper can be grouped into three categories. The first encapsulated the demographic and geographic profile of the respondents and included questions about gender, age, home language, matches attended, duration of visit and country of residence. These are disclosed in table 1. The second category uncovered visitors' perceptions about SA as a host and tourist destination, on a 5-point Likert scale which ranged from strongly disagree (1) to strongly agree (5), and the intentions of overseas spectators to revisit SA for the 2010 FIFA World Cup, or recommending it. The last category of questions elicited their most positive and most negative experience and suggestions for improvement.

6. Findings: Perception of sa as a host to a mega sport event and tourist destination

A brief overview of the most pertinent findings will be given. Visitors were asked to express their opinions on SA's

ability to successfully host the 2010 World Cup. A summary of the perceptions is reflected in table 2. The sample size for statements varies as it consolidates the responses of domestic and foreign visitors and some applied to the latter only. The highest weighted average of 93.9% was received for the belief expressed by 205 respondents that SA will be able to successfully host the 2010 FIFA World Cup, and the lowest score, for the how well 192 spectators believed transport was well organised and easy to use. The average rating of all the statements was a high 84.1%.

Table 2. Perception of SA as a host to a mega sport event and tourist destination

Statement about SA's ability to host a mega event	Respondents	1	2	3	4	5	Weighted ranking
I believe SA will successfully host the 2010 World Cup	205	1	3	5	40	156	93.9%
I really looked forward to visit SA	73	2	1	3	16	51	91.0
The matches were well organised	204	2	1	11	68	122	90.1
Services provided by the airports are good	19	0	1	1	5	12	89.5
I was impressed by SA as tourist destination	78	0	3	1	25	42	87.2
Services in SA are good	20	1	1	1	5	12	86.0
Services provided by private businesses such as accommodation and restaurants are good	164	2	4	24	52	82	85.4
My perception about SA has changed positively during my stay	83	0	2	11	35	35	84.8
I felt safe in general	202	5	7	24	71	95	84.2
Services provided by information bureaus are good	56	0	0	13	20	23	83.6
I have heard good things about SA	86	2	4	10	32	38	83.3
It was easy to obtain adequate tourist information	126	1	9	29	50	37	78.0
Services provided by the public sector such as transport are good	176	7	11	42	52	64	77.7
Transport was well organised and easy to use	192	11	13	42	58	68	70.3
Weighted average							84.1%

Respondents were of the opinion that the matches were well organised (90.1%). As was expected, the services provided by private businesses were perceived to be delivered better than those provided by the public sector. The comparative figures were ranked 85.4 and 77.7%, by 164 and 176 respondents respectively. In order to triangulate/validate the findings, respondents were asked to rate their overall experiences during the SA 2009 Confederations Cup on a scale of 1 to 10 where ten was the highest, and the average rating was 7.84.

7. Most positive experience of visitors

Visitors were asked to describe their most positive experience during the SA 2009 Confederations Cup. Foreign visitors were also asked if they would revisit SA for the 2010 Cup, to substantiate why/ or why not, and if they would recommend visiting SA for the upcoming cup. The purpose was to uncover their emotional feelings; what was *good* and *fun* as this tells one more about the target market and what is the core product (*Green & Chalip*, 1998:286; *Yoon & Uysal*, 2005:54). In addition, this question elicits testimonials of promises that are deliverable as well as what spectators would tell their friends; if their experiences relegated pervasive images of the past of what Africa can, and cannot do, to the past. The answers may be used by DMOs as themes that would render promotional material truthful.

The responses were categorised in two dimensions, namely the games itself, and SA as tourist destination. Experiences about the games can be classified as either emotional or

cognitive/technical. The Confederations Cup created for the respondents moments of intense excitement, identity formation, and patriotism that transcended social cleavages. The positive emotional experiences can be classified as excitement (eustress) or belonging, which includes identification with the national team. Excitement was described by words such as: "The atmosphere was great, or electric, it was festive or awesome and the vibe at the stadiums enjoyable". The following words were used to describe belonging: "Bringing the nation together, the integration of people, having met lots of friendly and helpful people, and seeing South Africans united." Identification with soccer and the national team was for some respondents the highlight, and to see SA going through to the semi-finals. For others it was the opportunity to watch international teams and to see real superstars on the field.

With respect to the technical service delivery, comments on the organisation of the tournament and the infrastructure were positive, especially the unique and striking stadiums. The smooth delivery and organisation was described by words such as: "Everything was well organised, smart and glamorous, everyone was working together to ensure success and safety in the stadium was impressive. The park and drive initiative was brilliant". The most positive experience with respect to of SA as a tourist destination was for many foreign tourists the diversity it offers. SA was considered exceptional. Most of the foreign respondents (76) said that they would visit SA again in 2010. The reasons given were similar to the most positive experiences which validate the findings. All (86), but one foreign respondent indicated that they would recommend SA for the 2010 World Cup.

8. Most negative experience of visitors

With respect to the most negative experience and suggestions for improvement, the crime rate and public transport was by far the most disappointing. A few spectators reported poor service delivery. Smoking in the stands and the *vuvuzelas* caused a nuisance for many international visitors. Others mentioned the empty stands, and lack of support from volunteers. Some said that the pricing of tickets were too high and this could even be considered as exploitation. Transportation and internet access was also very expensive. Recommendations for improvement, confirmed these negative experiences.

9. Discussion and management implications

An overwhelming 93.9% of respondents believed SA will successfully host the mega event which is much more positive than the findings of the FIFA study (2009:4), where

83% felt their country will be ready to host it. This is congruent with the demographic push factors illustrated in figure I. FIFA succeeded in providing entertainment. The experience of respondents was very emotional in that it generated excitement and a sense of belonging and thus achieved one of the SA Tourism's objectives, namely to ensure a lasting social legacy. The results further confirms that the benefits spectators seeked were all delivered in terms of fan motives; namely eustress, supporting the national team, interest in players and aesthetics. The fundamental satisfaction was derived from the mediating factor, namely the players and spectators of the event itself, not the place. This is in line with the findings of *Green and Chalip* (1998:286) that spectators come together to affirm their personal identity, for socialisation and camaraderie, as well as the opinion of *King* (2002:108) that tourists segment themselves in terms of who they are and the experience they seek. An overwhelming majority would recommend SA as a tourist destination, and many intends to come back to SA for the 2010 Cup. However, research indicates that destination revisit intention, based on satisfaction, is a short-term intention, because of novelty seeking (*Jang & Feng*, 2007:586).

Public transport remained to be a challenge as was elicited in the FIFA (2009:5) study. This perception tarnishes the image of SA as a tourist destination since the turn of the century and requires serious interventions before 2010. This is also one of the FIFA infrastructure requirements (*Davies*, 2009:34). It would seem as if event organisers are able to make visitors feel safe whilst at the event, even though SA suffers from the general perception of being crime ridden (*George*, 2003:576, *Saayman & Du Plessis*, 2003:60).

10. Concluding remarks

SA must get the basics right in terms of world-class facilities and services if it wants to achieve the legacy that had only been vaguely defined at the outset. The major challenge lies in the improvement of public services such as transport, safety and security. In order to deepen the destination brand and to ameliorate, rather than reinforce geographical and enterprise differentiation, it is suggested that extended length packages be developed outside the match days because most spectators will be coming from outside Africa. Transient leisure travellers attending matches may combine the trip with sight-seeing and other tourist related activities, and first-time visitors are inclined to explore more possibilities than repeat visitors.

Tourism enterprises can create public viewing areas where shared enjoyment and heightened emotive experiences could arise, as well as sentiments of patriotism, and ownership of the event itself. But, they must keep their base business happy; to ensure long term loyalty of existing customers. The changed economic climate will impact on the performance of hotels during the 2010 event and the ability to outperform competitors will depend on the revenue management experience of tourist enterprises.

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REDUCING CONSUMPTION OF FOOD WITH HIGH LEVEL OF FAT, SUGAR AND/OR SALT AMONG YOUNG GENERATION

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Abstract: The young generation is the most influenced and vulnerable segment of the market. Food with high level of fat, sugar and/or salt are popularised for this segment. At the same time nearly 7 people die of obesity or from complications of obesity in Hungary each hour – one every 9 minutes. Less than 10% of youth are of the belief of eating healthy and more then one third of youth don't take care about healthy eating. The young generation can be especially influenced by use of well-known persons, prize games and free gifts. The idea of fat tax's introduction could be an obvious proposal.

Key words: obesity, fat tax, marketing, child, unhealthy food

1. Introduction:

Youth – as a special target group

The young generation is one of the most preferred target groups of the marketing. Most of companies are looking for the young generation's flavours and targeting them, although they don't have individual income and formed preference system. The world of tastes is easy to influence, to persuade, and to shape according to their own corporate needs. Marketing, which focuses on children, is very problematic. It causes a problem since the polished marketing arsenal is used for special, impressionable segments (Töröcsik, 2003). The young are especially vulnerable according to a basic accepted statement. Children understand the essence of the advertisements less and they are more credulous from the average one. The absence of scepticism and strongly presenting a positive attitude in connection with the advertisements is significant (Boush, 1994). It is more recognized by the older children (10–12 years of age) that advertisement does not communicate the full truth all the time. Children express their suspense, but the level of their knowledge and the sceptical view is not enough. It is a serious problem that an average American child (but the statement is also true in Hungarian comparison) spends roughly 4 hours in front of the television screen every day (Federal Communications Commission, 2003; Kunkel, 2001). They watch more than 40,000 television advertisements in a year (Strasburger, 2001; Kunkel, 2001). It means about 5 hours of watching clear advertisement weekly (Lindstrom, Seybold, 2003). It is fact, that children

recognize the trademarks over the age of 3, but the beginning of the brand loyalty's forming may start even from the age of 2 years (Fishers, 1991; McNeal, 1992). Secondary surveys confirm that a large percentage (20%) of children less than 3 years of age insists on brands already and influences their parents on its purchasing. Children aged between 4–5 years insist on 20–30 brands already. They identify products from the melody of the advertisements and the logo (Látos, 2005). Considerable part of the advertisements demonstrate food with high level of fat, sugar and/or salt that is rich in energy, but include low level of nutritive values and important nutritive materials (Linn, 2008). The responsibility of marketing could be questionable from this point of view (Hastings, 2003). A professor's study responds to the question unambiguously with his method and his statements: there is a lot of food advertising for children; the advertised diet is less healthy than the recommended one; children enjoy and are engaged with food promotion; food promotion is having an effect, particularly on children's preferences, purchase behaviour and consumption.

On the other hand, the soft drink industry spends 600 times more on advertising each year than the National Cancer Institute in the USA. The National Cancer Institute spends about 1 million USD annually on promoting healthy food (Jacobson, Brownell, 2000). Brand name Coke and Diet Coke are supported by 154 million USD, M&M candies by 67 million USD, Lay's chips by 56 million USD. Undisputed, that the marketing activity of unhealthy food manufacturers is effective. The only one question is that, how efficient is their activity.

2. Obesity trends, food advertisements

Production and consumption of food with high level of fat, sugar and/or salt are becoming considerable question in the food industry and health care. Effectiveness of ads of food with high level of fat, sugar and/or salt are much more effective than we suppose it. The advertised food is sweet, sweetened corn flakes, snacks, soft drinks. 95% of food advertisements show food with high level of fat, sugar and/or salt on the television (International Obesity Task Force, 2004). More than 75% of advertisements of games, flakes, candies and snacks is scheduled on Saturday morning, primarily on the channels for children (Macklin, 2003). In the report of International Obesity Task Force (2005) it is published that the level of childhood overweight and obesity is shown to be accelerating rapidly in some countries. The Mediterranean islands of Malta, Sicily, Gibraltar and Crete as well as countries of Spain, Portugal and Italy report overweight and obesity levels exceeding 30% among children. In addition to it England, Ireland, Cyprus, Sweden and Greece report levels above 20%, while France, Switzerland, Poland, the Czech Republic, Hungary, Germany, Denmark, Netherlands and even Bulgaria report overweight levels of 10–20% among this age group. It means that 17.5 million overweight children live in the European Union (Fülöp, 2009). The increasing consumption of food with high level of fat, sugar and/or salt contributes to the drastic increasing of the number of overweight and diabetes type 2 people. The prevalence of obesity has increased 100 percent in the last 20 years (Flegal, 2002). Centers for Disease Control and Prevention published in 2004, that 64 percent of U.S. adults are either overweight or obese (CDC, 2004). The increased rate of obesity is alarming, given the association between obesity and many chronic diseases, including type 2 diabetes; several types of cancer, musculoskeletal disorders; sleep apnea (Must et al., 1999; Field et al., 2001; Visscher, Seidell, 2001).

The direct costs of obesity are estimated about 7% of total health care costs (110 billion USD in 1999) in the United States (Michael S. Finke, Sand J. Huston, 2007). The value is 123 billion USD in 2003 (Endocrine Society and Hormone Foundation 2008). The direct cost of obesity is raised by 9.1% of total health care costs in 2006. The direct cost of obesity was 147 billion USD in 2009.

It can be stated, that obesity is becoming a serious problem nowadays. Today the risk of obesity is a bigger problem than smoking or alcoholism. It means that the average health care cost of overweight persons is higher by 42% than normal bodyweight ones (Finkelstein, 2004). WHO projects that approximately 2.3 billion adults will be overweight and more than 700 million will be obese by 2015. The number of overweight person is more by 700 million and in case of obese is more by 300 million persons than in 2005. At least 20 million children under the age of 5 years are overweight globally in 2005 (WHO, 2008).

The situation is not favourable in Hungary, as well. The Hungarian National Public Health and Medical Officer Service (ÁNTSZ) and The National Institute for Food and Nutrition Science (OÉTI) published the fact that 16% of young boys and 20% of young girls fight with the problem overweight in 2006. Obesity rate, of course, is higher. The obesity rate in Hungary reached 60% among the total population. Nearly 7 people die of obesity or from complications of obesity in Hungary each hour – one every 9 minutes. The unnecessary kilos play important role in death (Halmi, 2010).

3. „Fat tax”; tool against the childhood obesity

Food with high level of fat, sugar and/or salt ensures high income and profit for the producers, but the expenses of obesity have to be covered by the national economy. The question is how the above mentioned trend can be stopped. The Latvian government banned schools from selling unhealthy food and beverages including soft drinks made by Coca-Cola and Pepsi-Cola. Instead of sweets, crisps, soft drinks and bubble gum, school cafes will be stocked with unsalted nuts, dried fruit, wholegrain snacks, oatmeal cookies, mineral water and unsweetened juices. The ministry stated that every European Union member state is allowed to ban or restrict sales of unhealthy food (European Heart Network, 2006). Health Minister of Malaysia fully supports the banning of fast food advertisements. Dr Chua Soi Lek said in 2007 that fast food should not be promoted. He supports the ban on fast food advertising is similar to cigarettes and alcohol ads. Britain announced in November 2007 a ban on fast-food advertising during children's television programmes. It is not surprising that more and more countries do not want to finance the additional expenses of unhealthy nutrition.

The popularity of fat tax is increasing in more and more countries that are against of food with high level of fat, sugar and/or salt. A fat tax aims to decrease the consumption of food that are linked to obesity. Numerous studies suggest that as the price of a food increases, consumption of that food decreases¹. Measure of fat tax is unequivocal. Most authors and studies propose to increase taxes about 20% in case of unhealthy food. The use of the extra incomes shows two directions characteristically. According the first principle the extra profit must be devoted to public health care. While the other guideline recommends a parallel reduction of tax content of the healthy food.

Do not forget to mention the most important facts: more of US states apply similar taxes, New Zealand, Denmark plans already the introduction of second type of fat tax, the system of fat tax works properly in Finland and the WHO proposed that nations consider taxing junk food to encourage people to make healthier food choices (Srikameswaran, 2003). The opportunity of introduction is examined in Great

¹ http://en.wikipedia.org/wiki/Fat_tax, Downloaded: 31. January 2010.

Britain and in France, too. A new tax on junk food products is introduced in March 2010 in Romania. The move appears to set a worldwide precedent (Euractiv, 2010). Taiwan plans the fat tax's introduction in 2011.

Taxing unhealthy food might avert around 2300 deaths per annum, primarily by reducing salt intake. Taxing a wider range of food (food with high level of fat, sugar and/or salt) could avert up to 3200 cardiovascular deaths in the UK per annum, it is a 1.7% reduction. (Mytton et al., 2007). The measure may be similar in Hungary. More authors call attention to the fact that the fat tax's introduction may be accompanied by invisible hygienic effects if the demand and the effect of price elasticity do not take into consideration. The price elasticity coefficient of the fundamental bare necessity articles exceptionally low in case of bare necessities (-0.0 – -0.5), the price elasticity of demand is inelastic. In case of food with high level of fat, sugar and/or salt (luxurious things) the price elasticity of demand is elastic. Price reductions of 10%, 25% and 50% on lower fat snacks resulted in an increase in sales of 9%, 39% and 93%, respectively, compared with usual price conditions (Regmi et al, 2001, French, 2003). If the price elasticity of soft drinks were about the same as that estimated for cigarettes, about -0.4, a 5% tax would result in a 2% decline in sales. (Jacobson, 2000; Lewit, 1982).

The fat tax could bring an unobtrusive (but considerable) change in the reform of food consumption's structure. It is indicative of the question's importance that this news is published in 2010. January by CBS News: A CBS News poll from January 2010 reported that a tax on items such as soft drinks and food considered to be junk food, supported by President Obama and some Democrats in the Senate, is rejected by Americans by a margin of 60% to 38%. An even larger number, 72% of Americans, also believed that a tax would not actually help people lose weight. (Montopoli, 2010). But do not forget it, 64 percent of U.S. adults' fight with overweight or obesity.

4. Materials and Methods

This paper focuses on consumer behaviour of youth, regarding food with high level of fat, sugar and/or salt. In addition to it the efficiency of unhealthy food advertisements is also evaluated. Altogether 1247 questionnaires were filled out in high schools of four cities (Mezőtúr, Szolnok, Debrecen, Nyiregyháza) of North-Great Plain Region, Hungary. Figure 1 shows the North-Great Plain Region, Hungary.

The questionnaire examined the consumption of young persons in case of food with high level of fat, sugar and/or salt. Features of the sample: Participants 1247 young persons (mean ± SD age, 16.10 ± 1.39 years, range 13 – 19 years, mode 15 years); 57.7% female, 42.3% male. Table 1 shows the representativeness of the sample according to gender.

Students' grouping according to a type of school: 7.5% industrial school, 43.5% secondary school, 49.0% high



Figure 1.: North-Great Plain Region, Hungary
Source: http://www.apeh.hu/sites/apeh/images/regio_varosok_EAF.jpg

school. This paper presents the results of 1247 questionnaire. Questionnaires were evaluated by SPSS, using the following statistical methods (like average, mode, median, standard deviation, Kendall's coefficient of concordance, factor analysis).

Table 1. Demographic characteristic of the sample (n=1247)

Variables		Characteristics of the sample (%)	Data of the Hungarian Central Statistics Office (%)	Representativeness
Gender	Female	57.7	52.6	Good
	Male	42.3	47.4	Good

Source: own research, 2010, Data of HCSO
http://portal.ksh.hu/pls/ksh/docs/hun/xstadat/xstadat_eves/tab1_01ib.html

5. Results

The objective of this study is to analyze the young generation's opinion about their dietary behaviour and health. Results of the research can be seen in the following tables. Table 2. shows the opinion of respondents regarding the healthy nutrition's question according to genders.

Table 2. Opinion of respondents regarding the healthy nutrition's question according to genders (%)

		Sex of respondent		Average
		Female	Male	
Do you eat healthy?	Yes, I do	4.6	12.8	8.1
	Yes, I try	58.6	46.6	53.5
	No, but I gather information	29.7	24.0	27.3
	No, I do not	7.1	16.6	11.1
Total		100.0	100.0	100.0

Source: own research, 2009

Less than 10% (8.1%) of the respondents think that they eat healthy. Considerable difference can be observed according to sex of respondents. 4.6% of female think that they eat healthy. The rate was higher (12.8%) among young males.

Males were much more indulgent of themselves, but the results do not support their indulgent behaviour. Later results will confirm it. Taking into consideration the intention of healthy nutrition (Yes, I try to eat healthy), the proportion between the genders equalizes. 63.2% of female aims healthy nutrition (Sum of the answers "Yes, I do" and "Yes, I try"), while 59.4% of male aims to eat healthy (Sum of the answers "Yes, I do" and "Yes, I try"). We can also declare that 38.4% of the respondents do not deal with the question of healthy nutrition. We may establish that the opinion of male about their own dietary habits is extreme. Conspicuous that 16.6% of young men clearly rejected the idea of healthy eating, while considerable part of young men (12.8%) indulgent of themselves. At the same time Table 3. shows that young men eat much more unhealthy food. Results regarding consumer behaviour of unhealthy food (food with high level of fat, sugar and/or salt) can be seen in Table 3.

We may see extremely high values in Table 3. 11.9% of young persons visit a fast food restaurant at least with weekly frequency, 63.4% of the youth drink sugar-sweetened carbonated soft drinks (mainly cola) and 33.2% of respondents eat chips with weekly frequency. We have to emphasize the daily coke consumption. 12% of the young men drink cola every day. The proportion is not better in case of young ladies, 50 per cent of them consume cola several

times a week. The harmful effect of the product on health is an undisputed fact.

Figures of Table 3. confirm that more young men are of the belief of eating healthy than young ladies. Their assumption does not justify the fact that the consumer intensity of men is higher than young ladies in case of food with high level of fat, sugar and/or salt.

6. The examination of the food advertisements' opinion

Table 3 confirms that young people consume too much food with high level of fat, sugar and/or salt. The increase in consumption's intensity supports the importance of fat tax's introduction, contributing to the reduction of obesity level. The responsibility of marketing could be questionable in the childhood obesity.

Hasings professor declared (as it has been mentioned before) that the food advertisements influence the young persons unambiguously and youth face too many advertisements.

The increasing consumption of food with high level of fat, sugar and/or salt contributes to the drastic rise of the number of overweight and diabetes type 2. people, especially in childhood. The aim of this paper is to explain the young persons' opinion about advertisements.

Consumers were asked to rank the level of agreement with different statement (1- I do not agree with the statement, 5 – I fully agree with the statement).

Table 3. Frequency of fast-food products, cola and chips consumption according to genders (%)

Frequency of fast-food products consumption (%)														
Frequency	Daily		Several times on a week		Weekly		Twice in a month		Monthly		Rarely		Total	
	F*	M*	F	M	F	M	F	M	F	M	F	M	F	M
	0.6	2.1	2.8	3.8	4.7	11.2	11.8	10.3	51.4	49.4	28.7	23.2	100	100
Average	1.2		3.2		7.5		11.2		50.6		26.4		100	
Frequency of sugar-sweetened carbonated soft drinks consumption (%)														
Frequency	Daily		Several times on a week		Weekly		Twice in a month		Monthly		Rarely		Total	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
	19.1	24.8	18.2	25.5	20.5	21.1	10.4	7.6	12.0	10.1	19.8	10.9	100	100
Average	21.4		21.3		20.7		9.2		11.2		16.1		100	
Frequency of chips consumption (%)														
Frequency	Daily		Several times on a week		Weekly		Twice in a month		Monthly		Rarely		Total	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
	2.1	5.7	9.2	11.3	18.4	21.4	17.3	16.2	19.1	18.9	34.0	26.5	100	100
Average	3.6		10.0		19.6		16.8		19.1		30.9		100	

* F=Female, M=Male

Source: own research, 2009

The statement of questionnaire and the average of answers can be found in *Table 4* according to genders and in aggregated form, as well.

Table 4. Understanding willingness according to genders

Statements	Average			Mode		Standard deviation
	Female	Male	Total	Female	Male	
The ads are fun.	2.38	2.23	2.32	3.00	3.00	0.99
The ads have become part of everyday.	4.18	4.10	4.15	5.00	5.00	1.08
The ads affect my consumer behaviour.	2.02	1.82	1.94	2.00	1.00	0.94
The ads affect the consumer behaviour of people.	3.70	3.64	3.67	4.00	4.00	0.93
I face too many advertisements in the media.	4.65	4.57	4.62	5.00	5.00	0.81
People often buy unnecessary things due to the effect of advertising.	4.27	4.01	4.16	5.00	4.00	0.86
I often buy unnecessary things due to the effect of advertising.	1.87	1.56	1.74	1.00	1.00	0.91
I consider myself as a conscious customer.	3.77	4.11	3.92	4.00	5.00	1.00
I am aware of my consumer rights.	3.69	3.63	3.66	4.00	4.00	1.10

Source: own research, 2009

Table 4 shows that the ads have become the part of their everyday life. They do not recognize the advertisements' influential effect on their consumer behaviour. However, it is clearly seen that other people often buy unnecessary things due to ads (in contrast to the interviewed person, who scarcely buy unnecessary things).

The men's rejection is prominent in connection with their purchasing unnecessary things due to the advertisements. Young men consider themselves much more conscious customers than young ladies. This contradiction, however, is questionable taking into account figures of *Table 2.* and *Table 3.*

We can state that the level of agreement is high. It is excellently visible from the value of mode. A low standard deviation means that figures are tightly clustered. We may examine the agreement indicator of the consumers. Kendall's

W can be calculated from these figures. Kendall'W can be used for assessing agreement among the 1247 respondents. The value of Kendall's coefficient of concordance is 0.575 (57.5%) in case of female and 0.584 (58,4%) in case of male. It means there is overall trend of agreement among the respondents. The value of the indicator exceptionally favourable, about 60% of respondents agree with the order totally.

The above-mentioned 9 statements measure the effectiveness of advertisements. The extension of the above statements has been made by another 3 questions of the questionnaire:

1. Does it influence your decision if the product/brand is advertised with well-known persons?
2. Do you like the different prize games, collector actions?
3. Did you buy a product exclusively because of a free gift?

The judgement of the advertisements based on 12 questions was evaluated through factor analysis. Based on the results of the factor analysis the judgement of the advertisements is influenced by 5 factors. The factors were named by us and put into parenthesis the ingredient statements of factors.

- Individual opinion about advertisements (1,3,7,10. statement). Influencing effect 12.9 %.
- General opinion about advertisements (4,5,6. statement). Influencing effect 8.3%.
- Right consciousness of the respondent (8,9. statement). Influencing effect 4.5%.
- Promised prizes (11,12. statement): Influencing effect 2.6%.
- Habituation (2. statement): Influencing effect 2.4%.

We know that the total influencing effect of advertising could be about 50% totally. „I know half the money I spend on advertising is wasted, but I can never find out which half.” (John Wanamaker, 1922)

Taking into consideration that many factors influence the efficiency of the advertisements (culture, habits, fashion, price, the index of consumer confidence, individual needs, etc.), the result of the factor analysis shows that the above mentioned 5 factors influence 30.7 per cent of the effectiveness of ads.

The results of questionnaire confirm the efficiency of sales promotion:

- Influencing effect of the well-know person: 20.8%
- The influencing effect of prize games: 50.3%
- The influencing effect of free gifts: 55.5%.

It is necessary to emphasize that young ladies are influenced much more by means of sales promotion (in order 24.8%; 54.6%; 62.5%).

Particularly the producers of the food with high level of fat, sugar and/or salt have a more effective marketing activity. About 30% of respondents admitted that they buy food with high level of fat, sugar and/or salt due to the advertisements of these products *exclusively* (See *Table 5.*).

Table 5. Exclusive advertising effect of fast-food products, sugar-sweetened carbonated soft drinks according to genders (%)

Statement		Average value	
		Female	Male
The influencing effect of fast-food advertisements	It influences me	30.2	27.9
	It does not influence me	69.8	72.1
Total		100.0	100.0
The influencing effect of cola advertisements	It influences me	28.0	25.1
	It does not influence me	72.0	74.9
Total		100.0	100.0

Source: own research, 2009

7. Conclusion

It can be stated that youth do not have unambiguous and accurate knowledge about the healthy nutrition. Less than 10% of the participants are of the belief of eating healthy and 38.4% of the respondents do not deal with the question of healthy nutrition (not at all). The incomplete knowledge contributes to serious problems especially in the case of increasing consumption of food with high level of fat, sugar and/or salt. In this case the increasing consumption of these products contributes to the drastic rise in the number of overweight and diabetes type 2 people. Regarding the consumption intensity of food with high level of fat, sugar and/or salt we may see shocking high values. The statement is true in case of fast-food products, sugar-sweetened carbonated soft drinks and chips. Opinion of the consumer habits does not reflect the reality. Respondents do not recognize advertisements' influential effect on their consumer behaviour, so, it spoils the situation. The youth are especially vulnerable with use of well-known persons, prize games and free gifts. Not surprising, these are the manufacturers' favourite advertising techniques. Absence of the effective regulation and the increasing marketing activity contributes to indifferent health of kids. The idea of fat tax's introduction may be an obvious proposal. Its theoretical basis is indisputable. The tax's introduction is an opportunity, but does not solve the problem. The introduction of fat tax is not a panacea, but a chance. It may contribute to keeping the health care expenses on an adequate level. Our ageing society and the drastic increase of the health care expenses together cannot be maintained in the future.

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THE POTENTIAL ECONOMIC IMPACT OF THE WESTERN CORN ROOTWORM RESISTANT GM VARIETY ON MAIZE PRODUCTION IN HUNGARY

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Abstract: The paper examines that how the application of the MON88017 GM maize variety could influence the profitability of maize production in Hungary. The most important benefit of this biotech crop lies in its reduced need for chemical use and the additional yield comparing to conventional varieties. Among the economical disadvantages there is the uncertain market of GM products in the EU. After weighing all these factors the results conclude that the farmers could reach an income surplus by growing this GM variety. Although, this surplus is significant only if a similar positive yield impact is achieved under the Hungarian conditions as in the USA.

Key words: GMOs, MON88017, Roundup herbicide

Introduction

The use of genetically modified organisms (GMOs) has seen a rapid development around the World over the last 15 years. The expansion of biotech varieties has been outstandingly fast in North- and South America. But the new technology gains ground in other regions as well.

The only exception is Europe where there is still a strong aversion to the use of biotech crops. Only two GM varieties are approved for cultivation in the EU and their area accounts for less than 0.01% (94.750 ha) of the total arable land (James, 2010). This reluctance towards biotech varieties is mainly explained by the fact that European consumers have no trust in the safety of GM products.

Recent studies (Brookes 2010, NAS 2010, James 2010) report great economic benefits delivered by the application of biotech varieties worldwide. These economic advantages are mainly caused by the reduced chemical use and the additional yields of GM plants. Many argue that the EU misses out on much of these gains by refusing the new technology.

This paper aims at studying the economic effects of the lack of GM varieties in Hungary. The report focuses on maize production and examines the potential impact of the MON88017 GM variety. This biotech variety bears the greatest relevance to the Hungarian farmers of all that are expected to receive green light for cultivation within the EU in the foreseeable future.

Objectives

The report aims to assess the possible on-farm economic impact of MON88017 in Hungary. More specifically that how the use of MON88017 could influence the costs and

profit of maize production comparing with the conventional technology.

For this purpose the paper identifies all the cost and revenue factors that differ concerning the two technologies. Accordingly, the following elements are examined in the analysis:

- 1 Price of the technology (extra GM seed cost);
- 2 Pest management (less chemical use for GM maize)
- 3 Weed management (less chemical use for GM maize);
- 4 Administration costs (caused by the special regulation on GMOs)
- 5 Yield benefits (enhanced productivity of GM crops);
- 6 Selling price (negative market perception of GM products);
- 7 Non-pecuniary factors; (benefits of GMOs that are hard to quantify)

Finally, the quantifiable cost and revenue items are added up in a calculation to find out the potential profit impact of the GM technology.

Data on the performance of GMOs is very poor in the EU. Given this limitation the aim of the report is to get an overall picture and weigh the costs and benefits without calculating the exact numbers.

Method

The paper is based on a simple mathematical calculation. To compute the per-hectare extra profit of the GM variety $\Delta\pi_{gm}$ over the conventional technology the model add together the total cost savings ΔC_{gm} and the additional revenue ΔR_{gm} that are caused due to the application of the GM technology:

$$\Delta\pi_{gm} = \Delta C_{gm} + \Delta R_{gm}$$

For the calculation of the total costs C of the technologies (t) the model takes into account only the variable costs that differ concerning the GM technology (t = gm) and the conventional technology (t = k). Accordingly, the paper counts with the seed c_s , weed management c_w , pest management c_i and administration costs c_a . The paper assumes that all the fix costs and the variable costs that are not included in the calculation are constant regarding the two varieties.

$$C_t = c_s + c_w + c_i + c_a$$

To get the variable costs savings ΔC_{gm} , the model simply subtracts the total amount of the differing cost items of the GM technology C_{gm} from these costs of the conventional technology C_k .

$$\Delta C_{gm} = C_{gm} - C_k$$

The additional revenue of the GM technology ΔR_{gm} is attained through taking the per-hectare revenue of the conventional maize R_k from the per-hectare revenue of the GM maize R_{gm} .

$$\Delta R_{gm} = R_{gm} - R_k$$

The revenue of either technology R_t is calculated by multiplying the per-hectare yield Y_t and the price P_t of the maize.

$$R_t = Y_t * P_t$$

For the additional yield of MON88017 there is limited data in the EU. Hence the paper needs to rely on research results from the USA where the growing conditions differ from that of the EU. To overcome these limitations in the methodology the model outlines three different scenarios for the size of the additional yield of MON88017 in the EU: a “no yield impact”, a “limited yield impact”, and a “full yield impact” scenario.

Database

The database for GM maize production relies on various data sources and literature. Of the most important are the following:

- Experimental data on the yield impact of WCR-resistant GM maize in the USA (*Estes et al.*, 2005; *Mitchell*, 2002; *Rice and Oleson*, 2005; *Sankula*, 2006; *Johnson et al.*, 2008; *Ma et al.*, 2009) – used for determining the additional yield of MON88017;
- The results of a poll on the experience of farmers with MON810¹ maize in the Czech Republic (*Kristková*, 2010) – mainly used for assessing the market perception of GM maize;
- A case study on the production of GM maize in Spain (*Brookes*, 2003) – used for calculating the expected technology costs and selling price of biotech maize;

- Personal communication with specialist on GMOs from Monsanto (*Monsanto*, 2010); – used for finding out the possible weed and pest management costs of MON88017.

The underlying data on the conventional maize production in Hungary is based on the sources below:

- Farm Accountancy Data Network (FADN) of AKI (Hungarian Research Institute of Agricultural Economics) – used for calculating the seed cost, yield and selling price of the conventional maize;
- Sales data and personal communication with specialists of relevant companies (e.g.: KITE, Monsanto); – used for finding out the representative practice and costs of weed and pest management of the Hungarian maize producers.

Results

Firstly, the paper gives a short insight in the importance and main characteristics of the MON88017 GM maize variety. Afterwards, all the differing cost and revenue factors are examined one by one according to the structure indicated in the objectives of the report.

MON88017 maize

The specific importance of MON88017 lies in its resistance against one of the most troublesome pests in Hungary: Western corn rootworm² (WCR) is responsible for significant yield losses on the maize fields in Hungary and the protection against it entails heavy costs on the farmers. MON88017 could provide an alternative to safeguard effectively the yield against WCR in Hungary. Besides, MON88017 combines the feature of WCR-resistance with glyphosate tolerance. This means that the maize allows the use of the wide-spectrum Roundup³ herbicide. (*Monsanto*, 2009)

On the one hand, these underlying characteristics of MON88017 offer many advantages like improved pest and weed management as well as greater and more stable yields. On the other hand, the application of GM crops involves disadvantages, too, mostly in the case of the EU. The special EU regulations on the cultivation of biotech crops narrow the scope for growing GM plants in the member states. Furthermore, many European consumers hold reservations about buying GM products.

All the on-farm economic benefits and drawbacks are to be extensively examined in the following.

Technology cost

The development or the licence fees of GM varieties entails heavy cost for the seed manufacturers. To offset these expenditures the technology suppliers charge a premium for GM seeds over conventional varieties.

¹ MON810 GM variety is currently the only biotech maize that is commercialized for cultivation in the EU. It was developed by biotechnology to be resistant to European Corn Borer (*Ostrinia nubilalis*).

² *Diabrotica virgifera virgifera* LeConte

³ Roundup is a trade mark of Monsanto. It contains the active ingredient glyphosate.

Seed expenses regarding the two technologies:

MON88017: There are three sources on which the report base the expected extra seed costs of MON88017 maize:

- The report of the Ministry of Agriculture of the Czech Republic (*Kristkova*, 2010) reveals that the price premium for MON810 GM seed was 36 €/ha⁴ (28.5% more than the normal seed price) in 2007.
- GM price premium for Bt maize varieties in Spain was reported to be about 35 €/ha in 2005. (*Brookes*, 2010)
- The regulatory manager of Monsanto Hungaria Ltd. predicts (Monsanto, 2010) the additional price cost of the MON88017 seed at 30–40 €/ha in Hungary.

Based on these data, this report calculates for MON88017 with an **additional 10.000 Ft/ha** (≈35 €/ha) technology cost over the normal seed price.

Conventional: The report uses the FADN database (AKI, 2010) on Hungarian farms for the calculation of the normal technology costs. The value is based on the average seed costs of the Hungarian maize producers in the 5-year term of 2005–2009.

Accordingly, the analysis calculates with a **23.000 Ft/ha** (≈82 €/ha⁵) technology cost (seed cost) for the conventional maize producing practice.

Seed cost:	
Conventional	MON88017
23.000 Ft/ha	33.000 Ft/ha

Pest management

Controlling strategy against insects significantly differs between MON88017 and conventional maize varieties. These differences appear in the management costs.

Crucial features and expenses of the pest management regarding the two technologies:

MON88017: The resistance against corn rootworm enables the GM variety to be planted without any spray of chemicals against western corn rootworm. However, this resistance affects only WCR and MON88017 needs thus a supplemental seed treatment against other insects that threat the maize yield (e.g.: cutworms, wireworms and white grubs).

This supplemental seed treatment costs around **10.000 Ft/ha**. (KITE, 2010)

Conventional: Although, the most effective and simple means of controlling WCR within the conservative pest management practices is the annual rotation of corn, the rotated fields account for only 30–35% of the total maize areas in Hungary (*Kleffmann*, 2010). The explanation stems

from the high profitability of maize production relative to the other plants in the rotation.

The farmers rather tend to grow the maize in monoculture and employ chemicals against WCR. The most effective and wide-spread management practice in Hungary is the soil-applied insecticide treatment with Force⁶. The advantage of Force versus MON88017 is that this chemical kills not only WCR but other soil insects as well.

The pest management with Force costs around **24.000 Ft/ha** (KITE, 2010).

Pest management cost:

Conventional	MON88017
24.000 Ft/ha	10.000 Ft/ha

Weed management

Unwanted plants in maize areas are also controlled with different techniques concerning the analyzed technologies.

Key elements and costs of the different ways of weed managements:

MON88017: The feature of glyphosate tolerance of the GM plant provides the farmer with the possibility to treat the GM maize field with the non-selective, broad-spectrum Roundup herbicide. This weed management tool requires less chemical and gives the grower more flexibility.

Monsanto's information (*Monsanto*, 2010) serves as basis for the existing weed management practices and costs for the Roundup technology (see in Appendix).

On the average of these costs we can conclude that the weed treatment with MON88017 makes up around **12.000 Ft/ha**.

Conventional: The figures on weed management costs of conventional practice (see in Appendix) are based on the sales data of the most widespread herbicides in Hungary (KITE, 2010) and the experience of weed management specialists of KITE zRT. which is the leading company with a 35% share on the herbicide market in Hungary.

Based on these figures the report calculates with a **17.000 Ft/ha** cost for conventional weed management.

Accordingly, the farmers could save around 5000 Ft/ha with the GM variety on weed management. This cost difference closely corresponds with the research results of the NCFAP⁷ (*Johnson*, *Strom* 2008). The National Center points out to a similar ≈20\$/ha (≈4200 Ft/ha⁸) cost save to the advantage of the herbicide tolerant GM maize in its report based on various case studies and interviews with experts in the USA.

⁴ The seed cost in the original report was denominated in Czech koruna. It has have been converted to Euro at the annual average exchange rate in 2007 (European Central Bank).

⁵ EUR/HUF exchange rate: 280.45 (European Central Bank – 01/12/2010)

⁶ Force is a trademark of Syngenta. Its active ingredient is tefluthrin.

⁷ NCFAP – National Center for Food and Agricultural Policy

⁸ USD/HUF exchange rate: 217,76 (Hungarian National Bank – 30/11/2010)

Weed management cost:	
Conventional	MON88017
17.000 Ft/ha	12.000 Ft/ha

Administration costs

Every member states have to design its own legislation on the production of GMOs in accordance with the Directive 2001/18/EC⁹. This regulation intends to set conditions for co-existence¹⁰ between GM and non-GM technologies. The law requires farmers to take stringent extra measures. This can put severe constrain on the cultivation of biotech varieties. The most critical elements of the Hungarian co-existence regulation (Act XXVII/1998 on Gene Technology Activities) include:

- **Isolation district around GM field** – allowing for at least 400 meters of field space from the next conventional planting to avoid cross-pollination;
- **Permission of the neighbours** – gaining written approval from all the owners of the adjacent lands for planting GM varieties;

Further actions are advised to take in order to avoid the presence of GM traits in conventional commodities along the whole food chain. These recommendations consist of the followings.

- Reserving machinery and storage facilities exclusively for GM crops;
- Cleaning machinery and storage facilities every time mixing can occur;
- Taking into consideration prevailing wind directions;
- Planting cultivars with different flowering times;
- Planting strips of conventional varieties surrounding GM fields;

Among the recommendations there is to provide refuges for target species with planting non-Bt varieties in or adjacent to the GM fields. The purpose of the refuge is to minimize the possibility of WCR developing resistance to Bt maize.

Difficult to quantify

These rules entail additional costs for the farmers. However, the amount of these extra expenditures is hard to figure because it depends on circumstantial variables that differ from farm to farm. The factors include

- the size of the fields,
- the parcelling of the lands,
- GM content in seed,
- the directions of the prevailing winds,
- the flowering dates of different varieties,
- climatic and geographic conditions.

Conclusions on administration costs

In general, we can assume that large-scale farms have more scope to meet these liability requirements than small holders. Consequently, bigger farms enjoy advantage over smaller ones in the view of this consideration.

It is crucial to mention that the segregation is relevant only in the case if the market make a distinction between GM and non-GM products. The additional effort on keeping technologies apart loses its significance if GM products can be sold under the same conditions as their conventional counterparts. (see more on market perception of GMOs later on)

Regarding to the above-mentioned uncertain factors these technological costs are not included in the calculation. But we cannot completely abandon this aspect if we want to assess the relative on-farm profitability of the GM technology.

Administration costs:	
Conventional	MON88017
0 Ft/ha	+? Ft/ha

Yield benefit

Field experiments from the USA reports significant yield benefits in favour of GM technology compared to non-GM varieties on WCR infected areas. The rate of this incremental output primarily depends on the insect pressure and the weather conditions. (*Estes et al. 2005; Mitchell, 2002; Rice and Oleson, 2005; Sankula, 2006; Johnson et al., 2008; Ma et al. 2009*)

A research of the Iowa State University has conducted field trials with various control strategies against WCR at various locations across the USA for three years. The WCR-resistant GM maize averaged 13–15% more grain than the conventional variety treated with Force. The range of the additional yield embraced a wide spectrum, depending on the various weather conditions. In dry climate, the biotech variety delivers a 28–37% positive yield impact relative to Force. Meanwhile in wet conditions this difference accounts for 5–6%. (*Rice and Oleson, 2005*)

Conclusion on yield benefits

It has to be noted that data from the USA are not reasonable to adopt for the Hungarian agriculture without any reservation, as many parameters of maize production differ in the two countries. The differences manifest both in the growing systems and climatic conditions.

To overcome these limitations of the methodology, the report outlines tree different scenario to determine the additional yield of MON8817:

⁹ Directive 2001/18/EC regulates the authorisation process for releases into the environment of GMOs.

¹⁰ Co-existence refers to the term of using GM and non-GM cropping systems in parallel with the minimised possibility of mixing.

- 1 **“No yield impact” scenario** (+0% additional yield) – assuming that the average positive yield impact measured in the USA does not materialize at all under the Hungarian conditions.
- 2 **“Limited yield impact” scenario** (+5% additional yield) – assuming that the average positive yield impact measured in the USA materializes only to a smaller degree under the Hungarian conditions.
- 3 **“Full yield impact” scenario** (+15% additional yield) – assuming that the average positive yield impact measured in the USA completely materializes under the Hungarian conditions.

The yield of the conventional technology is based on the average yield of the Hungarian maize producers in the 5-year term of 2005–2009 in FADN database (AKI, 2010).

Yield:			
Conventional		MON88017 (Scenario 1, 2 ,3)	
7 t/ha	7 t/ha	7.4 t/ha	8 t/ha

Market acceptance of GMOs

In the view of profitability it is key as well as controversial question whether GM maize suffers a disadvantage over conventional commodities in the market.

From one point of view the answer is “yes” because the Europeans hold a strong reservation on products labelled as GMOs due to health concerns. As a result GM products are negatively discriminated by consumers in the EU.

The other approach is that this argument is false in the case of GM maize. This is because the bulk of the maize yield is not directly consumed by humans but used in feed and ethanol industries where health risk is irrelevant. Although, feedstuffs have to be indicated to contain GMOs but processed food, such as meat, eggs and dairy products are exempt from labelling. Accordingly, these products are not labelled even if they originate from animals that were fed on GM maize. And in this way these products do not differ from the conventional ones on the shelves of the supermarkets.

To see the question from a practical view it can be useful to examine the experience with the selling of MON810 GM maize variety in Spain and the Czech Republic.

Positive Spanish experience

Spain is the only country among the 27 member states with relatively broad commercial experience on the cultivation of GM maize. Bt maize was first grown in 1998 and it accounted for approximately 75.000 hectares by 2009, making up 22% of the total Spanish maize area (James, 2010). These GM fields are largely concentrated in the two regions of Catalunya and Aragon.

PG Economics¹¹ published a report (Brookes and Barfoot, 2003) on the economic aspects of the co-existence

between GM and non-GM maize in Spain. According to the paper, GM products are sold at normal price and the supply chain does not see a need for segregation. This is mainly due to the fact that the lion's share of the maize is used for feed production and the derivatives of animal products are not required by the law to be labelled.

This view is largely supported by a Greenpeace’s campaign paper (Cipriano et al., 2006) which lobbies against GMOs. In the study the pressure group criticizes the Spanish government for not treating GM and conventional maize stocks differently but handled as a “single pile”. Greenpeace points out that the current labelling requirements do not provide any incentive for segregation and all the maize sold for feed fetch the same price.

This leads us to conclude that GM maize can be sold under normal conditions in Spain.

Negative Czech experience

The Czech Ministry of Agriculture published a report (Kristková, 2010) on the cultivation of Bt maize in the Czech Republic. This report includes the results of a questionnaire survey about the experience of farmers with GM maize in the first three years (2005–2007) of commercial use. More than 70 GM maize growers were polled to gain feedback on the performance, advantages and disadvantages of the new technology.

The results of the survey reveal that the farmers often faced difficulties in selling GM products due to general aversion of consumers to GMOs. Moreover, according to the report, many GM growers gave up GM maize due to "problematic" sale and resumed to grow conventional varieties. This is the main reason why the area of GM maize in 2009 dropped after a temporary rise of 3 consecutive years (Table1).

Table. Overviews of GM maize cultivation in the Czech Republic in 2005–2009

GM maize production	2005	2006	2007	2008	2009
Total area (ha)	150	1,290	5,000	8,380	6,480
Year-on-year change (%)	–	760%	288%	68%	-23%
Number of GM growers	51	82	126	167	121
Year-on-year change (%)	–	61%	54%	33%	-28%

(Source: Kristková, 2010)

Conclusion on consumer perception

The experience from Spain and the Czech Republic sharply contrast with each other. One sensible explanation for the opposition can be that the growing of GM crops is still in early stages in the Czech Republic and sales of GM products encounter difficulties due to their novelty. But consumer perception on GM products could improve in time, as they gain greater share on the market like in Spain.

¹¹ PG Economics is an independent advisory and consultancy service in the UK which specific area is to assess the economic and environmental impact of GMOs

This report assumes no consumer discrimination against GMOs in Hungary and calculates with the same selling price for both technologies. However, it is important to note that difficulties with sale could significantly undermine the economic benefits of MON88017.

The selling price is based on the average producer price of 30.000 Ft/t of the Hungarian maize producers in the 5-year term of 2005-2009 in FADN database (AKI, 2010).

Although it is important to note that the price of maize is expected to be higher in the future. According to the data of AKI (AKI PAIR, 2011) the producer price of maize was around 53.000 Ft/t in January 2011 and the outlook report of OECD-FAO (2010) projects the commodity prices to remain high for the next decade.

Producer price:	
Conventional	MON88017
30.000 Ft/t	30.000 Ft/t

Non-pecuniary factors

The reduced insecticide and herbicide use delivers many benefits in favour of MON88017 that do not appear in the budget but positively affect the farming activity and the environment. The non-pecuniary advantages include the following:

- Reduced exposure of workers to chemicals, ease of use and handling, time and labour savings;
- Using a smaller number of herbicides (this is especially important in the light of the re-assessment of many active ingredients for toxicological and environmental safety under Directive 91/414/EEC);
- Less chemicals released to the environment, which positively affect the quality of water, soil and wildlife;
- Allowing reduced tillage systems linked to resource conservation and less CO₂ emission;

Calculation

Below, all the differing variable costs and revenue factors examined in the report are listed and summed up in a calculation.

Differing variable costs:

Cost items	Conservative	MON88017
Seed	23.000 Ft/ha	33.000 Ft/ha
Pest management	24.000 Ft/ha	10.000 Ft/ha
Weed management	17.000 Ft/ha	12.000 Ft/ha
Administration	0	+?
Non-pecuniary factors	0	-?
All differing variable cost:	64.000 Ft/ha	55.000 Ft/ha
Difference in variable costs:	9000 Ft/ha	

Additional net income gained by MON88017 (difference in variable costs + difference in production value):

Revenue factors:

Revenue items	Conservative	MON88017		
		No yield impact scenario	Limited yield impact scenario	Full yield impact scenario
Yield	7 t/ha	7 t/ha	7.4 t/ha	8 t/ha
Producer price	30.000 Ft/t	30.000 Ft/t	30.000 Ft/t	30.000 Ft/t
Production value	210.000 Ft/ha	210.000 Ft/ha	222.000 Ft/ha	240.000 Ft/ha
Difference in production value between the normal variety and the MON88017 scenarios		0 Ft/ha	12.000 Ft/ha	30.000 Ft/ha

“No yield impact” scenario:

$$9.000 \text{ Ft/ha} + 0 \text{ Ft/ha} = \mathbf{9.000 \text{ Ft/ha}}$$

“Limited yield impact” scenario:

$$9000 \text{ Ft/ha} + 12.000 \text{ Ft/ha} = \mathbf{21.000 \text{ Ft/ha}}$$

“Complete yield impact” scenario:

$$9000 \text{ Ft/ha} + 30.000 \text{ Ft/ha} = \mathbf{39.000 \text{ Ft/ha}}$$

The results reveal a modest 9.000 Ft/ha income surplus for the MON88017 variety over the conventional technology if the calculation excludes the positive yield impact. However, this premium could amount to 21.000 Ft/ha or even to 39.000 Ft/ha if a moderate or complete yield impact is taken into consideration.

Conclusion

The report focused on the question on how the application of MON88017 could affect the costs and income of maize producers in Hungary compared to the use of conventional maize. The analysis pointed out many differing cost and return parameters for the two technologies. These factors influence the revenue both in positive and negative way. Among them, the following factors have the greatest impact on the relative profitability of MON88017.

- Given the added GM traits, MON88017 allows the farmer to use fewer chemicals and so save money on pest and weed control. As a result, the farmers could cut variable costs by 9.000 Ft/ha with MON88017 despite higher seed price for the GM variety. However, the weightiest positive factor in the calculation is the additional yield of the WCR-resistant GM maize.
- By adding this positive yield impact to the saving in variable cost, the gain could be as high as 39.000 Ft/ha. But this realizes only if the additional yield patterns of the GM variety in the USA are similar to that of Hungary's.
- On the other hand, there are negative aspects of GM maize production that could easily offset a large part of the benefits. Of the most critical of the disadvantages is the negative consumer perception of GMOs in the EU which could create difficulties at the sale of the GM products.
- Other adverse feature of GM plant cultivation is the strict Hungarian co-existence regulation on the production of

GM varieties. It requires rigorous measures from the growers of biotech crops. This regulation affects the small-scale producers more than large ones.

All in all, Hungarian farmers could benefit from the cultivation of MON88017. Though, this benefit is significant only on two conditions:

- I. the positive yield impact of the WCR-resistant GM maize measured in the USA materializes in the Hungarian environment;
- II. GM maize receives the same market perception as non-GM commodities.

Recommendation

The study points out that there is limited information on consumer perception and the additional yield gain of the GM maize in the EU. Hence, it would be very important to analyse in depth these aspects as it could help to assess the economic effect of MON88017 and other GM crops more accurately.

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Appendix:

MON88017 technology – weed management options (Source: Monsanto):

In case of low weed pressure:

- 1 3.291–4.388 Ft/ha (Roundup (3–4 l/ha) at 5–6 leaf stage

In case of high weed pressure

- 1 3.291 Ft/ha (Roundup 3,0 l/ha) at 3–4 leaf stage
 - 2 3.291 Ft/ha (Roundup 3,0 l/ha) at 3–4 leaf stage
- or

- 1 conventional preemergent application
- 2 3.291–4.388 Ft/ha (Roundup (3–4 l/ha) at 5–6 leaf stage

Machinery and labor costs: 3000–3500 Ft/ha

Conventional technology – weed management options (Source: KITE):

Preemergent treatment:

In case of low weed pressure:

- 10.000 Ft/ha (Guardian Tetra 3,5 t/ha)

In case of high weed pressure:

- 12.000 Ft/ha (Adengo 0,4 l/ha);
- 16.500 Ft/ha (Lumax 4,5 l/ha)

Postemergent treatment:

In case of low weed pressure:

- 12.000–15.000 Ft/ha Calaris 1,5–2,0 l/ha,
- 14.000 Ft/ha Stellar 1,0 l/ha

In case of high weed pressure

- 15.000 Ft/ha (Laudis 2,0 l/ha);
- 15.000 Ft/ha (Motivell Turbo D 1,0+2,0+0,6 l/ha)
- 16.000 Ft/ha (Milagro 6 OD 0,75 l/ha +Colombus 1,0 l/ha +Pallos 2,0 l/ha)

Machinery and labor costs: 3000–3500 Ft/ha

ON TESTS FOR LONG MEMORY PROCESS BEHAVIOR OF INTERNATIONAL TOURISM MARKET: THAILAND AND INDIA

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Abstract: In our research we examine the behaviour of both Thailand's and India's international tourism market by using long-memory analysis. The international tourism market of Thailand combined with seven groups such as East Asia, Europe, The Americas, South Asia, Oceania, Middle East and Africa. Similarly, the international tourism market of India combined with nine countries: USA, UK, Canada, Germany, France, Japan, Malaysia, Australia and Sri Lanka. Moreover, three statistical tests for long-memory process such as R/S test, Modified R/S test and GPH-test are employed to study these markets. The empirical findings in general provide more support for long memory process in international tourism market of Thailand and evidence for short-term dependence in international tourism market of India. Therefore, the policy makers of each country should understand the behaviour of long memory process in international tourism market before launching any stimulating campaign to this industry.

Key words: Thailand, India, Long-memory process, Tourism Market

1. INTRODUCTION

Time series with long memory process were appeared in many contexts such as financial economics, macroeconomics, hydrology, cardiac dynamics, network traffics, meteorology. Evidence for long memory process was first proposed by *Hurst* (1951) while testing the behaviour of the water levels of the Nile river. In 1971, Mandelbrot was among the first to consider the possibility of long range dependence or long memory process in asset returns. In 1998, *Wright* studied the evidence of long memory in stock returns in many emerging market such as in Korea, Philip-

pines, Greece, Chile and Colombia. Moreover, *Caporale and Gil-Ala* (2002), studied the S&P 500 daily returns and they found that the degree of dependence remains relatively constant overtime, with the order of integration of stock returns fluctuating slightly above or below zero. *Olan et al.* (2002) studied the long memory in stock returns from an international market perspective and also found no evidence for long memory in UK, U.S., Hong Kong, Singapore and Australian stock markets. However, evidence for long memory can be found in the German, Japan's, South Korean and Taiwan stock market. In connection with international tourism the long memory process analysis was begun by

Gil-Alana (2005). He examines forecasting properties of short-term arrivals at Auckland international airport and finds that the ARFIMA models outperform the non-ARFIMA ones in practically all case. After that *Chu* (2009) incorporates ARFIMA models into Singapore's tourism forecasting and compares the accuracy of forecasts with those obtained by earlier studies. In many articles authors have not yet tested the long memory process in international tourism market based on R/S Test, Modified R/S Test and GPH Test.

Tourism is a very important industry to Thailand's economy. It contributes to Thailand's gross domestic product (GDP), affects employment, investment, and foreign exchange earnings. In 2003, Thailand ranked the 15th in international tourism receipts (US\$7.9 billion), accounting for 1.7% of the world total or 4.4% of the country's national product (WTO 2005). International tourism is the fastest growing industry in Thailand. The country has continuously experienced the growth in the number of tourists and revenues from the industry. The number of international tourists in Thailand was increased from 7.22 million in 1997 to 13 million in 2005. The revenues were increased from 299 billion baht in 1997 to 450 billion baht in 2005. During 1997–2005, Thailand faced many challenges. For example, the Asian Economic Crisis in 1997, the effect of September 11, 2001, the outbreaks of Severe Acute Respiratory Syndrome (SARS), the US-Iraqi War in 2003, and the Avian Influenza (Bird Flu), the Tsunami in 2004, and high oil prices in 2005.

However, international tourism industry of Thailand is interested from both the government of Thailand and Thailand's private sector of tourism, as the number of international tourists and their expenditures are increasing every year. In 2006, the number of international tourists increased from 13.8 million in this year to 14.4 million in 2007. Moreover, the international tourists' expenditure in Thailand also increased from 482,319 million baht in 2006 to 533,952 million baht in 2007.

Moreover, the Indian international tourism industry is also very interesting because the number of international tourist arrivals to India was increasing every year between 2000 and 2005. In 2000, the number of international tourist arrivals to India was 2.6 million and in 2002 the number of international tourists increased to 2.38 million contributing an income of 2,923 million USD to the Indian economy. In 2004, the number of international tourists increased to 3.46 million and the income increased to 4,769 million USD. The following year there were 3.92 million tourists and the income was 5,731 million USD (*Ministry of Tourism, Government of India* 2010a). As it is clear from the above mentioned information the Indian international tourism industry could have high impact on the Indian economy in the near future. This research would like to test the Long-memory property of international tourism market of Thailand based on data between 1997 and 2009. Our second aim is to test the Long-term dependence of the Indian international tourism market between 1981 and 2007.

2. SCOPE OF THIS RESEARCH

Regarding Thailand, the scope of the research covers mostly secondary data from the period 1997–2009. The countries were used for testing the long memory behavior are all the countries have impact on the international tourism industry of Thailand (*Immigration Bureau, Police Department* 2010). The variables used in this research were the numbers of international tourist arrivals to Thailand from the period 1997–2009. Taking India into consideration, the scope of the study covers data from the period of 1981–2007 and mostly secondary data were used. The countries were used for testing the long memory behavior are all the countries have impact on the international tourism industry of India such as USA, UK, Canada, Germany, France, Japan, Malaysia, Australia and Sri Lanka (*Ministry of Tourism, Gov. of India* 2010b). The variables used in this study were the numbers of the Indian international tourist arrivals from the period 1981–2007.

3. METHODOLOGY

3.1. The research framework of Long Memory Tests

The concept of the long memory process was developed by Harold Edwin Hurst in 1906. He was a young English civil servant, came to Cairo, Egypt, which was then under British rule. As a hydrological consultant, Hurst's problem was to predict how much the Nile flooded from year to year. He developed a test for long-range dependence (Long Memory Test) and found significant long-term correlations among fluctuations in the Nile's outflows and described these correlations in terms of power laws. This statistic is known as the rescaled range, range over standard deviation or R/S statistic. From 1951 to 1956, Hurst published a series of papers describing his findings (*Hurst* 1951). Hurst's rescaled range (R/S) statistic is the range of partial sums of deviations of a time series from its mean, rescaled by its standard deviation. The definition of long memory process can be explained by the so called autocovariance function $\gamma(k)$, where k is the lag parameter. The long-memory process can be defined as follows:

$$\lim_{k \rightarrow \infty} \gamma(k) \sim k^{-\alpha} L(k)$$

where $0 < \alpha < 1$ and $L(x)$ is a slowly varying function at infinity. Because $L(x)$ is a slowly function if $\lim_{x \rightarrow \infty} L(tx)/L(x) = 1$ (see Embrechts et al. 1997). The degree of long memory is given by the exponent α ; the smaller the α is, the longer the memory is. The long memory is also discussed in terms of the Hurst exponent H , which is simply related to α . For a long memory process $H = 1 - \alpha/2$ or $\alpha = 2 - 2H$. The short memory processes have $H = 1/2$, and the autocorrelation function decays faster than k^{-1} . A positively correlated long-memory process is characterized by the Hurst exponent in the interval (0.5,1).

3.2. Test for Long Memory: R/S Test

The Long Memory test based on R/S test has been developed by *Hurst* (1951) and *Mandelbrot and Wallis* (1969) method allows computing parameter H, which measures the intensity of long rang dependence in time series. The time series of length T is divided into n sub-series of length m. For each sub-series $m = 1, \dots, n$, we have to find the mean (E_m) and standard deviation (S_m), and subtract the sample mean using the formula below:

$$Z_{i,m} = X_{i,m} - E_m, \text{ for } i = 1, \dots, m.$$

After that we could produce a time serie from the sample means as $W_{i,m} = \sum_{j=1}^i Z_{j,m}$ where $i = 1, \dots, m$ and the range is calculated as the below given formula:

$$R_m = \max\{W_{1,m}, \dots, W_{n,m}\} - \min\{W_{1,m}, \dots, W_{n,m}\}.$$

The rescaled range is calculated by $\frac{R_m}{S_m}$ as well as in case of time series R, S and H can be defined according to the formulas below:

where R is the distance covered by the variable, k is a constant and T is the length of the time.

$$R = k \times T^{0.5}$$

where R/S is the rescaled range, m is the number of observations, k is a constant and H is the Hurst exponent, can be applied to a bigger class of time series.

$$\frac{R}{S} = k \times m^H$$

The Hurst exponent can be calculated as:

$$\log(R/S)_m = \log k + H \log m$$

and can be interpreted as:

- If H value = 0.5 then time series follow a random walk and are independent.
- If H value =(0, 0.5) then time series are anti-persistent, process covers only a small distance than in the random walk case.
- If H value =(0.5, 1) then time series are persistent series, process covers bigger distance than a random walk (long memory process).

3.3. Test for Long Memory: Modified R/S Test

The modified R/S test is developed from the classical R/S test which was proposed by *Hurst* (1951) while studying hydrological time series of the River Nile. For a return series (x_1, x_2, \dots, x_T), *Lo* (1991) refined the classical test by defining (see equation (1))

$$Q_T = \hat{R} / \hat{\sigma}_T^{\hat{q}} \tag{1}$$

where

$$\hat{R} = \text{MAX}_{0 \leq i \leq T} \sum_{t=1}^i (X_t - \bar{X}) - \text{MIN}_{0 \leq i \leq T} \sum_{t=1}^i (X_t - \bar{X})$$

$$\hat{\sigma}_T^{\hat{q}} = \hat{\sigma}^{\hat{q}2} + 2 \sum_{j=1}^q w_j(q) \hat{\gamma}_j^{\hat{q}}$$

$$w_j(q) = 1 - |j/q|,$$

and define that:

$$\hat{\sigma}^{\hat{q}2} = \text{the usual sample variance of data}$$

$$\bar{X} = \text{the mean of data}$$

$$\hat{\gamma}_j^{\hat{q}} = \text{lag } -j \text{ autocovariance for the data and the truncation lag } q \text{ is determined by equation 2}$$

$$q = \text{int} \left[((3T)/2)^{1/3} ((2 \hat{\rho}^{\hat{q}}) / (1 - \hat{\rho}^{\hat{q}2})^{2/3}) \right] \tag{2}$$

Where $\hat{\rho}^{\hat{q}}$ is the first-order sample autocorrelation coefficient and $\text{int} []$ is the integer function. Under the null hypothesis of no long memory or no long rang dependence, *Lo* (1991) presented that the limiting distribution of the QT statistics in equation (1) is given by the distribution function of the difference between maximum and minimum of Brownian bridge on a unit interval. Therefore, it can easily obtain the p-value of the test.

3.4. Test for Long Memory: GPH Test

The GPH Test for Long Memory process was developed by *Geweke and Porter-Hudak* (1983) and they proposed to estimate of the OLS estimator of d from the regression: (equation 3)

$$\ln[I(\xi)] = a - \hat{d} \ln[\sin^2(\frac{\xi \lambda}{2})] + e_{\lambda}, \quad \lambda = 1, \dots, v \tag{3}$$

where

$$I(\xi) = \frac{1}{2 \pi T} \left| \sum_{t=1}^T e^{it\xi} (x_t - \bar{x}) \right|^2 \tag{4}$$

And the equation 4 is the Periodogram (estimator of spectral density) of x at a frequency (ξ) as well as the bandwidth v is chosen such that for $T \rightarrow \infty$, $v \rightarrow \infty$ but $\frac{v}{T} \rightarrow 0$.

Geweke and Porter-Hudak (1983) consider that the power of T has to be within (0.5,0.6) and for the null hypotheses of no long memory process, the slope of regression d equals zero and the usual t-statistics can be employed to perform the test.

4. DISCUSSION OF FINDINGS

Table 1 presents the data of Thailand's international tourism industry. For example, the number of international tourists, the average length of stay, the average of tourists' expenditures both per person and per day and the revenue of international tourist arrivals to Thailand from the period of 1997–2007. In 1997, the number of international tourist arrivals to Thailand was 7.22 million and the average length of stay in Thailand was 8.33 days. The majority of tourists have spent 3,671.85 baht averagely per day. Moreover, in the same year Thailand received 220,754 million baht revenue from the tourists. In 2000, the number of international tourist arrivals to Thailand was 9.51 million and most of them have averagely stayed in Thailand for 7.77 days. The majority of them have averagely spent 3,861.19 baht per day. Moreover, in the same year Thailand's revenue was 285,272 million baht in 2006, the number of international tourist arrivals to Thailand was 13.82 million and most of them have averagely stayed in Thailand for 8.62 days. Most of the tourists have averagely spent 4,048.22 baht per day. In the same year Thailand received 482,319 million baht revenue (see more detail of data in *Table 1*).

Table 1. The importance of the international tourist arrivals to Thailand during period of 1997–2007

Year	Tourists		Average	Average Expenditure		Revenue	
	Number	Change	Length of Stay	/person/ day	Change	Million	Change
	(Million)	(%)	(Days)	(Baht)	(%)	(Baht)	(%)
1997	7.22	0.41	8.33	3,671.87	-0.92	220,754	0.63
1998	7.76	7.53	8.4	3,712.93	1.12	242,177	9.7
1999	8.58	10.5	7.96	3,704.54	-0.23	253,018	4.48
2000	9.51	10.82	7.77	3,861.19	4.23	285,272	12.75
2001	10.06	5.82	7.93	3,748.00	-2.93	299,047	4.83
2002	10.8	7.33	7.98	3,753.74	0.15	323,484	8.17
2003	10.00	-7.36	8.19	3,774.50	0.55	309,269	-4.39
2004	11.65	16.46	8.13	4,057.85	7.51	384,360	24.28
2005	11.52	-1.15	8.2	3,890.13	-4.13	367,380	-4.42
2006	13.82	20.01	8.62	4,048.22	4.06	482,319	31.29
2007	14.40	4.19	9.00	4,120.00	1.77	533,952	10.70

Source: Office of Tourism Development 2010

In 2007 the number of international tourist arrivals to Thailand was 14.4 million with an average length of stay of 9 days. The average expenditure per day was 4,120.00 baht and Thailand received 533,952 million baht from tourists.

Regarding India, *Table 2* presents the number of international tourists arrived to India during 2003–2007. In 2003 the number of international tourists arrived to India was 2.7 million and in 2004 this number increased to 3.4 million comparing with last year. Moreover, in 2005 the number of international tourist arrivals to India also has increased continuously. In this year the number of tourists came to India was 3.9 million. *Table 2* clearly suggests that the number of

Table 2. Number of the international tourist arrivals to India between 2003 and 2007

Months	2003	2004	2005	2006	2007
January	274,215	337,345	385,977	459,489	532,088
February	262,692	331,697	369,844	439,090	498,806
March	218,473	293,185	352,094	391,009	444,186
April	160,941	223,884	248,416	309,208	333,945
May	141,508	185,502	225,394	255,008	267,758
June	176,324	223,122	246,970	278,370	310,104
July	225,359	272,456	307,870	337,332	377,474
August	204,940	253,301	273,856	304,387	360,089
September	191,339	226,773	257,184	297,891	325,893
October	260,569	307,447	347,757	391,399	440,715
November	290,583	385,238	423,837	442,413	510,987
December	319,271	417,527	479,411	541,571	575,148
Total	2,726,214	3,457,477	3,918,610	4,447,167	4,977,193

Source: Ministry of Tourism, Govt of India 2010b

international tourist arrivals to India has increased from year to year. *Table 3* presents the foreign exchange earnings from international tourist arrivals to India during the period of 2005–2007. In 2005 Indian economy received foreign exchange earnings from international tourism industry was 1.5 thousand million US Dollar. Moreover, in 2006 the India's economy received 1.7 thousand million US Dollar as foreign exchange earnings from this industry. Finally the foreign exchange earnings from this industry have increased 2.06 thousand million US Dollar in 2007 (*Table 3*). Based on these data we could clearly confirm that the international tourism industry of India will definitely become the potential industry for the future.

Table 3. Foreign exchange earnings from international tourist arrivals to India between 2005 and 2007 (Unit: US \$ Million)

Months	2005	2006	2007
January	532.19	632.43	744.58
February	536.07	594.67	680.41
March	505.74	547.17	636.05
Total	1,574.00	1,774.24	2,061.04

Source: Ministry of Tourism, Govt of India 2010b

4.1. The results of various tests for Long Memory Process

Table 4 shows the results of various tests for long memory process regarding R/S Test, Modified R/S Test and GPH Test of Thailand international tourism market between 1997 and 2009. Several countries are international tourism markets of Thailand. For instance, countries from East Asia, Europe, America, South Asia, Oceania, the Middle East and from Africa (all countries were classified by Office of Tourism Development)

The test results are summarised in *Table 4*. For each test, the test statistics and the corresponding significances are given. If the value of R/S Test, Modified R/S Test and GPH Test are

Table 4. Results of Various Tests for Long Memory regarding R/S Test, Modified R/S Test and GPH Test of Thailand's international tourism markets

Area	R/S Test	Modified R/S Test	GPH Test
East Asia	4.3376**	2.2232**	3.3358**
Europe	3.4914**	1.8639*	1.5311
America	4.2419**	2.1439**	2.4942*
South Asia	4.9005**	2.3761**	4.2444**
Oceania	4.8295**	2.27**	4.9631**
Middle East	4.0744**	2.2532**	4.0389**
Africa	3.2821**	1.7812	3.1536**

Source: Own calculation

Null Hypothesis: no long-term dependence or no long memory process.

For GPH test, Null Hypothesis: $d = 0$, * : significant at 5% level, ** : significant at 1% level

significant at 1% level or at 5% level then there is a long-term dependence or long memory process in the time series data. Otherwise no long-term dependence or no long memory process exists in the time series data. The empirical results of long memory process analysis based on all three tests proved tourist arrivals from East and South Asian, American countries and countries of Oceania and the Middle East have a long-term dependence or the time series are long memory processes. Tourist arrivals from the European and African countries have not a long-term dependence, because the value of the GPH Test or the Modified R/S Test is not significant at 1% or 5% level.

Table 5. Results of Various Tests for Long Memory based on R/S Test, Modified R/S Test and GPH Test of India's international tourism market

Country	R/S Test	Modified R/S Test	GPH Test
USA	2.010*	1.2659	1.4874
UK	2.0402*	1.2838	1.3577
Canada	2.0219*	1.2784	1.5063
Germany	1.1541	1.1392	0.6048
France	1.7879	1.1729	1.0971
Japan	2.1268**	1.3809	1.2209
Malaysia	2.0735*	1.294	1.6528
Australia	2.0369	1.323	1.2145
Sri Lanka	2.1529**	1.4117	1.3119

Source: Own calculation

Null Hypothesis: no long-term dependence or no long memory process.

For GPH test, Null Hypothesis: $d = 0$, * : significant at 5% level, ** : significant at 1% level

Concerning India, *table 5* shows the results of various tests for long memory process regarding R/S Test, Modified R/S Test and GPH Test of India's international tourism market between 1981 and 2007. Several countries are international tourism markets of India. For instance, USA, UK, Canada, Germany, France, Japan, Malaysia, Australia and Sri Lanka.

The test results are summarised in Table 5. For each test, the test statistics and the corresponding significances are given. If the value of R/S Test, Modified R/S Test and GPH Test are significant at 1% level or at 5% level then there is a

long-term dependence or long memory process in the time series data. Otherwise no long-term dependence or no long memory process exists in the time series data. The empirical results of long memory process analysis based on both Modified R/S Test and GPH Test proved that all the international tourism markets of India have not a long-term dependence in themselves. Otherwise, based on R/S Test we can claim that most of the international tourism markets have a long memory process in themselves. On the other hand, we could not decide on direction of the arrival changes. However, the Modified R/S Test and GPH test have already confirmed that the international tourism markets of India have not a long-term dependence process in themselves, only the R/S Test has already confirmed that the international tourism markets of India have a long-term dependence process in themselves except Germany, France and Australia.

5. CONCLUSIONS AND IMPLICATIONS

Regarding Thailand, various tests have been conducted for studying the long memory property of Thailand's international tourism market between 1997 and 2009. We can conclude that most countries in Thailand's international tourism market have a long-term dependence. The long range dependence means that the information from "today" is not immediately absorbed by the price in the market and investors react with delay to any such information (Dávid and Baros 2007; Bardos 2008). This fact implies that the international tourism markets of Thailand are affected by any information slowly (Chaitip and Chaiboonsri 2009). This result was similar to the results of the previous empirical studies of long memory process in international tourism market (Gil-Alana 2005).

This research also provides various tests for long memory process (R/S Test, Modified R/S Test and GPH Test) to study the international tourism markets of India during the period 1981-2007. The empirical results of this research concluded that most international tourism markets of India are not long memory processes. This fact implies that the international tourism markets of India are affected by any information immediately or quickly. This finding was very different from the results of the previous empirical studies of long memory process in international tourism market (Gil-Alana 2005; Chaiboonsri and Chaitip 2009).

Taking Thailand and India into consideration, our results suggest that both the government sector and the private tourism industry sector need to develop both the tourism markets and the tourism products in a better way. In terms of the tourism market development, experts need to launch an active marketing campaign, promoting exclusive culture and natural beauty through every channel especially the internet, and keep high quality of accommodation, restaurants, and services in tourism market as well (Tóth and Dávid 2010). In terms of tourism product development, experts need to keep on improving both the quality and management of tourist products in both countries. For example, to develop tourist destinations, provide educational of tourism to people in the tourism industry and decrease the negative image of tourist destinations. Moreover, keeping tourist

destinations clean, beautiful, safety and to protect the environment of tourist destinations. Tourism industry should provide complex packages relating to attractions to visitors (Szabó *et al.* 1999). The private tourism sector and the government tourism sector should maintain good management of tourist destinations. Such as maintaining the amenities of the tourism products, keeping good accessibility, a good image, the right price and the competitiveness of tourism products (Chaiboonsri and Chaitip 2008).

Regarding India, the results suggest that both the Indian government sector and the private tourism industry sector of India need to protect the bad information of this industry and information can not go outside from India to other country. Moreover, the Indian government must promote the policy of international tourists' safety in India more effectively because if the international tourists' safety will be maximized in India then the number of international tourists' arrivals to India will be increased (Dhariwal 2005).

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THE COST FORMATION MECHANISM OF MILK AND ANIMAL YIELD IN DAIRY CATTLE-BREEDING IN CONDITIONS OF COSTS GROUPING BY PHYSIOLOGICAL CLASSIFICATION

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Abstract: This article scrutinizes the cost formation mechanism of milk and animal yield in dairy cattle-breeding in costs grouping conditions by physiological classification, it's analysis allows to reveal "weak points" in production process of the enterprise and to direct point efforts to overcome negative consequences, and also enables to optimize and more exact prognosis of the company's financial results.

Key words: cost of milk and animal yield, physiological group, dairy cattle-breeding, management accounting, distribution coefficient of factor cost.

The dairy cattle-breeding represents one of the branches of the animal industries, specializing on cultivation of cattle for the purposes of reception, storage, processing and sale of milk. Each of the listed processes, by-turn, should be carried out in conditions of clear delivered accounting and also in the presence of the developed normalization and control mechanisms.

The sort or group of animals (herd of dairy cows) is the calculation object at the enterprises of dairy cattle-breeding. According to methodical instructions no.792, paragraph 65.1 of the Ministry of Agriculture of the Russian Federation there is proportion which allows to distribute herd of dairy cows' costs between two basic kinds of production in dairy cattle-breeding – milk and animal yield – in concordance with exchange energy of forage. 90% of herd of dairy cows' costs concerns milk (except collateral production – manure, a wool-moult and hair-raw) and 10% of herd of dairy cows' costs concerns animal yield. After defining the actual costs which concerns milk and animal yield, accountants divide these costs into quantity of calculation units, in agriculture milk is traditionally measured in centners, and animal yield in heads. Thereby we can find the actual cost of centner of milk and one head of animal yield. We have made an example of similar calculations in table 1.

Table 1. The calculation of actual cost of milk and animal yield dairy cattle-breeding

The objects of calculation	Actual expenses, thousand roubles	Distribution proportion of costs,%	Distributed actual costs, thousand roubles	Calculation units	Actual cost of the unit, roubles
Milk	1746,76	90%	1572,08	1723 centners	9,12
Animal yield		10%	174,68	47 heads	3716,59
Total	1746,76	100%	1746,76	x	x

By the results of made calculations it is possible to draw a conclusion, that as a whole, according to year results the actual cost of centner of milk made up 9,12 roubles, and the cost of the head of animal yield made 3716,59 roubles. The given above cost calculation method of one centner of milk and one head of animal yield provides that keeping of herd of dairy cows is carried out in the mixed form, i.e. from the point of view of production process cows' feeding occurs without taking into account of physiological condition of the cow after calving. At the same time cattle breeders has been noticed, that cows during the different periods after dry period give milk and consume forage with a different degree of intensity. All this has led to the fact that in dairy cattle-breeding a technology of keeping cows by physiological groups has appeared which is unlike the mixed keeping allows to individualize diet of dairy cows, to optimize quality and volume of received milk.

The essence of keeping the cows on physiological groups consists of that herd of dairy cows divide into three criteria: number of days after calving (D), daily milk productivity (P) and fatness of the cow on a five-point scale (F). The example of criteria division of herds of dairy cows, withdrawn from recommendations of the Federal government of "the Main computer center of the Ministry of Agriculture of Russia".

Table 2. Criteria «D», «P», «F» to divide herd of dairy cows into groups

Number of group	Number of days after calving (D)	Daily milk productivity (P) on one head, kg	Fatness (F), points
1	0–100	More than 24	3,5–2,5
2	101–200	24–16	2,5–3,0
3	201–305	16–8	3,0–3,75
4	306–345	–	3,0–3,75
5	346–365	–	3,0–3,75

The given values for a daily yield of milk (Y) are proceeding from value of annual efficiency of the cow of 6000 kg. Let us give the characteristic to the given groups:

- 1) On the first group of cows the actions are directed to increase milk yield, this group is characterized by the greater yield of milk among other groups (more than 24 kg per day on the cow). Cows enter this group on the 6th day in the weakened state after calving. High productivity of this group inevitably conducts to dairy cows' weight loss, and even correctly chosen diet in the necessary volume cannot compensate loss of energy. Therefore the basic purpose of the cows keeping in the first physiological group (besides reception of milk) is the thorough cows nursing;
- 2) the second group is characterized by a smaller yield of milk (24–16 kg per day on the cow). During this period cows start to gain weight as milk yield decrease conducts to decrease of energy. The basic purpose of this group is to debar the decrease of daily yield of milk on more than 9% per month;
- 3) the third group is characterized by the least yield of milk (less than 16 kg of milk per day on the cow). The group is similar with the second group, the basic purpose here is to debar a yield of milk on more than 9% per month. In this group there is a preventive maintenance of mastitis, the further cows' weight gaining, preparation of cow to calving;
- 4) the fourth group involves dry cows. The dry period in average lasts for 60 days, nearby 40 of which is due to this group. The purpose of cows keeping in this group is to debar excessive growth of cow's fetus that is caused by excessive fatness and it is fraught with difficult calving with subsequent complications. The diet of the cow in this group should be balanced by microelements, in particular by magnesium and contain a minimum quantity of the concentrated food;
- 5) the fifth group is puerperal. Cows are there approximately for 20 days up to calving and 5 days after for feeding the animal yield with colostrum. Before 20 days prior to calving the cow is transferred on a diet of the first group. The volume of the combined forage gradually increase up to 3–4 kg per day. The purpose of cows maintenance in this group is occurrence of animal yield without the additional help from the outside.

From the point of view of milk reception technology in comparison with the mixed maintenance cows' keeping by physiological groups promotes the increase of efficiency, the improvement of cows' health state, birth of more healthy animal yield, economy of the concentrated food during the dry period, etc. From the point of view of the financial and management account the maintenance of cows on physiological groups should provide the account of expenses conducting the cost calculation on each physiological group separately, thus in first three groups the basic object of calculation will be the centner of received milk, and in the 4th and 5th group – animal yield. The different conditions of

the maintenance of cows in groups, in particular, a different diet of forages is the most expensive article of expenses for the enterprises of dairy animal industries which assume reception of the different cost of centner of milk in groups. Overhead expenses also should be distributed among the physiological groups, or passing this stage – between final objects of calculation. Thus, in our opinion, the technology of costs calculation of production of herds of dairy cows should not lag behind from described above technology of the separate cows' keeping.

For the purposes of milk and animal yield costs calculation by physiological groups it is necessary to develop:

- 1) the list of factor cost against physiological groups;
- 2) the distribution mechanism of factor cost to physiological groups between milk and animal yield of every group. We offer the following distribution coefficient (*table 3*).

Table 3. The distribution coefficient of factor cost between milk and animal yield according to physiological groups

Objects of calculation	Physiological groups				
	I	II	III	IV	V
Milk	0,96	0,9	0,9	0	0
Animal yield	0,04	0,1	0,1	1	1

As cows are transferred into the first physiological group after the sixth day of calving, on the 65th day after calving they inseminate, and for the 100th day are transferred into the second group, in our opinion it is necessary to consider the time factor and to use a proportion not 90% to 10%, but 96% to 4%, i.e. the costs for animal yield are reduced at the given stage more, than twice. The time factor is also assumed, that the traditional proportion 90% to 10% should be used in the second and third physiological group, where the cows are already inseminated. Thereby the metabolizable energy of forages at a rate of 10% is consumed by animal yield from the first and up to the last day of being in these groups. The cows who are in the fourth and fifth groups are dry cows and it becomes that forage consumed by cows completely spend on formation of animal yield, i.e. 100% of factor cost covers the animal yield;

- 3) to establish the mechanism of indirect cost distribution. As a whole it is possible to mention, that in the presence of several subdivisions which maintain costs account by physiological groups, there comes an opportunity of each subdivision's simultaneous using the methodology of indirect costs' full distribution and, accordingly, finding the full cost of calculation objects within the group, and methodology based on partial distribution of indirect costs with finding incomplete cost of milk and animal yield. Here is necessary to mention the opportunity of complete or partial reference of indirect costs only to the dairy physiological groups because sales of milk realizes for the short period of time. If refer indirect

costs to animal yield they will pay back only during process of amortization charge when after fattening the young animal will be transferred into the composition of fixed assets, i.e. after long time interval;

- 4) develop new and to modify old basic documents, account registers, distributive and cost sheets. Basic documents modification means the introduction of additional meaning "physiological group" to the established forms which will make possible to detail and group costs in the necessary view. The account registers also should be modified or entered additionally so that the information about cows' keeping factor cost could be collected in them. At the enterprises of dairy cattle-breeding the distributive and cost sheets depending on accepted calculation objects should promote the distribution of indirect costs between milk and animal yield, physiological groups of animals, and between responsibility accounting of the whole enterprise, and besides to form the information about the cost of calculation objects.

The planning in conditions of costs refinement by physiological groups and revealing of deviations of actual received performance from planned performance will differ from costs planning in conditions of the mixed cows' keeping. First of all, it is caused by presence of greater number of calculation objects, everyone of which is characterized by the quantity of milk yield and cows' keeping costs. It is necessary to mention here, that for the purposes of animal yield cost calculation the information about 4 and 5 groups' costs will be used as well as in first three groups, therewith the costs undertake in proportion mentioned in table 3, i.e. regarding on reception of animal yield instead of milk.

It is necessary to note, that calculating the cost of milk and the received animal yield besides factor cost on cows' keeping by physiological groups, the calculation also includes the distributed indirect costs of the enterprise. As a result accountants of the enterprise receive the information about the cost of milk and animal yield reception of every physiological group, and not only within the concrete herds of dairy cow, but also at the enterprise as a whole. In the latter case cows' keeping costs performance of concrete physiological group are summing up by the whole enterprise. In whole at the enterprise planned quantity of production

made in the same group (milk and animal yield) is also calculated. Dividing first performance by the second we find general for the organization cost of milk or animal yield by physiological group. The received performance of the cost can be used for the estimation of subdivisions' work efficiency, the individual planning considering work characteristic of responsibility accounting, in application of flexible mechanisms of pricing in different geographical segments of business, etc.

The application of the offered system of calculation increases labour-intensiveness in planning, calculation, revealing and interpretation of deviations. Leadership should retrain accountants, implement computer system of data processing, adjust within the first year the methodology of the costs account and calculation, the automated system of data processing, to invite experts, etc. At the same time the offered system of costs account and calculation allows to reveal "weak places" in production process at the enterprise and to direct point efforts to overcome negative consequences. The knowledge of the costs demanded from cows' keeping in physiological groups, enables to optimize and gives more exact prognosis of the company's financial results. Finally, making a decision of introduction it is necessary to follow principle "expenses – benefits".

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THE USE OF MODELS IN OPTIMIZING THE FIELD CROP PRODUCTION IN AGRICULTURAL ENTERPRISE

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Abstract: The full use of resource capacities of agricultural enterprises favorably affects the general increase in economic efficiency and rational production making them more competitive in the market. This creates the need for constant improvement of business strategies that uses all available resources to create the most profitable production.

The main objective of this study was to find the ideal structure of production in agricultural enterprise and to enable the realization of maximum profit using the available production resources (land, mechanization, labor forces).

As the basic method of planning, this study used the simplex method of linear programming which gives the most profitable sowing structure after detailed analysis of resources and achieved results, based on the limitations and gross margin.

This work showed that the use of modern methods in production planning is one of the cheapest and safest methods for development of agricultural enterprises.

Key words: model, agricultural enterprises, resources, profit

Introduction

Great progress realized over the last 20 to 30 years in agriculture is not consequence solely of the global technical and technological improvement of the production process, but also of management methods and of the business management. Main features of these methods were:

- Profound and more frequent business analysis,
- Detailed and more precise planning of the production,
- Division of the enterprise into organizational units, even separate production lines and
- Dependence of the employees on the business results.

Successful management in modern conditions of economy requires among other things maximal adjustment of the business policy of an agricultural enterprise to the demands of the general business conditions.

For agriculture, and especially for field crop production, biological character is characteristic induced exclusively by biological traits of the plants, i.e. their physiological functions which cannot be influenced by the man, or if they can the influence is very moderate.

Therefore, in the process of field crop production, numerous factors occur which have very strong influence on organization of work processes, necessary capacity, structure and level of utilization of human labour and mechanization.

From the aspect of organization of field crop production, the following specific traits of agriculture should be taken into consideration:

- Duration of the work process and production process in agriculture don't coincide. Duration of process in agriculture is significantly shorter than production

process, i.e. production process takes place mainly under the influence of environment factors, without the participation of the man;

- Agricultural production is production in the open, so weather conditions have significant influence of the organization of agriculture, since unfavourable weather conditions can not only impede execution of certain operations, but also to prevent them;
- Execution of certain work processes in field crop production is often conditioned by very short optimal agro-technical deadlines;
- Uneven scope of work operations during technological process of production cause incidence of labour peaks, which often has as a consequence engagement of great number of workers and mechanization for short time period, which outside these deadlines remains almost unutilized.

Because of stated specificities of this production, it is necessary to plan sowing for longer time period, even several years in advance. From that aspect, it can be concluded that planning of sowing structure is in the domain of strategic decision making and that use of methods of optimization is powerful tool for successful determination of future production structure.

Research subject and goal

Need for constant questioning of realized results of production is in a certain sense universal approach in relation to man and his accomplishments. No matter how favourable

realized results are, it is considered as not so good so that they could be improved. Therefore, subject of this paper is finding of the optimal structure of field crop production in an agricultural enterprise located in South Banat (Serbia). Main characteristics of this enterprise are:

- It is located in the low land region;
- It disposes with 311 ha of plough land of equal quality and optimal parcel size;
- It is engaged in intensive field crop production;
- It is well equipped with necessary mechanization;
- There is possibility for engagement of necessary number of seasonal workers;
- Plough land is used exclusively for production of grain and industrial plants;
- Entire plough land surface is engaged for market oriented field crop production.

Objective of the study is to project, using modern methods of optimizing, primarily simplex method of linear programming, and optimal sowing structure in observed agricultural enterprise which would enable maximal use of resources and labour capacities at the disposal as well as mechanization, and by doing this to realize maximal business result expressed by gross margin. In order to achieve successfully stated goal, it is necessary to analyze in detail the nature and organizational-economical conditions in which this enterprise is operating, analyze all available resources as well as realized results in production of field crops in previous period.

Methodology

According to the analyzed data on natural and organizational-economical conditions of production and achieved production results of the observed agricultural enterprise, it can be concluded that the existing available capacities are not being used to a maximum and this has unsatisfactory economic results as a consequence. The realized yield in field crop production is also not at satisfactory level. This is above all the consequence of the outdated agro-technical measurements of production and inadequate organization of work processes.

The models for the optimization of existing production structure have been made in order to project the better results, natural (yields) as well as economical (gross margin). The first model for optimization of the field crop production has started with the current structure consisting of four crop cultures: wheat, maize, sunflower and soybeans, and the optimization in function of maximizing the gross margin was done with the use of linear programming. In order to maximize the use of the available resources the second model was created. This model included sugar beet as a fifth crop culture which demands the most input in terms of both work hours and mechanization per unit of used land.

The models of optimal production structure were created by laying all defined data in the Excel table.

Results and discussion

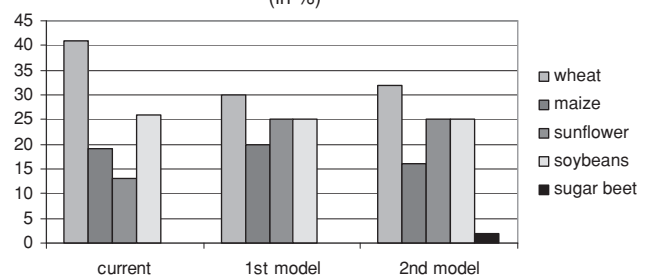
In order to estimate the quality of the optimal results (first and second model), their mutual comparison, as well as the comparison with the existing conditions in the agricultural enterprise have been performed.

For that purpose the following indicators were used:

- Sowing structure
- Gross margin per used hectare in RSD (The currency of Serbia)
- Gross margin per full-time employee in RSD (The currency of Serbia)
- The level of usage of the available work time of the full-time employee

The comparison of the current structure with the structure from the first and second model is shown in *Chart 1*.

Chart 1. The Sowing structure
(in %)

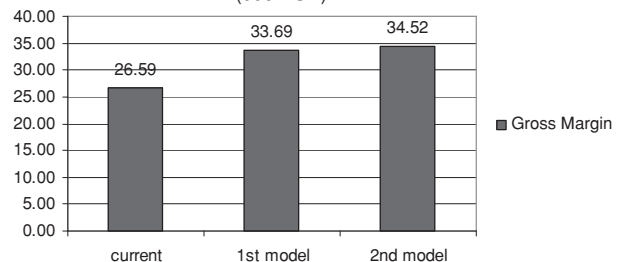


It can be obtained that wheat has the highest contribution in the sowing structure with 42% in current structure, 30.06% in first, and 31.96% in the second model.

The contribution of the maize was the highest in the first model (19.78%), sunflower in the current structure (13%), while the soybeans was fairly stable in all three sowing structures (approximately 25%).

The highest gross margin per hectare of the used land has been realized in the second model and was higher than the current structure by approximately 29.8% (*Chart 2*).

Chart 2. The Gross Margin per ha of used land
(000 RSD)



The highest gross margin per full-time employee has been achieved in the second model and is higher than the current by 617,000 RSD, and by 64,250 RSD than the first model (*Chart 3*).

The level of usage of the available work time of the full-time employee of the first and second model has been shown in *chart 4*. It is evident that all months during the season of

Chart 3. The Gross Margin per employee
(000 RSD)

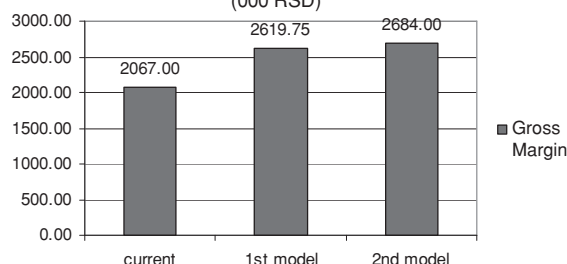
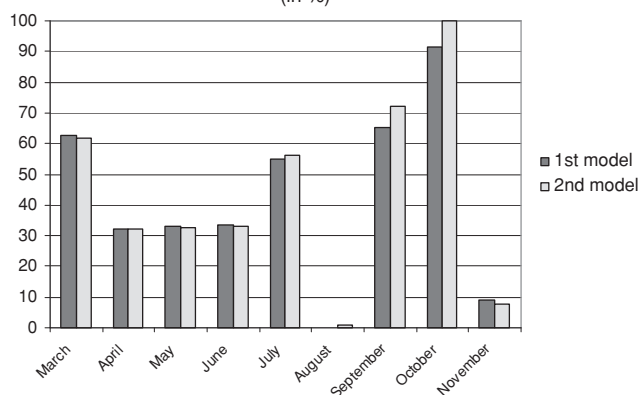


Chart 4. Structure of used time
(in %)



agricultural activities in field crop production show significant unused reserves of the available working time except for October in the second model when all available working time of the employees has been used 100%.

Conclusion

Regardless of the very favourable natural and organizational-economic conditions for crop production, the analyzed agricultural enterprise does not realize satisfying economic results.

The major characteristics of the production are:

- The enterprise has 311 ha of arable land
- The current full-time employees and mechanization are suitable for completing all necessary work processes
- The crop rotation includes four cultures with average contribution in period 2004–2008 year: wheat (41%), maize (19%), sunflower (13%) and soybeans (26%)
- The realized average gross margin in observed period was 8,268,000 RSD

Considering the above mentioned characteristics of field crop production in the analyzed agricultural enterprise, and with a objective of analyzing the possibilities of improving the operating outcome, two models for optimizing the structure of field crop production were created.

The optimal results of the first model are the following:

- Sowing structure consists of: wheat (30.6%), maize (19.78%), sunflower (25%) and soybeans (25%)
- Total gross margin amounts 10,479,711.64 RSD and

is higher by 26.75% in comparison to current structure

- Significant unused reserves of the available full-time employees and mechanization were found.

Optimizing results of the second model:

- The sowing structure consists of: wheat (31.96%), maize (16.16%), sunflower (25.08%), soybeans (25.08%) and sugar beet (1.72%)
- Total gross margin amounts 10,736,553.34 RSD and is higher than current structure by 29.86% and by 2.45% than the first model
- The limitations of the available work time of the full-time employees and mechanization were fully satisfied in October – work time peak.

Using the comparative analysis of the obtained results in the first and second model with the results realized in period 2004–2008. year, it was evident the following:

- The greatest gross margin per hectare of used arable land was realized in the second model
- The greatest value of gross margin per full-time employee was achieved in the second model
- The level of usage of the available work time of the full-time employees was the highest in the second model and in October it was 100%.

Referring to the obtained results, it can be concluded that the use of method modelling provides rather good estimation for the contemporary planning and decision making while choosing the structure of field crop production in agricultural enterprise.

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OPPORTUNITIES AND OBSTACLES OF AREA-BASED PARTNERSHIPS IN RURAL HUNGARY – MAIN FEATURES OF THE OPERATIONS OF LEADER LOCAL ACTION GROUPS BASED ON A NATIONWIDE SURVEY

Kis Krisztián – Szekeresné Köteles Rita

Summary statements, conclusions, recommendations: Based on the results of our questionnaire survey, our study presents the major operational features of LEADER LAGs established in Hungary in the second half of 2007. Our national survey indicated that most of the partnerships established do not have experience in the implementation of community-based rural development programmes and there are no traditions and practices for development cooperation, which may cause problems as the success of programme implementation highly depends on the preparedness of local society, on the cooperation of local people.

The survey indicates that the development of areas covered by LAGs is hindered by so-called soft factors characterizing human resources (rural people and communities). Therefore human resources are not only factors of the rural economy but areas for development as well.

Having examined the tasks of LAGs, it can be established that they deem it to be their principal task to grant support funds. In our opinion, performance of this task is obviously necessary but far from sufficient to fulfil their catalyst role expected in local developments. For this purpose, it is essential for action groups to play a proactive role in organizing and thereby increase the capacity of local communities, a prerequisite for implementing a LEADER programme.

In accordance with the basic principle of subsidiarity, rural development should be implemented locally, managed by local communities, and decisions should be made at local levels in a decentralized manner. At the same time, the survey points out that LAGs operate under strong government influence and control, leading to the conclusion that the Hungarian practice of the LEADER programme is characterized by decentralization without subsidiarity.

In the present structure, the activities of LAGs are predominantly financed from central resources. Administration is the primary goal of their financing, which restricts their effective and efficient operations, thereby the successful implementation of the LEADER programme. It is unquestionable that LAGs need to be centrally financed since their operation is fundamental for programme implementation, but this requires more than acting in their present role of distributing resources.

In order for action groups to fulfil their real roles to boost local developments, they need to recognize their mission; and from the financing and regulatory side, they must be enabled to complete the tasks expected from them and their function.

Key words: endogenous development, Local Action Groups (LAG's), cooperation, social capital, capacity-building, subsidiarity, sustainability.

Introduction

Consequent upon and in order to offset the adverse effects of the significant social and economic changes and to meet new challenges in the rural areas of Western Europe in the 1980s and 1990s, demand rose for a new approach to rural development. As a result, EU rural development policies shifted towards *endogenous development*, as introduced into the practice of rural development in the framework of the LEADER programme. Due to the increased role of the LEADER approach in the implementation of rural development policies, local action groups came to play an important role in the institutional system of rural development. Through their activities to assist and promote local developments, they represent a

spatial organization force in rural areas. Their activities can effectively contribute to the local implementation of European rural development policies, to the competitive and sustainable development of their region.

This paper studies the operational features, deemed to be important in our opinion, of LAGs established in Hungary under the auspices of the LEADER axis applicable between 2007 and 2013. Five areas are in focus which, in our opinion, significantly determine the operational efficiency and effectiveness of the LAGs involved in the study, and thus the implementation success of the LEADER programme in Hungary. Our study was prepared on the basis of the results of our almost totally comprehensive national questionnaire survey in March 2010, involving 94% (N=90) of local action groups.

The timeliness of the research is supported by the fact that the significance of applying the LEADER method is on the increase in terms of rural development in the EU. This is evidenced by the European Commission communication published on 18 November 2010 as regards common agricultural policy programming after 2013. When presenting the communication, EU commissioner for agriculture and rural development Dacian Cioloş stressed that "the new CAP will integrate the LEADER approach to an even greater extent" (EC, 2010). The topicality of the subject is also justified by the fact that consequent upon criticism on the operation of the programme in Hungary, such as anomalies concerning invitations for, submission and assessment of proposals, difficulties of proposal administration, and problems of operational financing, a social debate was initiated by the Ministry of Rural Development on 28 October 2010 in order to review the LEADER programme and transform it for a more efficient implementation.

Theoretical background – the leader method in European rural development

Earlier on, decision makers considered rural regions to be homogeneous areas where developments are determined by the same restrictive factors and opportunities. As the European Spatial Development Perspective (EC, 1999) pointed out, this approach is not in line with reality in the EU, as the characteristic of the European countryside is varied and diverse, which appears in the diversity of people and the communities as well as nature, landscape and activities. Consequently, development possibilities and trends of rural areas represent significant differences. All this makes it necessary for development programmes and measures to take local features and specificities into consideration. Accordingly, different means and different policies must be applied for their development. According to *Szörényiné Kukorelli* (2005), high levels of differentiation in rural areas contributed to the evolution of the characteristically European model of rural development as mentioned above in the 1990s, promoting local developments by introducing bottom-up policies. Consequently, sustainable rural development based on local consensus can only be realized by strengthening local society, by increasing its ability to assert interests; therefore solutions and strategies to boost the above are required to be implemented. An innovative solution for this is provided by the LEADER programme called into life by the European Commission, the principal feature of which is an approach of so-called endogenous development based on internal resources and local communities in a bottom-up arrangement. According to *Barke and Newton* (1997), endogenous development is a process, which includes the mobilization of the local community. It requires an organizational structure which brings together different interests to achieve common goals, a locally agreed strategic planning process and an agreed

allocation of resources with the specific purpose of developing local capacity in terms of skills and competencies. In conformity with the above, the main objective of the LEADER programme is to build on the internal resources of small regions and support the population living there in considering their longer-term development opportunities and implementing plans designed in collaboration. In accordance with the principle of subsidiarity, a development programme is to be designed and managed by development groups (local action groups) established at small region level, coordinating the representatives of entrepreneurs, NGOs and the public sector by involving the population living there.

Thus, LEADER breaks away from centralized, centrally managed, top-down support systems, one of the specificities of which is that local problems, opportunities and solutions are not known at a central level, therefore in many cases they do not offer real roads for development as they do not enable the implementation of development programmes based on local needs. *Kovách* (2000) states that the LEADER approach is a new enhanced model of rural development policy attempting to replace hierarchic interventions by a system of local developments primarily characterized by local involvement and partnership. In this interpretation, LEADER is a way of reforming European rural development, qualifying LEADER as the essence of EU rural development policies.

Material and method

The survey serving as a basis for our study was conducted in March 2010. The questionnaire including 70 questions was sent to each community with the title LEADER LAGs as of 26 September 2008, assisted by the staff of the Rural Development Division of the Ministry of Rural Development (Ministry of Agriculture and Rural Development at the time of the research). The rate of response (94%) was highly favourable: 90 out of the 96 questionnaires sent out were returned. Our survey primarily focussed on the establishment of LAGs, their operations, tasks, and the features of the area covered by them. This study involves only some part of the questionnaire survey and answers are sought for the following questions:

1. Does the area have a history of community controlled (LEADER-type) rural development?
2. What are the main obstacles / hindrances to the development of the areas covered by LAGs?
3. What are the main tasks of LAGs in the successful implementation of the LEADER programme?
4. To what extent has the principle of subsidiarity been realized in the operations of LAGs, and to what extent are decision making and responsibilities decentralized to a local level?
5. Would LAGs survive if LEADER programme funds ceased to exist and what secure sources of income could be counted on if central financing was discontinued?

History of community controlled (LEADER-type) rural development in the areas covered by the action groups

The LEADER programme offers an efficient method for the implementation of rural development at local levels; however, participation, cooperation and coordination are definitely required in order for this model of rural development to be operative and successful.

According to Ray (1999), the endogenous development approach can be put into practice on the basis of already existing territorial organizations or ones newly established for this purpose. In this context, it is important to note that the LEADER groups or LEADER areas where is no tradition of participation and / or do not have the practical application of relevant knowledge and skills of the LEADER method, increased capacity-building and more intensive animation, mentoring is needed (Commins and Keane, 1995). In our survey, 75 of the responding communities were newly established and started to operate in this programming period, during 2007, in the course of the process of registration and institutionalization preceding planning. The remaining 15 action groups had been established previously, in an earlier programming period. So the majority of action groups are ad hoc organizations, instituted for using the resources available in the period 2007–2013. A smaller part of them joined in the local-level implementation of the objectives of the fourth-generation LEADER programme as already existing partnerships.

71 out of the action groups studied had a history of some sort of community-controlled rural development programme implementation, while 19 partnerships do not have any such experience. 30% of the settlements covered by current action groups was covered earlier by communities established in the framework of AVOP LEADER+. For 1 action group, the settlements involved completely tally with the current settlements; for 18 communities, settlements absolutely differ from earlier settlements; and for 54 action groups, settlements partly overlap with earlier ones. Furthermore, 13% of members of the action groups studied had been involved in the work of communities established in the framework of the LEADER+ programme.

Based on the above, it can be established that the majority of the partnerships established do not have any experience in the implementation of community-based rural development programmes, with no traditions and practice in development cooperation. This may pose a problem as the success of programme implementation greatly depends on the preparedness of local society, on the cooperation of local people and organizations.

At places with longer-term experience in the implementation of such developments or with a history of cooperation and self-organizing activities, there are higher standards of participation, eagerness to cooperate, and agility to act, thereby improving development efficiency and contributing to successful programme implementation.

It should be noted that where there are greater traditions of civil values, mentality and behaviour (independence, self-consciousness, sense of duty, commitment, morality, conscience, responsibility for the community etc.) it is less difficult to implement developments compliant with the basic principles of the programme. At many places, however, experience shows the contrary since disrupting forces are stronger than connecting links, with no managing and cementing force to play a dominant role in uniting local players and capable to establish social cooperation for mutual benefits.

All this means that the majority of action groups would have needed a longer period of preparation, as LEADER – by nature – can only contribute to rural area development if local communities are duly prepared and have the skills to enable them to define their common objectives, to deploy the resources required, and to solve their own problems in common (in community).

So the quality of local society is of great importance, therefore it is crucial to develop local communities and to encourage the operations of social organizations. Fehér (2005) is also of a similar opinion, stating that rural communities, human relations and the social capital embedded in them represent an important resource for rural area development. The same is stressed by G. Fekete (2005), stating that in order to set rural areas on a development path, it is essential to substantially improve the self-organizing and interest enforcement capacities of the population living there.

At the same time, this is a process which contributes to the realization of objectives, but the time required therefore must be taken into consideration since it takes much time – even decades – to substantially change and alter social conditions. Where there is no precedent of development based on cooperation, skills development and capacity building require even more time and attention than at places where the local community is experienced in rural development based on participation and cooperation.

Therefore the establishment of LAGs represents an absolutely necessary but by no means sufficient condition for the local-level implementation of the LEADER programme, especially if their establishment was not certainly voluntary in all cases. The article by Sándor Németh also calls attention to this, stating that Local Rural Development Offices and office managers "not only and simply coordinated the establishment of LEADER communities but practically they were the ones to establish them" (Németh, 2009). The foregoing question the reason for existence of LAGs in some sense and forecast their operational efficiency.

Factors to hinder the development of regions covered by lags

In the course of rural area development, properties, conditions, opportunities and demands must certainly be taken into consideration, and they must all be taken into account for developing a strategy to improve the life quality

of the population living there. However, the realization of rural development objectives is prevented or hindered by a number of factors connected to the diversified social and economic situation and environmental conditions characteristic of rural areas. It is essential to know these factors or bottlenecks as problems must be identified and evaluated in a proper context to find the right path to follow. Based on this information and knowledge, a realistic concept / development plan can be specified with the main objective to improve the life quality of rural people.

In order to identify the factors mostly hindering the development of LEADER regions, the heads of LAG organizations were asked to rank the factors relevant for their region in order of importance, choosing from the 16 options below (with 1 indicating the most important factor to hinder the development of a given region). Table 1 shows the results of the survey.

Table 1. Order of importance of the factors hindering the development of areas covered by LAGs

Serial no.	Hindering factors	Average score
1	Lack of capital	1.8
2	Lack of funds for support	2.7
3	Lack of willingness to cooperate	3.4
4	Underdeveloped infrastructure	3.6
5	Lack of knowledge	3.6
6	Lack of interest	4.2
7	Lack of innovativity	4.3
8	Regulatory restrictions	4.7
9	Lack of confidence	4.7
10	Lack of key people	4.7
11	Lack of information	5.0
12	Adverse geographic conditions	5.7
13	Political situation in the broader region or nationwide	5.9
14	Lack of commitment	6.4
15	Local political conditions	6.6
16	Unfavourable natural endowments	7.0

Source: Own data collected.

In our opinion, the following – so-called soft – factors can be highlighted in connection with the basic principles and philosophy of the LEADER programme, with a view to the efficiency and success of programme implementation (see in bold in the table): presence or absence of a willingness to cooperate, confidence, knowledge and information, lack of interest, innovativity, key people, and commitment.

Cooperation and the willingness to cooperate play a significant role in the development of rural areas. This particularly applies to LEADER-type developments, one of the basic components and basic tenets is cooperation. People's ability to cooperate is coupled with the generation of social capital. Social capital is generated when people's

relationships change in a way to facilitate action. Social capital is a resource for communities and partnerships, as well as an indicator of relations and cooperations established in society and the economy. Following from the above, social capital is a measure of relatedness within a community or society, and as such, it demonstrates cohesion in a community and the society, which is manifested in the connections, norms, confidence, and cooperation of people and communities for common interests and benefits. According to Coleman (1998), social capital is a "productive" resource, which allows certain otherwise unattainable goals. This form of capital takes shape in the structure of relations between actors.

Cooperation is nothing but a system of relations between people (individuals) and organizations) with the purpose of realizing mutual benefits and advantages. In our case, the main objective is to improve the life quality of rural people, and the LEADER programme offers a framework for this.

Cooperation and *confidence* constitute a closely related system as cooperation is based on confidence. It is a common experience that we are ready to cooperate if we trust each other, whether another person or an organization. Accordingly, the main obstacle to the establishment, development and subsistence of cooperations is a lack of confidence, to be traced back to various reasons (disappointment, lack of knowledge and information, etc.)

The success of the adaptation of rural areas highly depends on the preparedness of stakeholders. In this respect, the presence or absence of *knowledge and information* should be highlighted. In the era of knowledge-based societies, up-to-date, properly utilizable and convertible knowledge has been reevaluated. This means that the quality features of human resources (qualifications, expertise, motivation, working style and morale etc.) are emphasized as opposed to quantity features. Accordingly, knowledge, skills and abilities have a greater impact on the development of regions than earlier. Information influences the decisions and actions of people and organizations, thereby influencing the functioning of the economy and society, and consequently spatial development. Therefore, information – its presence or absence (under-information) is a considerable differentiating factor, at the level of both local players and different areas as well. Thus, information flow – communication – plays a really important part in improving the level of preparedness on individuals and their communities.

People's *lack of interest* in community issues – and bottom-up rural development is really like that – can be traced back to several reasons, including disappointment, lack of confidence, and lack of knowledge and information. A lack of interest in public affairs affects civic activity and social inclusion, which is not favourable to the establishment and development of cooperations, specially significant for our topic. This sets back social competitiveness and social sustainability is questioned in the shorter or longer term. In the course of the design and implementation of bottom-up community-controlled (rural) development programmes, individual and community initiatives are highly important.

However, there should be communities first of all in order to be able to talk about community initiatives. Acceptance of community values and interests and identification with them plays an important part here, requiring dialogue, communication, proper information flow, increasing knowledge, acceptance of others, confidence, mutuality, and a willingness to act, in order to be able to improve and develop the ability of the community to take initiatives, take action, and assert interests. It serves as a basis for enabling people and their communities to delineate their future and take action to make it come true.

Perpetual social and economic changes require the players of spatial processes to adapt on an on-going basis, which is only ensured by invention and renewal. And the basis for such renewal is *innovation*, that is, the ability and sensitivity to innovate. Innovation – representing new ideas, new resource combinations, new organizations, new activities, new products, and new human and community behaviours – can concern products and activities, but innovations can also prevail not only in the economy but in the social and political sector as well. Innovations are phenomena or objects different from previous ones, arising from changes and transformations thereof. By adapting them, recipients will act presumably at higher levels (Rechnitzer, 1994). Therefore, innovations and innovativity provide considerable competitive advantages to settlements and regions.

Kovács (2003) points out that the role of innovative individuals capable of modernization (innovative managers, smart entrepreneurs) and communities able to assert their interests has increased in local developments. It is important to note in this respect that rural development is not (primarily) a technical or economic issue – at least in terms of conditions –, but it principally involves the agitation of human powers to give impetus to stuck developments (Font, 1998). This requires *leadership* because thereby society can be mobilized and encouraged for action, the relationships and activities of local players can be organized, resulting in local communities' increased ability to act. Leadership can be provided by all the people, entrepreneurs, municipality bodies and NGOs promoting local interests and committed to the sustainable development of their community based on cooperation (Kis-Szekeresné, 2008).

It is indicated by the foregoing that factors are not independent of each other: many times, they exert a negative impact on spatial development – or a positive one in the event of their change to the better – in a complex manner, together and in interaction. Based on the causal principle of cumulative circulation, social and economic processes react upon the factors affecting them, resulting in more unfavourable processes in the case of adverse tendencies. So, human resources – that is, rural people and their communities – play an important role in the adaptation process of rural areas. It can be observed at the same time that human resources are not only factors of the economy of rural regions but areas for development as well.

Duties of lags in competitive and sustainable rural development

In the framework of the LEADER programme, important elements of the institutional system enforcing rural development policies include LAGs – organizations for development established in rural areas throughout Europe –, intended to elaborate and implement strategies for sustainable development. As a consequence of the above, LAGs play an important role in the local level implementation of rural policy objectives. However, in conjunction with strategy implementation, the role of LAGs in the efficient use of funds is not ended by planning / drawing up development strategies for (small) regions. As funds are used, specific activities and developments are realized at a project level, local players' capacity building and agility to act are required to be boosted in order to provide a basis for the successful and efficient use of development funds. Thus, efficient strategy implementation and furthering the development of a given rural area requires on-going active work, in the course of which LAGs must become real organizing forces in the development of their region.

In the national survey, we collected those tasks and duties that – in our opinion – LAGs should undertake in order to meet the challenge above and become real organizing forces in their region. As regards this issue, action groups were requested to evaluate their tasks by importance, along a scale of 1 to 9 (with 1 indicating the most important and 9 the least important task). Based on the survey results, LAGs specified the order of importance of the duties to be performed by them as set out in *Table 2*.

Table 2. Duties of LAGs in the order of importance specified by them

Serial no.	Description	Average score
1	Provide and grant funds for support	2.2
2	Boost local economies through information flow	2.9
3	Strengthen territorial relations, partnership building among local players (bring local players together)	3.3
4	Encourage local players to create joint projects / multisectoral activities; elicit synergies	3.9
5	Capacity building of local players	5.1
6	Provide opportunities for consultation / exchange of opinions	5.3
7	Disseminate the concept of sustainable development, encourage its putting into practice	5.4
8	Share and spread best practices	5.6
9	Networking with action groups operating in other regions	6.9

Source: Own data collected.

The survey points out that action groups deem it to be their most important task to finance proposals and to grant support. In our opinion, the role of action groups in the implementation of Local Rural Development Strategies

cannot be restricted only to the distribution of the development funds coordinated by them: their operation spans over a much wider range of activities in which the mobilization of local communities, partnership building, generation of cooperations, skills development, promotion of sustainable development, and endeavours to interlink developments for complexity should appear as important aspects. Actually, efficient strategy implementation requires an increase in the agility and cooperation of local players, necessitating the completion of a variety of tasks.

The LEADER programme cannot be realized successfully without *involving and mobilizing local communities*. Therefore it is deemed to be one of the important tasks of LAGs to address the local community and to encourage them for action. Thereby a better and more realistic vision can be produced to better serve the catching up of regions and the improvement of the life quality of the people living there.

Communities can be involved, participation can be ensured in various forms, in the interest of which LAGs can apply a variety of means and methods, including community meetings, consultations, discussions, workshops, and events. Reputed key people held in general esteem can also be mentioned. Local communities can also be involved through NGOs as they provide an appropriate framework and opportunity for the self-organization and active presence of citizens. In addition, different surveys can also be conducted to provide opportunities for expressing opinions. The foregoing contribute to a wide-ranging assessment of the necessities and development needs of local players. In this respect, *Lukovich* (2004) stresses that participation helps to explore problems and potentials since participation may assist in the collection of many types of data; at the same time, it is the only source of information containing the wishes, opinions and value systems of individuals. Besides simply ensuring participation, it is important for LAGs to mobilize both community and actors and urge them for thinking together. It is also important to ensure programme publicity to achieve broader participation and to mobilize the community, together with presentations on the activities of LAGs and circulation of information related thereto in local and regional media. For this purpose, information packages can be compiled and published e.g. through publications, the community homepage, leaflets and placards.

Local cooperations and partnerships are important for the implementation of rural development based on participation as they play a dominant role in assisting local development work. Without cooperations and partnerships – social capital in fact –, local developments cannot be effective and cannot lead to the expected results, therefore establishment and extension thereof poses a key challenge to LAGs. Social capital can be employed and used as a real resource on the basis of the cooperation of the parties. Cooperation enables the inclusion of social capital – as a resource instrumental to action – in spatial processes, thus creating a new combination of resources which may greatly contribute to the success of the LEADER programme and to the development of settlements and areas affected by LAGs on the basis of internal resources.

It is important to stress that rural development, as well as *local development is a process* as a result of which the objectives set can be realized. In our opinion, the process itself is at least as important in the course of the implementation of the LEADER programme as measurable and quantifiable results. The proactive operations of LAGs, their activities to organize local society greatly contribute to improving the capacity of self-organization and interest assertion of the population living there, consequently to strategy implementation.

Particularly important elements of endogenous developments such as LEADER are *capacity building and community development* (*Shortall and Shucksmith*, 2001), resulting in an increased capacity of the community to act and assert its interests. Capacity building is a process where individuals, groups, organizations, institutions and societies develop their abilities individually or collectively in order to perform a variety of tasks, to solve problems, to set and realize objectives (*Kumin*, 2006). According to *Shucksmith* (2000) the essence of capacity-building is the creation of social capital that could benefit the whole community. Therefore capacity building appears as a process which should necessarily precede and complement local development strategy design and implementation. A basic component of the LEADER philosophy is trust in local communities that they can solve their own problems in a community arrangement. However, this necessitates capacity building in the population and organizations of the region to enable them to do so. Capacity building can include a variety of activities, such as training for participants and stakeholders, assisting the flow of information between them, improving communication, encouraging connections, encouraging thinking differently, establishing norms and values, presenting on the advantages and opportunities of cooperation, etc. As a result of capacity building, local communities become more active in the processes of programming, strategy development, and implementation as well. It is a tool to achieve that social changes efficiently assist the realization of economic objectives, enabling more productive and efficient development work. As a consequence of the foregoing, LAGs as internal development factors can play an important role, through their capacity development activities, in influencing local development processes, in making them more dynamic, which will strengthen their position within the institutional system of rural development.

Networking and keeping contacts with local and extra-local players involved and / or interested in development is related to the performance of a variety of tasks by LAGs, providing a basis for cooperations between partners. These activities contribute to a more efficient information flow and dissemination; to the transfer of best practices and experience; to the spread of innovation; and to the stimulation of cooperations.

In spite of the fact that networking is the least important task performed by action groups, 80 per cent of the LAGs in our survey said that they cooperated with other action groups

in the country and 40 per cent thereof that they were involved in transnational cooperation. LAGs specified 44 areas for cooperation with Hungarian action groups and 30 where the partner is from abroad. In each case, cooperations are arranged around a specific task or problem, such as environment protection, preservation of traditions, innovation, tourism development, local products, enterprise development etc. Networks thus established play an important role in the flow of information of diverse content and significance.

In respect of networking, an important task of LAGs is to disseminate *best practices* from the region and outside, together with encouraging their adoption and use. Best practices include novel and bold solutions not yet tried and tested which "work". These good or exemplary solutions and developments can serve as a lesson, can provide guidance in answering "what, how and why" questions (in the design of future developments and effective implementation thereof), thereby providing assistance in the realization of successful developments. However, this requires information flow and information transfer since no experience can be utilized without it. Obviously, it is necessary to analyze these practices, to study their exemplariness and applicability.

The concept of *sustainability* and sustainable development – stressing the coordination of economic, social and environmental considerations – is an indispensable basic principle of all developments in the 21st century, including rural development. In this respect, it is important to utilize resources in a sustainable, that is, socially useful, economically reasonable, and ecologically acceptable manner (Fehér, 2005), based on behaviours complying with the concept and notion of sustainability. Acceptance of values and interests and identification with them plays an important part in this. The same is supported by the following chain of thought as well, stating that sustainability is nothing but "... a way of looking at things, a way of thinking, a way of life, a way of production and a way of consumption ..." (Csete, 2005). LAGs definitely play a role in forming attitudes to serve as a basis for sustainable development.

Lag operations and prevalence of the principle of subsidiarity

The basic principle of the concept and practice of the LEADER programme is subsidiarity, that is, the decentralization of decision-making and control, enabling participation, the mobilization of local resources, coordination of local conditions and needs with developments, and their efficient implementation.

In his encyclical letter commencing by *Quadragesimo anno*, Pope Pius XI presented subsidiarity as one of the most important basic principles of social philosophy. According to the compendium of the social teachings of the Church, a special consequence of subsidiarity is participation, expressed in acts whereby citizens contribute to the cultural,

economic, social and political life of their communities individually or in cooperation with others, directly or through their representatives (Az igazságosság..., 2007).

The significance of subsidiarity as a basic principle of rural development is emphasized by the declaration issued as a final document of the rural development conference held in Cork in 1996. The declaration provides a basis of integrated, holistic approach to rural development principles on the model of LEADER. Rural development must be local and community-driven within a coherent European framework. Decision-making must be decentralized, so decisions must be made at local level, with the cooperation of stakeholders. The emphasis must be on participation and a bottom up approach (EC, 1996). So, the principle of subsidiarity means that decisions and implementation must be placed to the local level – in our case, to the level of LEADER areas – with the greatest insight and competence in completing the task. According to *Barke and Newton (1997)*, the most important element of the implementation of the LEADER programme are LAGs, serving as a means for decentralized development. However, well-prepared professionals with appropriate capacities, and active local society ready to cooperate are required for the proper completion of tasks. At the same time, decentralized financing and control necessitates close cooperation between local partnerships (LAGs) and programme managers, in the course of which subsidization, that is, assistance is in focus.

The question arises whether local action groups have competences at a degree expectable from applying the principle of subsidiarity, that is, spheres of authority and competencies in decisions on local developments.

As regards subsidiarity, Hungarian LAGs were asked in our questionnaire survey to evaluate the following on a 1 to 5 scale:

- 1.) To what extent the principle of subsidiarity prevails (local-level decision making and control) in their work;
- 2.) To what extent the managing Authority and the Intermediary Body are characterized by conduct in compliance with the principle of subsidiarity, that is, to what extent the decentralization of decision making and the actual realization of local control and management are facilitated;
- 3.) To what extent can LAGs assert their interests at higher levels of the institutional system of rural development, that is, whether there is a one-way or a two-way relationship and / or communication between the centre and the locality. The average score for the first question was 3.5, meaning that some of the decisions are made at local level; LAGs' independence is restricted in terms of decision making; and central control prevails. The average score for the second question was 3.1, indicating that the higher-level organizations of the institutional system of rural development do not make sufficient efforts to facilitate the decentralization of decision making. The foregoing is confirmed by the average score of 2.9 for the third question, meaning that LAGs

believe that central intentions are mainly enforced in the communication between the different levels, with them mostly playing the executive role.

This is contrary to the principle of subsidiarity, that is, enforcement of the decentralization of decision making and responsibilities to local levels, as LAGs are subject to strong government influence and control as opposed to LEADER's basic principles of community decision making and control. Based on the foregoing, the conclusion can be drawn that the Hungarian practice of implementing the LEADER programme is characterized by *decentralization without subsidiarity*. LAGs – as local tiers of the decentralized institutional system – have been established, but in the course of their operations decision making is not delegated or only to a minor extent; local partnerships' capacities to assert their interests are curtailed, as manifested in the limited cooperation between control levels. Thus, theory and practice become detached from each other, restricting the evolution of local communities and the realization of the potential achievements of community-based development work. Kovách (2000) is of the same opinion, stating that the institutionalization of bureaucratic control goes contrary to the partnership principle and impairs the chances of rural areas for catching up. According to Shortall and Shucksmith (2001), LAGs – as decentralized rural development partnerships – represent new forms of local decision making and control, the efficient operation of which certainly requires a well-defined and transparent regulatory framework and a coordinated institutional structure. In the absence thereof, the status of LAGs becomes insecure and they will not be able to perform the duties expected of them in the promotion of local developments.

The foregoing indicate that an essential pre-requisite for applying the LEADER approach is the central power acting to assist and encourage local developments. So it is important to note that the operation of LAGs and the success of employing the LEADER method highly depends on the legislative and regulatory as well as cooperation and coordination roles of the Ministry supervising the implementation of the rural development programme (Ministry of Rural Development) and of the intermediate body (Agriculture and Rural Development Agency).

Financing and sustainability of lag operations

Similarly to other organizations, the stable operation and the high-standard completion of the functions and duties of local action groups require appropriate financing, a reliable financial background. An important component thereof is the acquisition and realization of income sources of appropriate volume.

LAG operations are financed in a subsequent payment scheme using central funds. Action groups were allowed to plan their own operating costs drawing on centrally allocated funds, to implement their Local Rural Development Strategies, subject to the proviso that in the case of Axis III

measures, up to 15 per cent of the amount available, and in the case of LEADER funds, up to 20 per cent thereof may be allotted to their operating costs. Accordingly, action groups have an average 385 million HUF to operate on (Németh, 2009). A background study completed by the LEADER Working Group in 2010 points out that the minimum amount of funding required for the operation of LAGs is 160 million HUF in the period 2008–2015, which is considerably higher in the case of action groups covering larger areas. According to the study, there are 10 LAGs where the funding granted for operations will surely be insufficient for the entire period of operation and in case of another 11, the sufficiency of funding is questionable (LEADER Working Group, 2010).

Based on the survey of the situation it can be stated that it is not realistic for LAGs to finance their operating costs from other sources of revenue; at the same time, most of the funds to be allotted for operation is used for applications management and administration, which does not make it possible – or at least makes it much more difficult – to perform other tasks. All this makes it dubitable for action groups to achieve their goals and to become real internal development factors within their region, not only to act as distributors of funds.

As indicated by the foregoing, financing of LAG operations is governed by central funding; other sources of revenue are not or only scarcely available. This revenue structure shows that the operation of action groups highly depends on the availability of central funds and the criteria for their utilization.

As regards financing and the sustainability of operations, LAGs were questioned whether the action group would subsist if LEADER operating funds were ceased to be granted, whether this work organization could further function under such circumstances. 65 out of the 90 responding action groups said that their LAG would surely be dissolved without funding as it could not finance its operations from other sources. 24 action groups answered that their activities would be considerably restricted in the absence of central funding, but they would not be wound up; and there was only one to surely survive as funding for operations could be secured from other sources. Survey results again highlight the strong dependence of LAG operations on central funding, the strained financing conditions of LAGs.

It can be clearly stated that in the event of the depletion of central sources of operational funding, all LAGs but one would surely be unable to continue the operation of their work organizations, which would jeopardize the implementation of Local Rural Development Strategies, thus that of complex rural development measures in Hungary. Therefore it is definitely required to review the financing structure of action groups in conjunction with a reconsideration of the regulation of their activities.

Further on, action groups were requested to mark those of the optional answers specified in connection with the sustainability of their financing and operations wherefrom they could expect secure revenues in case of central funding

coming to an end. In the absence of LEADER funding, other sources indicated for sustaining operations included membership fees for the most (64), then project proposal funding (38), and thirdly, revenues from entrepreneurial activities (21). 16 action groups would expect to receive municipality funding, and also 16 would expect revenues from offerings of 1 per cent PIT and amounts raised through programmes and publications, respectively. Finally, 13, 6 and one of the action groups indicated that they could expect to be funded by their members, external parties, and businesses, respectively. The latter figures give food for thought as they clearly reflect the repute and recognition of the activities of action groups, and in conjunction therewith they show how action groups are socially embedded.

It follows from the foregoing that the way and the amount of funding obtained for functioning is a critical issue in the operation of action groups. It is unquestionable that they need to be financed as the operation of LAGs is essential for the implementation of the LEADER programme. However, this requires more than the current activities related to the distribution of funding: *action groups must recognize their mission, and they must be enabled from the financing and regulatory side to perform their duties and functions and really act as catalysts of local development.*

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WORLD IMPORTANCE AND PRESENT TENDENCIES OF DAIRY SECTOR

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Abstract: The general objective of this paper is to present the world importance of dairy sector and to illustrate present tendency of milk production, consumption, trade and prices mainly based on FAO data base. World milk production was 711 million tonnes in 2010 and it is expected to increase in the future. The most significant milk producers are the EU(27), the United States and from the Asian countries, India and China. Developed countries give one-third of world milk production, while more than two-third of world dairy herd can be found in developing countries. Milk production growth is a future tendency mainly in China, India, Pakistan, Argentina and Brazil. The average level of consumption of milk and milk products is 103,6 kg/capita/year and it will increase in developing and developed countries as well. The ratio of international trade of milk and milk products to production is 6 percent and it may expand in the future. New Zealand, the EU(27), the United States and Australia are the major exporters. There is a strong demand for milk and milk products among others from the Asian countries, the Russian Federation, Algeria, Mexico, Saudi Arabia and the United States. Analysis of world market price of the most important dairy products it represents a strong recovery from last year, but it still remains 20 percent below its peak value in early 2008. However prices have doubled compared with prices of period of 2002–2004.

Key words: dairy sector, production, consumption, trade, price

1. Introduction

In the 1990s world dairy market went through significant changes. Until late 2007 and early 2008 milk production expanded by almost 2,1 percent in every year, while prices of milk and milk products gained stability. First half year of 2008 can be considered a favourable period of dairy sector with extremely high prices.

However the financial crisis in the global economy caused decline in dairy sector in late 2008 and had a dramatic impact on product prices during the first half year of 2009. The financial crisis impacted on every aspect of the dairy business: production, trade, consumption and prices. Growth of world milk production slowed down in 2009. Low milk prices and high input costs discouraged many farmers around the world.

Nevertheless the second half year of 2009 and the year 2010 brought changes. World trade increased rather slowly during the first part of 2009 but showed a remarkable recovery during the second part. During the first half year of 2010 prices recovered in addition production also improved.

In conclusion 2009 showed a mixed picture: a stagnating first half year and a strong recovery during the second part. Dairy sector looks much more balanced and this paper tries to represent the positive tendencies in 2010.

2. Materials and Methods

Present study is a secondary research mainly based on FAO data base and the Bulletin of the IDF. On the basis of

these data I carried out statistical evaluations and illustrated the main tendencies in case of production, trade and prices and finally analysed these trends. The main objective of this study is to prove the significance of dairy sector in world economy.

FAO data base provides the appropriate numbers in connection with production, consumption, trade and prices. By the utilization of these numbers I prepared figures and tables and analysed the changes during years. I made relative numbers and examined the percentage changes of the different values. In addition I tried to reveal those causes which contribute to the changes experienced.

3. Results and Discussion

3.1. Production

On the basis of assumption world milk production in 2010 reaches 711 million tonnes. Milk production is expected to increase and it can even rise above 794 million tonnes in 2017. *Figure 1.* shows the tendency of world milk production between 1996 and 2010. In 2010 there is an increase of 1,6 percent from last year, but it remains below the 2,1 percent average annual growth experienced in the past decade.

The major contributors of the production growth in 2010 are India and China, but Brazil, the EU(27) and the United States also play important role in it.

With an output of 257 million tonnes Asia remains the region with both the largest production and the highest rate of annual growth in 2010. In Asia India gives the most

significant part of milk production, its output is forecast to reach 114 million tonnes. China is the second with its 44 million tonnes milk production.

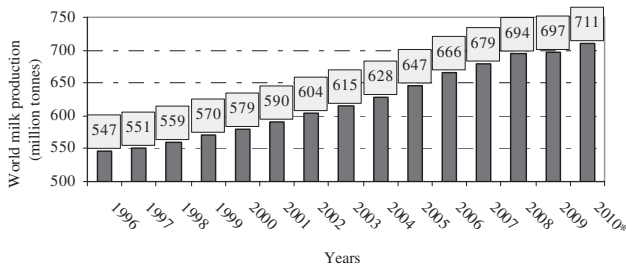


Figure 1.: World milk production from 1996 to 2010

*2010: estimated value

Source: FAO, 2011

In North America the production of the United States may increase by 1,1 percent in 2010, and reach 87 million tonnes. Improvement in cow yields and a slowing of cow slaughter rates ensure higher rate of production (FAO, 2010).

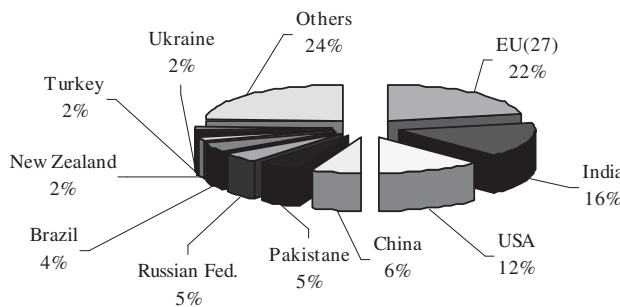


Figure 2.: Distribution of world milk production (697 million tonnes) in 2009

Source: FAO, 2011

Figure 2. illustrates the top 10 milk producers of the world and their contribution to world milk production. The EU(27) is the most significant milk producer in the world with its 153 million tonnes production, although its production rate remains at the same level in 2010.

The production of the Russian Federation is 33 million tonnes in 2010, and there is only a slight growth in it due to the increase of feed prices. In 2010 production increases by almost 3 percent to 61 million tonnes in South America, where Brazil gives one-third of total milk production.

In Oceania farmers could expand output last year due to good weather conditions. New Zealand is expected to reach 18 million tonnes production, which demonstrates a 6 percent growth, while in Australia growth is only 2 percent due to high feed prices, so production is more than 9 million tonnes.

In Africa milk production reaches 37 million tonnes in 2010, it demonstrates a slight 1,3 percent growth.

In accordance with Figure 2. EU(27) is the largest contributor to the world milk production. Figure 3. demonstrates the distribution of milk production within the EU(27), where France, Germany, the United Kingdom, Italy,

Poland and Netherlands give the 67 percent of total milk production. Hungary with its 1 percent contribution to the EU(27) production is placed as 19.

The number of the world's dairy cows is almost 250 million heads. Figure 4. illustrates the distribution of it among the world's main regions. More than two-thirds of the herd can be found in developing countries, although developed countries give more than one-third of world milk production. The reason for this is the higher yields in developed countries (FAO, 2010).

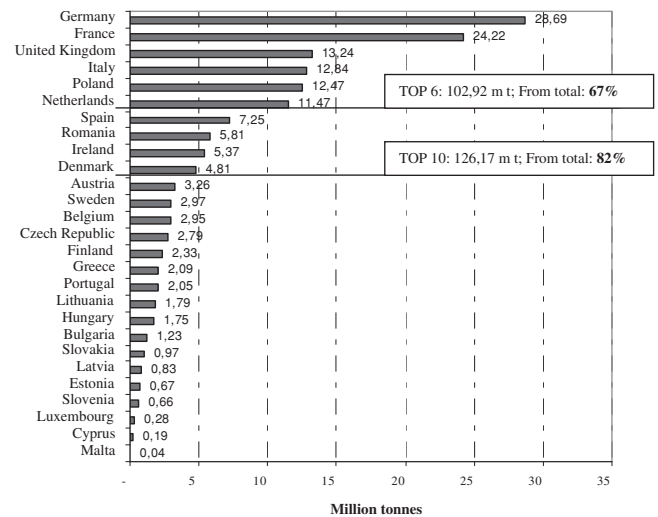


Figure 3.: Distribution of milk production (153 million tonnes) within the EU(27) in 2009

Source: FAO, 2011

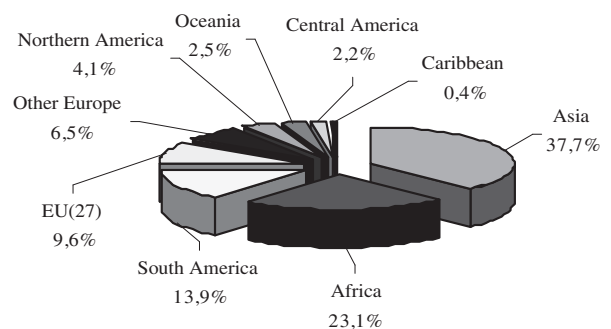


Figure 4.: Distribution of the world's dairy cows in 2009

Source: Bulletin of the IDF, 2010

3.2. Consumption

All over the world people cover approximately 13 percent of their protein requirement from milk and milk products based on the available data and estimates. There is a continuous growth in consumption of milk and milk products and this tendency will probably not change. In 2009 however, for the first time in years the global per capita consumption of milk declined by 0,4 percent. The main reason for the decline was the crisis in the world economy. Another reason for the decrease was the slowing down in the growth of Chinese dairy consumption due to the melamine crisis. On the basis of FAO data per capita milk and milk product

consumption was 103,0 kg in 2009. As regards the consumption of developed countries the average level of it is 245 kg/capita/year, while in developing countries it is only 66,2 kg/capita/year. The consumption level of milk and milk products is expected to expand by 1 percent and reach the value of 104,3 kg/capita/year (FAO, 2010).

Figure 5. illustrates per capita milk consumption in the world from 2000 to 2010. The ideal and healthy level of milk and milk product consumption would be 260–270 kg /capita/year. Developed countries approach this level, but in developing countries the level of milk consumption is far below the healthy value (Nábrádi-Béri, 2006).

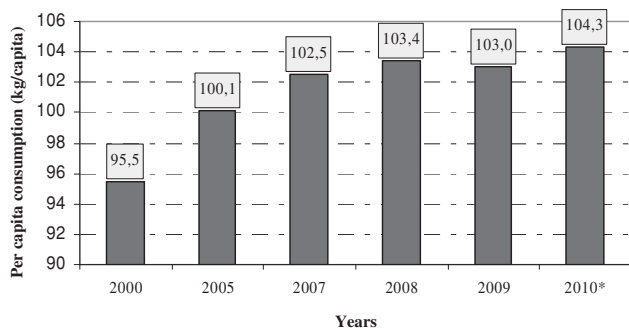


Figure 5.: Tendency of per capita consumption in the world

*2010: estimated value

Source: Bulletin of the IDF, 2010

Table 1. provides a good overview of global consumption by region in 2009. Total consumption of the world was almost 700 million tonnes in 2009. Table 1. illustrates the share of each region from consumption as well.

Table 1.: Global consumption by region in 2009

Name	Consumption /million tonnes/	Share (%) world consumption
Asia	268,3	38,4
Europe	206,8	29,6
EU(27)	145,8	20,8
Non-EU	61,0	8,7
North America	93,0	13,3
South America	58,3	8,3
Africa	42,6	6,1
Central America	19,7	2,8
Oceania	10,6	1,5
World	699,5	100,0

Source: Bulletin of the IDF, 2010

On the basis of the bulletin of the IDF liquid milk consumption in million tonnes is the largest in India, the EU(27), the United States, China, Brazil and the Russian Federation. However in case of per capita consumption, the above-mentioned order is modified Iceland, Australia, Norway, Canada, Switzerland and the United States take the first six places.

The average liquid milk consumption in the EU(27) was 32,2 million tonnes and 64,5 kg/capita in 2009. These values show a 1,2 percent decrease in comparison with the year 2008. Within the EU(27) the top six consumers are Estonia, Ireland, Finland, the United Kingdom, Sweden and Denmark. In 2009 the level of liquid milk consumption increased by 8,9 percent in Hungary, so per capita consumption reached 58,7 kg/capita.

Consumption of milk and milk products significantly depends on income. Liquid milk can be considered an inferior good which demand declines as the level of income or real GDP in the economy increases. As people's income starts to increase instead of buying more liquid milk they will rather buy processed products, mainly butter, cheese and yoghurt.

India, the EU(27), the United States, the Russian Federation, Turkey and Iran are the top six countries in butter consumption in million tonnes. In case of per capita consumption Switzerland, Iceland, Australia, Norway, New Zealand and the EU(27) take the first six places.

As liquid milk consumption butter consumption also decreased in the EU(27) in 2009. Its average value was 1,7 million tonnes and 3,5 kg/capita. France, Germany, the Czech Republic, Austria, Poland and Estonia are on the top of butter consumption. Hungarians consumed only 1,0 kg butter per capita in 2009, but still their consumption increased by 10 percent.

The largest cheese consumers in the world in million tonnes are the EU(27), the United States, Turkey, the Russian Federation, Brazil and Argentina. In per capita consumption the most important countries are Iceland, Switzerland, Turkey, the EU(27), Israel and Norway.

Cheese consumption of the EU(27) was almost 8,3 million tonnes in 2009 and it increased by almost 1 percent in comparison with the previous year. The average per capita cheese consumption was 16,6 kg. Greece, France, Germany, Netherlands, Italy and Finland consumed cheese in the largest quantity. The average consumption level was 11,0 kg/capita in Hungary in 2009.

Table 2. shows the average consumption of dairy products in the world and gives a forecast for 2019.

Table 2.: Consumption of dairy products

Name	Average 2007–2009	Forecast 2019	Change
	billion tonnes		%
Butter	9,7	12,3	+26,8
Cheese	19,3	23,1	+19,7
SMP	3,2	3,7	+15,6
WMP	4,2	5,5	+30,9

Source: Bulletin of the IDF, 2010

3.3. Trade

The ratio of international trade of milk and milk products to production is 6 percent, i.e. 42 million tonnes, and it may expand, driven by strong demand from Asian countries and

the Russian Federation. Export growth results from the United States, New Zealand and the EU(27). As the *Figure 6.* demonstrates the above mentioned countries are the major exporters in the world. *Figure 6.* and *7.* illustrate the distribution of the export and import of milk and milk products in the world in 2009.

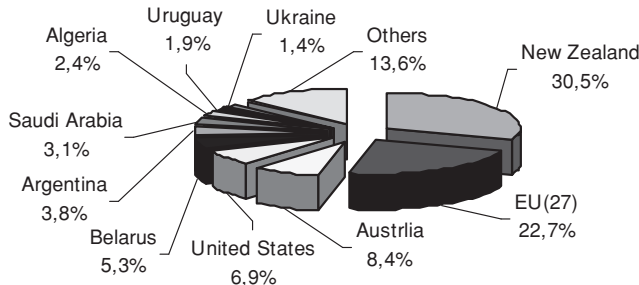


Figure 6.: Export of milk and milk products in the world in 2009
Source: AKI, 2010

Table 3. illustrates the major exporters of different dairy products, and it also shows the percentage changes in export quantities 2010 over 2009. Larger exports from the EU(27) stem from the release of public stocks, in the United States

Table 3.: Major exporters of dairy products

Name	2006–2008 Average	2009	2010 /estimated/	Change 2010 over 2009
	million tonnes			%
WHOLE MILK POWDER				
World	1919	1962	1982	1,0
New Zealand	644	818	880	7,6
EU*	428	420	420	0,0
Australia	142	133	105	-21,1
Argentina	140	146	125	-14,4
SKIM MILK POWDER				
World	1180	1347	1526	13,3
New Zealand	279	408	470	15,2
United States	314	249	299	20,1
EU*	155	227	360	58,6
Australia	148	167	130	-22,2
BUTTER				
World	854	916	968	5,7
New Zealand	370	475	500	5,3
EU	202	143	160	11,9
Belarus	55	86	87	1,2
Australia	64	84	88	4,8
CHEESE				
World	1835	2000	2098	4,9
EU*	579	577	660	14,4
New Zealand	285	290	284	-2,1
Australia	195	162	186	14,8
Belarus	92	121	133	9,9

*From 2007: EU-27
Source: FAO, 2010

traders have increasing interest in attractive export prices, while in New Zealand expansion of exports is due to higher milk production.

Figure 7. sums up the demand side and shows the most significant importers in the world. There is a strong import growth in Asian countries and the Russian Federation. In addition, Algeria, Mexico, Saudi Arabia and the United States are also relevant importers.

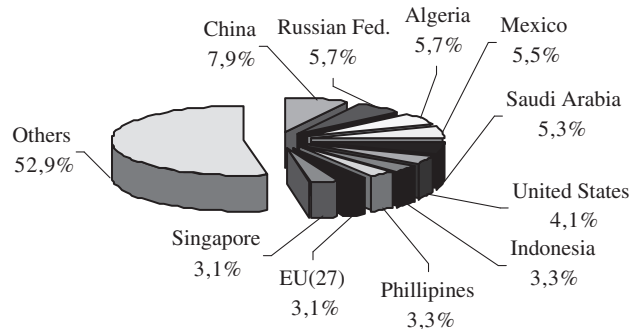


Figure 7.: Import of milk and milk products in the world in 2009
Source: AKI, 2010

3.4. Prices

Since the start of 2009 the dairy market was confronted with a period of extraordinary low prices. The financial and credit crisis in the world economy had a dramatic impact on product prices during the first half of the year 2009. After bottoming out, prices were slowly stabilising during the second part of 2009. At the end of the summer international prices started to strengthen. The strong recovery in prices was triggered by increases demand, mainly from oil exporting countries, but also from China. The last quarter of 2009 was characterized by steady rise in prices.

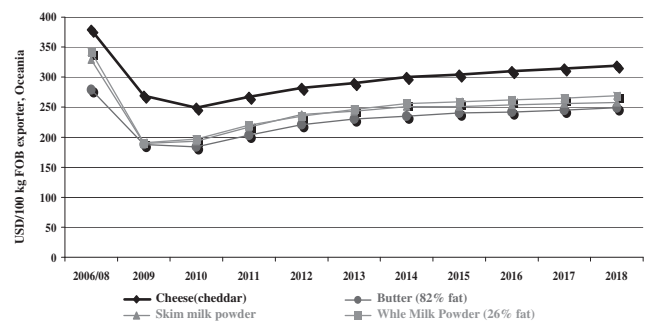


Figure 8.: World market price of dairy products
Source: Popp, 2009

Analysis of the world market price of the most important dairy products it represents a strong recovery from last year, but it still remains 20 percent below its peak value in early 2008. However prices have doubled compared with prices of period of 2002–2004.

Export prices in Oceania in September 2010 were USD/tonnes 4100 for butter, 3140 for SMP, 3360 for WMP and 3950 for cheese. *Figure 8.* illustrates the tendency of world market price of dairy products.

3.5. Outlook

Considering the forecasts of FAO and OECD 24,2 percent growth can be predicted in world milk production until 2019. China, India, Pakistan, Argentina and Brazil may give more than half of this growth due to the increase in the size of dairy herds and in the level of milk production. In production of EU(27) is expected a slight 2,8 percent growth. Forecasts project in the United States 11 percent, in New Zealand 18,5 percent growth between 2010 and 2019. The international trade of cheese will increase in the most significant way among milk products (Popp, 2010).

Currently 40 percent of the world population consume milk daily. Consumption of milk and milk products will increase in developing countries, while in developed countries mainly cheese consumption shows significant growth.

World dairy prices will also increase after the fall in prices in 2009. International comparisons represent that the most important dairy products (butter, cheese and milk powders) have lower market price in New Zealand, Australia and the United States than in the EU(27) (Popp, 2010).

One of the biggest challenge of dairy sector is the growing world population with a continually growing demand for dairy products. In developed countries the aging society, while in developing countries the growing number of children and the young ones will cause this demand. Another factor is urbanization, which also contribute to this (Siposné, 2010).

In my opinion milk has been one of the most important basic foods for thousand years, and it will be an integral part of healthy human consumption in the future as well. After the economic crisis of the year 2009 dairy sector shows improvement for the future. This study also supports this positive tendency and forecast the further development of dairy sector in developing countries, mainly in Asia.

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ORGANIZATIONAL CONSEQUENCES OF EMOTIONAL LABOUR IN MANGENENT

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Abstract: Emotional labour, as a self-contained field of research, is only three decades old. This study aims to summarize key findings from investigations of the last ten years in an attempt to provide a reference for interpretation of organizational emotions and the organizational aspects of emotional labour. It makes no secret of its aim being to call the attention of anybody dealing with people as workforce that work no longer has only physical or mental aspects, but an emotional dimension as well. Most often this latter dimension lives an independent life. Normally, it is not regulated, tracked, appreciated or rewarded properly, which might send a message to employees that it is not really important. However, emotional labour is a concomitant of most professions and jobs. Where it is not given any conscious consideration by either the employer nor its employees, numerous opportunities of making it easier or improving it may be lost.

Key words: emotional labour, deep acting, surface acting, monitoring, recognition

Introduction

In parallel with a client-oriented corporate attitude gaining ground, employees are more and more frequently confronted with organizational expectations relating to the emotional aspects of working in addition to a long-established set of mental and physical requirements. As proven by research, such factors as length of client / clerk interactions, appraisal of the quality of service, probability of regular clients, and that of recommendation of a product / company to others are all dependent upon the employees' emotional displays (*Pugh, 2001; Tsai and Huang, 2002*). According to a formulation frequently encountered in literature, one of the principal tasks of an employee is to manage his emotions and further his clients' well-being (*Hochschild, 2003; Tan et alii, 2003*).

A former emotionless and rational way of managing business has been replaced with a conscious corporate usage of the emotional component to improve leader-group relations (*Losada and Heaphy, 2004*) as well as interactions with clients (*Hsee and Kunreuther, 2000*) and even with stakeholders (*Luoma-aho and Vos, 2010*). Such improvement postulates suppression / concealment of negative emotions and expression of positive ones. Even organizations not consciously making use of emotions in their everyday dealings have got their expectations with respect to their employees' emotional displays. To act under a mask of emotionless rationality, an employee will have to conceal both negative and positive emotions of his. By doing so, that employee will be involved in more emotion control processes than others working for organizations which make a conscious use of the impact emotional displays may have on people.

Still in the 21st century one may encounter organizations which fail to give a conscious consideration to their employees' emotions or emotional displays. Surely enough, however, even those organizations do not tolerate aggressiveness or behaviours like shouting, cursing, or banging of doors that would disturb other employees. The leaders of even those organizations should be aware that numerous situations at work may cause employees to develop negative emotions. According to the findings of *Russell and Barrett (1999)*, negative emotions are often linked with clear (or prototypical) behavioural patterns. Therefore, if organizations are to prevent the occurrence of inappropriate behavioural outputs linked with their employees' negative emotions, they shall alter the emotions themselves that would induce such outputs.

Consequently, controlled emotional displays, whether result from conscious explicit expectations or norms acting implicitly, are peculiarities of all organizations or, generally, social communities.

Emotional Labour

The first definition of emotional labour was created by *Hochschild (1979)*. The Emotional Labor Theory deals with emotions which employees feel or pretend to feel in order to meet their job requirements, irrespective whether or not they are different from their true emotions. Emotional labour is defined as the way of managing publicly perceptible emotional displays, i.e. those mediated by physiognomies and body language. *Hochschild* had formulated his original definition of emotional labour in connection with jobs in which there are explicit expectations in place concerning the

employees' emotional attitude, and employees are rewarded for their expressions of appropriate emotions. According to his definition, it is essential for emotional labour to occur that the employer exercises control over its employees' emotions, and that employees have direct interactions with, and generate emotions in, clients.

Numerous definitions of emotional labour have been formulated by now. An element of the notion with relevance to this study is that instead of displaying their true emotions, the employees regulate their emotional expressions to comply with organizational norms, irrespective whether they are confronted with traditional performance requirements.

Types of Emotional Labour

Two ways of performing emotional labour are reported in relevant literature. Performing surface acting, the individual displays emotions which are not identical with those he truly feels. The surface actor suppresses or conceals his sincere emotions and acts in a way in compliance with the norms the organization has prescribed with respect to its employees' emotional displays. On the other hand, a deep actor alters such emotions of his in order to comply with organizational norms as he sincerely feels in any particular situation. The same process may take place through a cognitive revision of the situation or distraction. With the former strategy adopted, the individual looks for such characteristics of the situation or his client as may justify the required emotions, while with the latter strategy, he seeks to assume a required emotional state by recalling situations entirely different from the one he encounters currently.

Numerous different individual motives may underlie emotional labour, including compliance with power, a desire for conformity, economic interests, empathy or identification with various goals, whether social, organizational or professional (Bolton, 2005). There is an especially strong motivational relationship between immediate fellow-workers, while the organization as a self-contained entity may have a moderate emotional influence. Where emotional labour arises from an intrinsic urge (i.e. where it is unselfish or discretionary), it will be genuine, with the individual investing energy in emotional labour continuously without any deliberation. Where, on the other hand, emotional labour is dictated by self-interest (whether economic or professional / organizational), the individual will continuously measure his emotional labour and the energy invested therein against the benefits gained therefrom, expecting some compensation (remuneration or recognition). Surely, it is better for the organization to have employees who perform emotional labour in order to comply with organizational norms out of an intrinsic motivation, because the resultant compliance will be much fuller. However, an intrinsic motivation like that is rather hard to generate using organizational means (and most often will be produced by collective and social forces). Consequently, it is worth looking for it when recruiting new employees.

Whether a performer of emotional labour decides on this or that strategy will mostly be dependent upon his personality or the situation. The decision will, however, bring about numerous organizational and personal consequences.

Personal Consequences

Like any labour, emotional labour is tiring, drawing energy from the performer, and carrying a potential to lead to emotional exhaustion in the long run. Excessive emotional labour may have a negative influence on one's behaviour as well as one's psychic and somatic well-being (Gelderen et alii, 2007; Karim, 2009)

According to the findings of Butler et alii (2003), it is surface actors that have taken the harder way. It is because, owing to an undissolved emotional dissonance, surface acting will result in higher stress levels, and stress will actuate physiological processes acting to inhibit the emotion control process itself as well as the functioning of the immune system. Surface acting will lead to an impaired self-evaluation by surface actors, and depression in the long run, reducing motivation at work, while increasing the number of days on sickness-leave and the probability of a job change. A negative impact of emotional labour on multiple personal and job-related factors is corroborated by several studies (e.g. by Brotheridge and Grandey, 2002; Zapf, 2002).

Deep actors are on an easier side. Employees who have adopted the strategy of deep acting in order to comply with such requirements as their organization may make on them with respect to their emotional displays, will, by replacing their inappropriate emotions with those acceptable to the organization, reduce the risk of dichotomy of emotions felt and emotions expected. Through assuming a desirable emotional state in a particular situation, if we suppose that coherent emotional expectations are in place, they will create an appropriate emotional atmosphere for the next interactions as well, and reduce the very necessity of emotional labour. In consequence of the latter mechanism, deep acting often leads to self-estrangement or detachment from one's true self / emotions. A high activation level implies a further risk, which may lead to emotional exhaustion or burnout in the long run. Still, findings from investigations into the effects of deep acting on one's personality are ambiguous. According to Grandey (2003), deep acting shows negative correlation with job satisfaction, while Brotheridge and Grandey (2002) found deep acting to have improved deep actors' perception of efficiency and self-image at work.

Leaving behind an undissolved dissonance between true emotions and those expressed, surface acting will involve high psychic and somatic pressures, while deep acting will trouble the deep actor through the very fact that the process of altering one's emotions consumes one's cognitive and psychic energies. Namely, both strategies have their drawbacks.

Organizational Consequences

Emotional labour has a predominantly negative influence on individuals, while it is mostly beneficial to the employer or organization. A uniform attitude shown by employees will enable an efficient execution of tasks, high-quality services, and regular clients, which will, in their turn, result in an increased turnover, increased number of regular satisfied clients, and better corporate reputation. Emotional labour improves the efficiency of work, reduces the need for direct control, and lessens interpersonal problems. For these to take place, however, it is necessary that the target persons perceive the outcome of emotional labour, i.e. the behavioural output, as sincere and genuine.

Emotional labour is, however, difficult to estimate. Being unaware of the true emotions of the performer of emotional labour, an onlooker will not realize how much energy should be invested, or what emotions should be suppressed or concealed, by the performer of emotional labour to ensure that he attains a desirable target state. Estimating emotional labour as performed, the performer himself will take into account such true emotions as may act to hinder the desired emotional display and such other psychic factors as may interfere with the process of emotional labour, while estimation by onlookers (clients or leaders) will be confined to emotional displays actually completed. Therefore, any estimate formed of emotional displays will be rather biased, and still some control of emotional displays is an absolute necessity, otherwise insincere emotional displays would induce client reactions inconsistent with what the organization deems desirable.

What one perceives to be insincere or sincere is rather dependent upon one's personality. Contrary to a common misbelief, neither truth serum nor polygraphic tests can be used to find out whether a subject tells the truth or a lie (*Lilienfeld et alii*, 2010), and even skilled assessors are incapable of telling an emotional display out of surface acting and one out of deep acting apart (*Beal et alii*, 2006). Moreover, emotional displays adequate for a particular situation are culturally and situationally determined, and hence learnable. With all rules observed, surface acting will (or seem to) be as 'sincere' as deep acting. After all, if labour is 'well done', neither the client nor the organization will care much about how it has been done.

Impact of Organizational Processes on Emotional Labour

Emotions have influence on the functioning of organizations as well as organizations have influence on emotions and, hence, the individuals engaged in emotional labour. Below an outline is given of the roles of company / companionship, recognition, and control.

Social Processes

Most often researchers of emotional labour ignore the impact organizational and social processes may have on

emotion control processes and behavioural responses. One of the possible reasons is that social communication about emotions are mostly implicit. The social aspect of emotions often passes unnoticed, and manifests itself mechanically, with a potential to create unexpected situations in organizational life. An example is the phenomenon called 'emotional infection' where, without so much as undergoing a cognitive evaluation process, a particular organizational member's emotions, whether aversion to changes or fear from the unknown future, or 'infectious' laughter, are projected on to the whole organization. Formal leaders or other persons of authority with a restful and composed behaviour may moderate or prevent the propagation of such intense emotions by showing emotional displays with a message to the contrary to make people realize the emotions in question. However, leaders will have a very hard task to do. Social signals are rather quick and surprisingly efficient to influence employees' emotions. Most often organizational members develop emotions in a mechanical response to non-verbal signals given by their fellow members. Certainly, a mechanical process like that should be preceded by the organizational member's socialization.

Another way social interactions are important is that multiple emotions such as joy and humour will only become really meaningful if shared with others. Social existence will, however, lend not only a meaning but a purpose to the emotions of organizational members. A considerate behaviour as exhibited by fellow-workers may help an individual to get into an appropriate emotional state, reducing the frequency of emotional dissonance and, hence, emotional labour. Namely, emotional infection does not only work with negative emotions but is also an effective means of disseminating positive emotions required and approved by the organization. An adequate social environment at work may also help employees to become identified with the organization (or organizational goals), which will, ideally, lead to internalization of organizational norms relating to emotional displays in place. Even if behavioural patterns as required by the organization do not become natural intrinsic responses by organizational members, a positive occupational climate will offer some explanation with a potential to dissolve any emotional dissonance. ('Though I may not be free to express my emotions, and may have to keep smiling at stupid clients all the time, my colleagues understand me, and know how I feel. A little emotional labour is no high price to pay for my working in a community as good as this.')

Organizational Identity

People seek to develop personae which put them in a more favourable light. As far as employees can make dominant features (i.e. goals and values) of the organization their own, they will develop an organizational identity or persona, or identify (themselves) with their organization. For employees with an organizational identity, organizational membership will carry a positive value, and generate positive

emotions (such as pride and joy). Those who can identify with their organization will experience positive emotions even when it is their organization that meets with recognition or favourable estimation. This will make interactions easier with a client with a favourable attitude towards the organization because through his attitude the client himself will help the employee get into an emotional state approved by the organization. Moreover, the stronger the organizational identity, the more positive emotions the employee will experience during his everyday work (Gibson and Schroeder, 2002). Employees with an organizational identity show higher commitment, are more involved in organizational life, and more loyal (Alvesson and Willmott, 2002), while perceiving rules pertinent to desirable emotional displays to be less bothering (Gosserand and Diefendorff, 2005).

Norms Relating to Emotional Displays

The principles of mental work, whether involving explicit or tacit knowledge, are imparted through either internalization or socialization, while employees can learn the ins and outs of some physical job mostly through practical training. No generally accepted technique of imparting emotional labour norms has, however, been worked out yet. Nor responsibilities such as defining, communicating, and enforcing such norms, or rewarding / penalizing people for compliance / non-compliance with such norms, have been assigned to particular functions yet.

Norms relating to emotional displays can be encountered both with gigantic enterprises in the service-provision sector which tend to put every principle to writing in an encoded form in order to compensate for their large size and loose geographical formation, and in descriptions of multiple minor jobs involving provision of some service to meet client / customer needs. Furthermore, corporate Codes of Conduct and Statutes may also include a few guidelines with respect to emotional labour. Comprehensive, detailed descriptions are, however, seldom available. A probable reason is that emotional displays are difficult to verbalize precisely (just imagine how an attentive, caring, etc. employee could be defined). Another reason is that it is not specific emotional displays, but a wider range of emotional displays capable of producing desirable (emotional) outcomes with the target group, that employers expect their employees to show.

For this reason, what employers mostly tend to prescribe are outcomes which should arise from emotional displays, setting client / customer satisfaction as an ultimate aim to be attained by their employees. By regulating emotional displays rather than emotions themselves, they let their employees satisfy job requirements as well as to their 'ownself be true'. They offer their employees the choice to make between surface acting and deep acting, and grant them opportunity of asserting their own personalities and acting free within a particular frame of action until the desired goal is attained with the target persons.

Practically comprising bodily displays, emotional labour complies with the rules of physical work. It being,

nevertheless, hard to encode for reasons as outlined above, its methodology can be imparted through socialization principally. Logically, a suitable training method would be on-the-job training. In most cases, people engaged in emotional labour have acquired knowledge of a particular range of required emotional displays with the assistance of their colleagues, or by watching, maybe even secretly. In this way, however, only a set of required behaviours, or superficial features, can be learned, and performers of emotional labour themselves cannot help finding (out) techniques by which a desirable target state can be attained. A new hire will, however, be unable to acquire an implicit knowledge of emotional displays through socialization unless he has, through previous experience of emotional norms in social environments with much more explicit rules, such as his family or schools, already learned how to recognize and accept 'rules of the game' (Keltner and Ekman, 2000).

Recognition

Processes of rewarding play an important role in facilitating emotions. If an employee thinks it important that he receives recognition for his emotional labour, the very fact of recognition will generate positive emotions, helping him to get closer to positive emotional displays (required by most organizations). The emotional relevance of a particular event is, however, also dependent upon the role recognition of his behaviour in a particular situation may play in his objective function. If, in his perception, the estimation or recognition of his labour is incongruous with the emotional labour he has actually performed, he will no longer think emotional labour important or worth its while, will be less motivated to perform emotional labour, and the emotional display norms in place, or mere compliance with them, will make him develop negative emotions – contrary to the organizational expectations. Where emotional labour is not recognized adequately, individual intrinsic urge will decline, and the likelihood of emotional dissonance increase. Making up ideologies is a most common way of dissolving emotional dissonance just like cognitive dissonance. A lack of recognition of his emotional labour will deprive the employee of his most obvious ideology (namely, 'I perform emotional labour because that is my job, and that is what I am paid for').

Finances are not a sole means to recognize emotional labour. Social recognition, such as praises from fellow-workers, leaders, or staff, will add value to both emotional labour and the employee himself (or his subjective self-evaluation). An employee may also obtain assistance from satisfaction felt with a job well done as a sort of psychic self-rewarding, which is but mostly a concomitant, or occurs in consequence, of social recognition.

Recognition sends a message to the employee that he is a worthy individual, and for this reason it is essential that he thinks it fair. If his perception is that tasks or rewards have been distributed or granted unfairly, or the estimation /

rewarding process has discriminated against him, his ability and willingness to perform emotional labour will decline, and burnout will be likely to occur in the long run. Such unfair treatment will make him feel anger and sorrow, augmenting the range of emotions to be concealed, his emotional dissonance, and the pressure of emotional labour.

Monitoring

By monitoring emotional labour and performance in general on an ongoing basis, the employer can measure and continuously improve the employees' output, grant rewards to the best performers, and spot and penalize underperformers. Multiple mechanisms of control, such as customer satisfaction questionnaires, trial purchases, recordings of telephone calls, etc. are available to the organization to ensure that emotional displays at work are confined within desirable limits. By Stanton's (2000) definition, monitoring is aimed at observation, examination, and recording of the employees' behaviour with or without technological devices. It is beneficial to employees because the employer will by that means recognize their efforts, and obtain an up-to-date feedback about their behaviour (or emotional labour). Data in literature show that the very fact of advancement alone, as detectable through data acquisition by the monitoring system, will make employees develop positive emotions, and stimulate them to make further efforts (Stanton, 2000).

However, the purpose emotional labour may be subjected to examination for does matter. Where monitoring is adopted with the purpose of restricting the employees' (emotional) freedom of movement, it will be regarded by them as a personal threat, raising their levels of stress at work, and impairing their well-being. Continuous observation may affect social processes at work adversely, and generate harmful rivaling or hostility among employees.

In an idealistic case, monitoring will not be necessary because the employees have identified with organizational goals, created an organizational identity, and spare no pains to attain organizational goals. Where an organization has failed to hire employees who are capable of internalizing organizational goals, however, it will be key that management develop and maintain a toolkit for testing performance (and emotional labour in particular) (Bolton and Boyd, 2003). Therefore, a condition of sound equilibrium should be sought and achieved which provides employees with a sense of control over their working as well as the employer with a tool for testing employee performance.

Epilogue

Emotional labour is closely related with emotional intelligence; indeed, by Goleman's (1995) definition, it is nothing short of emotional intelligence adapted for use in practical life. Emotional labour is learnable, and emotional intelligence improvable. For all that, there are few companies

which expect their employees to perform emotional labour as well as provide them with all necessary tools. In lack of such tools, employees engaged in emotional labour are compelled and responsible to learn by observation the norms and practices the organization has adopted with respect to emotional displays; set their inherent emotional intelligence, trained during previous social interactions, to work; make their choice of a type of emotional labour they are willing to perform; select tools to be employed; and take the (often negative) consequences of their decisions.

How long an individual can tolerate emotional dissonance or exhaustion is up to him. Organizational factors have influence on different people in different ways, just like ability to perform emotional labour varies with individuals. It is applicable to all, however, that as long as the negative impact of (emotional) labour load is mitigated by social support, organizational identification or adequate remuneration / rewarding, it will pay for employees to remain in the organization at the expense of more or less (emotional) labour. If, on the other hand, organizational factors are not of the supporting type, it will not pay for employees to invest energy into emotional labour in psychic or cognitive processes.

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COMMON AGRICULTURAL POLICY AND AGRICULTURAL PRODUCTION

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Abstract: The new strategy for sustainable growth and jobs called Europe 2020 replaces the Lisbon Agenda, which largely failed to turn the EU into "the world's most dynamic knowledge-based economy by 2010". The objectives of the new Common Agricultural Policy (a) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; (b) and to thereby ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture; (c) to stabilise markets; (d) to assure the availability of supplies; (e) to ensure that supplies reach consumers at reasonable prices, are more actual in EU-27 countries than ever before. The European Union needs a better tailored, reformed Common Agricultural Policy to answer the challenges of food, growth and jobs in rural areas. Differences in EU-15 and CEC-10 countries require further consideration and efforts. Permanent crops (olive oil, fruit tree and wine yard), textile fibres and seeds, cattle, milk and fresh vegetables account for a significantly higher share in the EU-15 than in the CEC-10 countries and results in 2,423 Euro/ha utilized agricultural area compared to 1,206 Euro/ha in CEC-10 countries.

Key words: Common Agricultural Policy, agriculture in EU-15 and CEC-10 countries, Rural Development

Introduction

The Common Agricultural Policy (CAP) is a cornerstone of EU policy relating to rural areas. Initially, it aimed to provide a harmonised framework for maintaining adequate supplies, increasing productivity and ensuring that both consumers and producers received a fair deal in the market. These priorities have shifted to environmental issues and animal welfare concerns, as well as food safety and security aspects. As a consequence, the CAP has gradually moved from a production-based structure of subsidies to a market-oriented system, integrating standards for food, environment and biodiversity, as well as animal welfare. In 2010, the EU launched an extensive debate on the future of the CAP, as the European Union needs a better tailored, reformed Common Agricultural Policy to answer the challenges of food, growth and jobs in rural areas. This raises questions of whether the CAP payments in the past have been effective in achieving their objectives and whether direct payments should be continued for supporting agricultural environmental issues.

In 2009, one thousand individual interviews were conducted in each of the twenty-seven Member States of the European Union to measure opinion on agriculture and the food industry. The survey confirms that the guiding principles and aims of the CAP are supported by the majority. European citizens broadly support the aims of agricultural policy and the majority are in favour of maintaining its budget. These are the most important findings of a survey on the Common Agricultural Policy. European public opinion continues to be broadly in favour of the CAP's new aims, which are to help

farmers to meet the challenges arising from climate change, to become more market-oriented, to allocate support more fairly and to make it conditional on compliance with environmental standards, to maintain the countryside and to develop the rural economy. According to public opinion, the agricultural policy should focus on ensuring the quality and safety of food products, on ensuring reasonable prices for consumers, on protecting the environment and rising to the challenges of climate change (*Special Eurobarometer*, 2009).

Total value of agricultural products per utilized agricultural area

Each year, the Commission Directorate-General for Agriculture and Rural Development publishes "Agriculture in the European Union – Statistical and Economic Information", which covers a wide range of subjects, such as the economic situation in agriculture, structures, trade, markets, financial aspects and rural development. Using the data of table 3.1.1 (Share of products in agricultural production), in which the value of products per utilized agricultural area and shares of products in EU-15 and CEC-10 countries have been calculated and evaluated as in 2010, the EU launched an extensive debate on the future of the CAP.

The main source of agricultural production in the EU-27 was obviously agricultural land, of which there was 172.8 million hectares in 2008. According to national and regional figures can be found on the Eurostat website about 71.1% of this agricultural land is situated in the EU-15 (*Table 1*). Compared to the share in

Table 1: Utilized agricultural area (1 000 ha) and value of agricultural products (1 000 Euro) in EU agriculture 2008

Countries	Agricultural area (1 000 ha)	Value of products (1000 Euro)	Crop production	Sugar beet, tobacco and potato	Oilseeds and olive	Fresh fruit	Fresh vegetables and hop	Wine and must	Milk and cattle	Pigs	Sheep and goats	Eggs and poultry	Agri-cultural services	Other
Belgium	1 374	7 450	386	493	21	386	716	0	2 145	1 522	5	472	45	1 260
Bulgaria	5 101	4 148	1 015	207	431	162	432	0	670	171	153	325	283	298
Czech Republic	3 551	4 677	1 058	196	472	67	120	41	1 224	452	2	395	107	542
Denmark	2 695	9 003	1 292	252	239	33	165	0	2 108	2 524	4	323	411	1 651
Germany	16 926	49 718	7 663	2 228	1 966	796	2 201	1 209	13 332	6 580	173	2 372	1 733	9 463
Estonia	802	611	84	18	39	6	35	0	221	77	3	34	19	75
Ireland	4 200	6 114	280	74	0	33	197	0	3 305	333	171	193	281	1 247
Greece	3 984	10 489	1 513	448	865	1 959	1 663	60	1 345	256	755	292	425	908
Spain	25 657	42 007	5 329	791	2 344	7 263	6 044	1 351	5 720	4 718	1 198	2 762	407	4 079
France	29 385	67 291	11 279	2 154	2 389	3 017	3 172	7 956	17 020	3 158	733	4 220	3 231	8 964
Italy	13 338	46 135	5 146	1 021	2 079	5 276	5 556	3 841	8 273	2 574	225	3 189	2 606	6 348
Cyprus	148	617	5	47	20	113	78	0	104	61	25	85	0	78
Latvia	1 825	967	211	82	73	11	40	0	235	72	3	81	24	136
Lithuania	2 672	2 189	580	114	130	10	97	0	551	179	3	146	49	329
Luxembourg	131	315	19	4	6	2	3	26	156	22	1	3	8	65
Hungary	5 790	7 638	2 201	131	831	364	590	108	693	720	50	957	438	555
Malta	10	129	0	6	0	5	30	0	21	16	0	15	0	34
The Netherlands	1 933	23 720	588	1 224	3	532	2 139	0	5 529	2 050	137	1 119	2 577	7 820
Austria	3 171	6 349	803	149	106	396	210	460	1 784	668	23	302	245	1 204
Poland	15 608	21 680	3 753	1 447	600	777	1 457	0	4 051	2 508	10	2 278	506	4 292
Portugal	3 733	7 002	260	140	140	811	825	861	1 247	462	132	495	300	1 328
Romania	13 717	16 901	1 642	1 153	260	925	1 912	253	1 859	977	197	1 132	195	6 396
Slovenia	492	1 106	92	23	9	95	58	99	299	84	9	102	21	216
Slovakia	1 936	2 167	464	62	144	38	116	0	411	196	8	209	98	421
Finland	2 296	4 133	721	121	36	53	255	0	1 390	346	3	171	91	946
Sweden	3 076	4 731	838	255	73	62	161	0	1 391	366	18	216	240	1 111
UK	15 263	23 612	2 857	1 200	622	650	1 559	0	7 300	1 084	1 142	2 375	974	3 849
EU-27	178 813	370 896	50 079	14 042	13 899	23 843	29 831	16 266	82 384	32 175	5 184	24 262	15 314	63 617
EU-15	127 160	308 068	38 973	10 556	10 889	21 270	24 865	15 765	72 045	26 662	4 720	18 504	13 574	50 243
CEC-10	51 494	62 083	11 101	3 433	2 989	2 455	4 857	501	10 214	5 435	439	5 658	1 740	13 262

the EU-15 (56.2%), the proportion of arable land was relatively high in the 10 new CEC member states (72.4%) indicating the importance of agriculture. Table 1 also shows that 83.1% of the agricultural goods output in 2008 were generated in the EU-15, while the share for the 10 new Member States was 16.7%.

In 2008, agricultural output was worth €370.896 billion in the 27 countries of the EU, out of which 308.068 billion Euros were produced in the EU-15 and 62.083 billion Euros in CEC-10 countries. These figures include agricultural services and inseparable secondary activities. However, 93% of the total value was agricultural goods output, i.e. the value of the core farm products, including subsidies on those products. Total value of agricultural products per utilized agricultural area was

2,074 Euro/ha in the EU-27 countries, 24,23 Euro/ha in the EU-15 countries, while in the CEC-10 countries this figure was 1,206 Euro/ha (Table 2). Total value of agricultural products per utilized agricultural area was highest in Malta and The Netherlands, with 12,486 Euro/ha and 12,270 Euro/ha, respectively. Bulgaria and the Baltic states (Lithuania, Estonia and Latvia) produced less than 1,000 Euro/ha (Table 2).

Crop production generates more value than livestock farming in most parts of the world. Depending on the climate and level of farming, value per hectare varies also greatly from region to region in the European Union. The different purposes for which crops are grown should also be taken into account. Some, such as vegetables and fruit, are produced for

Table 2: Value of agricultural products per utilized agricultural area (Euro/ha) in EU agriculture 2008

Countries	Total value of products	Crop production (Cereals)	Sugar beet, tobacco and potato	Oilseeds and olive	Fresh fruit	Fresh vegetables and hop	Wine and must	Milk and cattle	Pigs	Sheep and goats	Eggs and poultry	Agri-cultural services	Other
Belgium	5 423	5.2	6.6	0.3	5.2	9.6	0.0	28.8	20.4	0.1	6.3	0.6	16.9
Bulgaria	813	24.5	5.0	10.4	3.9	10.4	0.0	16.1	4.1	3.7	7.8	6.8	7.2
Czech Republic	1 317	22.6	4.2	10.1	1.4	2.6	0.9	26.2	9.7	0.0	8.4	2.3	11.6
Denmark	3 341	14.3	2.8	2.7	0.4	1.8	0.0	23.4	28.0	0.0	3.6	4.6	18.3
Germany	2 937	15.4	4.5	4.0	1.6	4.4	2.4	26.8	13.2	0.3	4.8	3.5	19.0
Estonia	762	13.7	2.9	6.3	1.0	5.7	0.0	36.2	12.6	0.5	5.6	3.1	12.3
Ireland	1 456	4.6	1.2	0.0	0.5	3.2	0.0	54.1	5.4	2.8	3.2	4.6	20.4
Greece	2 633	14.4	4.3	8.2	18.7	15.9	0.6	12.8	2.4	7.2	2.8	4.0	8.7
Spain	1 637	12.7	1.9	5.6	17.3	14.4	3.2	13.6	11.2	2.9	6.6	1.0	9.7
France	2 290	16.8	3.2	3.5	4.5	4.7	11.8	25.3	4.7	1.1	6.3	4.8	13.3
Italy	3 459	11.2	2.2	4.5	11.4	12.0	8.3	17.9	5.6	0.5	6.9	5.6	13.8
Cyprus	4 161	0.8	7.6	3.3	18.3	12.7	0.0	16.9	9.9	4.1	13.7	0.0	12.6
Latvia	530	21.9	8.4	7.5	1.1	4.1	0.0	24.3	7.4	0.3	8.3	2.4	14.1
Lithuania	819	26.5	5.2	5.9	0.5	4.5	0.0	25.2	8.2	0.1	6.7	2.2	15.1
Luxembourg	2 411	6.1	1.4	1.8	0.6	0.9	8.2	49.6	6.8	0.3	1.0	2.6	20.7
Hungary	1 319	28.8	1.7	10.9	4.8	7.7	1.4	9.1	9.4	0.7	12.5	5.7	7.3
Malta	12 486	0.0	4.5	0.0	4.1	23.7	0.0	16.2	12.7	0.3	11.9	0.0	26.6
The Netherlands	12 270	2.5	5.2	0.0	2.2	9.0	0.0	23.3	8.6	0.6	4.7	10.9	33.0
Austria	2 002	12.6	2.4	1.7	6.2	3.3	7.2	28.1	10.5	0.4	4.7	3.9	19.0
Poland	1 389	17.3	6.7	2.8	3.6	6.7	0.0	18.7	11.6	0.0	10.5	2.3	19.8
Portugal	1 875	3.7	2.0	2.0	11.6	11.8	12.3	17.8	6.6	1.9	7.1	4.3	19.0
Romania	1 232	9.7	6.8	1.5	5.5	11.3	1.5	11.0	5.8	1.2	6.7	1.2	37.8
Slovenia	2 247	8.3	2.1	0.8	8.6	5.3	8.9	27.1	7.6	0.8	9.2	1.9	19.5
Slovakia	1 119	21.4	2.9	6.6	1.7	5.3	0.0	19.0	9.0	0.4	9.7	4.5	19.4
Finland	1 800	17.4	2.9	0.9	1.3	6.2	0.0	33.6	8.4	0.1	4.1	2.2	22.9
Sweden	1 538	17.7	5.4	1.5	1.3	3.4	0.0	29.4	7.7	0.4	4.6	5.1	23.5
United Kingdom	1 547	12.1	5.1	2.6	2.8	6.6	0.0	30.9	4.6	4.8	10.1	4.1	16.3
EU-27	2 074	13.5	3.8	3.7	6.4	8.0	4.4	22.2	8.7	1.4	6.5	4.1	17.2
EU-15	2 423	12.7	3.4	3.5	6.9	8.1	5.1	23.4	8.7	1.5	6.0	4.4	16.3
CEC-10	1 206	17.9	5.5	4.8	4.0	7.8	0.8	16.5	8.8	0.7	9.1	2.8	21.4

direct human consumption in densely populated regions. Others, such as forage plants, are grown mainly for animal feed, while cereals are grown partly for producing flour for human consumption, partly for feeding to livestock. The type of land also helps determine what will be grown there. Land suitable for cropping can be used for most kinds of production from fresh vegetable to rye and oath, depending on the level of farming. About one third of all agricultural land is permanent grassland, which can also be used for forage production in a very intensive way. On the light of this, a closer look at the output of agricultural goods in 2008 shows that the EU-15 produce 99.6% of textile fibres, 99.6% of olive oil, 97.9% of rice, 96.9% of wine and must, 92.2% of seeds, 92.1% of cattle, 91.0% of sheep and goats, 89.2% of

fresh fruit, 84.6% of milk and 83.6% of fresh vegetables (Table 3). CEC-10 countries, which joined the European Union in 2004 and 2007, produce 47.9% of oats, 46.3% of rye, 37.1% of hops, 33.3% of oilseeds, 31.0% of tobacco, 30.8% of maize, 28.0% of eggs and 25.3% of potatoes.

There is hardly any correlation between total value of agricultural products per utilized agricultural area and GDP per inhabitant in EU-27 countries, but CEC-10 countries, except for Slovenia, are worlds apart from the EU-15 member states (Figure 1). GDP per inhabitant in purchasing power standards was highest in Luxembourg, at 68,100 Euros/capita in 2008. Malta and The Netherlands produced 12,486 and 12,270 Euros, respectively, per utilized agricultural area. Total value of agricultural products per

Table 3: Participation of EU-15 and CEC countries from the production of agricultural commodities (%)

Products	EU-15 (%)	CEC-10 (%)
Wheat	80.2	19.8
Rye	53.7	46.3
Oats	52.1	47.9
Barley	83.0	17.0
Maize	69.2	30.8
Rice	97.9	2.1
Sugar beet	79.7	20.3
Tobacco	69.0	31.0
Olive oil	99.6	0.0
Oilseeds	66.7	33.3
Fresh fruit	89.2	10.3
Fresh vegetables	83.6	16.0
Wine and must	96.9	3.1
Seeds	92.2	7.6
Textile fibres	99.6	0.4
Hops	62.9	37.1
Milk	84.6	15.1
Cattle	92.1	7.8
Pigs	82.9	16.9
Sheep and goats	91.0	8.5
Eggs	71.7	28.0
Poultry	78.2	21.3
Potatoes	74.1	25.3
Agricultural services	88.6	11.4
Other	79.0	20.8

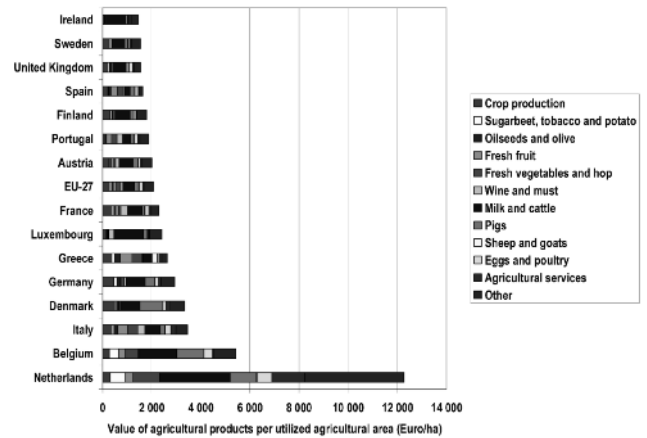


Figure 2: Value of agricultural products per utilized agricultural area (Euro/ha) in EU-15 agriculture

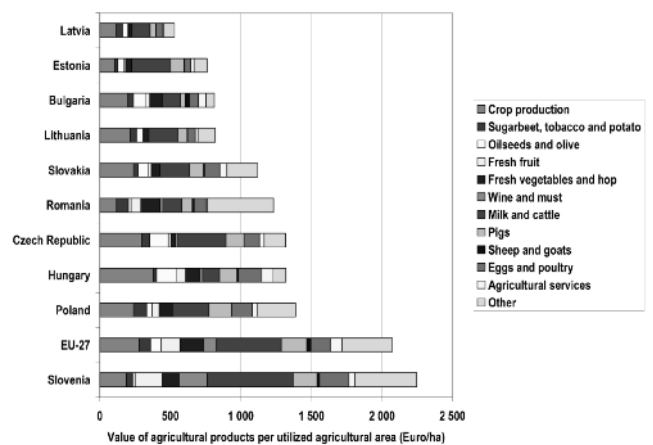


Figure 3: Value of agricultural products per utilized agricultural area (Euro/ha) in CEC-10 countries

agriculture constitutes a sector closely linked with the economy as a whole. The differences in value of agricultural products per utilized agricultural area shall be taken into account, when developing the common agricultural policy for the period of 2013-2020.

Share of products in EU agriculture

Milk and cattle production contribute by 23.4% in the EU-15 and 16.5% in CEC-10 countries to the value of agricultural output (Table 2). Differences are well expressed in wine and fresh fruit production, while CEC-10 countries produce more cereals, eggs and poultry. The regions where cereal production is of least importance are located mainly in the Cyprus, The Netherlands, Portugal and Ireland. The highest shares for cereals are found in Hungary 28.8%, Lithuania 26.5%, Bulgaria 24.5%, The Czech Republic 22.6%, Latvia 21.9 and Slovakia 21.4%, where the GDP per inhabitant tends to be lower (Figure 1).

The picture for milk and cattle shows big differences between countries (Figure 2 and 3). The countries where

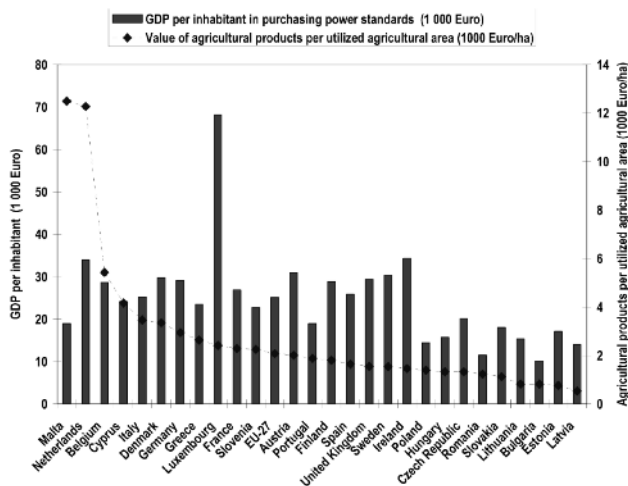


Figure 1: Total value of agricultural products per utilized agricultural area and GDP per inhabitant in EU-15 countries

utilized agricultural area was 2,423 Euros/ha in the EU-15 and 1,206 Euros/ha in CEC-10 countries (Table 2). The particular nature of agricultural activity, which results from structural and natural disparities between the various agricultural regions and the fact that, in the Member States,

milk and production account for less than 12% of agricultural goods output are Hungary (9.1%) and Romania (11.0%). Milk and cattle production account for 54.1% in Ireland, 49.6% in Luxembourg, 36.2% in Estonia, 33.6% in Finland and 30.9% in the United Kingdom. Pig production has an important share in Denmark (28.0%), Belgium (20.4%) and Germany (13.2%).

Countries where poultry and eggs are most important in the EU-27 include Cyprus (13.7%), Hungary (12.5), Malta (11.9), Poland (10.5) and the United Kingdom (10.1%). The most important sheep and goat producer is Greece (7.2%). The structure of agriculture varies from country to country, but the EU-15 countries tend to produce more fresh vegetables: e.g. Malta (23.7%), Greece (15.9%) and Spain (14.4%), more fresh fruit in e.g. Greece (18.7%), Cyprus (18.3%) and Spain (17.3%) and wine in Portugal (12.3%) and France (11.8%), which result in higher values of agricultural products per utilized agricultural area. Local conditions, such as the type of land, the climate and the markets for agricultural products, also influence the value of agricultural products.

The shares in output values are taken as indicators of the relative low importance of different types of farming in the EU. While maintaining variability of production, the reduction of differences in the value of agricultural products per utilized agricultural area between countries and regions could be one of the most important aims of the Common Agricultural Policy.

Hungary, Slovakia, Lithuania, the Czech Republic, Romania, Poland, Estonia and Bulgaria have paid a high price for EU accession and their agricultural production fell after the introduction of political and economic changes. On the other hand, the EU-27 countries contribute increasingly less to world total food and agricultural production. According to FAO statistics, EU-27 countries produced 27% of total world meat production in 1961, and this figure has reduced to 15%. Contribution of EU countries to total world fruit production was more than 30% at the beginning of the 1960s, and now it is close to 10%. The EU produced more than 20% of vegetables and this number has reduced to less than 7%. To ensure

adequate food supplies, produce raw material for industry, preserve the countryside and provide a reasonable living for agricultural and related populations, CEC-10 countries need the Europe 2020 strategy for rural areas (Figure 4).

Measures of Rural Development Programmes (RDP) may not achieve their optimal effect without the realization of a comprehensive Europe 2020 strategy, which would serve as the key driver for growth. The first priority is rapid growth in the fostering of knowledge, innovation and education in agriculture. The second is sustainable growth to make production in CEC-10 countries more resource efficient, while boosting European competitiveness in the food and agriculture sectors. The third is inclusive growth, which is especially valid for rural areas, where the employment rate is low and the acquisition of skills to fight against poverty is difficult. Progress in rural development and in CAP should be measured against five representative headline targets: 75% of the population aged 20–64 should be employed; 3% of the GDP should be invested in R&D, even in rural areas; the "20/20/20" climate/energy targets should be met by agriculture. The share of early school-leavers should be under 10% even in rural areas, reducing the number of people living in poverty and improving skills and knowledge of the younger generation – not only in volume, but also in quality – to reduce asymmetrical interdependence in and of rural regions.

Discussion

This paper has two main objectives. The first is to show that the value of agricultural products per utilized agricultural area and the share of products are the key-issues and constraints of agricultural development in EU-10 countries. The second objective is to draw attention to how these objectives should be fitted into the current framework of the agricultural and rural development policies of the EU. The first issue is also connected to the production structure. Existing farms are usually small and, in particular, conditioned by fragmented plots and poor production structure in the EU-10 countries. This problem is strongly related to the transition process itself, since privatisation and land reform have left the chain of production and property rights uncertain in many cases. This uncertainty strongly hampers the development of an efficient product and land market, which could allow a re-organisation of the production structure. A second issue is the low level of land and labour productivity, which inevitably implies low income levels in agriculture. However, the agri-food sector itself shows relevant weaknesses. The most important strategic issue, in this sense, is the ability to reorganise the entire agri-food sector, creating a tighter connection between the farmers and the industrial transformation and/or the market-chain. In general terms, there are too many actors, and agricultural undertakings are too fragmented in their operation. At the same time, the investment rate is low and, consequently, the technological level is poor.

In any case, these agricultural weaknesses are interlinked with the general characters of the whole rural economy.

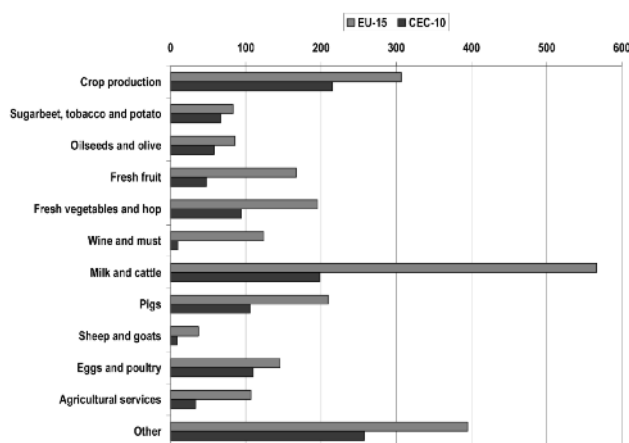


Figure 4: Value of agricultural products per utilized agricultural area (Euro/ha)

Agriculture will hardly be able to recover a higher level of productivity and market performance if the rural economy does not get over some general depressing factors. The first one is the low general level of income, which in turn depresses the local demand and the investment rate, shortening the capital for new investments or firms. Second, the population is significantly ageing due to selective out-migration of young people into urban areas. This population depletion reduces the average level of education, as well as the local, rural availability of upgraded training and skills. Finally, physical infrastructure is generally considered poor, unsuitable and outdated for an easier access to markets and infrastructural links to urban areas. These issues may also be present in the EU-15 countries, but in transition countries, they generally appear in chorus, which induces a self-reinforcing process of increasing divergence from the urban regions.

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Agribusiness and rural development are both fast developing research areas, especially in the numerous universities for Life Sciences in Europe and beyond. AGRIMBA's 2nd bi-annual congress in Wageningen will pay attention to both agribusiness and rural development.

22nd June 2011: evening drinks
23rd June 2011: main conference
24th June 2011: main conference

Congress Centre "Hof van Wageningen",
Lawickse Allee 9, 6701 AN Wageningen,
The Netherlands

Keynotes by:

Prof. dr. C.P. Veerman
(former Minister of Agriculture, The Netherlands)

Prof. dr. A. Nábrádi
(Dean Faculty of Applied Economics and Rural
Development, University of Debrecen, Hungary)

Themes

- Entrepreneurship in rural areas and agribusiness
- International agribusiness: west to east and east to west
- Stimulating innovation through cooperation
- Improving food safety and quality: policy implications
- New ideas in agribusiness and rural development (ISINI-theme)
- Rural resilience and the role of social capital in rural development
- The role of education in modernizing agribusiness and rural areas
- Globalization of the food industry
- Stimulating regional development and tourism
- Effects of global economic crisis on agribusiness and rural development

Papers will be selected on the basis of abstracts (maximum 300 words). Abstracts have to be submitted before February 1st, 2011. Notification of acceptance will be mailed before March 1st, 2011. Send your abstract to: agrimba@wur.nl

Fee: €225.- including meals and excursion

For registration and more information : www.aep.wur.nl/UK/agrimbacongress

Congress Committee Wageningen University

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Information for authors

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