

## CURRENT CHALLENGES OF EUROPEAN COUNTRIES ON FOOD SAFETY AND SECURITY

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### Abstract

*This paper aims to study the scientific endeavor further two very current concepts - safety and food security - and the challenges facing European countries in this regard. Every day, the world's population grows by about 220,000 people and the world population every year we add 80 million people. All these people must have access to sufficient food and safe food. Globalization of the food chain causes constant new challenges and risks to health and interests of European consumers. The main objective of EU policy on food safety is to achieve the highest possible degree of protection of human health and consumer interests in the food. The basic principle of EU policy on food safety and security is to apply an integrated approach, such as "farm to fork", covering all sectors of the food chain - including feed production, animal and plant health, animal welfare, primary production, food processing, storage, transport, retail and import and export. This comprehensive and integrated approach, in which the responsibility of the food and feed, and the competent authorities are clearly defined, is a food policy more coherent, effective and dynamic. With population growth and overall living standards, food demand is becoming increasingly important and diversified. Consumer demands are changing. For example: one of the most striking changes is now growing demand for organic products, obtained with or without small quantities of chemical substances.*

**Keywords:** food safety, food security, the European Union.

### INTRODUCTION

Global agricultural production should increase by at least 3% per year to provide live feed of the rising population, according to a study by the Economist Intelligence Unit (EIU). At present, current agricultural productivity growth is only 2%. The only solution to address the increased demand for food is streamlining existing agricultural areas. Because of excessive urbanization and industrialization, and land degradation are not available other agricultural land that can be used, as shown EIU study. We could cite as potential solutions using modern technologies and genetically modified plants (GMOs). As we know, many countries are opposed to

genetically modified organisms and biotechnology. [Protv]

**Consumer demands are changing.** For example: one of the most striking changes is now growing demand for organic products (organic or biological), obtained with or without small quantities of chemical substances. Sales of these products have soared, representing 3% of EU food trade. As a result, organic farmland has increased steadily. Required products are of great diversity. Funds to support farmers who grow crops in support of organic farms is 8% of the total agri-environment, and farmers can get payments of up to 900 euros / ha only to compensate for short-term reduction in production tract culture obtained or livestock. On the other hand, *consumer demand for*

*quality compliance*, use of processing technologies that protect health and the environment. Consumer demand market requires a clear orientation towards satisfying consumer desires. The plant is subject to special programs to fight against diseases and pests on crops. Regulation 3600 / 1992 concerns 80 active substances entering the plant control system of the Committee. The measures provided cover a wide range of actions, including the impact of pesticide residues on cereals and animal products, other vegetable products.

**Food safety**, often called as phrases such as "*From farm to fork*", involves a series of measures to ensure consumers that the food they obtain is appropriate phytosanitary standards, are healthy and come from sources safe. European Union food safety strategy covering food safety, animal health and welfare and plant health, traceability allows food from farm to consumer, regardless of national borders (thus free trade can take place, and consumers to provides a wide range of offers) and provides high safety standards that apply to both EU produced food and imported (whether imported or domestically produced, food must comply with EU standards).

## MATERIAL AND METHOD

The material presented was developed mainly based on the study of numerous Romanian and international specialty papers (see references at the end of the paper), the number of Internet sources (newspaper articles, profile sites, etc.), and field observation of concrete cases, the documentary visits - information made nationally and internationally.

The databases used were those provided by official national and European institutions in the field, such as the European Union, Food and Agriculture Organization, Ministry of Agriculture and Rural Development, World Bank, Economist Intelligence Unit and others. In that work will be presented the concepts of security and safety in the context of current challenges that have to deal with European Union countries. These challenges are

technical, organizational, economic, social, political and legal and the importance of the two components in the common agricultural and food policy is vital.

## RESULTS AND DISCUSSIONS

**EU strategy on food safety and security** is based on three essential elements: [UE]

- (1) comprehensive legislation on food hygiene and safety of food and feed;
- (2) scientifically based data for decisions on food;
- (3) implementing measures and control decisions.

To ensure the application of EU rules on food and feed, the Commission shall correct transposition of EU legislation into national law and application by all Member States.

Also, field inspections, inside and outside the EU. The Food and Veterinary inspect food production facilities, but its main task is to ensure that governments inside and outside the infrastructure have to check food producers meet high standards of EU food safety. [UE]

Currently, special measures are provided in areas where justified particularly consumer protection, namely: [UE]

- use of pesticides, food supplements, dyes, antibiotics and hormones;
- add to the food of vitamins, minerals and similar substances;
- products in contact with food, such as plastic packaging;
- labeling, particularly in the ingredients that cause allergies and nutritional specifications, such as "low fat" or "high fiber".

EU uses a system of early warning, with which consumers avoid exposure to the risk of food poisoning. The system also determines whether certain foods contain excessive amounts of prohibited substances or substances with high risk, such as veterinary drug residues in meat or carcinogenic dyes. Once such a risk is identified, an alert is sent across the EU. Sometimes it is sufficient to stop a single lot, but if necessary, can be blocked all shipments with a product from a farm, factory or port of entry. Products

already in warehouses or stores can be withdrawn. [UE]

In addition to social issues raised by aiming to protect consumers, **ensuring that safety and food security**, the importance of agriculture for EU countries and the resulting economic aspects, which will have important weight in GDP (from 0.5 to over 6%) in all European countries.

**Food safety policy in the EU** consider the whole chain of food consumption by animals or humans. It provides extensive regulations and stresses the responsibility of manufacturers and suppliers regarding their participation in providing quality food supply. *EU regulations* are among the strictest in the world. To make it more transparent and scientifically based food regulation, there was a review of food safety in the EU since the late 1990s. In 1997 it set a new EU Scientific advisory system. Was created 8 scientific committees, in addition to a central scientific committee. **European Food Safety Authority** was established in 2002. EFSA is an independent organization that works closely with various scientific institutions in EU countries, providing independent scientific advice on all matters with direct or indirect impact on food safety. It covers all stages of production and supply of food, from food production to delivery to customers. EFSA carried out also risk assessments in the food chain and scientific assessment on any matter that has a direct or indirect impact on food supply safety, including health and good treatment of animal and plant health. [ESFA]

**Food safety rules** relating to:

*-nutritional qualities of food* - which are chemical components data, biochemical, plastics and energy to satisfy physiological requirements through food consumption, nutrition, human body

*-qualities hygiene or safety of the food* - represented by the content of toxic substances or pathogens which, through consumption do not affect consumer health;

*-organoleptic qualities of food*-food represented by the different characteristics that can be perceived sensory consumers:

form, color, appearance, smell, taste, consistency;

*-the use of food qualities* - referring to satisfy customer needs for food use in the processes of nutrition - nutrition.

Implementation public consumption, storage, transport or processing of food that do not meet the conditions set by the above rules entail material, disciplinary, or criminal, as determined by law.

**Food safety standards** and applies to all stages of production, processing, distribution and marketing of food and feed, except for primary production for private domestic use or preparation, handling or storage of food for domestic consumption. Risk in the context of food safety is the likelihood of an effect on health and the severity of this effect, following exposure to a hazard.

According to FAO (Food and Agriculture Organization - United Nations Food and Agriculture), **food security** is "guaranteeing each individual at all times, in any place or time of access to sufficient and healthy food to allow him to have a system sufficient food for healthy living and active ". [FAO]

In recent years indicates that there are problems of food insecurity in 86 countries, 43 from Africa, 24 from Asia, 9 from Latin America and Caribbean, 7 in Oceania and 3 in Europe. In 2004, 35 countries have received emergency aid because of food crisis. The main causes were: military and civil conflicts, post-conflict situations, refugees, economic disadvantaged areas and climate issues. FAO *Multidimensional nature of food security*, just as the fight against poverty, requires a good correlation between the various sectors - agriculture, trade, infrastructure, health - and the variety of intervention levels - local, national, regional and international levels. Actions and objectives applicable to food security are contained in the "Millennium Development Goals" (MDGs), which is the main component of the Millennium Declaration, adopted in September. 2000 Millennium Summit, 191 countries, including Romania. Millennium Declaration is the only global development agenda on which there is

agreement at the highest level between most countries. [OMD]

Globalization of the food chain causes constant new challenges and risks to health and interests of European consumers. The main objective of EU policy on food safety and security is to achieve the highest possible degree of protection of human health and consumer interests in the food. In this respect, EU efforts to ensure food safety and labeling appropriate, given the diversity of products, including traditional and while ensuring proper functioning of the internal market.

50 years ago, *EU agriculture policy* emphasis on providing enough food for a Europe that crossed a decade of shortages caused by war. To do this, call the production subsidies and support prices by buying surplus from farmers. All these methods are history.

Today, EU policy aims to provide all food producers (the farmers and breeders to dairy producers, fruit, vegetables or wine) can:

- to produce sufficient quantities of safe and quality food for European consumers;
- to make a substantial contribution to the diversification of economic activities;
- to meet high standards in environmental protection and animal welfare.

Today more than ever consumers are concerned about food quality and voluntary EU quality marks to help them make informed choices. These labels indicating geographical origin, using traditional methods and ingredients, including organic, also contributes to European agricultural products more competitive on international markets.

Various reforms went through EU agricultural policy have promoted *innovation in agriculture and food processing*. Add to this the research projects that have resulted in increased productivity and reduced environmental effects, for example using plant products and waste for energy production.

With population growth and overall living standards, food demand is becoming increasingly important. Consumption increased, especially for meat.

For example, the French consume a lifetime 6 cattle, 33 pigs and 1,200 chickens. In 1950, a

French consume 44 kg of meat, while currently consumes 85 kg. In 1970, a Chinese content to 25 kg of meat, while consuming 38 kg now. Animals that we eat must be fed and quantities they themselves ever more food. To produce one kilogram of chicken needed 4 kg of vegetable protein and to obtain one kilogram of beef we need 12 kg. 40% of world production of grain is used to manufacture animal feed. A solution would be to change our eating habits. Currently, it is considered that food production can meet the needs of people worldwide. Indeed, agriculture productivity gain, whether in 1945, in France a farmer can feed 5 people, today the number that can be fed by a single farmer is 100. In a very short time horizon manufacturer has expanded, moving from local to a regional, then national to a global one. In the past 50 years, food production capacity has increased more than 1,000 years! Of course, these developments are unevenly distributed and many regions of the world still suffer from hunger or endemic, or randomly. It is estimated that one sixth of the world population suffering from hunger, of which 90% are in the southern countries of the world. In this geographical area population supports the adverse effects of agricultural commodity prices increase. Thus, the price of corn, barley and wheat increased from 100 to 300 euros per tone is the risk of riots. Worldwide, the number of poor is estimated at 1.2 billion people, and in 2020 is projected figure of 2 billion people. Therefore, not only to produce more, but to produce better, not to exhaust the soil and water resources. (Pascal Codron, director of the Higher Institute of Agriculture (ISA) - Lille, France)

The three **major challenges** of the moment in terms of ensuring safety and food security: **land, water and energy**.

Lack of arable land is crucial. Currently, there are only 12% of cultivated land. 45% of current reserves are found in tropical forests (Amazon, Congo, Indonesia, Malaysia).

Urbanization plays an important role in reducing the cultivable area. In France, every 10 years arable land decreased by the equivalent of a county, in China every year, 1

million ha of arable land are turned into construction zones. If carefully managed ground potential, the area available is sufficient. We know that by 2030, one of five developing countries will have problems of water scarcity. Water is used in agriculture 70%, industry 20% and 10% in domestic consumption. To produce 1 kg of wheat requires a ton of water!

Arable land issues, which continue to decline, and expected lack of irrigation water is added and energy. Predictable decrease fossil fuels forces us to find new production techniques that require less energy consumption. We can not afford to stay on a production model that requires the equivalent of 100 liters of oil to produce one tone of wheat. In France, within 150 years, fertilizers, insecticides, herbicides and fungicides allowed the shift from production of 10 quintals per hectare production of 70 quintals / ha. Continued use of chemicals is not the only solution to produce food, but have rediscovered the true meaning of agriculture: agriculture in the most economical fertilizer, water and energy, to protect the soil and will produce higher production and better quality. [MA]

It is also important to protect *biodiversity*. People only use 150 plant species, of which 15% covering 80% of our needs (corn, wheat, soy). The same situation is encountered in the animal. Therefore, to feed our need to be reused other species of plants and animals. Another challenge is global warming. Climate in different geographical areas will change and so will be done and a radical change in production systems. [MA]

The biggest challenge is to double production. Will be implemented production systems compatible with environmental protection and the fight against global warming. In this respect, must use production techniques that aim at environmental protection, replanting using techniques that ensure biodiversity. The implementation of new technical and social methods will be developed intensive agriculture, but to protect the surroundings. Family farms should be aimed at increasing productivity. [MA]

In 2011 hosted *the first G20 summit dedicated to agriculture*, and discussions centered central points poverty and rising food prices.

**Food prices** increased by 37% last year, worldwide and 44 million people live in poverty. In these conditions, agriculture ministers from the G20 met in Paris to discuss the prohibitions limiting the export of food, emergency storage in a crisis in the field, and ways to curb rises. Activists who demonstrated in Paris during the aforementioned summit criticized the role of biofuels in food price increases. In fact, not the first time he cautions that more and more farmers have abandoned crops of wheat or corn in favor of technical plant which is extracted from biomass. As a result, cereal prices have increased the fed animals, which triggered a chain reaction and food prices on the shelves practically exploded. [VR]

## CONCLUSIONS

Science is the foundation of EU decisions related to food. European Food Safety Authority (EFSA) to provide advice at the stage of drafting legislative or if policy makers are faced with a threat to food safety. The Commission bases its decisions on the precautionary principle: act without delay if scientists say that there is a potential danger.

With EU enlargement were required certain transitional period to allow new countries that joined the single market to adapt to high standards of EU food safety. Meanwhile, they could not export food products not complying with these standards. Regarding the so-called novel foods produced with genetically modified organisms, cloning and nanotechnology, the European Commission promotes innovation charge, intended to provide safety and security of citizens to boost stronger economic growth. [UE]

*The risk* that food is contaminated with chemicals or microorganisms throughout the food chain there. Upon entry into the European Union and align to European norms in force, the priority for any organization in the food chain is to ensure that its product safety was not compromised in the food

chain, and this can be achieved through the implementation and certification a Food Safety Management System.

Each organization must demonstrate the ability to control the food safety risks in the provision of safe end products that meet food safety requirements agreed by consumers and industry regulators. More pronounced tendency of the market specializing in the food industry to maintain a more strict control on producers in order to provide consumers with high quality products, but also safe microbiologically and bacteriologically, led to the birth of the system called HACCP (Hazard Analysis Critical Control Point).

The basic principle of EU food safety policy is to apply an integrated approach, such as "*farm to fork*", covering all sectors of the food chain - including feed production, animal and plant health, animal welfare, primary production, processing food storage, transportation, retail and import and export. This comprehensive and integrated approach, in which the responsibility of the food and feed, and the competent authorities are clearly defined, is a food policy more coherent, effective and dynamic.

***Human rights are universal, interdependent and indivisible.*** Right to be free from hunger and discrimination is a fundamental right to life and personal security. While violent conflicts surely result from a combination of several factors, poverty creates conditions for the emergence or continuation of a conflict. Investing in development is of particular importance in reduced likelihood of war, and development strategies should take into account possible effects on reducing the risk of conflict (or extent of incidental). When a country's capital stock (including its physical capital, natural and human) is reliable, the economy remains unproductive, households are poor and degraded environment.

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