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Research Article

THE SMART RESOURCE MANAGEMENT, INCLUDING WATER-ENERGY-FOOD COMMODITIES, IS FUNDAMENT FOR PREVENTING HEALTH PROBLEMS

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Akhmadbek Bakhtiyorov
Student Of Tashkent State University Of Economics, Uzbekistan

ABSTRACT

The following article is focused on the today's issue of Central Asia in terms of mismanagement of natural resources which, especially water-energy-food as well as the health problem in Uzbekistan that has been enlarging over the past several years. Therefore, any problem that relates to the environment of the Earth should be solved as quickly as possible on a daily basis.

KEYWORDS

Central Asia, Uzbekistan, nature, environmental problems, water pollution, energy, food security, health problems, nexus.

INTRODUCTION

It cannot be disputed that Central Asia, encompassing five countries: Uzbekistan, Kazakhstan, Turkmenistan, Kirgizstan as well as Tajikistan, is famous for its enormous natural resources in the world. Nevertheless, especially after the control of Soviet Union, which specialized the area for the dramatic quantity of cotton production many years, most parts of the area are not tapped even now. Although there is very huge gas as well as oil deposits in the area, the problem of unemployment, low rate of GDP are not solved yet. Moreover, the importance of nexus formula which proves the significance of energy, water along with food as they are unbelievably

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considerable to prevent the health issues among people. According to this there will be some solutions to specific types of natural issues in this place in the following paragraphs.

ANALYSES OF RELEVANT LITERATURE

The professor Selina Angelini from the Venice International University conducted broad research on the topic of environmental issues in Central Asia and their causes long with implications that can help to mitigate the condition of climate in the middle part of the Eurasia. According to her thoughts, the biggest barrier for the better development of countries in this area is the lack of recourse management as the all five countries are not united well. For instance, even though there are big resources of water, they are mainly located in Kyrgyzstan along with Tajikistan.

Furthermore, professors Abdurakhmanov Kalandar Khojaevich, Dodoboev Yusubjon Tajibaevich, Khamidov Bakhodirjon Sadikjanovich from the Academy of Science in Uzbekistan also held a survey about the water problems in Uzbekistan and mentioned that huge amount of investment should be directed to the water sector in order to reinforce the sector in their article, namely "Ecological Problems of Central Asian countries".

The report in The Diplomat [6] by Khamza Sharifzoda, the graduate of Georgetown University, also explained the climate change problems in the middle part of the continent. According to his opinions, the dramatic shockingly hot weather condition in Tashkent, which is 42 C or 45 C in Kazakhstan along with Kyrgyzstan are the initial vivid examples for the expected major weather problems. Khamza considers that all of these kinds of recent major changes are owing to the high rate of emissions in USA and China which consist of approximately 40 percent of the global total.

In addition, the group of professors, including Yanlai Zhoua,c,d , Li-Chiu Changb, Tin-Shuan Uena, Shenglian Guoc, Chong-Yu Xud as well as Fi-John Chang have analyzed and wrote an article by names of "Prospect for small-hydropower installation settled upon optimal water allocation: An action to stimulate synergies of water-food-energy nexus" in the journal of Applied Energy. According to their opinion, the fast transformation of urbanization process is inspiring the challenges on nexus management of water, food as well as energy. Therefore, they realized the new and huge chance of green energy production in Central Asian countries.

Ultimately, all researchers considered that the situation with resource management in our region is lack of professionalism, and this should be overcome as humanly as possible. Moreover, many experts are of the opinion that the region of Central Asia is rich in natural resources that undoubtedly gives the opportunity for the appropriate management of food, water along with energy.

RESEARCH METHODOLOGY

The research is conducted on the topic of wise management of three most important commodities for people, which are energy, food and water, and the problems with the mismanagement of the natural resources of Central Asia. The article provides theoretical and practical observation, formulates proposals and recommendations on the basic tips for the solution to the problems that were mentioned by many authors of fruitful articles above. The developed scientific and practical recommendations can be used in the process of further improving the condition in

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this region and ways of preventing the issues that can be caused by climate change.

ANALYSES AND RESULTS

The term of water-energy-food program may not be so well-known among many people around the world, but it is an amazing combination of three significant commodities which organizes the basic fundament of life in the world. This article is also based on the importance of supplying all these goods together to prevent the problem of healthy lifestyle among people.

Firstly, people should know how the energy, energy as well as food are important for each other. Most importantly, the utility of energy along with water creates and opportunity for the food production. Hence, the quality of water and stable energy supply inspires the high efficiency of food for people. Nevertheless, the climate change is encouraging several problems with weather and this, in turn, is causing problems with water and energy supply. The table below illustrates how climate stressors organized the risks for the high productivity of agricultural commodities and livestock. According to it, increased droughts, changes in precipitation patterns increases extreme events and increases temperatures the reduced crop yields and livestock productivity, decreases precipitation and water availability during vegetation period and others. And this, undoubtedly, decreases the quality of food, and motivates the problems with the low rate of immune system among people.

Fig 1 [1]

Climate Stressors and Climate Risks AGRICULTURE & LIVESTOCK	
Stressors	**Risks**
Increased droughts	Reduced crop yields and livestock productivity
	Worsening desertification
Changes in precipitation patterns	Increased demand on irrigation water
	Increased food insecurity
Increases in extreme events	Decreased precipitation and water availability during vegetation

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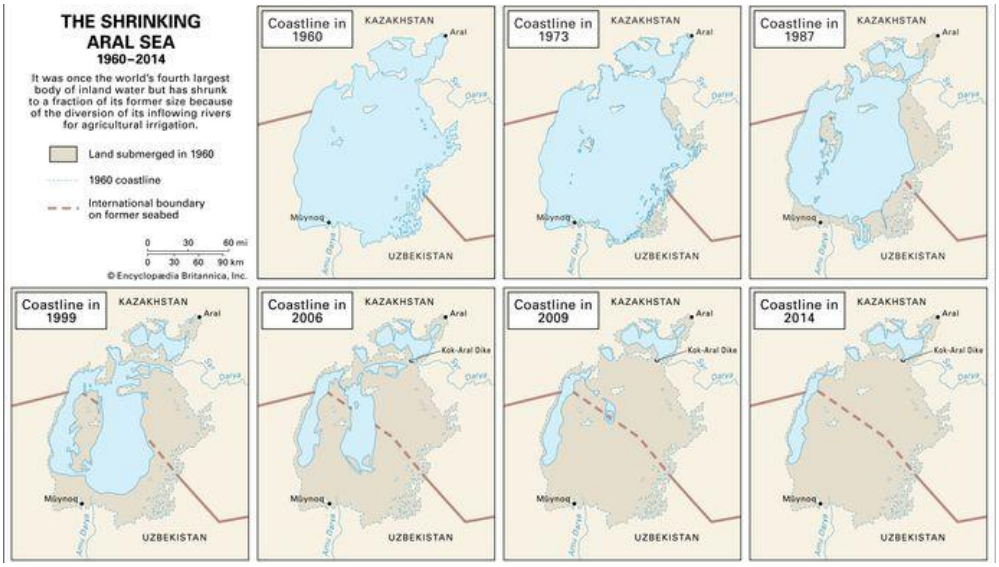
Increased temperatures	period
	Changing patterns of and increases in pest outbreaks
	Storm damage to crops and livestock
	Increased spread of infectious disease among livestock
	Increased soil salinity

[1]

The vivid example for the issues in the water sector that were created with the climate change to the people health can be illustrated with the facts of Aral Sea. the layer of chemical pesticides and natural salts has become harmful regarding land salinization and there has been a consistent loss of biodiversity. Secondary effects are air pollution and several socio-economic issues, such as unemployment, health problems and migration. Moreover, "the impacts of salt and dust storms carrying particles from the previous seabed are felt hundreds of kilometers around" (Carius et al, 2003). Furthermore, it should be highlighted that chemical pesticides and natural salts have also polluted the soil and in combination with the poor infrastructures and wasteful irrigation practices this has brought about further hazardous implications for both man and the environment.

Fig 2 [2]



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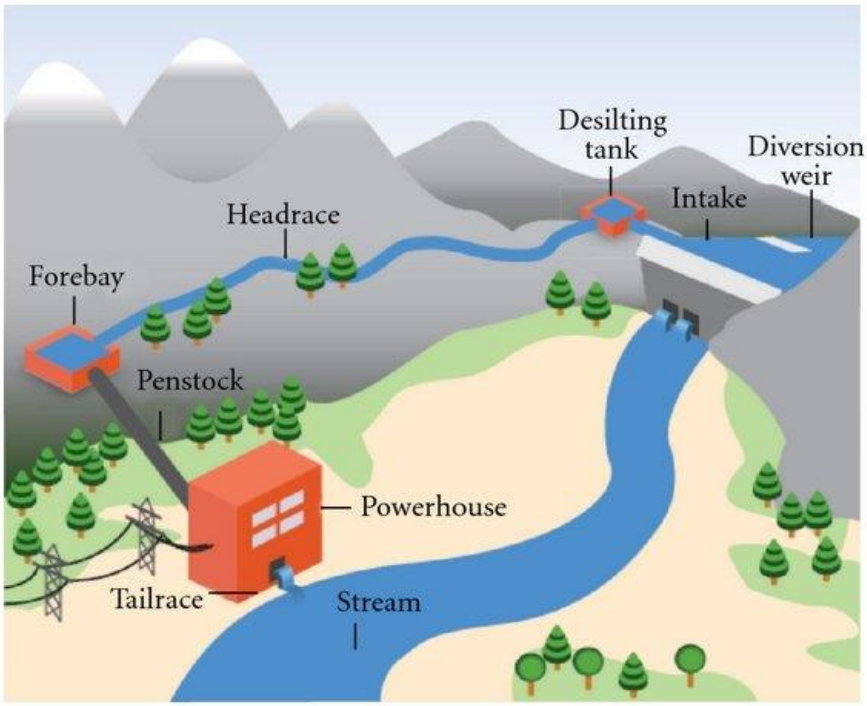
[2]

Nonetheless, the middle part of Asia has a high rate of innovation in terms of energy production, as there is a wonderful path for development by a group of Asian scholars in the Elsevier, particularly Applied Sciences Journal. They conducted research for a solution based on water resources views, supporting small-hydropower generation with artificial intelligence tools to improve the Water-Food-Energy synergy. The Shihmen Reservoir's water delivery network, which served both the agricultural and public sectors in northern Taiwan, was the study case's principal structure. The proposed three-pronged strategy was thoroughly investigated by optimizing multi-sectoral water allocation and maximizing the installation of small-hydropower turbines that were aligned with the ideal multi-sectoral water allocation. In addition, there is a simplified version of tiny hydropower system through the picture below.



The high rate of growth in world population caused the problem of supplying humanity with good quality food every time, that is why people, especially chemists started to think about the chemical foods that can physically can replace real food production. Hence, the term of GMO came to the world food markets immediately. In the beginning they were concerned as a appropriate solution for the food supply issue of the Earth, nevertheless, then then realized the potential risks of GMOs which are encouraging several health problems among people. Basically, the three primary points of contention have been the propensity to cause allergic reactions (allergenicity), gene transfer, and outcrossing by GMO foods. Ultimately, the all these issues lead to the lack of healthy breed among the world population. That is why the term of GMO should be strictly prevented and replaced with healthy food by paying more

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attention to the recovery of nature as it is possible to ensure 10 billion people with healthy food in our planet. [8] Therefore, lack of good immune system between people are causing several barriers, and this especially was seen in the period of COVID-19, while many could not overcome it, and even youth could survive hardly. Finally, the table below shows the real statistics, that are taken from the well-known researches, done by World Health Organization.

Fig 3 [9]

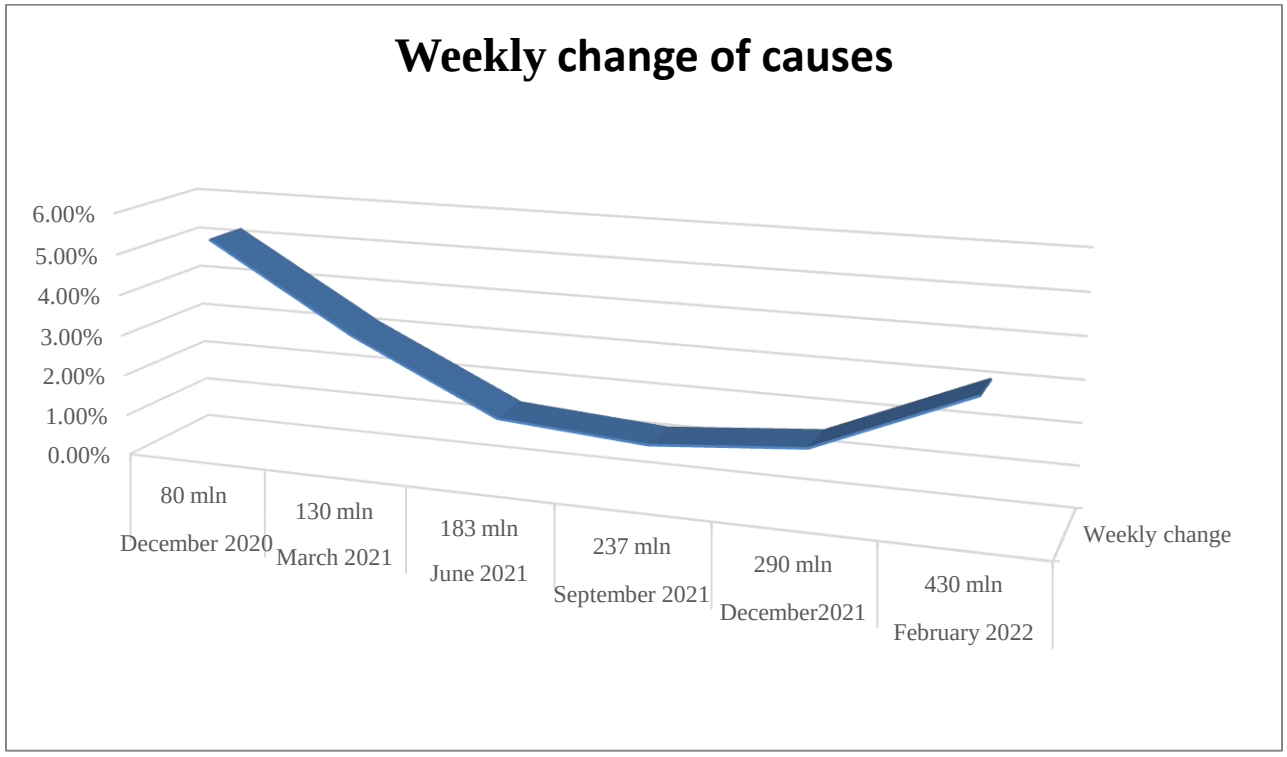

Figure 2. Weekly change of causes

Fig 4 [9]

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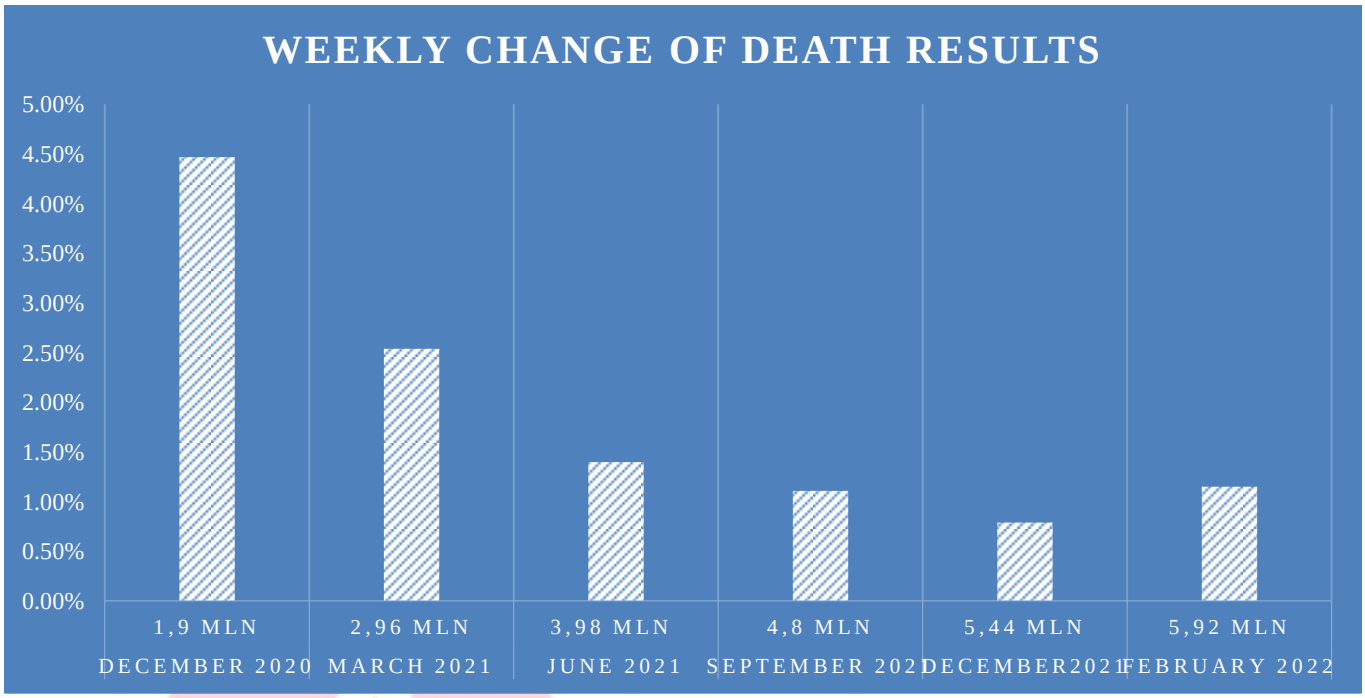

Figure 4. Weekly change of death results

In addition, there is a special part for Uzbekistan, which is rich in natural gas, oil, gold, and silver, and it boasts Central Asia's biggest population. "However, Uzbekistan is immediately confronted with two main hot zones in Central Asia, the Aral Sea and the Ferghana Valley, posing serious dangers to human growth and regional stability" [10]. As in the Ferghana Valley, environmental stress causes social and economic deterioration and vice versa, culminating in political and social conflicts or even outright violent conflict". Water management and agriculture are the two most important environmental challenges, as mentioned below. Water supply and quality are critical concerns in Uzbekistan, and have frequently been the source of disputes with its neighbors.

Therefore, the water, food, and energy nexus are critical to long-term growth. A growing global population, increased urbanization, changing diets, and economic expansion are all driving up demand for all three. Agriculture consumes the majority of the world's freshwater resources, while food production and supply consume more than a quarter of the world's energy.

Because of the inextricable links between these important sectors, guaranteeing global water and food security, as well as sustainable agriculture and energy production, need a well-integrated strategy. Therefore, these all play a key role in the high rate of good health among people, and this means that more attention should be paid on NEXUS as it is based on human benefits.

CONCLUSION

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In conclusion, the whole text along with figures in the article brightly illustrate how the water-energy-food strategy is significant for today's globalized world by enhancing the healthy lifestyle among people. Hence, as incremental climate changes are increasing day by day, the way of preventing health problems are through putting more emphasize on nexus program. According to this, there are some recommendations that should be paid attention:

- Installing more small hydropower networks that are controlled by AI;
- Decreasing the negative effects of climate changes to the environmental treasures, including water resources (like Aral Sea) and other resources
- Smart management of resources for the improvement of agriculture;
- Enhancing the quality of food, and decrease the rate of GMO;
- Paying more attention to nexus program, water-energy-food;

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