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THE CONCEPT OF CLIMATE RESILENT ECONOMY: UZBEKISTAN

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ABSTRACT

Since climate change is a worldwide concern, Uzbekistan's climate-economic relationship study is evaluated in respect to other nations. The concept of climate change resilient economy is summarized in this study article. The findings show that Uzbekistan is making headway toward greater preparedness for future detrimental effects of the climate change, even in light of the country's precarious position with relation to it.

KEYWORDS: Adoption, climate change, agriculture, economic security, water management.

I. INTRODUCTION

Although long-term variations in temperature and weather patterns may be a result of the solar cycle, human activity has been the primary cause of climate change since the 19th century due to the use of fossil fuels[1].

Relative to other scientific metrics, Earth's temperature is remarkably intimately related to the world economy. A delicate situation is being played out as our planet warms, with certain industries perhaps benefiting and others facing major upheavals. In order to navigate a future shaped by climate change, it is imperative to comprehend this complex link.

However, despite these challenges, opportunities also exist. Investments in improved irrigation techniques, climate-smart agriculture, and renewable energy infrastructure can spur economic expansion and create new jobs. Furthermore, green projects and cutting-edge technology have the potential to become significant economic catalysts that will support a more
sustainable future as the world transitions to a low-carbon economy.

Climate change is another relatively recent problem that many nations, including Uzbekistan, are now having to deal with. Investigation of climate-economic

[1] What is climate change? United Nations. United Nations. Available at: https://www.un.org/en/climatechange/what-is-climate-change

relationship in the case of Uzbekistan is difficult because it is complicated to capture direct and indirect effects of climate shifts on economy correctly by sectors and regions besides, there have not been made much research on the area chosen.

II. LITERATURE REVIEW

Scientific research on climate change sheds light on the intricate mechanisms driving global warming. By meticulously collecting and analyzing data on factors like greenhouse gas emissions, rising sea levels, and shifting weather patterns, scientists can predict future climate scenarios. This knowledge is crucial for economists to assess the potential economic impacts of climate change.

One methodical way to identify how nations are responding to the risk of climate change is through the Climate Laws, Institutions and Measurement Index (CLIMI). 90% of global GHG emissions were covered by CLIMI across 95 nations, including Uzbekistan. Next, CLIMI was used to look into the political and economic aspects that influence the decisions made by nations on how to respond to climate change. Despite the existence of democratic institutions, it turns out that states with higher levels of public knowledge of climate change have effective climate policies (Steves, 2013).

Developing efficient water-saving methods is essential to addressing the water scarcity in arid regions, especially in light of the consequences of climate change. Both domestic and foreign scientists looked at how land management practices and water use affect water production in Uzbekistan. The fact that furrow irrigation needs to be adjusted for improved water management is one of the key issues with its low water consumption efficiency rates. The results of the study demonstrate that while legislative incentives play a crucial role, technology can also aid in lessening the notable disparity between low and high water production values (Mirshadiev, 2018).

Reduced water availability due to growing water demand and rising temperatures presents unique and significant challenges for Uzbek farmers. Using a spatially explicit stochastic optimization model, the effects of climate change on agricultural revenue and water consumption efficiency were investigated. The findings suggest that farmers' income would drop by 25% for every 3.2 °C increase in temperature and a notable reduction in irrigation (Bobojonov, 2016).

The urgency of combining adaptation and mitigation measures is emphasized in the study. Decision-makers may boost economies and provide a more stable future for all by applying preventive measures and being aware of the complicated impacts.

III. METHODOLOGY

The examination of qualitative data gathered using both quantitative and non-quantitative methodologies is necessary to ensure appropriate study outcomes. To accomplish the goals, theoretical and descriptive approaches are applied. The understanding of strategies for maintaining economic stability in the face of climate change is enhanced by the use of legal documents regarding the research objective.

IV. RESULTS

Uzbekistan has prioritized policy-wise climate change adaptation in order to reduce vulnerability and increase the country's ability to withstand the effects of climate change. It is highly probable that Uzbekistan's water and land resources will face challenges related to climate change, making adaptation measures necessary. The nation's socioeconomic systems are greatly impacted by factors such as population growth, industrialization, economic globalization, climate change, and the impending water crisis.

Uzbekistan's climate profile has been analyzed, and the country's standing is evaluated using the ND-GAIN Index. Uzbekistan came up at number 72 on the ND-GAIN Index for 2021. The ND-GAIN Index illustrates both Uzbekistan's readiness to advance resilience and its susceptibility to global concerns and climatic shifts.

The Republic of Uzbekistan unveiled a national action plan in 2023–2030 aimed at lowering the likelihood of natural disasters and boosting climate change resilience. The following should be defined as priorities within the implementation of the National Action Plan:

Table 1. National Action Plan of The Republic of Uzbekistan on increasing resilience to climate change 2023-2030

The National Action Plan	
Enhancing the organizational and legal frameworks for lowering the risk of natural disasters and raising climate change resilience	Arranging financing measures to lower the risk of natural disasters and raise climate change resilience
Educating the public about lowering the risk of natural disasters and raising climate change resilience	Raising the preparedness level in the event of a natural disaster

Over the last three years, Uzbekistan has made guaranteeing food safety, improving the quality of agricultural products, and expanding its export potential its top priority, changing the country's approach to these issues. The following recommendations are offered by professionals to guarantee food safety in Uzbekistan:

- achieving a high share of food security in the composition of agricultural products;
- further strengthening of legislation aimed at ensuring efficient and effective use of land and water resources in agriculture;
- improving the water use system in order to grow agricultural food products in the necessary volumes.

The green economy, which places a strong focus on sustainable practices and eco-friendly activities, offers some hope for preserving food security in the face of rising temperatures.

The following actions and procedures to put things into practice:

a) By utilizing environmentally friendly methods like crop rotation, cover crops, and improved soil management, agricultural resilience to climate change can be increased. These methods can improve productivity and yield stability by promoting biodiversity, improving water retention, and reducing soil erosion.

b) Rainwater collection systems and drip irrigation are two examples of green technology that can significantly improve agricultural water management. This is crucial since it is predicted that climate change would exacerbate the scarcity of water, jeopardizing agricultural productivity in numerous areas.

c) Since small-scale farmers typically have to make initial investments, it may be challenging for them to integrate green farming techniques and technologies. Information transfer and finance strategies are necessary to provide accessibility.

CHAPTER V. CONCLUSION

Ensuring economic security in the era of climate change requires a comprehensive and integrated approach that addresses the underlying drivers of vulnerability and builds resilience across multiple sectors and scales. By investing in sustainable development practices, fostering innovation and collaboration, and prioritizing the well-being of both people and the planet, we can create a more secure and prosperous future for all.

In summary, studying the financial effects of climate change is a challenging task with built-in constraints. Nonetheless, additional work in this area is necessary to create laws that work and guarantee a future for Earth that is more robust and sustainable. We can successfully negotiate the challenging issues of climate change and economic stability if we conduct thorough scientific research and keep an eye on the big picture.

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