



Differentiated Responsibilities On Population Explosion And Its Impact On Environment – A Corridor For The Crossing?

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I. Introduction

Climate change has been taking place throughout the history of the Earth. It is only recently that inhabitants have begun to put forth its influence. It is one of the most severe challenges, human society will undertake in the coming decades, and throughout the course of the next century. Human production of greenhouse gas emissions (GHGs), largely through the burning of fossil fuels, is expected to warm the earth's surface. Covering all aspects of the population-environment relationship is nearly impossible in any circumstances. This will lead to rising sea levels, changes in patterns of precipitation, heat waves, drought, flooding, and increasingly damaging storm surges. All of these have potentially severe consequences for both humans and ecosystems. Population and environmental issues are, in and of themselves, extremely complex; linked, they create a completely new set of dynamics, which add to that complexity. General statements, speculation and intuitive deductions about the impacts of various aspects of human population on the environment are no longer sufficient as a basis for effective action and additional empirical evidence and analyses are badly needed.

International efforts to address the climate change formally began only a decade ago with the adoption of United Nations Framework Convention to Climate Change (UNFCCC) in 1992. The Fourth Assessment Report (AR4) of

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the Intergovernmental Panel on Climate Change (IPCC); IPCC AR4 has provided compelling evidence that climate change is advancing rapidly as a global risk with impacts far beyond just the environment. Climate Change has the potential to alter the ability of the earth's physical and biological systems to provide goods and services essential for sustainable development. The high-income world is responsible for most of the historic rise in greenhouse-gas emissions. Despite high growth, per capita emissions of the lower-income nations will remain much below that of high-income nations for several decades. In the absence of any commitment in the next two decades, their economies would become locked into a trajectory of high emissions and unsustainable development, while the cost of reversing the trend will become prohibitively high. On the other hand, it would be foolish if we do not learn from past as well as the current but belated corrective efforts of the West.

What has this to do with population? Put simply, humans are climate changers - directly or indirectly, the main cause of climate changes. At any event, during a remarkably short period of time, we have lost a quarter of the world's topsoil and a fifth of its agricultural land, altered the composition of the atmosphere profoundly, and destroyed a major proportion of our forests and other natural habitats without replacing them. Worst of all, we have driven the rate of biological extinction, the permanent loss of species, up several hundred times beyond its historical levels, and are threatened with the loss of a majority of all species by the end of the 21st century. Had efforts been made to stabilize human numbers in 1975, when 4 billion climate changers inhabited the planet and modern contraception had arrived, there would be fewer than 6.8 billion climate changers now. Although world population is still growing by some 80 million a year and grows by another 2.4 billion by 2050, it is not too late to slow it down by peaceful means. The full range of climate change impacts over the course of the next century is difficult to ascertain, because of both uncertainty surrounding how the earth's complex physical and environmental systems will change, and how much total emissions will grow. While the world's climate has always varied naturally, the vast majority of scientists now believe that rising concentrations of greenhouse gases in the earth's atmosphere, resulting from economic and demographic growth over the last

two centuries since the industrial revolution, are overriding this natural variability and leading to potentially irreversible climate change.

II. Literature Review

Climate change is a reality. Observed impacts of climate change on physical and ecological systems over the past century (McCarthy et al., 2001 and Parmesan and Yohe, 2003) are a forerunner of things to come. Along with changes in mean climatic conditions, the earth potentially faces irreversible and catastrophic system feedbacks and impacts associated, for example, with collapse of thermohaline circulation, the melting of the Greenland ice sheet (Gregory et al., 2004), or other singular events (Alley et al., 2003). It shows that global warming will begin in earnest in 2009, at least half of the years 2009 to 2014 will be hotter than 1998, the warmest year on record. The model predicts 2014 to be 0.3°C warmer globally than 2004 and that by 2015 global temperatures will be 0.5°C above the average value for the last 30 years (Doug, 2007).

An increasing number of studies have shown that households, instead of individuals in a population, should be used as the variable for analyzing demographic impact on emissions, as households are the units of consumption, and possibly also the units of production in developing societies (Jiang 1999; Liu et al. 2003; Mackellar et al. 1995; O'Neill and Chen 2002; Prskawetz, Jiang and O'Neill 2004; van Diepen 2000). Similar analysis for the U.S. under certain circumstances, the impact of population compositional changes (mainly aging) on carbon emissions is even larger than that of technological changes (technology related to energy intensity and carbon intensity) (Dalton et al. 2007). Gradual emissions reductions over the coming decades, which would most likely be implemented as part of an effective climate protection policy, would not bring about any notable slowdown in the global warming trend until after 2030 (WBGU, 2008).

While it is clear that technological changes have substantially improved energy efficiency and reduced carbon intensity during the past 200 years, there continues to be debate about whether population growth or increasing consumption levels have contributed relatively more to greenhouse gas emissions (Meyerson, 1998). During the 200 years between 1800 and 2000, energy use increased 35 fold, carbon emissions increased 20 fold, and the world's population grew. Meanwhile, global income (Gross Domestic Product) increased 70 times (Nakićenović et al. 2007). The impact of extreme weather and sea-level rise is particularly significant due to the concentration

of population and economic activities on and near coastlines. Human settlement has long been drawn to coastal areas, which provide many resources and trading opportunities but also expose residents to various hazards (Pielke et al. 2008).

Population projections are arguably the backbone of GHG emissions scenarios. The Special Report on Emissions Scenarios (Nakićenović et al. 2000) World population that will grow substantially, will age substantially, and will be increasingly concentrated in today's developing countries (Lutz 1996). David Satterthwaite (2009) of the International Institute for Environment and Development, points out that there's a weak correlation between global warming and population growth, there's a strong correlation between global warming and wealth. In other words, today's rich nations are the ones responsible for global warming and developing countries therefore feel it is unfair to be subjected to targets for something that was not their fault (and their emissions are for basic needs and development; for the rich it has moved to luxury consumption and lifestyles). According to an unprecedented UN report draws a link between demographic pressure and climate change. "Slower population growth... would help build social resilience to climate change's impacts and would contribute to a reduction of greenhouse-gas emissions in the future," the UN Population Fund (UNFPA) says.

Among the greenhouse gases (CO₂, CH₄, CFCs, N₂O, and O₃), the most important is CO₂, which contributes only 3 percent to the total greenhouse effect. (R.G. Ellingson, J. Ellis, and S. Fels, 1991, R.G. Ellingson, 1999) The manmade CO₂ contribution to this effect may be about 0.05 to 0.25 percent. (Z. Jaworowski, 1999).

III. TURN TO POPULATION GROWTH WITH REALITIES

In 1798 Thomas Robert Malthus wrote: "population, when unchecked, increases in a geometrical ratio, but subsistence increases only in an arithmetical ratio." all debate on population starts with the same theory. But Malthus cannot be able to foresee the technological advancement thereby high productivity of population and other factors. Significant arguments in favor of population growth and climate change are observed below:

1. Incessant population expansion multiplies the impact of climate change will be ecologically unsustainable.
2. Further increase in population, the world will not be able to feed, water and sustain due to weather changes causes to mounting temperatures, desertification, floods and rising sea levels.

3. Affected people are enforced to rancid their land by climate change leads to mass migration movements.

4. Developed countries are not in a position to sustain larger populations, whether by increasing birth rates or accepting greater migration flows.

It is better to examine each point above mentioned to understand the reality and the deliberate agenda behind blaming population growth in connection with climate change.

III.1. Incessant population expansion multiplies the impact of climate change will be ecologically unsustainable.

Just put a glance to world population growth it clearly shown downwards. Again, go to the composition of world population, i.e., infant population, working population and old age population, the gap between these three becomes widening. Infant population from the age group 0 to 14 is not productive contributors to national economy. As such, old age population from the age group 60 or more are neither capable nor competent for contributing any thing productive even for their food. Age between 15 to 59 are the real contributors to the national economy and the responsible group who need to feed the other two groups.

The world's population is not only growing larger, it is also becoming older. Population ageing is an inevitable consequence of fertility decline, especially if it is combined with increases in life expectancy. In all developed countries, the proportions of older people have increased very considerably in the past half-century, in many recent increases in the proportion of very old people have been particularly marked (Grundy 1996). The proportion of older persons is increasing at a faster rate than any other age segment. In developed countries, the proportion of older people already exceeds that of children. A key indicator of population ageing is the median age (the age at which 50 per cent of the population is older and 50 per cent younger). Today, just 11 developed countries have a median age of over 40. But by 2050, 90 countries will fall into that group, 46 of them in the developing world. In developed countries, one fifth of the population is 60 years or older; by 2050, that proportion is expected to rise to almost a third, and there will be two elderly persons for every child.(UN Population Division)

In developing countries, proportion of older people is increasing rapidly due to the faster pace of fertility decline that has resulted from the success of reproductive health and family planning programmes. The proportion of the older population is expected to rise from 10 per cent in 2005 to close to 20 per cent by 2050. According to the UN

Population Division, during the next 45 years, the number of persons in the world aged 60 years or older is expected to almost triple, increasing from 672 million people in 2005 to nearly 1.9 billion by 2050. Today 60 per cent of older persons live in developing countries; by 2050, that proportion will increase to 80 per cent. There will be an even more notable increase in the number of 'oldest-old' people, those who are 80 years old or over, from 86 million in 2005 to 394 million in 2050.

When the size of the working population reduced and the size of the old age and infant groups increased may leads to over burden to the working population and makes a real problem on sustainability. Therefore, by introducing such measures to reduce population to fight against global warming and climate change may affect adversely a further reduction in infant population and thereby reducing the future working population. Even a single youth is not available for planting a tree. Hence, population control is not a solution for impact on climate change. If to focus the same as an effective tool may give birth to excess use of resources to sustain the unproductive population by spending more energy to feed modern technologies may bring additional harm on the environment. So population expansion never multiplies the impact of climate change.

III.2. Further increase in population, the world will not be able to feed, water and sustain due to weather changes causes to mounting temperatures, desertification, floods and rising sea levels.

Modern business techniques of the west namely liberalization, globalization and privatization gives more rise in production of various commodities around the world for increasing the profit. Majority of these products aimed to developing countries where there is more population thereby consumption potential. So by way of trade in a global perspective may feed the entire population with a view to absorbing profit to satisfy the greed of the west. This greed may be the sole reason for not signing Kyoto Protocol. Governments of many countries signed the infamous Kyoto Protocol, which is aimed at the mandatory reduction of oil, coal, and gas combustion. However, the United States, Australia and Russia are not signed the same yet. They know that high-climate outcomes as measured by temperature change are positively correlated with consumption. People breed less as they become richer, but they don't consume less; they consume more. As the habits of the super-rich show, there are no limits to human extravagance. Industrialized countries have produced the bulk of greenhouse gas emissions to date: The United States alone accounted for an estimated 19 per cent of total world carbon emissions in 2007. Around the time of the Kyoto protocol the emission of 1 US citizen equaled that of 19 Indians. Consumption can be expected to rise with economic growth until the biosphere hits the buffers. Anyone who

understands this and still considers that population, not consumption, is the big issue is, “hiding from the truth”. It is the worst kind of paternalism, blaming the poor for the excesses of the rich (George Monbiot, 2009). Therefore, it is logical that even the population of India increases even to 19% the emission rate is just equal to an American. So Further increase in population is comparatively less challenging than the greed of the west.

III.3. Affected people are enforced to rancid their land by climate change leads to mass migration movements.

Developed countries are the most affected due to climate change. They are forced to run off their dwelling place due to climate change. This will forced them to migrate some other countries. So for an easy migration due to climate change requires a safer place for them. Developing countries are comparatively safer and if the population of these countries may increase, will be reduce the possibility. So when they blaming the developing countries in the name of population growth subject to climate change are deliberate for their future safety. It is generally agreed that the greatest single impact of climate change will be on human migration. It is expected that millions of people will be displaced by severe coastal weather events, shoreline erosion, coastal flooding and agricultural disruption. In another words it is an **environmental colonialism**-a new mode for administering and handling the remaining resources for satisfying their greed. The International Organisation for Migration thinks there will be 200m climate-change migrants by 2050, when the world's population is set to peak at 9 billion. Others put the total at 700m.

III.4. Developed countries are not in a position to sustain larger populations, whether by increasing birth rates or accepting greater migration flows.

Many developed countries are to stop population expansion because of their earlier indulgence. Now they realize that human capital is imperative. Moreover, they have the fear that if they are not sufficiently equipped with future generations may adversely affect their survival and sustainability. Nowadays, it is found that developing countries are rich in manpower and they are trying to keep it productive. This is actually a threat upon the developed countries. So they are more conscious to reduce population mainly in developing countries. Afraid that, population growth may leads to political as well as economic concentration in near future. In reality, developed countries hold a system itself to care the infant population as a national asset and gave prime importance to their growth and upbringing. If they are more conscious about population growth, then why they introduce social security schemes to their children during the periods drive to maturity. Again, fertility of the west may

comedown automatically. The overall population of the more developed countries is likely to show little change over the next 41 years, remaining at about 1.2 billion. Fertility is below replacement level (2.1 children per woman) in all 45 developed countries or areas, as well as in 28 developing countries including China. The populations of Germany, Italy, Japan and most of the successor states of the former Soviet Union are expected to be lower in 2050 than they are today. Fertility in the less developed countries as a whole is projected to decline from 2.75 children per woman in 2005-2010 to 2.05 in 2045-2050. The decline in the group of the 50 least developed countries is expected to be even sharper: from 4.63 children to 2.50 children per woman (UNFPA). This reality prompts the developed countries to impose certain restriction to control them any more to avoid a future threat.

IV. THE CONCEPT OF PER CAPITA POPULATION

Effects of emissions are usually calculated based on per capita population. From various sources, it is observed that per capita population of the developed countries are greater than that of the developing countries. US emissions per capita of carbon dioxide in 2007 stood at 19.2 metric tons of carbon dioxide, while for Japan and the European Union (EU-27), the figures were 9.7 and 7.6 metric tons of carbon dioxide, respectively (David Satterthwaite and David Dodman, 2009).

Why it is like that? Surely, it is a matter of population. When population is greater, per capita emission rate may low and vice versa. Emissions per capita in India increased from 0.8 metric tons in 1990 to 1.2 metric tons in 2007. The population in India grew from 860 million in 1990 to 1.2 billion in 2007 (David Satterthwaite and David Dodman, 2009). So protecting the face of the developed countries from international community, they need a drastic reduction of population in the developing countries to increase the rate of per capita emissions. That is why they are deliberate to make propaganda against population growth. More than that developed countries are more aware of the benefits out of population. Many of their projects operated by using imported manpower. But still they need to hide the same to substantiate their interests. Therefore, the attempt behind projection of emissions justified using the per capita concept is a false mathematics far from reality. Most rapidly growing populations currently have very low per capita greenhouse gas emissions, but per capita emissions and populations are increasing rapidly in much of the world.

Although it has long seemed obvious that there is an important linkage between such factors as human population density, rate of growth, consumption and the choice of particular technologies on the one hand, and the state of the environment on the

other, the quantitative analysis of such relationships has by no means been adequately pursued, and they are often poorly understood and represented. Today's rich countries that were responsible for climate change. As a result, developing countries were not subject to the targets that the rich countries were. Developing countries were strongly urged to follow a different path to development, though; one that would use cleaner and sustainable technologies. This was known as the "Common but differentiated responsibilities" principle.

V. SOME INTERESTING FACTS

1. Countries such as China, India and Brazil grow in prosperity, there will be large populations with purchasing power, consuming more goods and services, thus making more demands on the planet.

2. Annually, more than 60 percent of global industrial carbon dioxide emissions originate in industrialized countries, where only about 20 percent of the world's population resides.

3. Researchers have found that depending on what variables you factor in, the planet can support an extremely large population, or an extremely small one.

4. In the USA, there are 800 vehicles for 1,000 American men, women and children. In India, there are 8 vehicles for 1,000 Indians, men, women and children.

5. In terms of historical emissions, industrialized countries account for roughly 80% of the carbon dioxide buildup in the atmosphere to date.

6. World Population at the start of 2009 was over 6.7 billion people. It has doubled in the past 40 years. Earth's population is increasing by over 140 people every minute ...

7. Out of 5 human beings are Indians and Chinese ... 2.4 billion people. Last year, China's oil consumption went up by 15%. That means they're doubling oil consumption every five years, quadrupling it every ten years. And ... India ... 8%.

8. The IEA predicted that in OECD countries, emissions would rise from 11.02 tons per person in 2004 to 11.98 tons in 2030. For the non-OECD, emissions would grow from 2.45 tons per person, to 3.55 tons in 2030.

In other words, today's rich nations are the ones responsible for global warming and developing countries therefore feel it is unfair to be subjected to targets

for something that was not their fault (and their emissions are for basic needs and development; for the rich it has moved to luxury consumption and lifestyles). The economic, political and technology choices thus have a more important bearing on climate change than “over population.”

VI. POLICY RECOMMENDATIONS.

Wide-ranging statements, speculation and perceptive deductions about the impacts of various aspects of human population on the environment are no longer sufficient as a basis for effective action and additional empirical evidence and analyses are defectively desirable.

1. Generate a world order capable of creating a global steady state system, political and economic power will be decentralized as far as possible, and markets contained in such a way that they are subordinated to cultural and political life.

2. Renewable energy is not depleted. Nearly, all forms of it do not produce carbon dioxide and other harmful gases. With more renewable energy sources would reduce carbon dioxide emissions and minimize global warming.

3. Subterranean reductions in emissions for developed countries and enable developing countries to a low carbon-intensity development path

4. Identify near-term strategies and an implementation road map for the lower-income countries that will enable them to move to a drastic mitigation path in the longer term without compromising domestic development goals.

5. The consciousness that the peoples of the world, rich and poor, are inter-reliant, and that the rich have an accountability to help the poor and that they will need to do so in order to achieve overall stability.

6. Sustainable agriculture by developing new varieties of crops capable of withstanding extreme weather, thermal resistant crops, and alternative cropping patterns.

7. Fair and adequate public participation in decision-making and implementation, which requires increased public awareness, education and training.

8. Create a new vision, a new dream for the planet along with new technological advancement which facilitates energy sources other than petroleum like hydrogen cells.

VII. CONCLUSION

Climate change is a complex phenomenon, subject to great uncertainty, with changes in our knowledge occurring virtually daily. Climate change is unlikely to be catastrophic in the near term, but it has the potential for serious damages in the long run. Like many factors contributing to climate change, population is one part of a great, complex climate system. A deeper and more nuanced understanding of the emissions implications of population size, age structure, household size, and urbanization should be better incorporated into climate change scenarios that provide the basis for policy decision-making and strategy development for climate change mitigation and adaptation. Furthermore, the fertility decline assumptions contained in long-range population projections that are incorporated into climate change scenarios may be overly optimistic given recent declines in political and financial support for policies strongly tied to fertility decline, such as education and equality for women and access to reproductive health and family planning services. There were agreed reasons for developing countries were exempt from initial greenhouse gas emission targets to facilitate emissions from rich countries that accumulated in the atmosphere for so long to trigger climate change. Given the GHG emissions implications of population policies, they warrant further consideration as the international community strives to develop of a comprehensive set of effective solutions to climate change challenges. People who claim that population growth is the big environmental issue are shifting the blame from the rich to the poor. Gandhiji rightly observed that, "The world contains enough to satisfy every man's need, but never enough for our greed."

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Posted Wed Nov 18, 2009 8:35am PST
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