

FRQ Guidelines

- 1. Write your answers in COMPLETE sentences.**
- 2. Do NOT REWRITE the question as part of your answer. Just answer the question.**
- 3. SKIP lines between each part (A, B, C, D, etc.)**
- 4. Write in Black PEN. (not applicable 2020)**
- 5. READ each part of each question carefully before you start your answer. BE SURE you know what the question is asking you to answer.**
- 6. Use your NOTES sparingly so you do not run out of time. (only for 2020)**

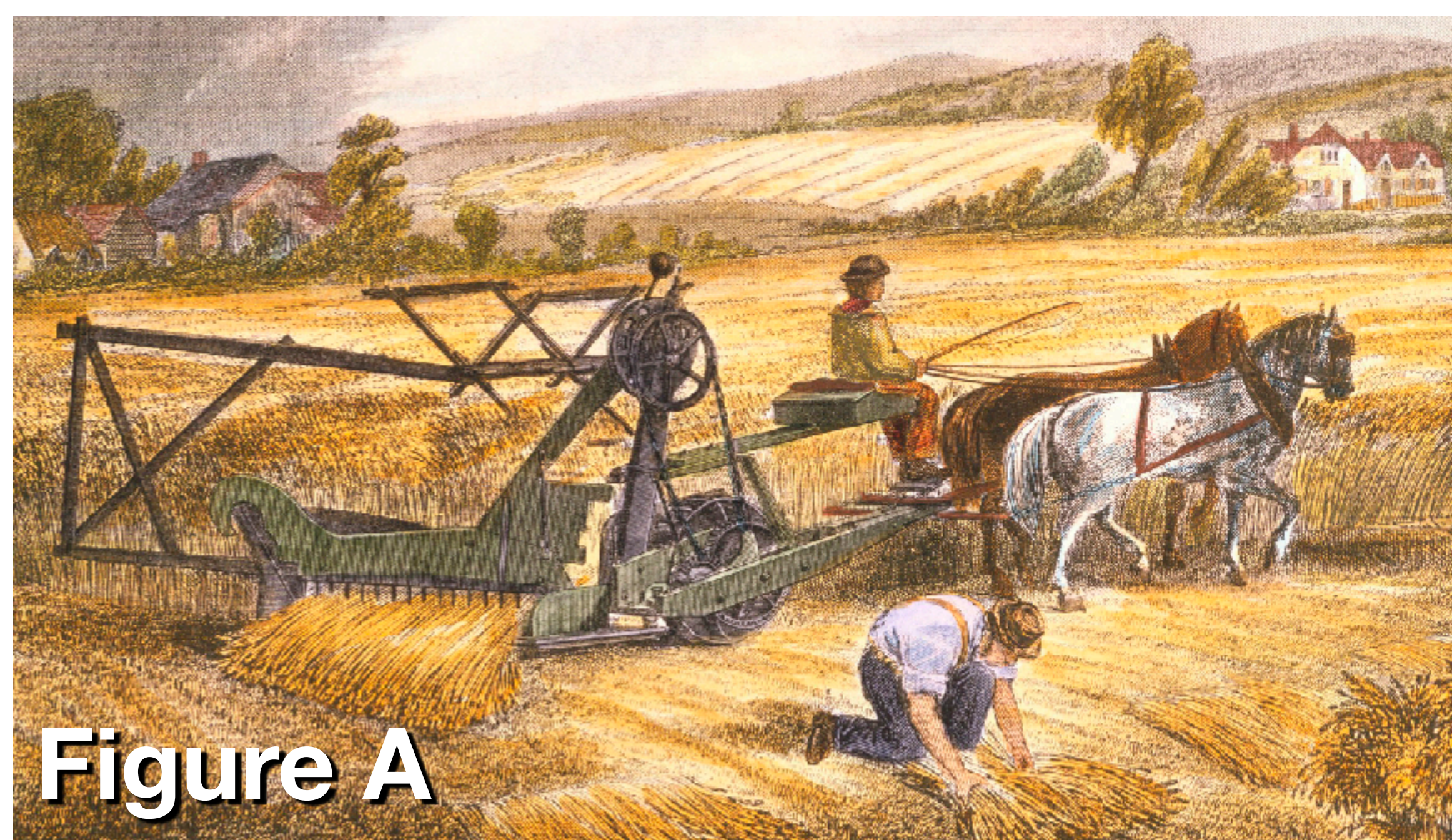


Figure A



Figure B

- A. Explain the agricultural movement that is associated with Figure A and Figure B.**
- B. Explain an environmental impact of Figure A.**
- C. Explain an environmental impact of Figure B.**
- D. Explain an economic impact of Figure A.**
- E. Explain an economic impact of Figure B.**
- F. Explain a demographic impact that is the same for both Figures A and B.**
- G. Compare how the agriculture movement in Figure B is different from the agriculture in Figure A.**
- H. Explain a negative consequence for the agricultural movement in Figure B.**
- I. Explain a positive consequence for the agricultural movement in Figure B.**
- J. Describe three aspects of the changes to agriculture in Figure B.**

The Second Agricultural Revolution

Explain the advances and impacts of the second agricultural revolution.

1. New technology and increased food production in the second agricultural revolution led to better diets, longer life expectancies, and more people available for work in factories.

The Green Revolution

Explain the consequences of the Green Revolution on food supply and the environment in the developing world.

1. The Green Revolution was characterized in agriculture by the use of high-yield seeds, increased use of chemicals, and mechanized farming.
2. The Green Revolution had positive and negative consequences for both human populations and the environment.

First Agricultural Revolution



Second Agricultural Revolution



Green Revolution



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A. Second Agricultural Revolution - machinery; Green Revolution- pesticides

A. Explain the agricultural movement that is associated with Figure A and Figure B.

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A. Second Agricultural Revolution - machinery; Green Revolution- pesticides

B. Soil Erosion, habitat loss.

A. Explain the agricultural movement that is associated with Figure A and Figure B.

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C. Explain an environmental impact of Figure B.

D. Explain an economic impact of Figure A.

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J. Describe three aspects of the changes to agriculture in Figure B.



Figure A



Figure B

A. Second Agricultural Revolution - machinery; Green Revolution- pesticides

B. Soil Erosion, habitat loss.

C. Pollution due to pesticides and herbicides and use of fertilizers.

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- A. Second Agricultural Revolution - machinery; Green Revolution- pesticides**
- B. Soil Erosion, habitat loss.**
- C. Pollution due to pesticides and herbicides and use of fertilizers.**
- D. During Industrial Revolution allowed people to move to urban areas and not have to live off the land.**

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- E. Reduced starvation and famines in areas resulting in economic growth.**

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Figure A



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- F. Improved access to food reduces world hunger and deaths.**

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- I. More people in India, for example, were able to benefit from increases in foods.**

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H. The long term effects the pesticides and fertilizers have on the environment and soils.

I. More people in India, for example, were able to benefit from increases in foods.

J. High-Yield Seeds, Increased use of Chemicals, and Mechanized Farming.

Agricultural Revolutions

1st (Neolithic)

1. Adoption of modern agriculture:



Shift to sedentary

2nd Ag Revolution

2. Mechanisation post-WW1:



Industrial Revolution

Green Revolution

3. The green revolution:



High Yield Seeds, GMOs

Pros and Cons of the Green Revolution

Pros: saved many from starvation Asia, high yields of grains

Cons-pesticides pollute environment, loss of soil fertility, did not reach Africa

14 Foremost Pros and Cons of the Green Revolution

[Jun 26, 2015](#) by [Green Garage](#)

Most farmers, these days, practice modern farming methods under Green Revolution, which is a movement pushed by the government as an alternative solution to traditional agriculture. Its main goal is to make planting and harvesting more effective and efficient, as well as to eliminate hunger all over the world. It originated from manufacturers in the US when they discovered that it is possible to create a fertilizer from petroleum that can be used on crops—the so-called petrochemical fertilizer.

Under Green Revolution, machinery processes are being used in farming. This modern method is seen as labor intensive, where farmers make use of tractors, instead of oxen and horses, to plow and cultivate their lands, making the process faster and easier. It is a combination of controlling chemicals in the soil, weeds and pests, mechanization of agriculture, and genetic adaptation of plants to suit daily needs.

However, this method has become a subject of some debates on whether it really does good, rather than bad, for all of us. So, let us take a look at some of the pros and cons of Green Revolution to have a clear overview of the matter.

List of Pros of Green Revolution

1. Agricultural Operations of a Massive Scale.

Green Revolution has brought agriculture to a massive scale. By looking at the world before this modern method, we can see that crops that were

grown on a massive scale are only those that require extensive manual intervention to grow healthy. This means that managing massive scale farms was not that easy. Thanks to Green Revolution, we have identified more ways to make things easier. Most crops, these days, are grown on an industrial scale even by smaller farming communities.

2. Plants Have Become Resistant to Pests and Herbicides.

Perhaps the greatest gift Green Revolution has given to us is the ability to give crops resistance to pests and herbicides. In the past, developing economies, which were still adapting to technology and did not have very high literacy rates, struggled with farming. Now that Green Revolution is here, this has changed, not only leading to more produce, but also making it healthier.

3. The Need to Fallow Lands Is Eliminated.

This modern method of farming has allowed farmers to re-plant the same crops without fallowing their lands, which is another significant achievement of the inculcation of technology and knowledge in agriculture. Take note that fallowing used to be costly for farmers. Though there are some crops that still need fallowing, making crops for more profits has been made cost-efficient with Green Revolution.

4. Automation in the Process of Farming.

With automation, Green Revolution has made farming more predictable. It is important to note that there is more dependence on resources that are under human control than nature and other external factors. Now, when it comes to studying seeds and soil health, this modern method has given us the convenience to do most of such tricky work in the boardroom, rather than running year-long trials and then failing with massive losses to farmers.

5. Ability to Grow Any Crop Virtually Anywhere.

Yes, Green Revolution has made it possible for agriculture to be done almost everywhere. Of course, you still cannot grow potatoes on a plateau or paddy on a beach, but you can use most types of land or terrain to grow crops with this method. Thus, farmers do not have to be at the most fertile river banks to be able to start farming. Agriculture has definitely become more doable everywhere.

6. More Profitable Farming Industry.

Truth be told, farmers around the world were mostly poor, unless their families had large tracts of land and numerous farms that grow multiple crops. With Green Revolution, there are richer farmers today.

List of Cons of Green Revolution

1. Mono-Culturing.

Among the most prominent shortcomings of Green Evolution is mono-culturing. This practice demands large tracts of land, which are not always available, large volumes of water and intensive amounts of fertilizers. These needs poses difficulties for farmers around the world.

2. Probability of Weeds and Pests to Develop Hazards.

Green Revolution is speculated to develop poisonous and super weeds and pests that are difficult to control. There is also the concern of cross pollination from genetically modified organisms (GMOs) to other plants in the environment, which could result in invasive species.

3. Compromise to Crop Health.

There have been some cases with this modern farming method, where unknown ailments have plagued the health of various crop species. It is always thought of that some new breeds of weed and pests can develop, and they may resist pesticides that are used right now.

4. Sterile Seeds.

In most cases, GMOs will generate sterile seeds every year.

5. Varied Soil Type by Location.

Green Revolution does not take into consideration the type of soil or its suitability for certain types of crop; it just considers the land area and does what is needed for the cultivation of crops each year. The following year requires fresh procurement of seeds, but nothing is done to ensure that the fertility of the soil is retained or replenished.

6. High Cost.

The price of the industrial farming and its equipment under Green Revolution may not be affordable for small farmers.

7. Shortage of Supply.

There is a sterner focus on cash crops with this modern method, and innumerable farmers are trying to grow them, which is leading to a shortage of staple food crops.

8. Environmental Harm.

All the equipment used in Green Revolution requires burning of fossil fuels that contributes to pollution and global warming. Also, if you make use of petrochemical fertilizers, it requires fossil fuels that tend to be patently and unsustainable.

Conclusion

Green Revolution's primary goal is to eliminate hunger worldwide, but there are still people who are suffering from starvation, where most of them are women and children. So, it is very important to have a clear and better understanding when it comes to resolving such a problem. In order to eliminate it, more food must be produced. According to research, there is

enough food supply to feed everyone, and the government is exerting full effort to sustain such need. Traditional farming is still used, especially among small farmers, who cannot afford Green Revolution. So, what do you think?

About the Author

Brandon Miller has a B.A. from the University of Texas at Austin. He is a seasoned writer who has written over one hundred articles, which have been read by over 500,000 people. If you have any comments or concerns about this blog post, then please [contact the Green Garage team here](#).