

cont'd from page 3, News from the Secretariat



APN Programme Manager, Linda Stevenson and APN Liaison Officer for SEA, Anond Snidvongs, networking with APN-funded participants at the Young Scientists' Conference

matic research areas in global environmental change research were highlighted. Two poster sessions were also included in the agenda and over 40 posters were presented at these sessions. In addition, APN was asked to be one of the judges for the poster merits. The research themes covered at the conference were

land-use change; terrestrial and aquatic ecosystems; polar studies; paleoclimatology; impacts of global change; the global carbon and nitrogen cycles; global change, variability, and agricultural systems; aerosols; climate modelling; and human dimensions of global change.

Of the 1100 applications received for the Young Scientists Conference, 80 were selected. Of these, 17 participants from the Asia-Pacific region were directly funded by APN. The poster presentation sessions and the social gatherings provided an opportunity for APN (Linda Stevenson, Programme Manager, APN Secretariat and Anond Snidvongs, APN Liaison Officer for Southeast Asia) to interact with the participants and discuss their work.

Overall, the Young Scientists Conference was a tremendous success. The quality of the science presented in poster and oral presentations as well as the enthusiasm of the participants in relaying their research to their peers

was excellent. Moreover, the interactions among the participants from the entire spectrum of global change sciences, including both natural and social scientists were also very impressive.

APN Steering Committee Meeting

The 8th APN Steering Committee meeting was hosted by Dr. Andrew Matthews, Scientific Planning Group Co-Chair, at the National Institute for Water and Atmospheric Research (NIWA) in Wellington, New Zealand from 11-12 December 2003. The agenda included APN activities since the 8th APN Inter-Governmental Meeting in March 2003; financial resources; the proposals process; funded projects; the land use and cover change synthesis report and the progress of the coastal zone management synthesis; future activities; communications; membership/partnership development; an update of the CAPaBLE programme; and preparation for APN's tenth anniversary (evaluation and review). The Steering Committee summary report will shortly be available on the APN website <www.apn.gr.jp> [APN](#)

GUEST ARTICLE



TAKING A CONSUMPTION PERSPECTIVE ON GLOBAL ENVIRONMENTAL CHANGE

Louis Lebel, Unit for Social and Environmental Research, Chiang Mai University
(louis@sea-user.org; www.sea-user.org)

Consumption is the idea of "using" and "using-up". A consumption perspective [1] on global environmental change involves at least two critical components.

First it looks at the chain of processes involved in the production of commodities and services that involve significant use of natural resources and ecosystem services, and investigates the exchanges at various points along that chain from the perspective of consumption. Commodity chains, for some products, like aquaculturally-produced shrimp, span several countries and ecosystems. Shrimp meal used in Thailand to produce feed may be imported from as far away as Peru. Most of the shrimp grown are exported and sold to Japanese and North American markets. A consumption perspective is complimentary to the more conventional emphasis on production methods found in technologically oriented ap-

proaches to reducing pollution and improving efficiencies. This perspective asks questions about demand and why it is the way it is. Consumption is in many ways the flip-side of production.

Second, and perhaps more important is that it calls attention to those consumption processes that dominate the ends of commodity and service chains, whether it be the actions of retailers and resorts, or households as final consumers. How are wants created? Why do people desire greater mobility? Why do people aspire for more than they can afford? In the case of shrimp this means examining the behavior of people in hotels, restaurants and supermarkets in Japan, USA or Europe. It is also helpful to look at the system of importing, distribution and marketing to understand how demand is created and met. A consumption perspective also means digging deeper into understanding cul-

ture, values and attitudes that frame consumer's expectations. Shrimp in many countries have symbolic value to those that consume them—making them feel and labeling them as wealthy, powerful and otherwise of high social status. Trying to understand land-use changes in the coastal zone mangroves and wetlands of Thailand or Viet Nam requires linking the decisions of shrimp farmers with those of consumers that set the parameters of volumes to be traded, their size and quality.

Consumption perspective is important for understanding how the global food system works, especially for higher value, traded goods. These are especially important for global environmental change because they involve significant intensification of production methods with aggregate consequences for water, ocean ecosystems, the atmosphere and biogeochemical cycles.

Energy consumption is one of the better studied areas of consumption at different levels of organization and linking through to production and distribution systems. Understanding what drives energy system evolution is paramount for studies of the carbon cycle [2]. Mitigation research as well as work on energy conservation and alternative fuels has built up a large body of useful information. Even here, however, our understanding of how changes in values, beliefs and attitudes affect people's desires and consumption decisions about mobility, comfort and convenience are still modest and restricted mostly to studies of advanced industrialized societies.

A consumption perspective, is clearly useful for the analysis of the challenges posed by negative global environmental changes (Figure 1). In this short article I hope to also argue that it is also critical for integrated studies to develop policy solutions.

Over and under

A consumption perspective reveals huge differences between the per-capita consumption levels of the wealthy and poor. Over- and under-consumption both pose problems for sustainable development.

Consumption in wealthy societies often involves large impacts on local and more distant resources. Consumption growth has little impacts, however, on improving well-being (Figure 1). Making more money and pursuing materialistic values does not make people happier [3].

In poor societies energy use, and consequently, carbon emissions are low. Low consumption hinders asset accumulation, market development and innovation. Intensities of use of land and fisheries, on the other hand may be fairly high in total, if not in per capita terms. Consumption growth will often be associated with improvements in well-being, but points of diminishing returns are reached quickly.

For the developing and transitional economies domestic and foreign consumption processes are both important. First, agricultural, aquaculture, fisheries

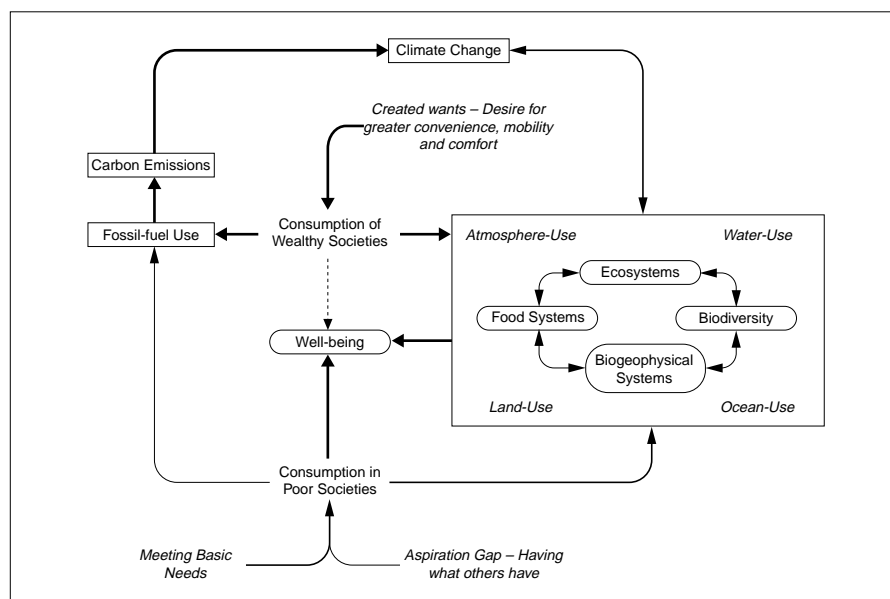


Figure 1. Consumption processes are underlying causes of, and sources of responses to, global environmental change. At their extremes the history of, and growth in, consumption of wealthy and poor societies involve distinct processes.

and timber exports are often very important sectors in these economies. Demand for timber, shrimp, coffee, cocoa, bananas, rubber and other commodities, however, often results in significant transformation of ecosystems and landscapes in the tropics. In some cases the transformations have produced serious ecological problems, and the social development benefits have been marginal or biased towards the powerful and wealthy. Second, manufacturing, such as textiles and plastics, and service sectors like tourism also have multiple effects in these countries, affecting freshwater, air quality and coastal ecosystems.

In the mature economies, like the US, Japan or in Europe, consumption of household goods, energy and other materials has reached very high aggregate levels and for many environmentally significant pathways continues to grow. Dematerialization as a result of efficiency gains is often observed, but for some sectors and behaviors, such as transport, there is little sign of slowing, with air transport for leisure and work becoming a major use of energy.

Towards the final consumer

The consumption end of production—consumption chains, the focus of much marketing research, has lain outside the scope of most global environmental research. The structures and processes surrounding consumer decisions are, however, crucial to understanding the

human driving forces of global environmental change.

A small but growing body of work on the political economy of consumption, for example, is unpacking some of the more common myths like consumer sovereignty. Consumer choice is constrained by many factors; producers don't just make what consumers want! Consider the role of advertising, the size of marketing budgets, television programming, and the media in defining what is a desirable, or normal, "household". Corporations have a vested interest in widening the *aspiration gap*—the distance between what people currently have and what they feel they need [8].

There is still relatively little consensus on how to conceptualize consumption processes that can take into account both individual behavioral decisions and institutions. Here I pose a draft framework (Figure 2) illustrating some of the key variables that research from a consumption perspective must measure [9]. This framework was developed with households in mind as final consumers, but in reality the purchasing decisions of private corporations and government agencies can be as important and also need to be analyzed with their own version of the framework.

Unfashionable research

Although I argue that consumption is greatly under-represented in the current

cont'd on page 6, Guest Article

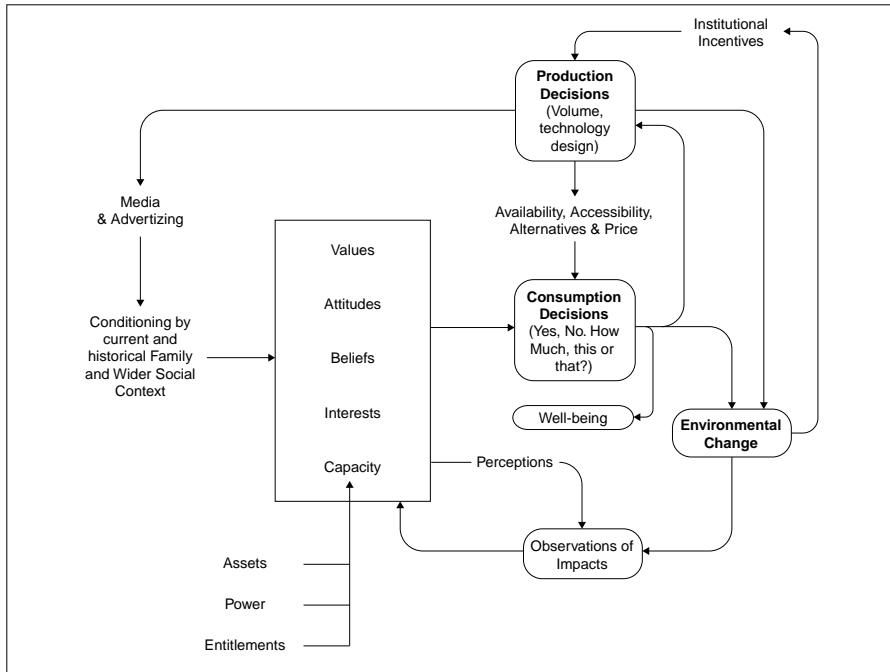


Figure 2. Unpacking the drivers of consumption underlines the role of social institutions in forming the values, beliefs and attitudes that underlie consumption decisions.

research agenda and activities of the global environmental change programmes, there is nevertheless significant groundwork already in place [e.g. 7]. For example, the Science Plan and activities of the Industrial Transformations project of IHDP, deals in many parts with ideas about social transitions, dematerialization, declining pollution intensities, and the tools for analyzing the decoupling economic progress and pollution or resource-use [4]. More recently the Implementation Plan of the Global Carbon Project makes several explicit references and calls for research on consumption-related processes [5].

These are a start, but there is clearly much more thought needed in articulating the kind of penetrating research questions that would really open up the “consumption” black box, especially as it moves towards the final consumer end of chains and explanations are sought about underlying reasons for societies promoting particular values, beliefs and attitudes [6]. We need to address questions like:

What are the institutional and behavioral changes required to move away from a carbon-culture? What are the underlying processes reinforcing beliefs that increasing and high levels of mobility lead to improved well-being? What kinds of policies have been effective at decoupling improvements in well-being from increasing energy consumption

and CO2 emissions of households, firms and government departments?

What are the primary determinants, and their interactions, driving wasteful, over-consumption in wealth societies? How can values that emphasize environmentally significant consumption be changed? What policies can help bring about these value changes over time?

How will the rising growth in consumption of water to serve interests of intensified agriculture, residential, recreational and industrial uses interact with altered patterns in absolute supply arising from changes in climate variability? How does consumption of high-valued agriculture and fisheries products from developing countries influence environmental management of resources?

Research on consumption and global environmental change provides some splendid opportunities for reversing the traditional teacher-student relationships of the north and south. Researchers with “south” values are very much needed to help analyze and explain the behaviour of “north” societies and suggest policies for improving well-being. Ultimately “value-transfers” may be more important for sustainability of the earth system than “technology-transfers”.

I end this article with an uncomfortable question:

Why has consumption been largely absent from global environmental change research agendas?

Compare the attention given in research journal articles and the media to population, deforestation and the weak environmental management capacities of the state in development countries with the handling of consumption. This is not to downplay demography, a vitally important field of study, or studies of poor land management practices, but to emphasize the *convenient* blind-spot. Studies of consumption behaviour of scientists and their society, living in the wealthiest nations or strata of developing nations, would make many people feel uncomfortable, even hypocritical. And that just doesn't sell. **APN**

References

- [1] Princen T, Maniates M, Conca K. (Eds) 2002. *Confronting consumption*. MIT Press: Cambridge.
- [2] Lebel L in press, *Social Change and CO2 Stabilization: Moving away from carbon cultures*. Chapter 5 in the SCOPE/GCP Rapid Assessment Project on *Towards CO2 Stabilization*.
- [3] Kasser T. 2002 *The high price of materialism*. The MIT Press: Cambridge.
- [4] Velling P, Herb N. (Eds). 1999. *Industrial Transformation Project*. IT Science Plan. IHDP Report No. 12. IHDP: Bonn. www.vulnl/ivm/research/idhp-it
- [5] Global Carbon Project. 2003. *Science framework and implementation*. Earth System Science Partnership (IGBP, IHDP, WCRP, DIVERSITAS) Report No. 1; Global Carbon Project Report No. 1. Canberra.
- [6] Kates RW. 2000. *Population and consumption: what we know, what we need to know*. *Environment* 42:10-19.
- [7] Stern PC, Dietz T, Ruttan VW, Scolow RH, Sweeney JL. (Eds). 1997. *Environmentally significant consumption: research directions*. National Academy Press: Washington DC.
- [8] Rosenblatt R. 1999. (Ed) *Consuming desires: consumption, culture and the pursuit of happiness*. Island Press: Washington DC.
- [9] USER will host a workshop in Chiang Mai on Sustainable Consumption in May/June 2004 to follow-up a web-based conference on this topic held in Sep-Oct 2003. For additional information please contact louis@sea-user.org or visit www.sea-user.org/e-conference.php