

# **Population, Consumption and Environment: Issues and Future Research**



**Closing Panel Comments by  
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# Pop., poverty & environment in developing countries

⌘ Environmental impacts generally local

⌘ The Good News:

- ☒ Widespread agreement about the policies needed
- ☒ Resources exist to address the problem
- ☒ Solutions are synergistic (women's status & TFRs)
- ☒ "Low tech" solutions are available

⌘ The Bad News:

- ☒ Political will is often lacking, resources constrained
- ☒ Technologies are not always socially acceptable

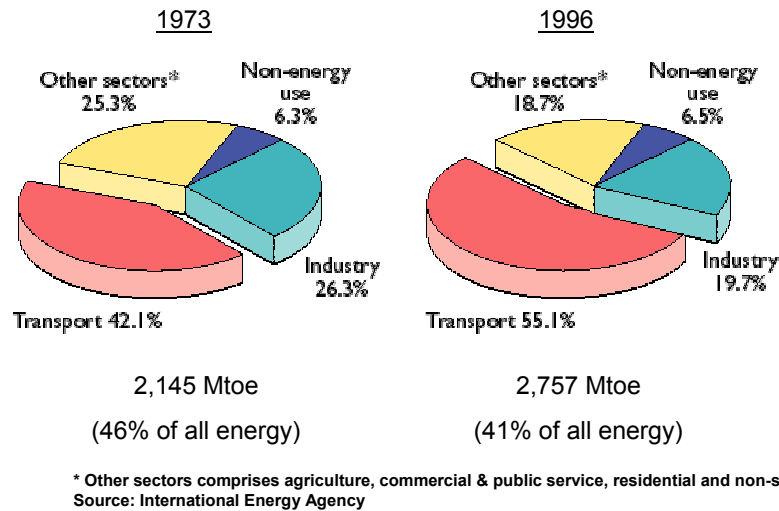
For Population-poverty-environment linkages in developing countries, in general the impacts of human activities (such as poor water quality, land degradation) are fairly local. There is good news in so far as there is widespread agreement about the policies needed, and that many of these policies – such as education of the girl child – have important development implications in their own right, apart from their contribution to reducing fertility rates. The solutions to sustainable development in developing countries are also very often low-tech, such as appropriate agricultural techniques, or small-scale sanitation works. Family planning itself is fairly low-tech and inexpensive. Unfortunately, the political will is often lacking to mobilize resources to implement these policies. Malcolm Potts, the former Director of Family Health International, recounted that American's spend more on Halloween candy each year than the international family planning movement receives in funding. It is also important to recognize that in some cases the technologies – whether contraceptives or innovative approaches to income generation or land management – are not always socially acceptable.

# Consumption & affluence in developed countries

- ⌘ Environmental impacts are often global
- ⌘ The Good News:
  - ☒ Growing awareness by businesses, governments & society
- ⌘ The Bad News:
  - ☒ Scale effect: 2-3 billion in “consumer societies”
  - ☒ Consumption (consumer spending) is seen as good
  - ☒ Culturally embedded assumptions about lifestyles
  - ☒ Technological & policy solutions complicated
  - ☒ Haves and have nots (potential conflict)

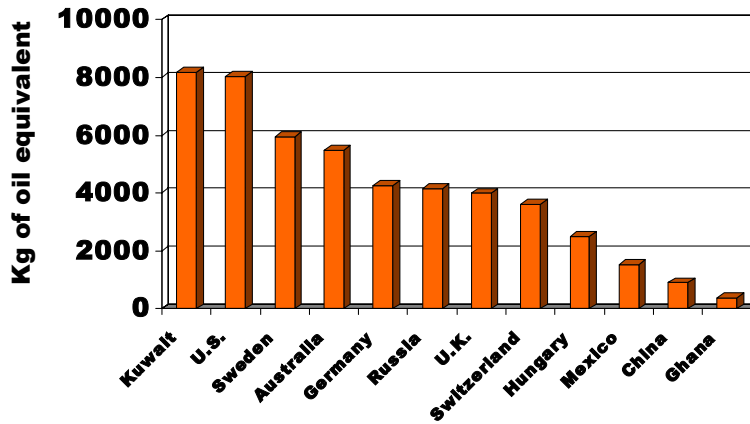
By contrast, the consumption and affluence of industrialized countries (and the growing consumer class of developing countries) have global impacts. Here I'm thinking of Greenhouse Gas emissions, ozone-depleting substances, and industrial fishing which is rapidly depleting our oceans. The good news is that there is a growing awareness by business, policy makers and the public of the unsustainability of consumerism. There are some token efforts to organize business along more sustainable patterns, and some industry leaders have managed to make more than token efforts at reducing the environmental impacts of industrial processes. But the fundamental problem is that quality of life is all-to-often equated with “more stuff,” and the scale effect magnifies the impact of each consumer decision (driving versus public transport; regular produce versus organically grown) thousands of times. Americans, Europeans, Japanese, Australians, and the emerging consumer societies in developing countries such as China and Brazil all have the culturally embedded assumptions about what constitutes the good life. This means that technological and policy solutions, which are not easy in the first place, are further constrained by what is socially acceptable. Some related bad news is that conflicts have already emerged between haves and have nots. Analyses of the motivations behind the terrorist attacks of September 11, 2001, suggest that radical Islam was not the only motivating force; among Islamic fundamentalists there is also tremendous resentment of what are perceived to be excesses of Western consumerism. Among other Middle Easterners there is frustration that their own societies have not been able to raise standards of living or provide sufficient employment opportunities for the younger generation, and anger at what they perceive as indifference on the part of the West.

# Oil consumption by sector



Fossil fuels make up the greatest source of energy, and the transportation sector is the fastest growing in terms of energy use. Thus, our research should not neglect the important role of the transportation sector – both individual and collective mobility and transport of goods – in the consumption of fossil fuels that contribute to climate change.

## Per capita energy use, 1996



Source: World Bank, *World Development Report 1999/2000*

Per capita use of energy is greatest in Kuwait, and oil-producing country, followed by the US, Sweden and Australia. US consumption is roughly double that of Switzerland, and this despite the fact that both countries enjoy roughly comparable standards of living. How might the energy profile of the US move towards that of Switzerland or Germany?

## Energy use in the U.S.



- ⌘ Americans consume 22 liters of fossil fuels per person per day
- ⌘ At current world population, the sustainable level is 1 liter pp/day\*
- ⌘ Current and projected energy use increases are greatest in transport sector, followed by industrial

\* "sustainable" means no climate forcing from GHGs; source: Brakel and Buitenkamp, *Sustainable Netherlands*, Friends of the Earth, 1992.

In the mid-1990s Americans consumed 22 liters of fossil fuels per day. According to one estimate (see citation), the sustainable level of fuel consumption, based on current world population, would be 1 liter per person per day. This would be the level at which there would be no climate forcing by greenhouse gases. How do we get from here to there? The answer is not at all simple!

## **Energy use: Household composition**



- ⌘ Energy use goes up with education and income
- ⌘ Male headed households consume more energy than female headed households
- ⌘ The growing number of households due to increased age at marriage, aging & divorce increases *per capita* energy use

One of the factors that complicates the search for solutions is that changing demographics and lifestyles often work at cross purposes to energy conservation...

## Sources of growth in energy consumption, 1970-1990

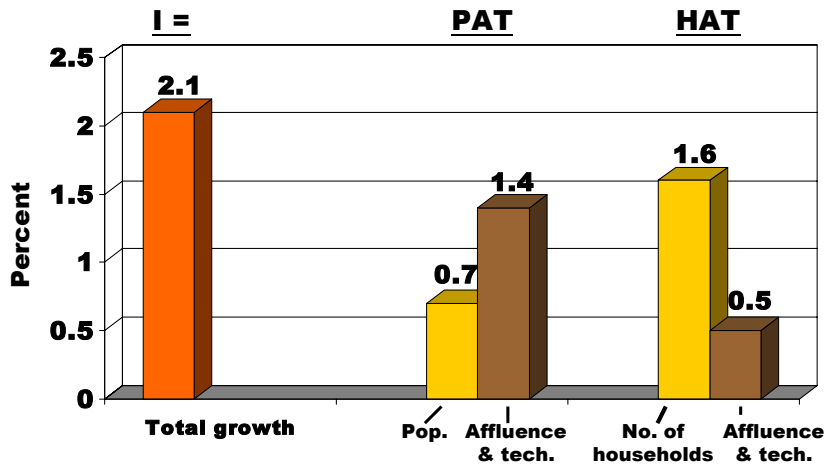
	% inc. in energy consump. <b>(I) =</b>	Due to pop. growth <b>(P)</b>	Due to change in income <b>(A)</b>	Due to change in tech. <b>(T)</b>
Developing Countries	6.7%	2.2%	3.0%	1.5%
Developed Countries	2.1%	0.7%	2.0%	-0.6%

Source: Lutz, "Demographic Change and Environment," Open Meeting of HDGEC, June 1999

For example, if you decompose the growth in energy consumption from 1970 to 1990 using the familiar  $I=PAT$  equation, only one-third of total growth in the developed world was due to population growth...



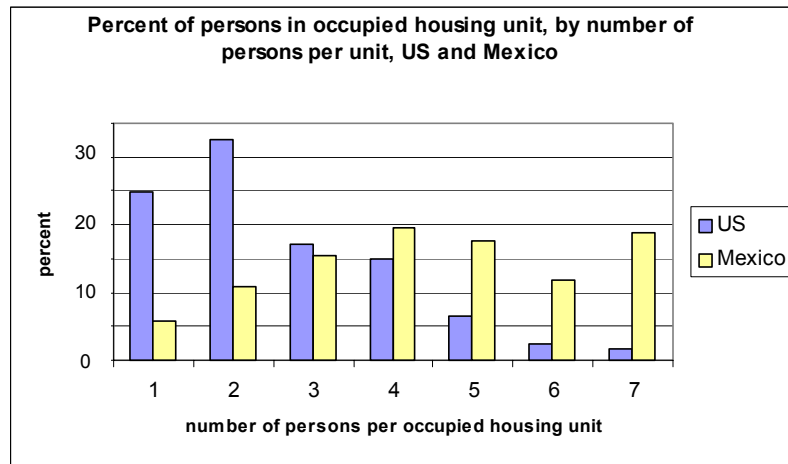
# IPAT vs. IHAT: Developed country growth in energy use



Source: Lutz, "Demographic Change and Environment," Open Meeting of HDGEC, June 1999

However, if you measure the change in the number of households over the same time period, the total contribution is more like two-thirds of total growth. This is because the number of households grew far faster than population due to trends in delayed marriage and divorce.

# Distribution of HH size: U.S. and Mexico



Source: U.S. Census Bureau and INEGI

This comparison of average household size in the US and Mexico illustrates this point. In the US by far the largest number of households are one and two person households; in Mexico, the average is close to four or five persons per household. In the US, each household needs to have the same basic infrastructure – refrigerators, microwaves, kitchen appliances, lighting and other electronic gadgetry. No economies of scale can be developed, in which more people share the same basic household goods.

## Conclusions & Issues

- ⌘ Consumption impacts on the env't affected by affluence, technology, efficiency of resource use, trends in HH size, settlement patterns
- ⌘ Only secondarily by population size and growth
- ⌘ Political will is lacking – need to engage political scientists
- ⌘ Sustainable consumption will need to be transparent to consumers
  - ☒ Energy efficiency, technology
  - ☒ Policies, economic incentives that move people to SC

In conclusion, consumption is a vital but under-appreciated issue. It is only now beginning to be researched in a serious manner. Consumption impacts on the environment are influenced by many factors, and population size is not necessarily the largest. Political will to address the trends and environmental impacts of consumption is lacking, so we definitely need the assistance of our colleagues in the political sciences. Furthermore, for the vast majority of consumers who are indifferent to the environmental impacts of their consumption, so-called “sustainable consumption” will need to be transparent to them. In other words, purchasing more sustainable products will not necessarily require that they make a conscious decision, but the products will either be more environmentally friendly because of legislation to ban environmentally damaging alternatives, or because the environmentally damaging alternatives will be more costly. In summary, in order to understand these issues, we need good data on consumption patterns, and sound scientific research.