



IMPACT OF CHANGES IN AGRICULTURAL BIODIVERSITY ON HUMAN HEALTH AND WELLNESS

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ABSTRACT

Until the last ten thousand years or so living systems evolved in response to change in the abiotic environment unaffected by human activity. Since the development of agriculture and technology are increasing human impact on the environment has occurred. Modern Agricultural practices can also impact on biodiversity in other ecosystems through several ways such as unsustainable demands of water for irrigation as well as excessive use of nutrients and chemical inputs to control weeds , pests and diseases that result in problems of pollution. Agricultural food production also affected like Wheat, Rice, Vegetables and also milk products etc. Furthermore land and habitat conversion in particular forests, wet lands marginal lands to large scale and agricultural production also cause significant loss of biodiversity. Loss of fertile land and improper use of land for Building and property purpose also affect environment. Conservation means taking action to avoid species decline and extinction and permanent detrimental change to the environment. We need to concentrate on major environmental concerns in India are Air Pollution, Garbage disposal, Climate Change and Loss of Biodiversity. Conservation of all natural resources need to be consider. Measures to overcome problems of agricultural biodiversity are agricultural policies, incentives, markets or consumption patterns and therefore need support from government policy, Identifying adaptive management techniques, practices and policies and promoting responsible action for conservation of agricultural biodiversity.

Keywords: Agricultural biodiversity ,human activities ,loss of biodiversity and pollution ,conservation of natural resources.

INTRODUCTION

Until the last ten thousand years or so living systems evolved in response to change in the abiotic environment unaffected by human activity. Since the

development of agriculture and technology,an increasing human (people) impact on the environment has occurred. Although farmers traditional knowledge is key to both sustain biodiversity and to



ensure global food security, today it is as well considered by many to be part of the much threatened global commons farmers are requested to both presence biodiversity and contribute to meet the nutritional needs of growing population. However they do not control all factors involved including those related to agricultural policies, incentives, markets or consumption patterns and therefore need support from government policy.

Identifying adaptive management techniques practices and policies. Promoting responsible action for conservation of agricultural biodiversity. Agricultural biodiversity is the outcome of the interactions among genetic resources, the environment and the management systems and practices used by farmers. This is the result of both natural selection and human inventive developed over millennia.

The following dimensions of agricultural biodiversity can be identified

- 1 Genetic resources for food and agriculture.
- 2 Components of biodiversity that support ecosystem services.
- 3 Abiotic factors
- 4 Socio economic and cultural dimensions.

It is foreseen that developing countries will in some areas, show a decrease in agricultural production between 20-40% due to the effects of climate change. This may lead to pressure on natural resources. The conservation and sustainable use of biodiversity for food and agriculture play a critical role in the fight against hunger, by ensuring environmental sustainability while increasing Food and agriculture production. It is imperative to do so in a sustainable way. Harvesting resources without compromising the natural capital including biodiversity and ecosystem services and capitalizing on biological processes. To cope with all these challenges. This diversity will further help maintain and rehabilitate productive ecosystems



to supply future generations with abundant food and agriculture.

During the last decades worldwide biodiversity has been lost at an unprecedented rate in all the ecosystems, including agro ecosystems. Homogenization of agricultural production systems mainly due to intensification of agricultural systems coupled with specialization by plant and animals breeders and the harmonizing effects of globalization, is one of the greatest causes of agricultural biodiversity loss, through genetic erosion and the increasing levels of genetic ,vulnerability of specialized crops and livestock.

According to FAO it is estimated that about three quarters of the genetic diversity found in agricultural crops has been lost over last century and this genetic erosion continues. For example today 90% of our food energy and protein comes from only 15 plant and 8 animal species, with disturbing consequences for Nutrition and food security. Wheat, Rice, and

Maize alone provide more than 50% of the global plant based energy intake.

In addition to agricultural biodiversity modern agricultural practices can also impact biodiversity in other ecosystems through several ways such as unsustainable demands on water (for example for irrigation)

Following are some of the major environmental concerns India is grappling with today.

- 1 Air pollution
- 2 Groundwater Depletion
- 3 Climate change
- 4 Use of Plastics
- 5 Garbage disposal and sanitation
- 6 Loss of Bio-diversity.

Air Pollution

Air Pollution is one of the worst ways to have affected India. According to a report from the International Energy Agency (IEA) by 2040 there are likely to be about 9 lakh premature deaths in the country due to the drastic rise in air pollution in the country. Average life expectancies are likely to go down by about 15 months because of air pollution. India is



also home to 11 out of 20 of the most polluted (in terms of air pollution) cities in the entire world. According to the rankings of the 2016 Environmental performance index India ranks 141 out of 180 countries in terms of air pollution.

Groundwater depletion : Rapidly depleting levels of groundwater is one of the biggest threat to food security and livelihood in the country. Accessing the groundwater has become increasingly difficult over decades. According to news Reports, excessive exploitation of limited groundwater resources for irrigation of cash crops such as sugarcane has caused a 6 % point decline in the availability of water within 10 metres from ground level. Low rainfall and draught are also for groundwater depletion. The north and southeastern parts of the country are the worst hit .These are also the regions responsible for most of the countries agricultural production and food crisis is a natural corollary.

Climate Change: In may 2016 Phalodi in Rajasthan recorded a temperature of 51 degrees Celsius the highest ever in the country. The increasingly formenting heat waves in the past years are but an indication that global warming and climate change are real challenges that the country is facing now . With the Himalayan glaciers melting at an alarming rate , floods and other such natural disasters are occurring with increasing frequency . The no. of forest fires ,floods ,earthquakes and such other calamities over the past five years has been unprecedented.

Use of plastics: Unrestrained use of plastics is another major concern for the contry. According to data from the plast india foundation , Indias demand for polymers is expected to group from 11 million tonnes in 2012-13 to about 16.5 million tonnes in 2016-17.Indias per capita plastic consumption went up from about 4 kg in 2006 to some 8 kg in 2010. By 2020 , this is likely to hoot up to about 27 kg. To understand the



damage that this can cause to the environment, it is important to understand that plastics are one of the least biodegradable materials. An average plastic beverage bottle could take up 500 years to decompose naturally.

Garbage Disposal and Sanitation

According to a 2014 report by the Economist about 130 million households (and 600 million population) in the country lack toilets . Over 72 percent of Indias rural population defecate in the open. Ancient practices such as manual scavenging are still in vogue in the country. Lack of safe garbage disposal systems in the country make India one of the most unhygienic countries in the world. The rural regions of the country are worse off than urban tracts in this regard .This is one of the areas where the countries government and people need to work hard band improve the prevailing conditions.

Loss of Biodiversity

According to the International union for conservation of Natures Red Data

Book some 47 species of plants and animals in India are listed as critically endangered. Loss of ecology and natural habitats have left many indigenous species, including important ,ones such as the Siberian crane ,Himalayan wolf and Kashmir stag in grave danger of going extinct .Rapid urbanization ,poaching and indiscriminate hunting for leather fur. etc. have rendered these animals critically endangered .Many of the plants commonly harvested for their medicinal properties are vanishing along with the legacy of Ayurvedic treatment damaging environmental pollution . Gases occurring naturally in the atmosphere may be affected seriously by pollution , such as depletion of ozone (CO₃) high in the atmosphere. Human Activity causes the damage of environment. Conservation means taking action to avoid species decline and Extinction and permanent detrimental change to the environment.

Effect of changes in agricultural biodiversity on human health



Since the development of agriculture and technology , an increasing human impact on the environment has occurred. In recent years the rapid industrialization affects and damage the environment. The eating habits and lifestyle changes affects the agricultural productions and food formation. The traditional way of eating behaviours are changed in fast foods and convenience food eating. The human health damage by disorders and infections , diseases like Obesity, Hypertension, Heart disease ,Kidney diseases, cancer, Infections and skin infections etc. The food production and food formation in such a way that it may convenient and good looking but injurious and damage to human health. The ripening techniques of fruits are hazardous to health. The large content milk production with use of, urea and soda affects health. The day today changes in eating pattern and behavior affects food production and also agriculture and species.

The areas of land and sea are protected areas and essential to maintain the biological diversity and natural resources. There is need to conserve biodiversity. Conservation means taking action to avoid species decline and extinction and permanent detrimental change to the environment.

Conclusion

Although Biodiversity are the combination of plants, animals, species with ecosystem. Agricultural Biodiversity is the term related to agricultural products and agricultural resources related to food production and food formation. If there changes in Biodiversity it effects on food production and food produce is effect on species that it consumed may human or animals so health is important that it affects from consumption of whatever food produced in local area . So, land and water conservation is important and need to manage natural resources and biological resources for future security of biodiversity.



REFERENCES

1. Glimpses of Biodiversity , by B.B. Hosetti published by Daya publishing House ,Delhi .ISBN NO.81-7035-269-X.
- 2.India Today newspaper- an article on environment issues in india by Sujatha B.
3. Hitavada- the knowledge magazine- school edition, month- November and December .