ENVIRONMENTAL ISSUES. ECOTECHNOLOGIES

NARMANOV OTABEK ABDIGAPPAROVICH
Tashkent University of Information Technologies named after Muhammad al-Khwarizmi

Аннотация. *Для регулирования экологических проблем необходимо стимулировать развитие области экотехнологий, основанной на биотехнологиях. С помощью биотехнологий и экотехнологий разрабатывается интегральный индекс. Это определяет устойчивое развитие эффективности экологической безопасности.*

Экотехнологии выполняют уникальные задачи, такие как регулирование устойчивого развития. Контролируют использование биотехнологий для создания экологически безопасных решений, одновременно управляя отходами, которые различными способами попадают в окружающую среду.

Ключевые слова: *Биотехнология, экотехнология, экология, окружающая среда, устойчивость, засуха, почва, вода, ресурс, инструмент, спрос, контроль, порядок, биоресурс, строительные материалы, энергия, инновация, инсектицид, пестицид.*

Abstract*. To regulate environmental issues, it is necessary to stimulate the development of the field of eco-technologies based on biotechnology. With the help of biotechnology and eco-technologies, an integral index is developed. This determines the sustainable development of the effectiveness of environmental safety.*

Ecotechnologies perform unique tasks such as regulating sustainable development. Controlling the use of biotechnology to create environmentally friendly solutions while managing waste that enters the environment in various ways.

Keywords: *Biotechnology, ecotechnology, ecology, environment, sustainability, drought, soil, water, resource, tool, demand, control, order, bioresource, building materials, energy, innovation, insecticide, pesticide.*

In recent years, the growth of construction volumes aimed at modernizing certain areas has led to environmental problems. Construction materials have various chemical properties. This poses a danger not only to the human body, but also to the surrounding vegetation, water, soil, land and sea animals.

Chemicals are also used to improve the quality of various fruits, vegetables and melons. These preparations, in turn, serve to destroy various pests. However, they also have a harmful effect on living organisms.

Eo overcome the above problems, it is necessary to control the development of the field of eco-technologies based on biotechnology. This will lead to the

implementation of tasks characteristic of eco-principles. Ecological principles will serve as guidelines for ecological reconstruction. In this case, a quantitative measure of eco-technologies and biotechnologies will be developed – an integral index. This will allow determining the sustainable development of the effectiveness of ecological safety.

Indeed, in various sources the transition to eco-technologies is mentioned as a positive solution to economic problems. Eco-technologies mean the transition to sustainable development and environmental responsibility. This is typical for the management of construction, industry, agriculture and energy.

Ecotechnologies - Oversees the use of biotechnology to create environmentally friendly solutions for managing waste that is released into the environment in various ways.

Ecotechnology involves the use of biotechnology to develop sustainable solutions that minimize environmental impacts and improve resource efficiency across a variety of environmental factors. It also focuses on using natural processes and biological systems to create environmentally friendly products and processes. For example, using microorganisms or enzymes to produce biomaterials and bioproducts, recycled materials, biofertilizers and biodegradable plastics; using microorganisms to clean up soil and water from pollutants; developing drought-resistant crops; reducing the use of targeted insecticides; improving the natural health of soil and water; regulating microbial processes to recycle waste and restore resources, etc.

High-tech biotechnology uses genetic engineering and sophisticated laboratory techniques to produce drugs and effective diagnostic tools based on DNA technology.

Although eco- and biotechnology have led to significant advances, environmental issues may be incompatible with sustainable development goals.

With the world's population growing and climate change, diseases caused by environmental pollution are increasing the demand for sustainable solutions as people's demand for environmentally friendly products increases.

To ensure environmental sustainability, regulations that reduce emissions into the environment in various ways encourage the use of clean technologies.

At present, the advantages of eco-technologies can be explained as follows: they reduce the impact of eco-factors on the environment; reduce air pollution; preserve bioresources; regulate greenhouse gases; reduce the growth of various wastes, etc.

Sustainable processes are cost-effective and reduce risks to ecosystems, improving the environment and human health.

Efficient use of eco-technologies can now lead to waste reduction and the development of a circular economy. Optimizes construction projects to use environmentally friendly building materials and increase energy efficiency.

Implements measures to adapt to climate change; controls the development of natural agricultural crops and the efficient use of food industry resources.

Thus, the transition from biotechnology to advanced eco-technologies will allow achieving sustainable equality. This will create the basis for the creation of innovative solutions aimed at effectively solving environmental problems using the capabilities of biotechnology.

Eco-technologies are based on an understanding of environmental problems and have characteristics of ecosystem management. Within this approach, measures are taken to ensure the appropriate use of technologies. This is assessed through ecosystem management by reducing the damage caused by environmental problems to the global environment.

So, to sum up the above, we can say that the basic rules of ecotechnology follow from the ecosystem environment. The proposed general rules implement the management of natural ecosystems using ecotechnologies. Some rules are related to natural watershed and regional management.

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Therefore, given the growing demands of living beings on natural conditions, the study of ecology and economics is of great importance.

Ecological models play an important role in understanding the structure of environmental problems. They cover processes and problems associated with many environmental factors.

To solve these environmental problems, it is necessary to organize various activities in problem areas, as well as control both renewable and non-renewable natural resources. It is necessary to develop environmental and economic regulation programs that can ensure a sustainable future. This is seen as a promising first step towards a true synthesis of natural development. At the same time, it is necessary to control the correct use of the natural protective resources of the ecosystem.

Environmental problems are also characterized by global climate change. In the context of a sharp increase in temperature in some regions, the negative consequences of the impact of abiotic factors are also increasing. To solve these problems, it is necessary to restore stable interaction between specialists in the field of sanitation, engineers, scientists, politicians and media representatives.

The practical implementation of these tasks is of great importance for human health. Protecting nature from environmental problems reduces the risk of developing various diseases in a living organism. Protecting a healthy organism from external environmental factors improves the well-being of the future.

To solve the discussed environmental problems, it is necessary to develop programs for the destruction of various pathogens, insecticides, pesticides, heavy metals, building materials and industrial waste. This will contribute to the creation of a healthy environment and the protection of human health.

LIST OF REFERENCES

1. Biswas, J. K., & Sarkar, D. (2024). Special Issue on “Ecotechnological Green Approaches to Environmental Remediation and Restoration”. Applied Sciences, 14(5).
2. Haddaway, N. R., McConville, J., & Piniewski, M. (2018). How is the term ‘ecotechnology’used in the research literature? A systematic review with thematic synthesis. Ecohydrology & Hydrobiology, 18(3), 247-261.
3. Najjar, D. A., Normandin, A. M., Strait, E. A., & Esvelt, K. M. (2017). Driving towards ecotechnologies. Pathogens and global health, 111(8), 448-458
4. Rene, E. R., Shu, L., & Jegatheesan, V. (2019). Sustainable eco-technologies for water and wastewater treatment. Journal of Water Supply: Research and Technology—AQUA, 68(8), 617-622.
5. Riyazuddin, S., Gopamma, D., Suresh Kumar, K., Priyanka Priyadarshini, N., & Srinivas, N. (2024). Ecotechnology Approach for Remediation of Heavy Metals. In Heavy Metal Remediation: Sustainable Nexus Approach (pp. 319-337). Cham: Springer Nature Switzerland.
6. Ruiz-Sánchez, R., Arencibia-Jorge, R., Tagüeña, J., Jiménez-Andrade, J. L., & Carrillo-Calvet, H. (2024). Exploring research on ecotechnology through artificial intelligence and bibliometric maps. Environmental Science and Ecotechnology, 21, 100386.
7. Urmanova, G. U., Karshiev, D. A., & Islamov, Y. N. (2021). Functional status of small intestine after application of guanetidide sulfate. Новый день в медицине, (1), 29-33.
8. Urmanova, G., & Yoldosheva, D. (2024). Physical characteristics of pulse oximetry. Theoretical aspects in the formation of pedagogical sciences, 3(5), 46-48.
9. Zhao, Q., Zhang, Y., Li, X., Hu, X., Huang, R., Xu, J., ... & Shi, P. (2024). Environmental Science and Ecotechnology.
10. Исломов, Ю., Каршиев, Д., Урманова, Г., & Исломов, А. (2023). Биологик актив бирикмаларни нурланишга таъсири. Актуальные вопросы детской хирургии, 1(1), 11-12.
11. Канило, П. М., Сарапина, М. В., & Костенко, К. В. (2013). Глобальные энерго-экологические проблемы и фотосинтез.
12. Лякин, В. Е. Этико-экологические проблемы современной науки. Актуальные проблемы социокультурных исследований, 27.

13. Семенова, Г. Н. (2022). Глобальные экологические проблемы и способы их решения. Научные труды Вольного экономического общества России, 238(6), 226-248.
14. Таъсири, с. (2006). Фозалон инсектициди ва кадмий ионларининг жигар митохондриялари мембранаси ўтказувчанлигига таъсири Доклады Академии наук Республики Узбекистан, (6), 81.
15. Урманова, Г. У., Каршиев, Д. А., & Исламов, Ю. Н. (2022). Аллергические изменения поджелудочной железы циррозах печени у детей. Воронцовские чтения®. Санкт-петербург-2022, 114.
16. Шадиметов, Ю. Ш., & Айрапетов, Д. А. (2022). Экологическая дипломатия в центральной Азии. Экономика и социум, (9 (100)), 770-777.
17. Цаллагова, Л. В. (2013). Круглый Стол. Оценка влияния экопатогенных факторов окружающей среды на здоровье населения г. Владикавказ". Владикавказский медико-биологический вестник, 16(24-25), 18-19.