AGRO-FOOD SECURITY - ONE OF MANKIND'S GLOBAL PROBLEMS

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Abstract

The current pressing global problems of mankind are: food crisis and underdevelopment, environmental degradation, natural, rapid population growth, energy and raw materials, large military expenditures, use of ocean and the cosmos, inflation and financial crises - the monetary and economic, uncontrolled expansion of urbanization etc. (Bogdan T.A. et al., 2000).

In current conditions of economic and financial crisis, socio-economic globalization, the climate change, sometimes the problem arises of finding solutions to ensure human survival on Earth. To be solved, global problems of mankind must: be found or identified, to be located in time and space, to be formulated correctly, to be integrated into a realistic strategy. Given the role that science plays in that direction, experts consider that the science supporting the development and implementation conquest in the service of improving people's lives is the first permanent urgent problems of mankind. The introduction of bio-production systems, involving all the elements: water, air, soil, climate, plants, animals, etc., generating natural products (organic, biological, organic, etc.), may be a solution (Brown L.R., 1992; Chiriţescu et al., 2011)

Currently, agro-food security is addressed more often as components of global human security. Hunger is one of the problems still facing the population of some states. On top of these countries are found Democratic Republic of Congo, Burundi, Eritrea, Chad, Ethiopia or Haiti, as shown International Hunger Index, an indicator developed and studied by the Institute for International Food Policy Research (IFPRI) (Stan A., 2011).

Biodiversity is a fundamental basis for agricultural production and food security, as well as a valuable ingredient of environmental conservation. The report World Resources Institute (Thrupp, 1998) of reveals the urgent need for action to incorporate biodiversity planning into agricultural development, and it highlights effective practices and policies. It evaluates a range of impacts from unsustainable agriculture, including: the loss of genetic diversity in crops and livestock, the decline in resistance to pests and diseases, the loss of agro-ecosystem diversity, the disruption of insect diversity from misuse of pesticides, the loss of soil biodiversity, and the nutritional implications of the loss of diversity in foods. Drawing on the experience of developing countries, the report identifies best practices to incorporate farmer's knowledge and protect agro-biodiversity on large-scale farms.

Keywords: agro-food security, global problems, bio-economics.

INTRODUCTION

Economic, social and environmental global humanity problems is due mainly to: the uniqueness of the global economy, their manifestation in almost all countries, they contain common elements in the technical, social, economic, political and environmental, interaction throughout there is permanent and stronger, chain propagation effects and the need for joint

efforts to solve them. As global in nature, these problems must be considered as large scale. Thus, international studies clearly show trends in world population growth, production of weapons, pollution and industrialization and lowering (exhaustion) of non-renewable resources.

Essential condition for the development of appropriate strategies to address these serious problems of mankind is knowledge of their particular causes and effects of direct and propagated. For *example*, in years "80 have become increasingly obvious major changes in environment, changes that occurred in a manner as possible for unexpected contingencies were mostly specialists. With this change, the population became increasingly aware of the presence of risk factors that could affect the smooth continuity of humanity (McKercher B., 2003).

In the generic sense, **human poverty** is caused primarily by limited access to resources. This limitation may result from an imbalance between available resources and population needs, and because the socio-national policy (Chirițescu V. et al., 2011).

The ranking is conducted by International Food Policy Research (IFPRI) in each year based on indicators such as percentage of population suffering from food shortages, the number of children younger than 5 years or weighing less than the normal mortality rate for children under 5 years. Over the past 21 years, only 15 countries could improve their score by 50% with respect to this problem (Angola, Bangladesh, Ethiopia, Mozambique, Nicaragua, Niger and Vietnam). In contrast, countries where the situation is alarming are Burundi, Chad, Democratic Republic of Congo and Eritrea.

Hunger problem has worsened in recent years due to rising food prices, which impact the poor because it can not adapt to the rapidly changing and he can not adjust the budget, eventually resorting to inferior food quality or dropping products basic daily nutrition, says IFPRI. Romania is not listed in the ranking of the 80 countries where the population suffers from hunger, but is considered a top of countries with scores below 5, with countries like Ukraine, Turkey, Slovakia, Bulgaria, Russia, Mexico, Macedonia or Argentina (Stan A., 2011; Global hunger index, 2011).

Commissioner Dacian Cioloş said the food security problem is one of the futures, saying that he fears the shortage of food is found at the root of social movements and political turmoil today, informs Press Agency Mediafax. He said that one of its objectives is to ensure food security. He added that based on international disturbances including fear is related to insufficient food. "We can look at what is happening internationally, where there are social movements, political unrest, and the problem is somewhere at the root of fear, distrust of the ability to ensure food security as long as demand increases and productivity stagnant for several years days", said Cioloş. EU officials said the number of farmers in the Union fell. Cioloş

presented data according to which agricultural active population is only 3 - 4% of the total active population. He said the agricultural working population but occupies two thirds of European territory (Cioloş D., 2011).

RESULTS AND DISCUSSION

THE CONCEPT OF AGRO-FOOD SECURITY

According to FAO (Food and Agriculture Organization - United Nations Food and Agriculture Organization), **food security** means "guaranteeing each individual at all times, in any place or time of access to adequate and healthy diet to allow him to have a regime sufficient food for a healthy and active life". Multidimensional nature of food security, just as the fight against poverty, calls a good correlation between the various sectors - agriculture, commerce, infrastructure, health - and the variety of intervention levels - local, national, international.

The work of transforming nature, driven by a desire "to have" trouble mankind progressively, disturb the natural conditions and conditions of "being". These interventions are returning particularly negative effects on the conditions of human existence (Duțu M., 1998)

Community **legislative framework on food security** is common to all Member States, but adapted to national. The EU is making significant efforts that traditional foods are not removed from the market due to safety standards for food and not be discouraged innovation and quality has not suffered. With the accession of new members and their entry into the European single market, transitional measures are sometimes necessary to enable those countries to adapt to high EU standards of food security.

Every day world **population grows** is about 220,000 people and the world's population each year we add 80 million people. All these people must have access to sufficient food and safe food (Balescu M., 2011). The increase comes mainly from underdeveloped countries, which, overall, almost to double its population by 2050 from 0.9 billion today to 1.7 billion. In total, 2050 will be over 9 billion. The question is: will manage the earth to nourish us all with safe and sufficient food? (Balescu M., 2011). Globally, food security is measured by two basic *indicators*, namely: wheat production and stocks of wheat. Wheat is the most effective parameter, as it provides half the energy needs of man and it is less perishable fruit and vegetables, can be stored long term. Wheat production per capita is calculated and shows how much wheat would be a person to consume, and inventories show that production exceeds consumption, or vice versa.

While **the Common Agricultural Policy** (CAP) has achieved great success with the objective of ensuring agro-food security of the European Union gradually since the 80s, the EU had to contend with almost

permanent surpluses in most agricultural commodities, of which some have been exported (with subsidies), while others had to be stored or disposed of within the EU. These measures have meant large budget expenditures, have distorted some world markets, have not always served the best interests of farmers and became unpopular in the eyes of consumers and taxpayers. At the same time society has become increasingly concerned about the sustainability of agriculture in the context of environmental protection.

Agro-food security is influenced by four groups of *factors*, namely: the social - economic and political, agro-food sector performance, social protection and health and hygiene.

The main bodies involved in monitoring global agro-food security are: FAO - Food and Agriculture Organization (United Nations Food and Agriculture), EC - European Commission (EC - European Commission) and USDA - United States Department of Agriculture (Department of Agriculture United Nations).

In recent years indicate that there are problems of food insecurity in 86 countries, 43 African, 24 Asian, 9 in Latin America and the Caribbean, 7 in Oceania and Europe 3. In 2004, 35 countries have received emergency aid because of the food crisis. The main causes were: military and civil conflicts, post-conflict situations, refugees, economic disadvantaged areas and climate issues.

In 2001, German Chancellor *Gerhard Schröder*, said: "Extreme poverty, growing inequality between countries and within countries, are major problems of contemporary, because they are due to instability and conflict. Reducing world poverty is thus a prerequisite for safeguarding peace and security."

THE ROLE OF BIODIVERSITY IN ENSURING AGRO-FOOD SECURITY

Biodiversity is essential for food security and nutrition and offers key options for sustainable livelihoods (Convention on Biological Biodiversity, 2011). Environmental integrity is critical for maintaining and building positive options for human well-being.

Existing knowledge warrants immediate action to promote the sustainable use of biodiversity in food security and nutrition programs, as a contribution to the achievement of the **Millennium Development Goals** (2011). The Food and Agriculture Organization of the United Nations (FAO) is working with its Members and the entire international community for achievement of the Millennium Development Goals**.** These *eight goals* - each with specific targets and indicators - are based on the United Nations Millennium Declaration, signed by world leaders in September 2000 (Balescu M., 2011). They commit the international community to combating poverty, hunger, disease, illiteracy, environmental degradation, and

discrimination against women. *Goal 1* relates directly to hunger, which is the primary global issue of concern for FAO. Some developing countries have made impressive gains in achieving the hunger-related targets, but many are falling behind. For more information on the prevalence of hunger worldwide, see The State of Food Insecurity in the World, published annually by FAO (Food and Agriculture Organization).

Since agriculture began some 12,000 years ago, approximately 7000 plant species and several thousand animal species have been used for human food. Today, certain traditional and indigenous communities continue to use 200 or more species in their diets but the general global trend has been towards diet simplification, with consequent negative impacts on human food security, nutritional balance and health.

Biodiversity, food and nutrition intersect on a number of key issues. Biodiversity contributes directly to food security, nutrition and well-being by providing a variety of plant and animal foods from domesticated and wild sources. Biodiversity can also serve as a safety-net to vulnerable households during times of crisis, present income opportunities to the rural poor, and sustain productive agricultural ecosystems (www.environmental-expert.com, 2011; Bavaru A. et al., 2007).

Agricultural biodiversity is a broad term that includes all components of biological diversity of relevance to food and agriculture, and all components of biological diversity that constitute the agricultural ecosystems, also named agro-ecosystems: the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes (Convention on Biological Biodiversity, 2011).

Agricultural biodiversity is the outcome of the interactions among genetic resources, the environment and the management systems and practices used by farmers. This is the result of both natural selection and human inventive developed over millennia (Convention on Biological Biodiversity, 2011).

Currently, **CAP - *Common Agricultural Policy* - objectives** include helping agriculture to achieve its multifunctional role in society: producing safe and healthy food, contribute to rural development and protecting and enhancing environmental status of its biodiversity cultivated. Also, it was important for the EU to establish common rules for approving genetically modified organisms (GMOs) in agriculture. European Union tries to help the environment by:

- providing financial assistance to encourage change, for example, reducing the number of animals per hectare of land, leaving uncultivated field borders, creating ponds or planting hedges and so going over the traditional methods of agriculture;

- support for the depreciation costs of preservation of nature;
- insisting that farmers comply with laws relating to environment (and those relating to consumer health, animal and plant) and vigil on the correct operation of the land if they wish to qualify for direct subsidies.

"The impact of **climate change** on food insecurity is creating growing interest in agro-ecological methods of farming at the COP17 climate negotiations in Durban", says UN advisor Olivier De Schutter (2011). The low-key nature of Durban's COP17 climate talks has produced an unexpected silver lining. With a Kyoto II agreement seemingly in the deep freeze, a key issue has been allowed to fill the void: food security. New studies from Oxfam, the FAO and the IPCC have painted a stark picture of how climate change is already wreaking havoc on the global food supply, and how much worse this could get. Endemic food shortages and famine are among the most shocking eventualities yet to be thrown up by climate change. And shocked we should be, such would be the consequences of failing to act. 2010 saw drought in Russia, China and Brazil and flooding in Pakistan and Australia, severely straining the food supply and sending world grain prices through the roof. While this year's drought in the Horn of Africa has created a humanitarian disaster in an already food insecure region. These events provide crystal clear insights into the fragility of the food system, and how little it takes to send it out of kilter – and to consign millions more people to hunger. This awareness of an imminent wholesale food crisis is needed to re-inject urgency into climate talks; but a continuous awareness of climate change is just as necessary in order to keep the food security agenda on the right track.

With *food prices spiraling* since 2008, a compelling discourse for raising food production is already firmly in place, driving a flood of interest and investment back into agriculture – particularly the 'under-exploited' farmlands of the developing world. According to the new orthodoxy, food production will need to be significantly ramped up in order to feed a growing world population, regardless of climate change. But the danger of this discourse is precisely its indifference to how we produce, who produces for whom, and at what price for climate change and environmental sustainability. Not far off the coast of South Africa, the food insecure island of Madagascar has shown the capacity to double or triple rice yields by following simple agro-ecological practices. Elsewhere, agro-ecological alternatives such as agro-forestry and integrated crop-livestock production hold real promise of rehabilitating struggling production zones and making them more resilient to the climate challenges to come. These are diverse, local solutions, but are governed by the same underlying logic: they not only maintain and raise long-term food production, but do so in precisely the places where this food is most needed, and where the resilience of land to

extreme weather is sorely in need of being rebuilt. There is therefore a strong interest in tying the food security and climate change agendas inextricably together around the axis of agro-ecology. Despite the downbeat mood, Durban could chalk up significant progress in the battle for global sustainability, should these lessons be brought forward (De Schutter O., 2011)

CONCLUSIONS

- Every day world population grows by about 220,000 people and the world's population each year we add 80 million people. All these people must have access to sufficient food and safe food.
- *Human rights are universal, interdependent and indivisible*. The right to be free from hunger and discrimination is a fundamental right to life and personal safety. While violent conflicts surely result from a combination of several factors, poverty creates conditions for the occurrence or continuation of a conflict. When a country's capital stock (including its physical capital, natural and human) is reliable, the economy remains unproductive households are poor and the environment is degraded (Human Rights Principles, 2011).
- Regulation no. 1292-1296 adopted by the European Union 27. June. 1996 ***food aid program*** defines food security and the European Commission. It resulted from a policy reform progress of food aid established since 1994 to make an integrated food aid effectively as possible in policy development and food security strategy of the countries concerned by this problem. Nature of food aid (referring to the stocks of agricultural products) is made under Article 11 of the said Regulation. Reducing the vulnerability of the most helpless populations, food aid system results in better identifying their needs for a better understanding of the strategy they implement in the face of nutrition risk factors (International Law and Technology, 2011)
- ***Multidimensional nature of agro-food security***, just as the fight against poverty, calls a good correlation between the various sectors - agriculture, commerce, infrastructure, health - and the variety of intervention levels - local, national, regional, international.
- Representation of Regulation 1992/96 is also found in the International Food Aid Convention, negotiated in 1999. The Convention sets minimum annual food aid understanding about (Argentina, Australia, Canada, the European Commission and members states, Japan, Norway, Switzerland, U.S.A.) (Food Aid Convention, 1999). Actions and objectives are applicable to food security 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 comprehensive development agenda on which there is agreement at the highest level between most countries (Millennium Summit, 2000).

Acknowledgments
This work was co-financed from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/CPP107 DMI1.5/S/77082, "Doctoral Scholarships for eco-economy and bio-economic complex training to ensure the food and feed safety and security of anthropogenic ecosystems".

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