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Research Paper

Change has Antaorganistic effects on agriculture, environment soil fertility and human immunity

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Abstract: This climate change has an effective impact on the environment and agriculture. Rabi and Kharib crops get, soil fertility decreases and due to increase and decrease in temperature, untimely rains and rainfall decreases, sometimes conditions like drought and floods are created. Due to increase in temperature at the global level, there is change in weather, melting of ice, water shortage, increase in acidity in the ocean and loss of biodiversity etc. Loss of natural resources can be a big reason for humans. Because due to exploitation of nature, there has been a decrease in the food chain, decrease in crop production, lack of nutrients in food grains. Excessive use of any one grain causes deficiency of nutrients in the human body. For example, the amount of gluten is increasing due to the consumption of wheat, due to which the number of diabetes patients is increasing, due to which insulin is not being produced in the body. It is very important to emphasize on crop cycle according to the season every year. More and more chemical food products are being used in daily crop production, due to which the amount of chemicals in grains is increasing. Due to which many serious diseases are arising in humans. To prevent this, it is very important to promote coarse grain crops and animal husbandry and to promote plantation of trees in maximum numbers for environmental protection.

Keywords: Biodiversity Climate change temperature plantation humidity etc.

Introduction:

The Climate change is a serious problem of the present times. It is a matter of concern at the global level. International Institutes organize global conferences to reduce climate change and protect the natural environment. In which environmentalists, scientific thinkers, social workers and representatives from all over the world are invited. In which very serious issues related to life are put on the table. Such as climate change, temperature, Agriculture fluctuations, decrease in soil moisture, decrease in water level etc. The process of

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global warming is generally caused by human activity. Natural gases, fossil fuels etc. Are responsible for greenhouse gases. Land use and climate change are two dominant drivers of biodiversity on a global scale (Sala et al., 2000; Collen et al., 2014; Pimm et al., 2014,Radinger j .et al.,2016, As global warming increases, species and their habitats are lost, and adaptation possibilities for ecosystems are diminished. Many agree that climate change may be one of the greatest threats we face. Recent years have seen a rise in temperatures and/or an increase in extremes in weather patterns in various regions. Global warming and climate change is the increase in average global temperature caused by natural phenomena and human activities. This is primarily due to an increase in "greenhouse" gases such as carbon dioxide (CO_2).The term greenhouse is used synonymously with a phenomenon called the greenhouse effect. Energy from the Sun drives Earth's weather and climate, and warms the Earth's surface;In turn, Earth radiates energy back into space.Some atmospheric gases (water vapor, carbon dioxide, and other gases) absorb some of the outgoing energy.Dhawan2010, Therefore, research based on microbial ecology becomes an important frontier in present day biological science.

Bacteria, fungi, algae, protozoa, actinomycetes, and the infectious agents such as viruses are the entities within the vast resources of activities of microbial diversity (Andreote et al., 2014, Bhattacharyya et al;2016) Bhattacharyya et al;2016

Review Literature:

Climate change can affect crops, livestock, soil and water resources, rural communities, and agricultural workers. The agriculture sector also emits greenhouse gases into the atmosphere that contribute to climate change. All Plants normally exude a carbon-rich liquid that feeds the microbes (Farrar et al., 2014)In response to a variety of biotic and abiotic stimuli, such as insect attacks and water stress, plants also release a variety of compounds. Sensing these chemical-based signals, soil microorganisms release their own compounds that can trigger intricate plant defenses (Glick, 2012). Agriculture and anthropogenic activities have boosted.. The proliferation of plant diseases not only threatens crop productivity but also instigates biodiversity loss, thereby undermining crucial ecosystem services (Kashyap et al; 2018; Singh et. al. 2023).

Climate Change has Antaorganistic effects on Agriculture:

Due to climate change, the fertility of the soil is getting destroyed due to which there is a decrease in nutrients and an increase in useless elements, which is causing a continuous decline in agricultural production. Chemical fertilizers are being used to increase the yield, in which the stability of nitrogen is gradually decreasing. Biological bacteria are getting destroyed due to pesticides. There are several reports that show the influence of soil management on soil erosion in orchards in different Mediterranean zones (Pastor and Castro, 1995; Kosmas et al., 1997; Francia Martı´nez et al., 2006, Garcıa-Oreneses et al, 2009,

Temperature and rainfall
Soil properties
Pests and diseases
Wildfires
Air pollution

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Climate change causes a decrease in agricultural production:

1. Increase in temperature

2. Increase in carbon dioxide

Carbon dioxide and temperature are constantly increasing by 60%, which has an adverse effect on trees and plants. In the last 30 to 50 years, the amount of CO2 has reached about 450 points per million (ppm) because CO2 increases photosynthesis in some crops like wheat, rice etc. and reduces evaporation, after which there is a sudden drop in some food crops, due to which there is an increase in CO2 i.e. increase in temperature. Increase in insects and diseases occurs due to climate change. Sudden increase in temperature and decrease in temperature. As soon as the temperature increases, the reproductive capacity of insects increases, due to which the number of insects increases, which has an adverse effect on agriculture.

Effect of climate change on Malwa region of Madhya Pradesh:

Some parts of Madhya Pradesh, Punjab and Rajasthan are facing the adverse effects due to climate change. Which is affecting agricultural water resources and ecosystem. The average temperature here ranges from 5 degrees Celsius to 45 degrees Celsius which affects agriculture.

Groundwater shortage

Food shortage is increasing in the Malwa region. More than 90% of the water for drinking and domestic use is obtained from ground water.

Water shortage can have serious consequences for agriculture.

Effect on agriculture

Malwa is the leading region of Madhya Pradesh in agricultural production. But due to climate change, agricultural production, its quality and biodiversity are being affected. Due to weather changes, strange adverse effects are being seen on humans. There has been a decrease in the production of crops like opium, onion, garlic, soybean, coriander, quinoa.

Change in rainfall

Due to climate change, the pattern of heavy and excessive rainfall is increasing while the pattern of moderate and low rainfall is decreasing.

Climate change The Effectible Agriculture and the Economy India

India is an agricultural country which plays an important role in the economy. Agriculture is the primary source of livelihood for a large part of the population. Agriculture has a significant contribution in the country's GDP, although its share is decreasing with the present time. Globally, India is the centre of various agricultural production like pulses and spices which remains an important sector due to employment generation and food security aspects.

Agriculture and the Economy in other countries

The provided data does not directly address population impacts. However, we can infer some potential connections between agriculture and population in the US:

1.Food Security: A robust agricultural sector ensures food security for a growing population. The US's position as a major exporter of agricultural products also contributes to global food security.

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2.Employment: The agriculture sector, including food service, provides a significant source of employment, supporting a substantial portion of the US population.

3.Economic Growth: The $1.53 trillion contribution to GDP signifies agriculture's role in driving economic growth, which can indirectly impact population trends through factors like job creation and improved living standards.

4. Land Use: Agricultural land use can influence population distribution and urbanization patterns.

5. Environmental Impact: Agricultural practices can have environmental consequences, such as water pollution and greenhouse gas emissions, which can indirectly affect population health and well-being.

To further explore the population impacts of agriculture in the US, it would be beneficial to analyse data on:

6. Food consumption patterns: How have these changed with population growth and dietary shifts?

7. Farmland use and availability: How has this evolved in relation to population density and urbanization?

8.Environmental sustainability of agricultural practices: What are the implications for population health and resource availability?

9.Socioeconomic factors: How does access to affordable, nutritious food vary across different population groups?

By examining these factors, we can gain a more comprehensive understanding of the complex relationship between agriculture and population in the US.

Environment soil fertility and human immunity:

Soil fertility and human immunity are essential in many ways, including food production, supply of nutrients and medicines.

1. Nutrient: Healthy soil provides nutrients for plants, which are then passed on to humans when they eat the plants.

2. Food security: Soil pollution can reduce the amount of food that can be grown, which can threaten food security. Food contamination: Soil pollution can contaminate food crops, which can cause disease.

3. Medicines: Soil is a source of many medicines, including antibiotics, anticancer drugs, and antiphrastic drugs.

4. Immune system: Healthy soil can help enhance the immune system.

5. Toxins Soil can be polluted by heavy metals, pesticides, and other chemicals. Exposure to these toxins can be harmful to human health.

6. Pathogens

Soil can be polluted by biological pathogens, such as bacteria that produce antibiotics. Exposure to these pathogens can be harmful to human health.

New pathogens Lurking

2024 report by the UN Environment Programme warns that emerging zoonotic diseases could trigger a pandemic by 2030, driven by deforestation, urbanisation, habitat destruction and unsustainable agriculture. It adds that climate change accelerates spill over, with fatalities projected to be 12 times higher by 2050 than in 2020.

In Africa, a more virulent form of mpox, Clade 1b, is spreading rapidly. First detected in the Democratic Republic of Congo in September 2023, it has caused up to 50,000 cases and over 1,000 deaths. The virus spread to neighbouring countries and was

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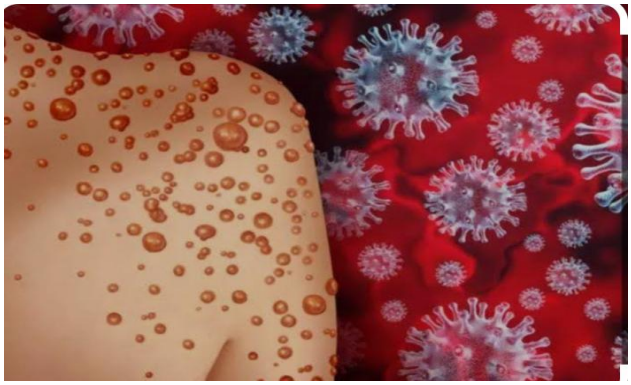
detected in travellers across multiple nations. In August 2024, WHO declared a public health emergency of international concern.

In Latin America, large outbreaks of vector-borne diseases such as dengue, chikungunya, zika and oropouche fever are being reported in new areas. Brazil reported over 6 million suspected dengue cases in 2024, the highest



Plante : Google link Times of India.com ; M pox clade b1

Soil regeneration

Some say that soil regeneration should be recognized as a public health priority.

Soil health policy

Some say that a soil health policy could encourage farmers to increase soil organic matter, which could improve human health.

Outcome Modern farming developments

Aquaponics: A sustainable farming method that uses less water and land than traditional methods. Aquaponics produces fish and crops, it more profitable.

Organic farming: A sustainable farming method that uses alternatives to chemicals to protect crops.

Crop diversification: A farming technique that involves growing more than one crop in an area.

The climate crisis threatens to undo the last 50 years of progress in development, global health and poverty reduction, and to further widen existing health inequalities between and within populations.

Out come

To prevent climate change, cow dung manure, organic farming and natural farming will have to be promoted to increase the fertility of the soil.

To deal with climate change and to increase the fertility of the soil, nutritious cow dung manure and tree planting are very important. Nutritious dung feed is very essential to increase the fertility of soil in maximum numbers to combat climate change.

Conclusion:

The effects of climate change, such as unpredictable atmospheric patterns including rainfall, drought, and flooding, exacerbate the already negative impacts of mono-cropping and increase the risk of aflatoxin growth. Soil is composed of inorganic

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minerals and its size varies from sand (2.0-0.05 mm) to silt (0.05-0.002 mm) and the smallest clay particles are less than 0.002 mm. Soil biophysical-chemical properties affect soil fertility and agricultural production. Soil fertility and human immunity are essential in many ways, including food production, supply of nutrients and medicines. Soil pollution can reduce the amount of food that can be grown, which can threaten food security India is an agricultural country which plays an important role in the economy. Agriculture is the primary source of livelihood for a large part of the population.

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