

THE NUTRITION SITUATION AND THE FOOD SAFETY CHALLENGES OF THE 21th. CENTURY

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ABSTRACT

This study attempts to provide a brief picture on the growth of population and wages in developing countries that will have a much more direct effect on the demand for agricultural goods than that of the more developed ones. On one hand, huge demands are not satisfied, that means that the growth in wages will effect in direct demand for food (as the evidence of the Engel law). On the other hand, over a certain wage level the consuming structure will move towards foods with higher nutritional value (as the evidence of the Benett law), which results in the transformation of demand structure.

This paper introduces factors which can jeopardise the sufficient food security. New element is the rivalry between energy crop farming and food production due to the high oil prices. Furthermore the competition for the scarce available goods and resources (like soil and water) has an impact on increasing of food price. Because of climate change huge part of arable lands will disappear. The questions of animal and plant hygiene make this issue more complicated.

1. INTRODUCTION

The detailed and long term analysis of the changes of food consumption is not autotelic at all. We can make conclusions for the Hungarian experts working in agriculture based on research. The agroecconomy sector analyses procedures and phenomena in order to reveal the factors affecting development, whereas the main goal of agroecconomy is to define the ways of development and the future trends throughout analysing the past and present. (Vasa-Villányi, 2008)

The food consumption side is the user of the production, the demand itself. We always should be aware of the way the market changes and of its requirements. Unfortunately, the production launched its output without really being aware of the demands, forcing the supply to the market. Though market processes work other way. This is why it is essential to have realistic knowledge of the demands of the market. What conclusions can we draw for the agriculture?

People gain or regain energy necessary for surviving when they nourish. The food needed for this is produced by agriculture. It cannot be disregarded, even if agricultural production in developed countries gives only 2% of the GDP. I would consider wiser not to talk about its repression or its decreasing essence, but about its modified condition: agriculture itself changes as it tries to adapt to global changes. Despite the fact that it loses its socio-economic importance, the agriculture is not stagnating. Even, as nutritional ideas and images change (the growing consciousness to consume better quality food), we can witness the strengthening of stock-breeding.

2. TRENDS OF DEVELOPMENT IN THE FIRST DECADE OF THE 21ST CENTURY

The food production worldwide will be demand-driven, considering the population, the wages and their distribution as well as urbanisation. It is evident that the results of analysing this region can be applied for the global world, where similar processes are in process.

The increase of the growth potential of world population will slow down compared to the previous decade: the annual 1,26% growth will decrease to 1,10%. This is how world population will be over 7 billion by 2015. Almost half of the population will live in countryside.

The forecast of the OECD-FAO – despite the current world economic crisis- expects growth of the GDP. However, significant development will not have the same extent throughout the whole region; the main areas will be the big and developing (India, China, Brazil) and oil exporting countries. Parallel to this, wages will grow dynamically, though its distribution will differ by areas.

Table 1. The average pace of annual growth of population and wages (2005-2015)

	Population			Wages		
	Pace of annual growth		Rural	Pace of annual growth		Proportion
	1996-2005	2006-2015	%	1996-2005	2006-2015	%
World	1,26	1,10	50,8	2,64	2,90	100
Africa	2,24	2,08	60,3	3,50	3,78	1,8
Latin-America	1,47	1,20	22,4	2,03	3,61	5,7
South-America	1,00	0,87	19,2	3,02	3,21	28,7
Europe	0,00	-0,11	26,7	2,33	2,17	32,1
Asia	1,28	1,07	60,1	2,64	3,13	30,21
Oceania	1,36	1,10	26,7	3,48	3,09	1,6

Source: OECD-FAO Agricultural Outlook 2006-2015

The growth of population and wages in developing countries will have a much more direct effect on the demand for agricultural goods than that of the more developed ones (Kiss, 2002). On one hand, huge demands are not satisfied, that means that the growth in wages will effect in direct demand for food (as the evidence of the Engel law). On the other hand, over a certain wage level the consuming structure will move towards foods with higher nutritional value (as the evidence of the Benett law), which results in the transformation of demand structure.

Urbanisation has double effect: it affects supply as well since the output of the agriculture decreased due to migration to towns not being involved in agriculture. By 2015 75% of the world population will live in developing countries, while demand for food will grow and the structure of consumption will change.

The consumption of agricultural products has been increasing enormously. Increase in demands mentioned in the above paragraph is realised in developing countries. Due to

increased demand for quality food, demands for animal products, fruits and vegetables is growing.

Table 2. The average pace of annual growth of production and consumption (2005-2015)

	Production			Consumption		
	(%)			(%)		
	All	OECD	Non-OECD	All	OECD	Non-OECD
Wheat	1,2	1,0	1,3	1,1	0,9	1,2
Rice	1,5	0,0	1,6	1,3	0,1	1,4
Cereal feed seeds	1,6	1,3	2,0	1,5	1,4	1,6
Oily seeds	2,2	0,6	3,3	2,4	1,4	3,1
Beef	1,9	0,7	2,7	2,0	0,8	2,7
Pork	1,9	0,8	2,4	1,9	0,8	2,4
Poultry	2,4	1,6	3,0	2,4	1,8	2,9
Milk	1,5	0,7	2,2	-	-	-
Butter	1,6	-0,4	2,8	1,7	-0,3	2,7
Cheese	1,5	1,4	2,0	1,6	1,5	2,0
Vegetable oil	2,6	1,5	2,9	2,7	1,8	3,2
Sugar	1,9	-1,1	2,9	1,7	0,4	2,2

Source: OECD-FAO Agricultural Outlook 2006-2015

The growth of demand also generates export. The pace of output growth in developing countries exceeds that of developed countries as for each examined product group, according to the table. Developing countries' produced quantities are available in world markets as well. As a result, we do and will witness a close fight. Hungarian producers have to face the usual competitors as well as the developing countries, since they have lower production costs (Kapronczai-Udovecz, 2009), this is how they can enter markets. This is why their production efficiency is higher.

The tendency is that the traffic of manufactured goods will grow aggressively compared to mass products. The developing countries usually enter into the mass products' market, whereas developed countries produce added valued goods for the world agricultural market.

3. ISSUE OF FOOD SAFETY

The changes in food consumption lead to the strengthening of food safety, which means to deal with food safety issues. It should happen because this has a close connection with food prices. It may have a strong effect on the environment, operational conditions of Hungarian manufacturers, as well as on their export trade. In case someone disagrees that supplying the poor with food is a major issue today, here are some convincing data for them: between 2000 and 2002 malnutrition was evidenced in case of 852 million people. The number of world population will be 7,5 billion by 2020, and 9 billion by 2050, which means that a further 1,5 billion people should be supplied with a certain quantity and quality of food.

Table 3. The world population and the average pace of its annual growth (2000-2050)

	Annual pace of growth (million people)	Population (billion people)
2000	73,0	6,06
2010	71,0	6,79
2020	61,0	7,50
2030	47,0	8,11
2040	32,9	8,58
2050	11,0	8,91

Source: United Nations Population Division

Experts agree that climate changes are going on these days, which changes effect agricultural production too. The manifestation of extreme weather conditions are getting common: draughts, floods and storms are everyday phenomena. While a huge part of arable lands will disappear in developing countries thanks to global warming (some sources estimate this increase more than 10%) during the first 25 years, developed countries can begin cultivating their northern territories also (Kiss, 2007). This is how poorer countries will need to import food, which will be rather hard, since wages will also decrease thanks to devastations. The phenomenon of malnutrition and starvation will not be unusual. Let alone the fact that disasters will destroy infrastructure too, making it harder to get the food supply.

It may be in connection with climate change as well, but the occurrence of diseases of the flora and fauna are also a risk factor. Foot-and-mouth disease, mad cow disease, bird flu and other new types of flu, the most aggressive phytocidal pests are getting more and more common. Another risk factor is that they may affect humans. Some of the reasons responsible are the globalisational, migrational and trading processes. This will have a stronger effect on developing countries, since there are no methods and tools to prevent and treat epidemic (Tóth et al, 2008). As a consequence, the production quantity will decrease, which will affect food safety via food price increase. Another outcome may be that food consumption structures will change: certain products will be refused, as seen in case of pork consumption happening due to pig flu.

High oil prices also influence the food safety issues. This rises the expenditures of agricultural production, and parallel to this the costs of distribution and logistics. On the other hand, it promotes bioenergy (especially biofuel) consumption. During biomass production there is a huge demand for agricultural goods (maize, wheat, oilseeds, sugar cane, animal fats) as ingredients of the mass. This will help grow prices. Furthermore, the structure of agricultural production may change a lot, from the production of energy consuming products (e.g. food ingredients) to energy crops. This decrease in supply will result in price increase, so high food prices will generate worse food safety.

The competition between energy crop farming and food production jeopardises the agriculture itself. The competition for resources such as land and water may increase the prices of the goods that put up the costs of agricultural production. As for the environment, it would have

disadvantageous outcomes: the sufficient lands can be available only with cutting down forests. Intensive farming would enhance fertilizer and pesticide usage to a great extent, which will be harmful to the nature.

4. CONCLUSIONS

It is evident from the matters above that the big losers of these processes will be the developing countries. The differences between the centre and peripheries will be bigger and bigger. Though world agriculture has already developed, there are gaps between levels. I claim that the example of ASEAN (Association of Southeast Asian Nation) shows that closing up is possible (Bellin-Sesay-Zingel,2005), though this is not so general. To reach this, the developed countries should give a lot of help (in the field of science and technology) as well as utilizing the opportunities of integrations. According to researchers, if advanced technologies could be applied worldwide, the demand for food of double today's population would be solved. Unfortunately this issue involves politics too.

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