



University of Novi Sad
Technical faculty “Mihajlo Pupin”
Zrenjanin, Republic of Serbia



XI International Conference - Industrial Engineering and Environmental Protection (IIZS 2021)

Proceedings

Zrenjanin, 7 – 8th, October 2021.

Proceedings of the XI International Conference - Industrial Engineering and Environmental Protection (IIZS 2021)

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Organization of this Conference is supported by the Ministry of Education, Science and Technological Development, Republic of Serbia

CIP Classification:

CIP - Каталогизacija u publikaciji
Biblioteka Matice srpske, Novi Sad

62:005.3(082)(0.034.4)

502/504(082)(0.034.4)

INTERNATIONAL Conference Industrial Engineering and Environmental Protection (11 ; 2021 ; Zrenjanin)

Proceedings [Elektronski izvor] / XI International Conference Industrial Engineering and Environmental Protection (IIZS 2021), Zrenjanin, 7-8th October 2021. - Zrenjanin : Technical Faculty "Mihajlo Pupin", 2021. - 1 elektronski optički disk (CD-ROM) ; 12 cm

Nasl. sa naslovnog ekrana. - Str. 7: Introduction / Snežana Filip. - Bibliografija uz svaki rad.

ISBN 978-86-7672-348-5

а) Индустрijско инжењерство - Зборници б) Животна средина - Заштита - Зборници

COBISS.SR-ID 48776201

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UNSUSTAINABLE DEVELOPMENT AND AGRICULTURE

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Abstract: The authors discuss the problems of the current concept of agricultural development and food production. The negative effects of unsustainable development on the environment and human health are emphasized. The authors advocate the application of a new concept of sustainable development, which includes a new economy, safe food and organic food production.

Key words: unsustainable development, problems of agriculture and food production, sustainable development, green economy, organic agriculture

INTRODUCTION

The current concept of unsustainable development has led, among other things, to serious problems in agriculture and food production. The negative effects of conventional agriculture so far are numerous: erosion and degradation of agricultural land; increased use of fertilizers; increased use of pesticides; irrational use of water resources; use of antibiotics and stimulants and negative effects of livestock production; use of GMOs as controversial biotechnology; climate change.

The consequences of all this are the problem of food safety. Danger is a biological, chemical or physical substance in food or a condition of food that can cause harmful consequences for human health. In addition to these hazards, chemical contaminants also pose a risk: heavy metals, industrial pollutants, drugs and microtoxins. Chemical contaminants include, also, plant protection products.

Radical changes are needed at all levels. Economics has taken over that historical task: through the concept of the so-called new economies are increasingly striving to achieve that goal. An important segment of the new economy is the green economy, which should provide the concept of sustainable agricultural production, as opposed to the previous concept of unsustainable development. Sustainability implies the necessity to protect the environment in intensive plant and livestock production.

Green economy (Green agriculture) is one of the most promising global development concepts, which should be especially evident in agriculture and the production of health-safe food. In this regard, it is important to follow and implement EU strategies within the framework of the "Green Deal". It is especially important to develop organic agriculture.

MATERIAL AND METHODS

The current paradigm of development is based on *homo economicus*, which is driven by profit motivation. It is the aspiration of people to make a profit with their economic activity, at any cost, and thus increase their wealth. Profit is considered a legitimate human initiative and the main driver of initiative and progress in all areas, including agriculture.

Capitalism introduced the agrarian revolution in agriculture, as a process of accelerated improvement of agricultural production by applying a high degree of mechanization, chemicalization and new methods of land cultivation, as an expression of the desire to maximize yields. This industrialization of agriculture causes numerous negative consequences for agriculture, land and food, as well as accelerated changes in the countryside (rural exodus and deagrarianization). Changes are needed in the direction of a new growth paradigm based on the concept of sustainable development, which is reflected in agriculture through health, safety and organic food production.

The key issue of further socio-economic development, and in this context agriculture and food, is the issue of a new concept of sustainable development, and in connection with the new economy. These are new patterns of thinking and behavior, which include, above all, the so-called. Green business, ie. The concept of a green economy, which is in line with the necessity of sustainable development. Business, including agribusiness, must, in fact, respect environmental principles, as well as the principles of business ethics, in the function of protecting man, society and nature from the consequences of unsustainable development so far.

Development of mass agricultural production for the market, consequence of division of labor, increasing specialization in agriculture and animal husbandry, breakdown into various branches of agricultural production. Along with that, there was professional training of farmers, more perfect use of agricultural machinery, selection of seeds, animal breeds, improvement of agricultural techniques, etc. In a relatively short time (from the beginning of the 19th century), numerous inventions made it a chemical fertilizer - Chilean saltpetre, phosphate, ammonia sulfate, etc. - became the main feature of agriculture in Europe and the world. This is the beginning of modern industrial food production (conventional agriculture), with all the positive (hyperproduction of food), but also negative effects (geological destruction of land, water, the problem of food safety, etc.). Global warming, namely, causes severe meteorological (climate) disturbances that threaten the biobalance on the planet Earth. The current conventional agriculture also contributes to this.

RESULTS AND DISCUSSION

Since the beginning of civilization, most people have been engaged in agriculture. Today, in the first half of the 21st century, half of the world's population lives in rural areas and has ties to agriculture. Agriculture is the main source of livelihood for as many as 70 percent of the world's poor, living in rural areas and predominantly in developing countries. Human impact, however, has led to unsustainable environmental consequences.

The global agricultural system not only crosses planetary boundaries but also has other negative consequences. One of the problems is that the system of food production and use encourages, among other things, the emergence of new pathogenic germs (dangerous viruses such as the frightening SARS viruses from 2003, and the corona virus - Covid 19 from 2020).

The agrarian revolution, which lasted from the 50s to the 80s of the last century, led to the fact that the impact of agriculture on the environment is greater than it seems at first glance. The agrarian revolution, namely, introduced science, primarily agricultural chemistry, into agricultural production (chemicalization and mechanization of agriculture), which led to the industrialization of agriculture.

From that time until today, the impact of agriculture on the environment is manifested in several ways:

- By clearing the land for their cultivation (carbon dioxide emissions contribute to climate change, there is erosion and degradation of agricultural land);
- Use of artificial fertilizers, which are the main source of anthropogenic leakage of nitrogen and phosphorus;
- Agricultural production also leads to chemical pollution (using artificial fertilizers, pesticides, herbicides, etc.);
- Refrigerants used in food production and storage destroy the ozone layer;
- Monocultural agriculture causes a great reduction in biodiversity. It is about growing only one crop in an agricultural area, as a consequence of the process of specialization and profitability of agricultural production. Continuous cultivation of one plant species in the same field (field) for more than one year (vegetation season) has a multiple negative effect on the conditions of plant cultivation. Namely, it has an unfavorable effect: on the physical properties of the soil; on the one-way utilization of nutrients; contributes to the spread of weeds, diseases, pests, etc.

Modern food production is therefore based on the inputs of intensive agriculture, which means that it largely depends on fertilizers, pesticides, irrigation systems and machinery. And all that, again, depends on the **energy of fossil fuels**. It is a key factor in climate change, which has catastrophic consequences for agriculture and food production.

CONCLUSION

Instead of a conclusion: the necessity of sustainable development of agriculture and food production

The unsustainable concept of homo economic growth is leading humanity to ruin. Scientists from MIT (USA) warned about this danger in the cult book "Growth Limits" in the 70s of the last century. From then until today, politicians meet, discuss, state, declare and do not solve anything.

Changes are needed in the direction of a new development paradigm in all areas, including agriculture and food production. The economy is faced with the imperative of realizing the concept of sustainable development. Economics has already taken over this historical task through the concept of the so-called new economies. An important segment of the new economy is the green economy, which should ensure the realization of the concept of sustainable agricultural production, as opposed to the previous concept of unsustainable development. Sustainability implies the necessity to protect the environment and human health in intensive plant and livestock production. When it comes to climate change, it is about the need to respond to climate change with new technologies in agricultural production (precision agriculture, etc.)

The EU's "Farm to Table" strategy under the "Green Deal" emphasizes that "food must be safe, nutritious and of high quality". It must be produced with minimal impact on nature. In this regard, a special place and role is occupied by organic food production.

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