

Creative Solutions to Global Environmental Crisis

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1. Introduction

As world population rises dramatically, it is becoming more inevitable that unless we find ways of protecting our environment, we could be faced with a more serious environmental crisis which could lead to the disappearance of the earth one day. While the area for living stabilizes, the number of people keeps growing incredible day by day. At that time, deforestation becomes one way to expand the area for survival in their point of view. In fact, people cut trees down in a large number without awareness of long-term effects to environment and further to our own life. As a result, the great lung of the earth is becoming smaller and smaller and fading away.

In particular with globalization, the quality of life for people has improved to some certain extends. The higher the standard of life is, the more demands people have. Demands create benefits. Benefits fulfill businessmen's pocket. Obviously, the numerous factories have been built to supply for such needs. It also means that the large amount of waste from factories and households are dumped into environment without being completely processed. However, we are lacking of land for living. The question is: "where is the land for storing such unprocessed wastes?"

Irrefutably, our planet is slowly but surely dying, the ozone layer is depleting and global warming has become more evident than ever, leading to drought, famine, floods, misery, and diseases. There are the numbers of reasons which cause global warming but the most fundamental cause above all is the unconscious of people about the vital role of environment in our life. Undeniably humans are the most severe culprit. We damage our Earth by polluting our air, water, the atmosphere without awareness and conscience for consequences.

It's clear from the fact that global warming has practically influenced on the whole world, from North Pole to tropical countries such as Vietnam. Take the year 2009 in Hanoi capital of Vietnam for example, the summer's temperature peaked to approximately 42-45 degrees for 4 days and then fell to around 30 degrees for couple days after that. It's the strange phenomenon which never appears for years. Alternatively, there is no doubt that the global warming's effects are unpredictable and no one could count its great damage to both environment and people's life. The Earth is in danger and our life is threatened. However, it's never too late to save our Earth by positive actions in order to protect environment.

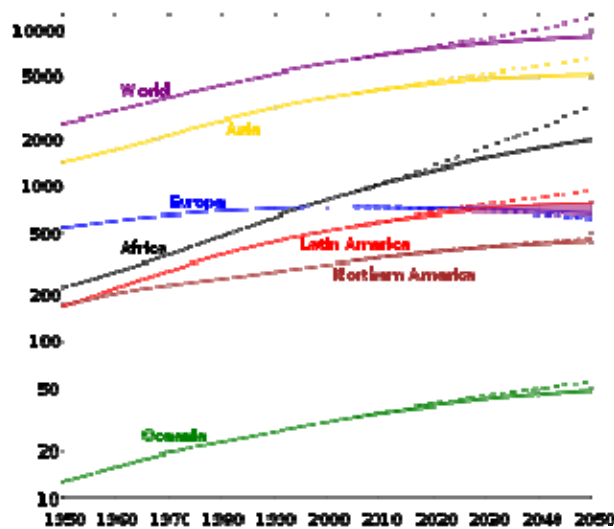
2. The current status of environment

2.1. Global environmental status

From year to year, the large number of meetings has organized to discuss and find solutions for environmental crisis. There were variety of protocols, especially Kyoto protocol and policies adopted to address environmental problem each year. However, it's undeniable that our environment is strictly damaging and causing the numerous effects on the Earth.

Human population growth, agricultural expansion, and resettlement are becoming global issues. As of July 2009, the Earth's population is estimated by the

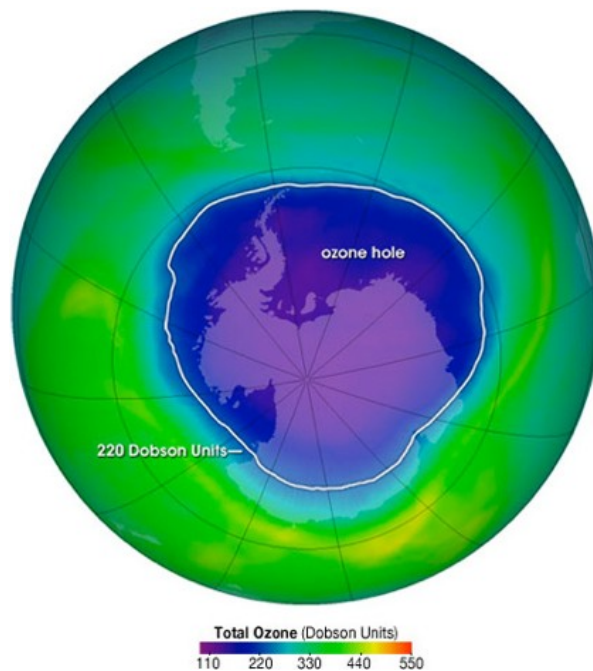
United States Census Bureau to be 6.769 billion. According to population projections, world population will continue to grow until around 2050. The 2008 rate of growth has almost halved since its peak of 2.2% per year, which was reached in 1963. However, growth remains high in Latin America, the Middle East and Sub-Saharan Africa.



*Population evolution in different continents. The vertical axis is logarithmic and is millions of people.
Source: wikipedia*

Forest degradation and loss which is due to the significant breaking-out of population and the spontaneous expansion of people's activities into forest lands is notoriously difficult to quantify. It's a well-documented fact that there was about 45% of the 7.5 million ha losses in tropical forests in 1976-1980 by shifting agriculture which causes deforestation. In 1980 it accounted for 35 per cent of deforestation in Latin America, 70 per cent in Africa, and 49 per cent in South-East Asia (notably Sri Lanka, Thailand, north-east India, Laos, Malaysia, and the Philippines) (Tolba et al., 1992).

The World Meteorological Organization (WMO) says data from the US National Aeronautics and Space Administration (NASA) shows the hole in the atmospheric layer that guards the world against dangerous ultraviolet light has grown to 29.5 million square kilometers.



Source: image from NASA

Greenhouse gases can stay in the atmosphere for an amount of years ranging from decades to hundreds and thousands of years. That is the major reason to explain for ozone layer hole. Ozone depletion is the main cause which leads to climate change or also called global warming. According to the scientists' claim facing with global warming means that we have to face with other serious troubles at a time. Clearly and frankly, polar ice caps melting are what we heard and seen everyday on the mass media which will raise sea level, throw the global ecosystem out of balance, endanger several species of animals and snowball with ice caps gone. In fact, there are 5,773,000 cubic miles of water in ice caps, glaciers and permanent snow. According to the National Snow and Ice Data Center, if all glaciers melted today the seas would rise about 230 feet. That's not going happen all in one go but apart of them. And the sea level will surely rise higher and higher. On the contrast, Africa is facing with more severe droughts. Trees are withered, deserts are expanding, death animals are everywhere, the great number of people die because of thirst. Water is already a dangerously rare commodity in Africa, and according to the Intergovernmental Panel on Climate Change, global warming will exacerbate the conditions and could lead to conflicts and war.



2.2. Environmental status in Vietnam

According to national environmental report in 2007 of Vietnam Environment Administration, the major problem of Vietnam currently is air pollution. One of the main causes is the increase in the number of vehicles, especially motorbikes. Bicycles and Peda cabs used to be the common transports of Hanoi, capital of Vietnam by 15 years ago. However, Hanoi is currently full of motorbikes and cars. In fact, it's estimated that there are approximately 1.800.000 motorbikes in Hanoi which are the severe culprit of noise pollution and air pollution. The professionals argued that the amount of benzene and sulphur dioxide peaked to dangerous point. That will be much worse if Vietnam decides to build electric factories run by coal to satisfy the needs for electricity of people with the increase rate of 10% each year.

Another striking feature is water pollution in Vietnam which hit the headlines recently. The first is the story about "cancer village" in Thach Son commune, Phu Tho province. Following the statistic supported by Thach Son's committee, there were 104 people died for ten years because of cancer. The researches show that these local people use the poisoning water for living polluted by wastes from the chemicals factory Lam Thao and other small factories which are near such village. All wastes were put into the local lake without being processed, polluted the main source of water of local people here. While authorities and these factories were meeting and finding who gets the responsibility for this crime, the locals were struggling with the condition of lacking clean water.



The status of pollution in “cancer village” before and now

Source: vietnamnet.com

Another story is about Vedan Company which put the large amount of incredible dangerous wastes into Thi Vai River, Dong Nai province. According to the collected statistics, Vedan factories system put wastes into the environment with ten times higher than the standard point for starch factory. In fact, each factory of Vedan dumps wastes into environment from 50 cubic meters to 5,000 cubic meters per day. Moreover, the realistic polluted figures are over a thousand times higher than the allowed standard. Alternatively, Thi Vai River is seriously polluted. In terms of Vietnamese law, Vedan factories system had to compensate 91 billion VND (more than 5 millions dollars) for their criminal actions to the local people’s health and environment. However, we have to look at the fact that hundreds of people died because of environmental pollution and the lives of thousands people are threatening.

3. Causes to environmental crisis

3.1. Atmospheric pollution.

3.1.1. Burning fossil fuels

Fossil fuels are coal, oil, natural gas. Basically, they are valuable mineral resources of each country which could fuel for human activities. However, overwhelmingly abusing and using such fuels make them become potential danger for environment. The main culprits who burn these are cars and power stations. Burning coal, oil and natural gas releases mostly carbon dioxide, which adds to the greenhouse effect. According to “Global warming, focus on the future” in 1997, it’s said that: “There are over 600 million motor vehicles in the world today. If present trends continue, the number of cars on Earth will double in the next 30 years.” With such a large number of cars and people on the earth today, there are approximately ten people per car. The fact is the average carbon dioxide emissions rating is 180 grams per kilometer driven. So the total amount of carbon dioxide in the streets all over the world would be unimaginable number. In addition, such fuels also release sulphur dioxide and oxides of nitrogen, which are causing acid rain.

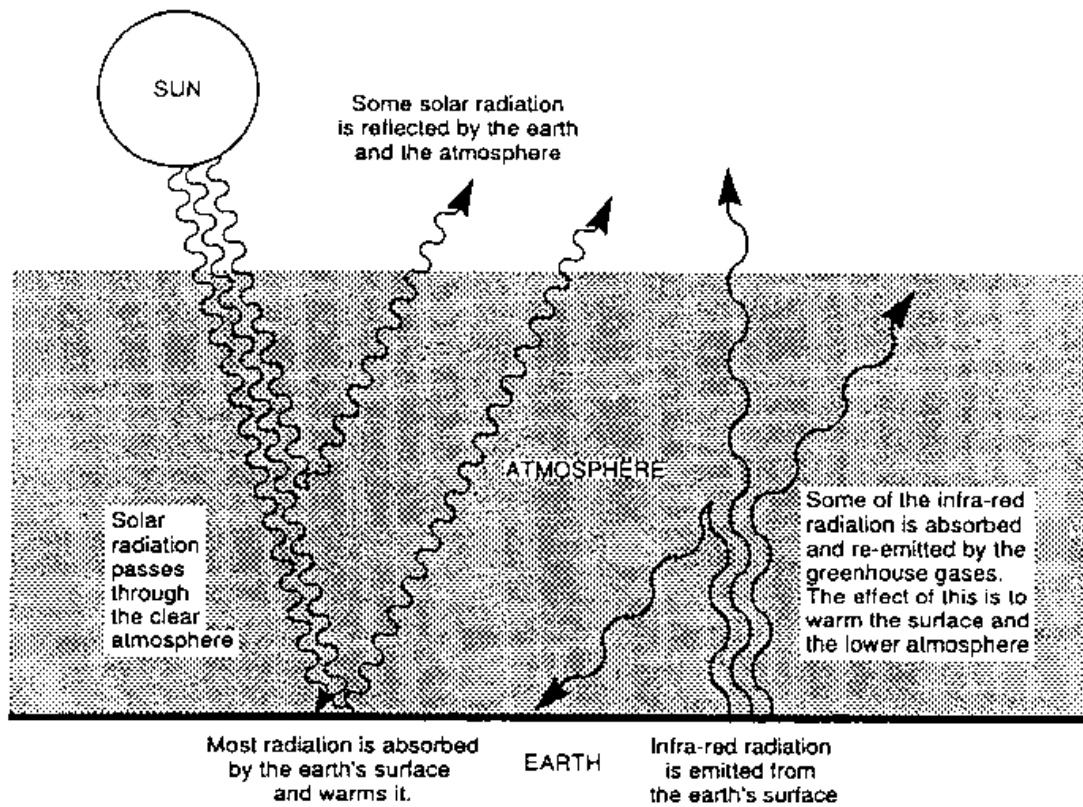


Fig. 5.1 A schematic diagram illustrating the greenhouse effect (Source: Houghton et al., 1990)

3.1.2. CFC's (Chloro – fluoro- carbons)

These are used in aerosols, fridges, air-conditioning units and polystyrene foam. They are a major cause of the depletion of ozone layer. In fact, the Earth is getting warmer due to the wider and wider hole in the ozone layer. The hotter the weather is, the more air-conditioning units people use. But air-conditioning units release CFC's which damage to the ozone layer. Alternatively, we are harming back and forth our ozone layer. Undeniably, we will face with global warming for consequence in return. The CFC's also allows harmful UV rays to reach the Earth's surface which cause skin cancer in human.

3.1.3. Lead used in petrol

“Old-fashioned” leaded (4 stars) petrol contained lead which pollutes the air. Lead is one of the most poisonous chemicals which pollutes the air and badly affects to people's health, especially nervous system. Obviously, burning fresh petrol also damages the air. But burning leaded petrol even damages a hundred-fold.

3.2. Deforestation

We have already pretty well deforested our country. Now many under-developed tropical countries are doing the same for timber and to provide land for agriculture. In parallel, forests continue to be lost in many developed countries owing to

over-harvesting, inadequate regeneration, clearance for agriculture and urbanization, and air pollution. If the loss of millions of species wasn't enough this also causes a major increase in the greenhouse gas carbon dioxide (CO₂). Deforestation increases CO₂ in the atmosphere in two ways:

- The trees unsuitable for timber are burned, releasing CO₂ directly into the atmosphere. Microbes also release CO₂ by decaying the felled trees that remain.
- Because living trees use CO₂ for photosynthesis, removing these trees means less CO₂ is removed from the atmosphere.

3.3. Water pollution

There are 3 sources which cause surface water and underground water pollution including solid waste, liquid waste, and gas waste. The major factor is unprocessed wastes including household waste and industrial waste. Wastewaters dump into water environment. During disintegration of wastes, the organic and inorganic chemical compounds combine with other chemical agent to make chemical reacts which create poisons such as AOX, TSS, ect .. that damage and pollute water source. In addition, the large amount of heavy metals which has high toxicity is stored up and has long-term existence in water sources. This polluted water source will harm people's health, animal and plant habitat and create water and land crisis.

4. Creative solutions to global environmental crisis

4.1. Alternative sources of energy

Burning fossil fuels to produce energy causes a lot of pollution. Renewable sources of energy such as wind power, wave power and solar power are much cleaner. People can also easily reduce the amount of energy they use. A lot of electricity is wasted by leaving on lights, televisions, and other electrical equipment when they are not being used.

The use of solar power in the home is becoming an attractive proposition for a growing number of people. In fact, many people use solar power by harnessing the sun's energy to heat their homes and to run different appliances. It is an economical and earth-friendly way to bring power into the home. In addition, solar power is also used to generate hot water.

The most basic technology used in solar power is the solar electric panel. These panels use photons in order to generate electricity. These photovoltaic (PV) panels can be free standing rigid sheets used to harness the sun's energy. They can also be set into the roof, or you can get peel and stick laminates, depending on your roof type. Obviously, such solution is far from expensive and easy to do but its advantages are undeniable.

4.2. Environmentally-friendly forms of transport

If more people used public transport, this would reduce the amount of pollution. Public transport is much more environmentally-friendly, because buses and trains can carry large numbers of people at same time, whereas cars often carry only one person. Car pools are another way of reducing the number of cars on our roads. The big car companies are also working on developing new engine technology, so that cars can run on cleaner fuels such as hydrogen instead of petrol. For shorter journeys cycling is a much healthier alternative to driving a car, and many towns have introduce special cycle lanes.

4.3. Green products

Choosing to buy green products also help the environment, for example organic foods that are produced without using pesticides. Not only are pesticides detrimental for the environment, the chemicals in them can also be harmful to humans. Practically, each household can make their own small garden for growing organic vegetables. There are numerous kinds of vegetable which are easy to grow for short-term, especially good for people's health and environment.

If we buy wood from sustainable sources, this will mean that our forests can be maintained for future generations. We can also use other materials such as bamboo instead of wood to make stuff.

Say no with plastic bag! We can use green bags such as paper bag to put things in. Clearly, when people go to the market to buy things, they always take one plastic bag for one thing. It's unnecessary and very damaging to environment. Thus, using reuseable shopping bags such as canvas fabric bag would reduce the number of plastic bags dumped into environment.

So much of modern life is based around shopping and buying new things. Everything is out-of-date in only a few years or even months. If we stopped buying and throwing away so many things, this would help ease the pressure on the environment.

4.4. Recycling waste

Although we try to reduce the amount of wastes, it's undeniable that there are still a large number of wastes dumped into environment everyday. Hence, recycling waste appears to be the best solution for remained wastes. There are some actions that each household can do to protect and save environment. They are 3R: reduce-reuse-recycle. While we collect our wastes, we should separate them into different boxes for plastic, metal, glass, organic waste, ect... Nowadays, most kind of wastes can recycle to make new things. Each kind of waste has its own recycling process. If all wastes are recycled, there will be a significant decrease in the number of wastes.

Nevertheless, the fact in some developing and poor countries is that the regular collection service and the consciousness of community are very poor. Moreover, the number of the unemployed is getting higher and higher. Why don't they create their own job from waste? They can collect household wastes from their house and other houses and then separate. They can sell separated wastes for recycling factories. The salary depends on the amount of wastes they have. The more money they want to earn, the more wastes they have to collect and separate. I hold firmly to the belief that this solution will help to protect environment and to create job for unemployers.

4.5. Eco-tourism

According to the development of economy, people today tend to take vacation to hot spot in the world for traveling and relaxing. However, most of them choose favorite places with resorts, spas and other modern entertainment. Obviously, the environment of such places will get worse as the great pressure of the large number of travelers. Thus, eco-tourism seems to be the effective way to protect environment but interesting.

Ecotourism is travel to fragile, pristine, and usually protected areas that strives to be low impact and often small scale. It helps educate the traveler; provides funds for conservation; directly benefits the economic development and political empowerment of local communities; and fosters respect for different cultures and for human rights. Responsible ecotourism includes programs that minimize the negative aspects of conventional tourism on the environment and enhance the cultural integrity of local

people. Therefore, in addition to evaluating environmental and cultural factors, an integral part of ecotourism is the promotion of recycling, energy efficiency, water conservation and creation of economic opportunities for the local communities. Another interesting idea is that tourists can home stay with local people instead of booking five stars hotel with modern conditions. They also can study how local people work such as planting rice, catch-fishing, ect...

4.6. Education

No matter how many solutions we have, it would be nothing if people can't recognize the vital role of environment. People should be aware of environmental alarm and take more responsibilities for environment crisis. Accordingly, education is the best solution. There are many ways to educate the community. We can organize some contests such as drawing about environment or creating models to recycle waste. From such contests, there might be having a lot of great ideas for protecting environment. In addition, making short film or video clip about protecting environment could be effective if we show them on the television. That would be more interesting way to study about environment.

5. Conclusion

Our Earth is fading away. Our environment is destroying. Undoubtedly, we are facing with seriously consequences of environmental crisis caused by ourselves. The world is harmed by the uniformed and irresponsible acts of community. For years, there were the majority of solutions and policies in order to address environmental issue. Yet the key solution is human. People have to be conscious of what they have done and make positive acts to environment. Our life is in our hand. Therefore, we must all take responsibilities for the alarming impact on the environment we live in. It's never too late to do. Nothing will work unless we do. Let's save our Earth!

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