ACHIEVING SUSTAINABLE DEVELOPMENT IN UZBEKISTAN THROUGH LEVERAGING INNOVATIVE APPROACHES

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Abstract. This thesis explores the importance of innovation for sustainable development, focusing on leveraged innovation. It discusses international projects like Singapore's vertical farming and recommends how solutions can be applied. The goal of sustainable development is to meet present demands without sacrificing the ability of future generations to meet their own. The research highlights Uzbekistan's natural potential and suggests effective projects to support eco-friendly, sustainable agriculture for residents and the environment.

Introduction

The goal of sustainable development is to meet present demands without sacrificing the ability of future generations to meet their own. This is how we must live now if we hope for a brighter tomorrow. The survival of our societies and our shared planet depends on a more sustainable world.[192]

On our planet, everything is interconnected to each other from all aspects – nature and humanity, climate change and development. Therefore, to achieve sustainable development necessitates a comprehensive strategy that equally benefits both environment and people by ensuring prosperity and peace. It is crucial to address poverty, lessen inequality, and encourage strong economic growth, as well as tackle climate change. According to the 2030 Agenda for Sustainable Development,[193] economic growth, social inclusion, and environmental protection are the key components of sustainable development. If any of them is neglected or imbalanced, the entire effort of sustainable development collapses. These efforts are fundamental to securing a high quality of life for all living beings, both now and for future generations. 17 Sustainable Development Goals - ensures sustainable development via balancing the three dimensions. Talking about the importance of sustainable development, it enables individuals to have decent work, qualified health care, education, as well as avoiding permanent losses and pollution to the environment. Generally, just looking around is enough to better understand the importance of sustainable development in real-world terms. for instance,

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[192] World Economic Forum. (2020). Unlocking Sustainability: Green Growth & Innovative Strategies. Retrieved from https://www.weforum.org/agenda/2020/01/green-growth-innovation-sustainability/
[193] https://www.un.org/sustainabledevelopment/development-agenda/

Environmental challenges have a significant impact on people as well as animals, all creatures on the planet, to live longer and healthier. In contrast, most of the time, despite the development of nations, however still unsustainable. Just overlooking any of the dimensions can cause severe difficulties: Environmental destruction, air pollution, water shortage, deforestation, and severe illnesses posed by climate change. Ongoing environmental innovation is the only way to reduce pressures on environmental quality while maintaining income growth. Government, scholars, business leaders, and officials all generally agree that innovation is a major force behind sustainability. This article recommends some of the green innovations that have been successful in foreign countries and offers to implement some of them, as they can also be effectively implemented in the green economy of Uzbekistan.

To sum up, to accelerate sustainable development, leveraging innovations is crucial. The government should concentrate on innovations that benefit the economy, society, and environment simultaneously rather than utilizing isolated solutions. Uzbekistan can successfully unlock green growth and guarantee long-term prosperity for residents as well as the environment through utilizing its great potential to adapt examined international methods.

Foreign innovative solutions. Farming in the Sky in Singapore

Photo 1: A Sky Green farm tower. Photo: Kalinga Seneviratne/IPS.

Since 1990, as a result of rapid urban expansion in Singapore, land availability has been reduced for traditional agriculture. This difficulty has encouraged the projects

for effective, space-efficient farming ways. The capacity of locally produced food stood at 7 %, and Singapore heavily relied on imports for fruits and vegetables. A viable solution, the concept of “sky farms “has been introduced or can be called vertical farms. “We have begun developing a 6-tiered aeroponic system to grow vegetables with the help of LED lights,” Lee Sing Kong said, adding, “This is in the experimental stage. If the model proves to be successful, then the multi-tiered system can be installed within enclosed buildings for producing vegetables.

Photo 2 Sky green project

This innovation will certainly enhance the opportunities for urban

agriculture.” [194] Governmental agencies like the Agri-Food and Veterinary Authority (AVA) established partnerships and collaborative projects such as Sky Greens, which represents an effective example of the integration of innovation in urban agriculture. One of the good sides of sky green is that it consumes minimal energy (around 60 watts per tower), simultaneously reducing water wastage. Sky green production provides fresher produce, declining emissions, and transportation costs, encouraging agriculture by using a minimal amount of energy and water. Singapore’s experience can be a good example by representing how leveraging innovative agricultural technologies can enhance food production and drive sustainable development.

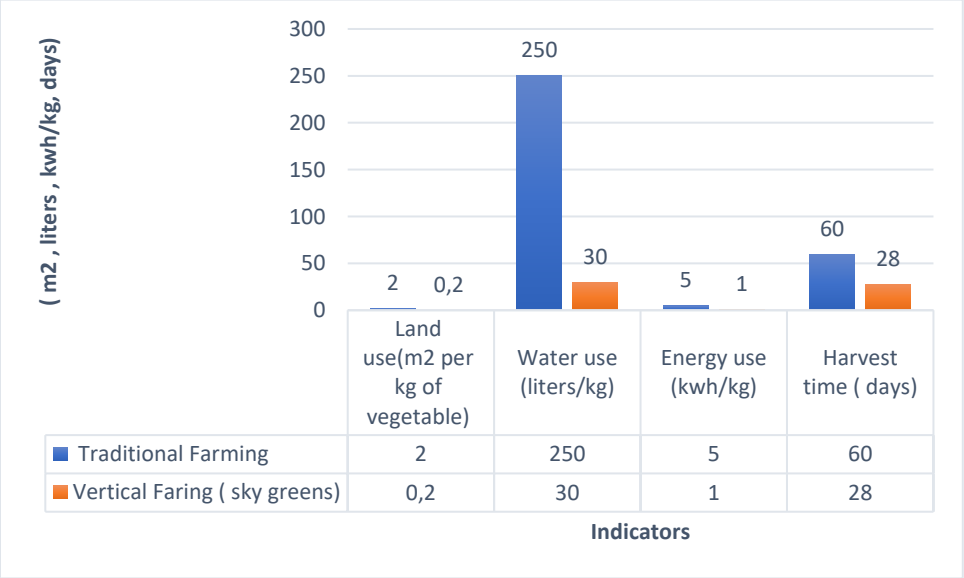

Figure 1Local vegetable production (%)

Land use; vertical farms use about 10 times less land.

- Water; almost 8 times less water is used.
- Energy: Vertical farming uses energy for lights /movement, but still much lower.
- Harvest cycle: faster harvesting because of controlled conditions (LED lights, constant watering)[195]

Uzbekistan’s potential for sustainable innovations.

Uzbekistan has critical potential for progressing sustainable innovations according to its abundant natural resources and dynamic human capital. The nation benefits from rich agrarian land, a sunny climate, and a youthful, developing

[194] https://ourworld.unu.edu/en/farming-in-the-sky-in-singapore
[195] Sky Greens. (n.d.). Sky Greens: World's first low carbon, hydraulic driven vertical farm. Retrieved from https://www.skygreens.com/

population enthusiastic for modern opportunities. Several promising activities have already been launched, such as advanced greenhouses utilizing energy-efficient advances and the development of sun-powered farms in locations like Samarkand and Navoi.

Since Uzbekistan has the potential and necessity for strengthening sustainable development, vertical farming could be explored and applied in major urban areas. Water shortage and energy usage are arising problems in the agriculture sector; in the following years, it can even become a serious challenge. Moreover, Tashkent is considered a rapidly urbanization city and vertical farming can be an appropriate project by offering local food production, reducing the amount of energy use, preventing water shortage, and optimizing limited urban space. Initially, this project can be implemented on the rooftops of residential complexes, with the support of government and private sector investments. Many advantages are intended from this innovation, not only economic food production but also enhancing employment of individuals, encouraging youth with eco-friendly technologies, and accelerating a culture of sustainability among the next generation.

Conclusion

To sum up, Uzbekistan is well-positioned to become a leader in sustainable innovation by utilizing its advantages and a wide workforce. Through incorporating vertical farming into urban development strategies and supporting public-private partnerships, Uzbekistan can foster economic resilience. In the end, a better future for the next generation and the planet can be guaranteed, and economic growth and environmental protection will be positively affected by implementing sustainable technologies.

Sustainable development involves meeting the needs of present generations in the same manner as they are expected to meet future needs. To sustainably develop, a full picture of nature, human civilization, climate change, and development is needed. The lack of unity between these processes will lead to faulty efforts and the deterioration of human civilization. Environmental challenges such as air pollution, water shortage, deforestation, and diseases linked to climate change require constant environmental innovation to ease the impact of environmental pollutants on the environment, while still achieving income growth. Using green innovations in Uzbekistan can open the path for green growth and ensure the long-term prosperity of residents and nature.

References

1. Caict_uzbekistan_digital_economy_overview_vision_2030

2. World Economic Forum. (2020). Unlocking Sustainability: Green Growth & Innovative Strategies. Retrieved from https://www.weforum.org/agenda/2020/01/green-growth-innovation-sustainability/

3. https://www.undp.org/uzbekistan

4. https://ourworld.unu.edu/en/farming-in-the-sky-in-singapore

5. Sky Greens. (n.d.). Sky Greens: World's first low carbon, hydraulic driven vertical farm. Retrieved from https://www.skygreens.com/

6. Our World in Data. (n.d.). Food Production and Consumption. Retrieved from https://ourworldindata.org/food-production

7. IPS News. (2013). Singapore’s Vertical Farming Breaks New Ground. Retrieved from http://www.ipsnews.net/2013/02/singapores-vertical-farming-breaks-new-ground/

8. Food and Agriculture Organization of the United Nations (FAO). (n.d.). Urban Agriculture: Food, Jobs, and Sustainable Cities. Retrieved from https://www.fao.org/urban-agriculture/en/

9. An essay on innovations for sustainable development Dr. Yoram Krozer & Andries Nentjes

10. The Importance of Regulation-Induced Innovation for Sustainable Development Nicholas A. Ashford

INNOVATIVE APPROACHES TO ACHIEVING SUSTAINABLE DEVELOPMENT: THE ROLE OF NEW OCCUPATIONS, SKILLS, AND THE GREEN ECONOMY IN UZBEKISTAN

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Annotation

This article examines how innovation and green skills development are driving sustainable development in Uzbekistan. It highlights the growth of green jobs, workforce modernization through digital education and partnerships, and the impact of renewable energy on employment. The study concludes that innovation and green skills are vital for building an inclusive and resilient economy.

Keywords: green economy, innovation, labor market, green jobs, skills development, competency-based education.

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