

The Alternative Solution: Economic growth and environmental conservation for sustainable development

By: Ms. Fundow Jerasakanon *

The industrial revolution that took place in the late 18th century was a wave of development that began in England and spread all over the world. Machines and industrial systems substituted for manual labor in traditional economic activities. Standard quality products requiring less production time were first made in the textile industry. Production capacity increased incredibly with the introduction of steam power and powered machinery. Moreover, trade expanded to wider areas due to the introduction of canals, advanced roads and railways.¹ There is no doubt that the economy developed rapidly and also affected the environment aggressively at the same time.

When there is a high capacity of manufacturing production, it follows that there is a high usage of production materials and labors. Where did all the materials come from? They came from natural resources such as trees, coals, ores, water, oil, natural gas and so forth. Due to the huge amount of usage of both natural resources and human resources plus the development of transportation, the industrial revolution encouraged capitalism to gradually spread to Europe from England. By taking advantage of colonialism, some countries gained privileged benefits from colonies in terms of natural resources, labor, and new markets. High production and consumption around the world created many environmental problems including the overuse of resources, waste, contamination, a lack of conservation in biodiversity and forests, etc. Environmental problems were created not only in industrialized countries, but also in their colonies. In that period, Western countries had numerous colonies all over the world, and as a result, the sky-scraping economic growth from the industrial revolution had a strong impact on the world's environment as well. One example is India, which was colonized by England. While its institutions were also developed, including capital markets, intellectual property rights, free trade, single currency, fixed exchange rates, common laws, systems of railways and telegraphs and so on, at the end of colonial rule, India became one of the poorest countries in the world. As a result, its agricultural sector was left incapable of supplying its rapidly increasing population, and the country was left with economic and environmental problems to solve.

According to history, it seems that economic growth and environmental conservation go in opposite directions. Is it always true? Here, I want to discuss whether economic growth and environmental conservation can go together or not, what exactly caused the environmental problems and what are the possible solutions.

First, what is economic growth? Economic growth refers to the increase in an economy's real Gross Domestic Product (GDP) and income over time.² Increases in GDP and income are caused by improvements to and increases in productivity. The GDP of a country is defined as the market value of all final goods and services produced within a country in a given period of time. It is normally measured by the following equation:

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + (\text{Exports} - \text{Imports})^3$$

Based on this equation, the main points that generate problems are consumption and

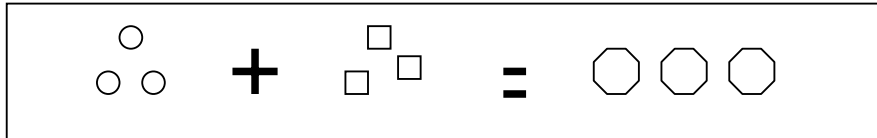
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¹ Meier, Gerald M., and James E. Rauch. 2000. *Leading Issues in Economic Development*. Seventh edition. New York, NY: Oxford University Press.

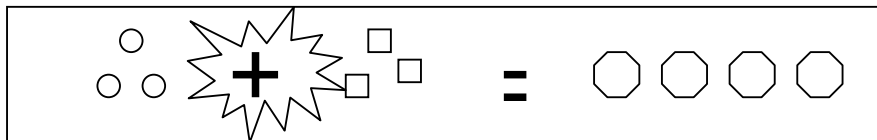
² Eszela-Harrison, Fedelis. 1996. *Economic Development*. London: Praeger/Greenwood.

³ Wikipedia. 2006. 30 Nov. *Gross Domestic Product*. Available: http://http://en.wikipedia.org/wiki/Gross_domestic_product

investment, with maybe only small effects from government spending, exports, and imports. Increases in both consumption and investment require a higher usage of natural resources as an input. But do we really need a lot of input to get more production output that causes the environmental problems in the end? It is common sense that if we have more input, we can get more output in the end as you can see in the pictures.



However, are there any alternative ways through which we can get more output with the same input? Thanks to the development of technology, using a lot of input is not only the only way to create higher productivity.



High technology brings more options to increase the productivity of the economy as well as alternative ways of using natural resources. For example, technology helps us use renewable energy, such as power from sunlight by solar radiation, to account for 25% of all the energy usage worldwide. This form of energy can be used instead of nonrenewable energy like fuel oil, coal and natural gas.⁴ The continuing of innovation also helps to create better solutions for environmental conservation, like hydrogen-powered cars, which do not pollute the air and do not use nonrenewable petroleum for energy. So it is clear to see that development of technology can help economic growth go along well with environmental conservation. But what about the industrial revolution that I mentioned above? Wasn't that a result of technological development?

Here is the thing that I want to emphasize. As you can see from these two differences in using technology, the good or bad results depend on the way it is used, not the method of the development itself. Then the problem is why was the technology used so badly that it created problems? I think the problems came from the ones who used the technology, which obviously refers to humans. Historically, humans have claimed to own all things. In many periods, we used and destroyed nature without thinking carefully. We cut trees, polluted the air, dug up the ores, killed the animals, and forgot that we did not own the world. We are not above nature; we are only one part of it. If we use nature and spoil it all now, what will be left for the next generation, for our kids, our societies, our countries, and our world? The environment as it is now took millions of years to construct, so if we make a mess of it, it will take a long period to recover. It could be even worse when some of nature can not be recovered at all. Once it is gone, it means we lost it forever. During the times when humans only think about themselves and are so greedy, we forget to think about saving for the future. It is impossible to use and spoil things as much as you want to and then fix them later.

I think economic growth and environmental conservation should be able to go together for sustainable growth. We should not do things only for today but we should care

⁴ Wikipedia. 2006. 30 Nov. *Renewable Energy*. Available: http://en.wikipedia.org/wiki/Renewable_energy

about tomorrow and the long run. Through this concept, it is possible that we will still be able to live better with economic growth and longer with environmental conservation. In the words of Mahatma Gandhi, "Earth provides enough to satisfy every man's need, but not every man's greed."⁵

Since it is better to prevent problems from happening than to fix them later, the key to the solution lies in the word "controlling." First of all, governments should adjust rules and regulations to promote sustainable development, for example, to encourage the use of renewable power instead of nonrenewable energy. Moreover, it is essential to educate people about how economic growth and environmental conservation can go together. It is very important to understand that environmental problems are everyone's problem, because we are all living on the same earth and breathing the same air. We should think globally about the environmental problems but at the same time we should act locally, or in other words, do what we can do. Each person has a different duty to do and as we are part of society, our actions will affect the world as well. There are a lot of things that we can do to promote sustainable growth. We should not underestimate our own power. I read about Wangari Muta Maathai, the winner of the 2004 Nobel Peace Prize. She started her own environmental conservation movement in Kenya and then it expanded to become a global environmental phenomenon. Her work proves that we can all make a difference.

As I mentioned above, humans are the key to everything. So, again, do economic growth and environmental conservation go together? I would say "yes" if we can educate people to make them realize how we can be a part of a better solution that makes both economic growth and environmental conservation work together for the sustainable development of us all.

⁵ The Green Institute. 2006. *A Physics of Peace*. Available: http://www.greeninstitute.net/subpages/physics_of_peace.asp