

### **Impact**

Small farms lagged in adopting new technology; however when they did adapt the new technologies of the Green Revolution, farmers experienced greater employment opportunities and higher wages.

### **Impact**

The Green Revolution provided food security for developing countries.

### **Impact**

Excessive and uneducated use of fertilizers and pesticides polluted waterways, poisoned agriculture workers, and killed beneficial insects.

### **Impact**

Asia's cereal production doubled between 1970 and 1975, yet the total amount of cultivated land increased only 4%.

### **Impact**

Owners of large farms were the primary adopters of new Green Revolution technologies because they had better access to water, fertilizer, and seeds.

### **Impact**

The Green Revolution provided greater agricultural employment.

### **Impact**

The Green Revolution provided a much higher yield of crops. This saved huge areas of forests and other fragile lands that would have otherwise been cleared to use for farming.

### **Impact**

Hybrid crops developed during the Green Revolution were drought resistant, had a shorter growing period, did not topple over in the wind, and produced 2-4 times the yield.

### **Impact**

Modern plant breeding, improved agronomy, the development of inorganic fertilizers, and modern pesticides fueled advances in wheat production.

### **Impact**

Cereal production in Asia doubled between 1970 and 1975 while the population increased 60%. Instead of widespread famine, cereal and calorie availability per person increased by nearly 30%. Wheat and rice also became less expensive.

### **Impact**

Africa's poor infrastructure, high transportation costs, limited irrigation, and pricing and marketing policies (that penalized farmers) made the Green Revolution technologies too expensive for most farmers in Africa.

### **Impact**

The Green Revolution led to sizable increases in returns to land, which raised farmers' incomes. With greater income to spend, the demand for farming goods and services increased. This stimulated the rural and non-farm economy, which then grew and generated significant income and employment.

### **Impact**

The Green Revolution contributed to better nutrition by raising incomes and reducing prices. This permitted people to consume more calories and have a more diversified diet.

### **Impact**

Big increases occurred in per capita consumption of vegetable oils, fruits, vegetables, and livestock production in Asia.

### **Impact**

The Green Revolution encouraged mechanization of many farm practices. As a result, fewer farmworkers were needed, rural wages went down, and unemployment rose as people moved from farms to cities.

### **Impact**

The farming practices of the Green Revolution were only effective in irrigated and high potential rain-fed areas. Many villages or regions without access to sufficient water did not see the benefits of other more suitable regions.

### **Impact**



Irrigation practices during the Green Revolution created salt build-up that sterilized the soil and eventually led to the abandonment of high-quality farmland.

### **Impact**



Heavy dependence on a few major cereal varieties has led to the loss of biodiversity on farms.

### **Impact**



Inexperienced farmers began using modern technology for the first time, but inadequate training, an absence of effective water regulation, and subsidy policies encouraged excessive use of agricultural chemicals and created negative environmental impacts.

### **Impact**



The success of the Green Revolution depended on the fact that many of the host countries (Mexico, India, Pakistan, the Philippines, and China) had relatively stable governments and well-developed infrastructures. These factors permitted these countries to diffuse both the new seeds and technology and to bring the products to market in an effective manner.

### **Impact**



The Green Revolution could not have happened without the scientific research done at the institutes in Mexico and the Philippines. These two institutes gave way to an international network of research establishments dedicated to agricultural improvement, technology transfer, and the development of resources and personnel.

### **Impact**



Future advances in agricultural productivity depend on the development of plants. Looking forward, this will most likely include biotechnology (genetically engineered crops).

### **Impact**



Borlaug's team developed varieties of wheat that grew well in various climates and benefited from an increased use of chemical fertilizer— more so than traditional plant varieties.

### **Impact**



In 1963, just as a famine was threatening Pakistan and India, Borlaug tried to persuade each country to import the new varieties of wheat. This was met with resistance from both governments. Two years later, Borlaug overcame resistance and brought in new seeds to start production.

### **Impact**

One outcome of the Green Revolution was the advancements in rice production. The international Rice Research Institute was founded in 1960 and was developed to do for rice what Borlaug's Mexico program did for wheat. Scientists developed strains of rice that would thrive even when submerged in heavily flooded areas.

### **Impact**

Farming practices developed in the Green Revolution require more water to obtain high yields. The use of irrigation is criticized by some because it required drilling wells and tapping underground water sources.

### **Impact**

Some believe that the heavy use of fertilizer and irrigation during the Green Revolution caused long-term degradation of the soil.

### **Impact**

Africa benefited far less from the Green Revolution than Asia, and is still threatened periodically with famine. During the 1990s, civil unrest and an inadequate transportation system left much of the corn harvest to rot.

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