

Effects of Climate Change on Present Day Agriculture

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With the rising average temperatures of earth, various adverse effects have been taking place in all the naturally occurring supply chains of earth's ecosystem. Several factors of various human made supply chains of development are the main reason behind this disaster (climate change). It is mainly due to lack of sustainability, proper knowledge and concern towards the appropriate use of available natural resources. Although they are much needed factors to tackle the major problems of human beings like Hunger, Poverty, Housing and Day to Day needs etc. Many business organisations related to any sector of production are majorly focused on only supplying the growing needs of people but not in a sustainable way. It has to be changed in an immediate manner. Development of science is important but it needs to be integrated with agri-ecosystems, socio- economic environments and natural supply chains.

Why climate change?

Climate change is the result of various man-made mistakes done during the fulfilment of his wanted and certain unwanted desires. For example: cutting down trees for timber, wood and furniture without replanting the saplings again. Over exploitation of natural resources and their inappropriate usage has led to these conditions.

Adverse effects of climate change

Climate change is characterised by various series of events like (Fig. 1).

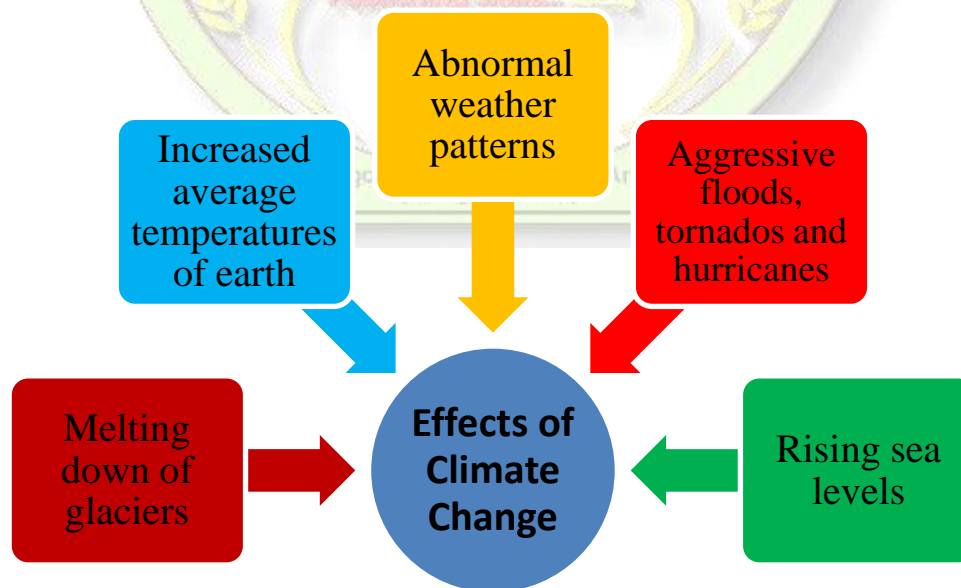


Figure 1: Various adverse effects of climate change

Effects on Agriculture

Due to such adverse changes in the environment it leads to various interconnected series of events in agriculture like

1. Decreased transpiration rates leading to water stress in the plants. (Morison and Gifford 1984)
2. Degradation of beneficial soil microbial environment
3. Increased crop failures
4. Increased pest and disease incidence
5. Destruction of various flora and fauna species.
6. Decreased water holding capacity of soils.
7. Increased dosage of fertiliser and pesticides application on crops.
8. Decreased duration of crop period results in reduced final yields (IPCC, 2007).

Where should we start/ focus ?

In the current scenario, we need to act primarily and majorly on agriculture and allied sectors as food is the only source of living for human beings. It is the major and only supplies chain on which all human beings depend for survival.

Constraints affecting the process of development

1. Increasing population and decreasing availability of cultivated agricultural land has clocked the use of chemical fertilisers for increased food production in order to support the needs.
2. Not only the above mentioned situations but the decreasing uptake of agriculture as an occupation by the younger generations because of their social irregularities like short glancing, unavailability of required facilities, infrastructure, and incentive schemes etc. are also certain factors limiting the use of sustainable ways and converting the agriculture lands into chemical dumping yards.
3. Due to lack of proper and sufficient knowledge in some areas of production and their appropriate use and way of applications led them to drive away from adopting sustainable ways of production.

Remedial measures

1. **Sustainable agriculture** : Sustainable Agriculture is the method of agriculture practising which involves the use of most integrated approaches like integrated crop planning, pest & disease management, post-harvest techniques, horticultural establishments and dairy or fishery deployment into the cropping systems in order to minimise the cost of production, for optimum utilisation of available resources, reduces the losses due to biotic and abiotic factors of the environment and to increase the production and productivity rates (1990 US Farm Bill).
2. **Controlling our unwanted desires**: In a psychological sense, a typical human being needs food, shelter, clothing and work in order to sustain on this earth. But, due to increased human desires, he was not even satisfied with what he had enough for living. This is the one and only reason behind this situation we are facing today. We can control/overcome our desires for a while but we cannot control our hunger. If once we start to control our unwanted human desires for a while we will step ahead in our path of achieving our goal. We must act fast and adopt more sustainable ways of living, production and usage in order to tackle these situations.
3. **Financing the need based sustainable development projects**: Funding of various beneficial and sustainable development projects (known as Green finance) like research institutions and fellow researchers who are committed to develop more sustainable methods of crop development and improvement, entities involved in establishing solar

power projects, organisations involved in waste management, environmentalists who are fighting to tackle and protect the wildlife and their habitats etc.

4. **Bringing awareness to people of nation:** Awareness is the most important and primary thing with which we can step ahead in our path of achieving sustainability in all modes of development, which will show impact in tackling the Climate change. Mainly due to lack of awareness regarding the harmful effects of unseen common mistakes in the area of our actions are the primary causes of such calamities. We human beings are social organisms, without one another we cannot sustain on our own for so long. It is not only the duty of several conservationists, environmentalists, scientists, and politicians to take oath and protect the whole earth from destruction. So every human being on earth must be aware one another in any possible manner and must act on a single path in order to tackle this situation.

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