

FOOD AND ENERGY CRISIS

By 2050, the world population is expected to reach 10 billion humans. As it continues to grow, there is increasing concern about ways to prevent wholesale starvation. Concurrently, an energy crisis, due to shortage and high prices, is expected in the near future, as finite reserves of fossil fuels are rapidly depleted. The energy crisis is expected to have a significant impact on food production technology in the world countries because both systems depend upon each other. Hence, a great crisis of food and energy is coming to the world in near future. Some signs of this crisis are visible when we look at the present situation of developing and under-developing countries of the world.

Food Production and Energy –

A Global Issue Food Production and energy are related to each other. In order to feed billions people, without destroying nature, there is need to intensify farming. But farming need energy for its production. The modern farming agronomists espouse needs energy- lots of energy-relative to that used for small-scale farming. It needs energy for farm equipment, irrigation, refrigeration, lighting and crop transport. It also needs energy to produce nitrogen fertilizers and yet more energy to mine and transport phosphate. All in all, modern farming has a serious thirst for energy.

For this reason, when energy prices go up, food prices tend to go up also. Intensive farming relies so heavily on energy that energy prices strongly influence food prices. It is big challenge to control the rates of food products within the limit accessible to the poor countries of the world. Therefore Food And energy issue is a global issue.

(I) Food Crisis

Meaning: A food crisis is a long and extreme shortage of food, which results in deaths. An example of a food crisis is the current food crisis which is caused by high food prices caused by poor growing conditions and the rising costs of fuel (Energy).

Food and Agriculture Organization of United Nations (FAO) Defined Food Insecurity as, "a situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life." Food Crisis goes one step further-a long and extreme shortage of food which results in deaths.

Global Report on Food Crisis-2019

According to latest edition of the Global Report on Food Crisis by FAO-2018, more than 113 million people across 53 countries experienced acute hunger requiring urgent food, nutrition and livelihoods assistance.

The worst food crisis in 2018, in order of severity were- Yemen, the Democratic Republic of the Congo, Afghanistan, Ethiopia, the Syrian Arab Republic, the Sudan, South Sudan and Northern Nigeria. These eight countries accounted for two third of the total number of people, facing acute food insecurity -amounts to nearly 72 million people. The figure of 113 million people represents a slight improvement over the number for 2017, presented in last year's report, in which an estimated 124 million people in 51 countries faced acute hunger.

Causes of Global Food Crisis

Food prices, production on bio-fuels, conflict, war, climate change, deforestation, access to pasture land and drought are some major causes of food crisis in these countries especially African countries. Some major causes are given below:

1. War and Conflict: War and conflict are the main causes of food crisis. For example, in South Sudan, civil war has led to mass displacement and abandoned fields. The result is crop failure, which, combined with a soaring inflation rate. Experiential Learning that makes imported food unaffordable, had left 6 million people food-insecure. Same is the case of Yemen.

2. Climate Change: Too much, or too little rainfall destroys harvests or reduce the amount of animal pastures available. The fluctuations in weather system effect climate for Crop growth. For example, countries like Zambia, enjoy relative peace and political stability. However, they are also plagued by hunger due to climate extremes. Nature hazards like drought are also responsible for this.

3. Poor Public Policy: Systematic problems, like poor infrastructure or low investment in Agriculture, often prevent food from reaching the world populations that need it the most. Poor economy of the country is also responsible for it.

4. Population Growth: This is an important cause of food crisis. In African countries, population growth rate is high at 2.5 to 3.5 percent. Family sizes are large and the dependency burden is high. Fertility and mortality rates are also high. The increase in the number of people means greater competition for resources.

5. Increased Oil and Transportation Costs: With the price of oil goes up, the energy cost for planting and transporting food also goes high. It makes purchase-export of crops costly. Also, increased oil costs have led many countries to invest heavily in the development of agro-fuels. More agro-fuels always means less food available.

6. Falling World Aid: During food Crisis, when food is scarcest and at its highest prices, it is not available for international aid. When the bottom falls out of world aid, food crises grow in magnitude.

When cereal prices are low, countries look to sell their food through international aid. However, when food prices are high, they prefer to sell them on the open market for increased profits. In fact, most food crisis are not the result of a single factor.

Rather, they are caused by a perfect storm of events that coalesce into a deadly storm. For example, in 2011 Somalia was devastated by a drought that caused widespread crop failure. The food crisis was made even worse by a non functioning government as well as a national conflict. In this situation no aid can reach the country. The result was that approximately 260,000 people died.

Consequences of Food Crisis

A food crisis occurs when rates of hunger and malnutrition rise sharply at local, national and global level.

The consequences of food crisis are very dangerous and threatening. According to an estimate, five children around the world die every minute because of chronic malnutrition:

1. Rising food prices affect the poor directly. They can't purchase required food for their survival.
2. The poor generally spend large fractions of their budgets on food, so rising price make them more likely to reduce their food consumption.
3. Low-income countries face inflating pressure and rising imports bills both of which undermine economic growth and development.
4. The World Food Programme (WFP) needing another \$500 million to sustain current operations, the likely outcome for the countries is that food availability will fall.

5. "Food shortages and price increases spark violence and debate" said Mark Hughes. When food price reach their highest level, discontent seizes the lower social stratum and social unrest begins.
6. Food has always been an emotive issue between governments and their citizens History has shown that a shortage of basic staples - 3- or too high a price for them - can contribute to public discontent and in extremes, the downfall of governments.
7. Disease outbreaks are widespread in places where food crisis exists, as a result of poor sanitation and hygiene and the limited capacity response of trained healthy system.
8. Malnutrition results in productivity and economic losses, as adults afflicted by nutritional and related disorders are unable to work, education losses as children are too weakened or sickly to attend school or to learn properly. It costs heavily to their society and daily life.
9. Higher food prices are incentives to produce local food and could stimulate agriculture.
10. The global food crisis benefits the multinationals that monopolize each one the links in the chain of production, processing and distribution of food. The economic benefits for the major seed, fertilizer, marketing and processing multinationals in the food area and the retail distribution chains have increases incessantly.

Sensitization of Students to the Food Crisis Issue

Students should be given awareness and knowledge of this global problem. Its solution is a must for them. Following methods and techniques can be used for it:

- 1. Reorganisation of Food-Market:** There is need of recognize the food market infrastructure and institutions to regulate food prices and provide food safety nets aimed at alleviating the impacts of rising food prices and food shortage. Large cereal stocks should be created to buffer the tight markets of food commodities.
- 2. Reduction in Animal Feed:** Use of Cereals and food fish should be reduced in animal feed and develop alternatives to animal and fish food.
- 3. Development of Eco-agriculture Systems:** Farmers should be supported to develop diversified and resilient eco-agriculture systems that provide critical ecosystem services like water supply and regulation, habitat for wild plants and animals, genetic diversity, pest control. climate regulation, as well as adequate food to meet local and consumer needs.
- 4. Reduction in Trade Barriers:** Increased trade and improved market access should be achieved by improving infrastructure and reducing trade barriers.
- 5. Limit Global Warming:** Global warming should be limited, including the promotion of Climate-friendly agricultural production system and land-use policies at a scale to help mitigate climate change.
- 6. Provide Awareness:** Awareness should be raised of the pressures of increasing population growth and consumption patterns on sustainable eco-system functioning.
7. Domestic food production should be supported.
8. Fair prices to farmers and consumers should be stabilize and guaranteed.

9. Agro-fuels expansion should be halted. Similarly agro- ecological production should be supported.

10. Reform in Food System: The global system should be reformed through several key steps:

- (i) Make trade in agricultural commodities more free, yet more secure.
- (ii) Address long-term threats to agricultural productivity such as climate change and resource degradation.
- (iii) Scale up social protection in potentially food-insecure countries and,
- (iv) Encourage agricultural production in at least some of the countries now heavily dependent on food imports.

Food security is essential for the survival of mankind on the earth. Food security exists when all people at all times have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food availability.

The four pillar of food security are- Food Availability, Access to Food, Utilization and Stability. All the countries of the World should jointly work to this direction. United Nation, EU and other world organization are working in this field.

(II) Global Energy Crisis

Energy is defined as the ability or a capacity to perform a work. The primary sources of energy are those sources which are being used in their natural form, like wood, coal, crude oil, natural gas, solar energy, etc. The secondary sources of energy are derived from the secondary sources of energy like coal gas, biogas kerosene, petrol, diesel, charcoal, etc.

Energy Crisis

Energy conservation is of great importance to all of us, since we rely on energy for everything we do. Thoughtless and frequent use of energy has resulted in a depletion of available natural resources of energy like petrol and diesel, etc. Their consumption at a fast rate has caused serious environmental effect like global warming. Energy supplies are limited and if not used wisely, the day would not be far when the available sources of energy would reach the state of exhaustion. This state is referred to as energy crisis'.

Energy crisis is a concern that is causing depletion of natural resources due to increasing demand to power today's industry.

These natural resources are in limited supply and take a very long time to replenish. At present, the effects of the crisis are not very visible, but this is getting worse as time goes on.

Causes of Energy Crises

Following are the main causes that are leading to an energy crisis:

1. Over-dependence on conventional sources of energy and limited use of renewable sources for energy generation.
2. Growth in Population: It increases the demand for fuel and its products.
3. Wars and political unrest.
4. Inefficiencies in energy transmission and distribution.

5. Environmental pollution resulting in calamities and damage.
6. Inability to store energy effectively and wastage of
7. Over consumption, there is strain on fossil fuels as oil, gas and coal due to it.
8. Major accidents and natural calamities like burst, floods, earthquakes etc. can cause interventions to energy supplies.
9. Turning a blind eye to energy conservation and green initiatives.
10. Mismanagement of resources.

