**Green Revolution:**

The term **Green Revolution** was first used in March 8,1968, speech by administrator of U.S agency for International Development (USAID) William S. gaud who, who noted the spread of new technologies: “These and other developments in the field of agriculture contain the making of a new revolution, called Green Revolution.

**What is Green Revolution?**

Throughout history there have been revolutions that have occurred and change human lives, such as Industrial revolution. In late 20th century a revolution occurred and change dramatically the field of agriculture, this revolution was known as Green revolution.

The green revolution was a period when the productivity of global agriculture increased drastically as a result of new advances. During this time period, new chemical fertilizers and synthetic herbicides and pesticides were created. The chemical fertilizer made it possible to supply crops with extra nutrients and, therefore increase yield. The newly developed herbicides and pesticides controlled weeds, kill insects and prevented disease, which also resulted in higher productivity.

In addition to chemical advances, high yield crops were also developed and introduced.

**High Yield Crop**

Crops that are specifically designed to produce more yield. A method known as multiple cropping was also implemented during green revolution.

**Multiple cropping** is when a field is use to grow two or more crops throughout the year, so that the field constantly has something growing on it. These new farming techniques and advances in agricultural technology were utilized by farmers all over the world, and when combined intensified the results of Green revolution.

**Benefits of Green Revolution**

Due to introduction of Green revolution the introduction of chemical fertilizers, synthetic herbicides and pesticides, high-yield crops, and the method of multiple cropping, the agricultural industry was able to produce much larger quantities of food. This increase in productivity made it possible to feed growing human population.

Producing larger quantities of food, the green revolution was also beneficial because it meant it possible to grow more crops on roughly the same amount of land with a similar amount of effort. This reduced production cost and also resulted in cheaper prices for food in market.

The ability to grow more food on same land was also beneficial to environment because it meant that less forest or natural land needed to be converted to farmland to produce more food. This is demonstrated by the fact that from 1961 to 2008, as human population increase by 100% and production of food rose by 50%, the amount of forests and natural land converted to farm only increased by 10%. The natural land that is currently not needed for agriculture land is safe for the time being, and can be utilized by animals and plants for their natural habitat.

**Issues with Green Revolution**

Although Green revolution had several benefits, there were also some issues associated with this period that affected both the environment and society.

The use of chemical fertilizers, herbicides and pesticides dramatically influenced the environment by increasing pollution and erosion. The new materials added to soil and plants polluted the soil and water systems around the fields. The pollution of water exposed people and the environment downstream to the chemicals being used in farm fields. The pollution of soil resulted in lower oil quality, which increase the risk of erosion of topsoil.

**Agricultural production and food security:**

**Technologies**

 The Green revolution spread technologies that already existed, but not been widely implemented outside industrialized nations. Two kinds of technologies were used in Green revolution and aim at cultivation and breeding area respectively. The technologies in cultivation are targeted at providing excellent growing conditions, which , which included modern irrigation projects, pesticides and synthetic nitrogen fertilizer. The breeding technologies aimed at improving crop varieties developed through the conventional, science-based methods available at same time. These technologies include hybrids, combining modern genetics with selection.

 **High-yielding Varities**

Agronomists bred cultivars of maze, wheat and rice that are generally reffered to HYVs (High Yielding Varieties), have higher nitrogen potential than other varieties. Since cereals that absorbed extra nitrogen would typically lodge or fall over before harvest, semi-dwarfing genes were bred into genomes.

**Effects on food security**

**Food Security:** The effects of green revolution on globe food security are difficult to assess because of complexities involved in food systems.

The world population has grown by about five billion since beginning of green revolution and many belief that, without revolution , there would famine and malnutrition.

The production increase fostered by green revolution are often credited with having helped to avoid widespread famine and for feeding billions of people.

**Conclusion**

Green revolution has done a lot of things, the lives of millions people and exponentially increasing the yield of food crop. But environment degradation makes the green revolution an overall inefficient.

So, more suitable and environment friendly system of cultivation needs to be practiced.