



INDUSTRIAL TRANSFORMATION PROJECT (IT) STATUS REPORT (DECEMBER, 2006)

NEWS

IT SCIENCE

Conventional theories of economic development (cf. Rostow, Lewis, 'balanced growth' theories) argue that national economies move through stages involving a shift from agrarian to industrial production, structural change, capability-accumulation and changes in markets and patterns of consumption. Typically development implies growing resource-intensity of economies early in the process of development, with major environmental impacts. Development in emerging Asian countries appears to be following this pattern and is thereby influencing the global demand for resources and generating major impacts on local, regional and global environments, including the global climate.

A key question for the global environmental change research community is whether industrial, economic and social transformations now underway in Asian countries will follow conventional trajectories, or whether more resource-efficient and sustainable development pathways may be possible. Investment patterns, government policies, the diffusion of new technologies, infrastructure development, urban planning and consumer behaviours would all play important roles in opening these pathways.

Recent developments in innovation theory related to sustainability have focused on the problem of cumulateness and path-dependency in socio-technical regimes in industrialised countries. Socio-technical regimes are relatively stable configurations of institutions, techniques and artefacts – as well as rules, practices and networks – that determine the 'normal' development and use of technologies. This 'sustainability transitions' literature argues for a multi-level framework for analysing 'systems innovation' taking place over the longer-term. It stresses the role of 'socio-technical experiments' in transforming prevailing socio-technical regimes (such as electricity systems or urban transport systems) operating within the specific economic and institutional conditions that shape the rate and direction of change. In doing so, the 'systems innovation' approach seeks to analyse broader technological and industrial changes significant to environmental sustainability, placing them in a broader institutional and governance context.

The IT Scientific Steering Committee (IT SSC) is now working on a metastudy that would apply insights from the emerging stream of systems innovation research in the context of an analysis of economic and environmental transitions occurring in developing Asia. The aim is to illuminate the potential for alternative development pathways in the region, based on indigenous resources and capabilities operating in the context of globalisation, and to make theoretical contributions to the literature on technology, development and the environment. Emphasis will be laid on comparative analysis of data and case studies from different Asian countries and regions.

This metastudy is an outcome of many discussions within IT circles about reshaping the IT science agenda. We hope the metastudy will give ground to further work either in the Asian region or elsewhere. This initiative is partially supported by the Dutch Knowledge Network on System Innovations KSI (www.ksinetwork.nl).

CHIANG MAI WORKSHOP...

... was a meeting supporting the metastudy process and brought together two communities: one concerned with system innovation and the other concerned with economic of technological development in Asia. The workshop took place In July 2006 and was hosted by USER group at the Chiang Mai University.

CHANGES IN THE STEERING COMMITTEE OF IT

In the course of 2006 five members of the IT SSC rotated off: Marina Fischer-Kowalski, Nina Poussenkova, Leena Srivastava, Christian Azar and Ken Green. We are most grateful for their support in designing and implementing the IT agenda.

At the same time we welcome new members and we look forward to their contributions: Xuemei Bai, CSIRO Australia; Liu Weidong, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences; Fred Steward, Brunel Research in Enterprise, Sustainability and Ethics (BRESE), Brunel University, UK; Patrick Criqui, LEPII-EPE, University of Grenoble, France, John Robinson, Sustainable Development Research Initiative (SDRI) in the Institute of Resources, Environment and Sustainability and Department of Geography, University of British Columbia Canada. Links to personal homepages from www.ihdp-it.org under: Who is who at IT?

CROSS-THINKING ABOUT SUSTAINABILITY

Can globalisation be a driver of sustainability, are we already hypermobile societies and what in fact do we eat? - are some of the themes of evening debates organised by the IT office in cooperation with the Dutch Knowledge Network on System Innovation (KSI), Felix Meritis Foundation (www.felix.meritis.nl), Dutch newspaper TROUW www.trouw.nl and Dutch NGO HIVOS www.hivos.nl. We called the series cross-thinking about sustainability as we ask awkward questions and try to see all the sides of the problem: for example increased mobility poses numerous challenges such as congestion or lack of space, but it is also technological development that allows people to be better connected, see more places; meat produced in an unsustainable manner causes numerous environmental and health problems both for people as well as for the animals, but meat is also an important element of our diet and source of nutrients and its production gives labor to people. How to solve some of these challenges? Are there any alternative pathways? Who shall take a lead in initiating change? What can factually be done so that we live more sustainably?

The debates take place in Amsterdam and bring researchers, policy makers, students and laymen together. Short description of each debate as well as a transcripts of the debates are available from the events page of IT website.

LINKING WITH CHINESE RESEARCHERS

A number of meetings took place in Beijing, China last November that extended the IT network and strengthened the IT links in the region: first was an informal round table with Chinese innovation researchers about sustainability transformations in the country (8 November 2006). Report and photos are available on the IT website under events.

Second was a *Regional IHDP conference* organised by the Chinese National Human Dimensions Committee where links between specific IHDP projects and Chinese Global Environmental Change science was explored.

Third was the ESSP Open Science Conference, in particular quite a successful IT session on the dynamics of sustainability transitions in Asia with the following contributions:

- Integrating policies, institutional and market development and supporting infrastructure for the adoption of clean technologies by Mahesh Patankar, India.
- Transitions To Sustainable Energies In Developing Asia by Frauke Urban, The Netherlands.
- Growth Patterns of Passenger Car Demand, Related Fuel Consumption and Associated CO2 Emissions - A Global Regionalized Analysis With An Asian Emphasis by Ina Meyer Austria.
- Simulating the impact of bio-fuel development on country-wide land use changes in India by R. Schaldach, Germany.

- Transitions to Sustainability in Food Consumption and Production Systems : the cases of Cod and Salmon by Ken Green, UK.
- The dynamics of socio-technical transition to a paperless society - emerging technologies, sustainability & innovation in 'print on paper' - East & West by Fred Steward, UK.

Some of the ppt's are downloadable from the IT website/ from under events page.

NEW IT RELEASES

Socioecological Transitions And Global Change. Trajectories of Social Metabolism and Land Use

Edited by Marina Fischer-Kowalski and Helmut Haberl, Institute of Social Ecology, Klagenfurt University, Vienna, Austria

This significant new book analyses fundamental changes in society-nature interaction: the socioeconomic use of materials, energy and land. The volume presents a number of case studies addressing transitions from an agrarian to an industrial socioecological regime, analysed within the materials and energy flow accounting (MEFA) framework. It is argued that by concentrating on the biophysical dimensions of change in the course of industrialization, social development issues can be explicitly linked to changes in the natural environment.

Contents: Foreword by Joan Martinez-Alier Contributors include: N. Eisenmenger, K.-H. Erb, M. Fischer-Kowalski, C.M. Grünbühel, H. Haberl, F. Krausmann, J. Ramos Martin, H. Schandl, S.J. Singh

May 2007, c 384 pp Hardback
ISBN13 978 1 84720 340 3

Journal of Industrial Ecology on Priorities for Environmental Product Policy, Special Issue

The Journal of Industrial Ecology has recently published a special issue on Priorities for Environmental Product Policy that might be of interest to some of the members of the IT Community. The issue provides rigorous and comprehensive insight into the life-cycle impacts of consumption - what we buy and what we use - on the environment. The articles identify high-impact product categories at the level of city (Cardiff), country (Germany, Belgium, Sweden, Denmark, Norway and the Netherlands), and continent (the European Union).

A review article from the special issue is available on [the web](#) for free download. The Journal of Industrial Ecology is a peer-reviewed international quarterly published by MIT Press, owned by Yale University, and headquartered at the Yale School of Forestry & Environmental Studies.

Despite the immense differences in approaches, all studies derive the same major priorities. The following activities and product groups cause 70 to 80% of the total environmental impacts in society: Mobility: automobile and air transport; Food: meat and dairy, followed by other types of food; and The home, and related energy use: buildings, and heating-, cooling-, and other energy using appliances. Important reductions in environmental impacts thus can be reached by policies that target this limited group of product categories.

The special issue is based on research prepared for the EU-funded project Environmental Impacts of Products. The project was led by Dutch research organizations TNO and CML and provides an important basis for the EU's Integrated Product Policy.

For more information about this special issue, please [click here](#)

Reflexive Governance For Sustainable Development

Innovations are introduced in the hope that they will have positive impacts on their targets, but also in the certain knowledge that there will be negative and unintended effects as well. In time, these less desired effects may also come to generate innovative and adaptive responses in a continuous, reflexive process. This book sets out to analyse the consequences for sustainability research and policy analysis. This collection, by many of the leading thinkers in

the field, blends sophisticated theoretical discussion with practical perspectives on how to deal with the conundrum the only thing certain about the future is that you will be wrong about it!

This book deals with the issue of sustainable development in a novel and innovative way. It examines the governance implications of reflexive modernisation - the condition that societal development is endangered by its own side-effects. With conceptualising reflexive governance the book leads away out of endless quarrels about the definition of sustainability and into a new mode of collective action.

Edited by Jan-Peter Voß, Research Fellow, Dierk Bauknecht, Research Fellow, Öko-Institut, Institute for Applied Ecology, Germany and René Kemp, Senior Research Fellow, MERIT, Maastricht University, The Netherlands

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[Click here](#) for additional information

OTHER MEETINGS

Some interesting meetings that took place in 2006 and that you might want to read about from our website ([www.ihdp-it.org](http://www.ihdp-it.org/events) /events) include:

CARBON MANAGEMENT AT URBAN AND REGIONAL LEVELS: CONNECTING DEVELOPMENT DECISIONS TO GLOBAL ISSUES, 4-8 SEPTEMBER 2006, MEXICO CITY, MEXICO

5TH IHD WORKSHOP ON INSTITUTIONAL DIMENSIONS OF GLOBAL ENVIRONMENTAL CHANGE: WATER, TRADE, AND THE ENVIRONMENT, 13-26 OCTOBER 2006, CHIANG MAI, THAILAND (WWW.IHDP.ORG)

2ND INTERNATIONAL YOUNG SCIENTISTS' GLOBAL CHANGE CONFERENCE, 7-8 NOVEMBER, 2006, BEIJING, CHINA (WWW.START.ORG)

BERLIN CONFERENCE ON THE HUMAN DIMENSIONS OF GLOBAL ENVIRONMENTAL CHANGE, BERLIN, GERMANY; 17-18 NOVEMBER 2006 ([HTTP://WEB.FU-BERLIN.DE/FFU/AKUMWELT/BC2006/](http://WEB.FU-BERLIN.DE/FFU/AKUMWELT/BC2006/))

IDGEC SYNTHESIS CONFERENCE, INSTITUTIONS FOR SUSTAINABLE DEVELOPMENT IN THE FACE OF GLOBAL ENVIRONMENTAL CHANGE: QUESTIONING • EXPLAINING • DEMYSTIFYING (QED), 6-9 DECEMBER 2006, BALI, INDONESIA ([HTTP://FIESTA.BREN.UCSB.EDU/~IDGEC/SCIENCE/SYNTHESIS.HTML](http://FIESTA.BREN.UCSB.EDU/~IDGEC/SCIENCE/SYNTHESIS.HTML))

UPCOMING EVENTS

IT has a new website and we keep it up to date with all events and announcements as well as meeting reports. Please have a look through the calendar of events for an overview of interesting meetings. Two in particular that IT people are involved - I would like to bring to your attention:

EARTH SYSTEM GOVERNANCE: THEORIES AND STRATEGIES FOR SUSTAINABILITY', [2007 AMSTERDAM CONFERENCE ON THE HUMAN DIMENSIONS OF GLOBAL ENVIRONMENTAL CHANGE, VRIJE UNIVERSITEIT AMSTERDAM](#), MAY 24-26, 2007 AMSTERDAM, THE NETHERLANDS.

[INTERNATIONAL SOCIETY FOR INDUSTRIAL ECOLOGY \(ISIE\) CONFERENCE](#), JUNE 17-20, 2007, TORONTO, CANADA.

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IT REFERENCE MANAGER

Available at:

http://130.37.129.100/english/o_o/instituten/IVM/research/ihdp-it/reference.htm

It is a tool, which allows for searching the IT database for papers, books, reports, which IT and the IT Scientific Steering Committee considered interesting and relevant for understanding socio-technological transformations. The manager is not comprehensive. We included there all references that supported creation of the Industrial Transformation Science Plan and that came out of the number of IT endorsed workshops, projects and activities. We hope, with your help, to be able to constantly improve it so that it serves the IT community best it can in their research on alternative development pathways that have significantly smaller burden on the environment. It should be treated as a starter bibliography or useful literature portfolio in finding your way in the area of IT.

IT is constantly updating the RM with new publications (relevant for IT although not necessarily endorsed by IT). If you have any interesting position for inclusion in this database, do not hesitate to contact the IPO.

ENDORSEMENT OF PROJECTS AND PUBLICATIONS

The IPO accepts projects and books proposals for IT endorsement. To apply for such an endorsement for an ongoing project please first have a look at the Terms of Reference available from the IT website.

To apply for an endorsement of your book/publication – please send an executive summary of the publication including content page and, if possible, an exemplary chapter to the IPO. In your message please clarify how this publication fits the IT research framework. Based on this information the SSC and the IPO will make the endorsement decision. In case of granting endorsement we require that the publication or a book includes the IT logo on the cover and/or short information on the IT endorsement somewhere in the first pages of the book. In turn, after publication, the IPO will be happy to circulate the commercial announcement of the book in the IT network, and to advertise it on the IT website as well as at the IT related meetings. If additionally we receive from the author or publisher commercial flyers announcing the book (with IT logo), we will be happy to distribute them at the conferences and workshops in which IT participates.

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