



ISEE



International Society for Ecological Economics

Contents

From the President	1
Findings from the MEA	2
P3-DM in India	4
Policy Brief – Biodiversity	5
SAGE-P	6
ISEE Management	8
ISEE Encyclopaedia	8
Regional Societies News	9
Jobs	10
Forthcoming Conferences	11
Publication Discounts	11
New Journals & Books	12

The International Society for Ecological Economics (ISEE) is a not-for-profit, member-governed, organization dedicated to advancing the understanding of the relationships among ecological, social, and economic systems for the mutual well-being of nature and people.

The Society publishes a research journal, 'Ecological Economics', books, and other materials; holds and sponsors scientific meetings; develops educational materials; and facilitates a voice for ecological economists in public forums.

The ISEE Newsletter is published twice a year, is sent free to ISEE members and is available on the ISEE website. The views expressed are those of the individual contributors and do not necessarily reflect the views of the Society as a whole.

Newsletter June 2005

Report from the President

Charles Perrings

Both ecological economics and the International Society of Ecological Economics are in something of a transition. In a recent commentary in the society's journal, John Gowdy and Jon Erickson raised the question of what ecological economists should be doing now that the Walrasian core of economics is collapsing under the weight of empirical evidence.¹ Since criticism of the assumptions of Walrasian theory was part of the motivation for the establishment of both the field and the Society, they ask whether ecological economics will move with the tide that is now sweeping through economics more generally. The alternative, they fear, is that ecological economists will get locked into the very set of restrictive assumptions that they had earlier criticised. I doubt if this alternative is a real risk, but the question Gowdy and Erickson raise is an important one. So we have been proved right? So what? Where do we go next?

They argue that ecological economics has a critical role to play in the revolution in economic theory, and this role stems from understanding of the importance of the biophysical systems within which human societies evolve. I am sure that we do have a role to play in pushing economic theory. But more than that, we have a role to play in developing economics as an empirical science. Ecological economics was initially motivated by the sense that economics failed many of the tests of science. The normative power of economics had paradoxically weakened its predictive power, since empirical validation was largely eschewed. Ecological economics was partly a reaction to that, and it still has a central role to play in building the science of resource allocation in a world in which 'everything is connected to everything else'. How ecological economics will do this is a moot point. As a field that spans a number of existing disciplines, we are still in the process of developing empirical research protocols. In fact that is the challenge ahead. We need to be able to point to research results that show how the integration of economics, ecology and the other disciplines reflected in the field has changed our view of the way the world works. While there are some good examples of this, there are not nearly enough.

¹ Gowdy, J. and J. Erickson. 2005. Ecological economics at a crossroads, *Ecological Economics* 53: 17-20.



ISEE Board Members

President:

Charles Perrings
cap8@york.ac.uk

Past President:

John Proops
j.l.r.proops@envss.keele.ac.uk

President Elect:

Joan Martinez Alier
joan.martinez.alier@uab.es

Board Members:

Jon Erickson
Jon.Erickson@uvm.edu

Wendy Proctor
wendy.proctor@csiro.au

Pushpam Kumar
pk@iegindia.org

Carlos Young
cadu@pra.microlink.com.br

Membership:

ISEE Membership Director
Heide Scheiter-Rohland
hrohland@burkinc.com

Ecological Economics:

Editor-in-Chief
Cutler Cleveland
cutler@bu.edu

OEEE:

Editor
Eric Neumayer
e.neumayer@lse.ac.uk

As a Society, ISEE is also in transition. Its membership is changing quite rapidly, and the dominant role of Europe and the North America is diminishing. The majority of ISEE members are still from the North, but the growth of regional societies in South Asia and Latin America, and the inauguration of a regional society in Africa mean that the centre of gravity is shifting. The newer members of the society are less motivated by the need to critique economics. In fact they take the sea-change in economics that Gowdy and Erickson were writing about as given. But they are interested in applications that will provide practical solutions to practical problems in countries where people are much more dependent on the environment than we are in the North. If farm income accounts for 70 or 80 per cent of all income, as it does in many countries in the South, the interdependence of natural and social processes has more immediate implications than it does in the North, where farm incomes account for around 1 per cent of all income. The change in membership has far-reaching implications not just for the way the Society sees itself, but also for the role it expects to play in the future.

The society is also in transition in other ways. For many years it has been administered by Burk Associates. The relationship with Burk comes to an end in July. In future, ISEE's affairs will be managed by Association Management Resources (AMR). AMR is profiled elsewhere in this newsletter. I expect that this change, along with the changes taking place in the delivery of the journal, will mean improved services for the Society's members.

Water as the Link between Ecosystem Services and Human Well Being: Some Findings from the Millennium Ecosystem Assessment

Pushpam Kumar and Neville Ash

In the largest ever assessment of its kind, more than 1360 natural and social scientists have attempted to take a stock of the world's major ecosystems and their capacity to provide benefits to people. The so-called *Millennium Ecosystem Assessment* (MA), initiated in 2001 by the United Nations, has considered the condition of major ecosystem types, in terms of their conditions and health and their impact on human well-being. Human well-being in this context is referred to a set of necessary constituents of material minimum (income), health, good social relations, security and freedom to act and make choices. The services provided by these ecosystems, such as provisioning services (food, clean water, medicines, biomass, etc.), regulating services (climate regulation, waste processing, etc.), cultural services (aesthetic, educational, etc.) and supporting services (soil formation, nutrient cycling, etc.) were considered and the mechanism through which these services strengthen and enrich human well-being were explored and analysed. While the comprehensive reports on four Working Groups (Condition and Trends, Scenarios, Responses and Sub Global), along with specific synthesis reports are scheduled to be released in September this year, the release of the General Synthesis Report on March 30, 2005 attracted a good amount of attention from political leaders, the academic community and media. Further synthesis reports are being released over the next 3-4 months, including on health, drylands, wetlands and for the private sector.



The MA provided an unprecedented platform for the academic fraternity coming from different disciplinary backgrounds to work together. This also reinforced the relevance of the quintessence of ecological economics where the interdisciplinary work couched in methodological pluralism and co-evolutionary framework provides usable solutions to society. A large number of social and natural scientists that are members of International Society of Ecological Economics (ISEE) also contributed to this process in a very significant way.

One of the key findings of the MA, which urgently needs attention by decision makers, is that the ecological degradation of dryland areas is likely to contribute to more significant water availability constraints in the future, especially in the context of Sub Saharan Africa, Central Asia and South Asia. These areas are also major poverty hot spots of the world. The achievement of targets in the first of the Millennium Development Goals (MDGs), which aims to half hunger and poverty by 2015 will depend upon whether these regions are able to achieve the desired objective. In this brief overview, we focus some of the water findings from the MA.

The links between poverty (a pronounced deprivation of human well-being) and ecosystem condition are multifaceted and often reiterative. Prominent among these links are that: (i) a deterioration of ecosystem condition affects poor people more than the rich ⁽¹⁾ (ii) an increase in poverty results in increased ecological stress, and conversely, an increase in human well-being will ameliorate environmental degradation ^(2,3) and (iii) there is evidence of societal responses, such as 'perverse' policies or technologies that have resulted in both environmental degradation and decreases in human well-being in a number of developing countries ^(4,5,6,7). In each of these cases, water has played a crucial role linking ecosystem condition to human well-being; a finding further supported by reviews of national poverty reduction strategies ⁽⁸⁾.

The health challenges faced by poor people are usually subjected to polluted water supplies and they are well accepted. However, water is important not just for the direct provisioning benefits that people derive from the availability of suitable quantities of clean water, but also for the full range of ecosystem services derived from the presence of water in wetland systems. Indeed the supply of clean water itself cannot be considered in isolation to that of other ecosystem services. An integrated approach to the management of water and other natural resources is essential as we look towards the UN Millennium Development Goals ⁽¹⁰⁾, which challenge us amongst other things to consider how we can halve, by 2015, the proportion of

people without sustainable access to safe drinking water (Target 10), at the same time as ensuring environmental sustainability through reversing the loss of environmental resources (Target 9).

In response to these ongoing human development challenges, the Millennium Ecosystem Assessment (MA) was established as an international process designed to meet the needs of decision-makers and the public for scientific information concerning the consequences of ecosystem change for human well-being, and to analyse options available to enhance the conservation of ecosystems and their contributions to meeting human needs ⁽¹¹⁾. Leading scientists from more than 100 nations conducted the assessment, with oversight by a Board comprised of representatives of international conventions, UN agencies, scientific organisations, and leaders from the private sector, civil society, and indigenous groups.

The MA focused on ecosystem services (the benefits people derive from ecosystems), including an assessment of the state of knowledge on the capacity of ecosystems to provide water for consumptive use, such as for drinking and agricultural needs, and the provision of other services from wetland systems, e.g. fisheries, waste processing and cultural services such as recreation and existence values. Inland water capture fisheries are of particularly high importance for food security in many less developed countries. For example, in Zambia they provide more than 50% and in Malawi more than 75% of the animal protein consumed by humans ⁽¹²⁾. MA found that over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history. The change was found to be striking for the water sector where amount of water in reservoirs quadrupled since 1960 and withdrawals from rivers and lakes doubled since 1960. Broadly, approximately 60% (15 out of 24) of the ecosystem services evaluated in this assessment were found to be degraded or used unsustainably ⁽¹³⁾.

In addition, the MA considered the effectiveness of various ecosystem management interventions, with the aim of assisting decision-makers to enhance the contributions of ecosystems to human well-being through ecosystem services. A range of scenarios has also been developed within the framework of the MA, examining plausible futures of ecosystem conditions and associated human well-being through to 2050.

The MA's assessment of both the services derived from ecosystems, and of the capacity of ecosystems to provide those services allows for consideration of the various trade-offs inherent in environmental management. Water itself is indeed a critical resource for development and poverty alleviation, but also a critical resource for functioning ecosystems -



biodiversity depends on water, and ecosystem services depend on biodiversity. One of the key issues in the management of freshwater is how to allocate the water across different user sectors - agriculture, household and other production sectors. The principal challenge remains the balance of these competing demands by acquiring the necessary institutional and financial resources and applying existing technologies, processes, and tools in order to increase the overall productivity of water for society. Tapping the ground water in a sustainable manner can prove to be effective. For this to happen, a transparent negotiation between the stakeholders (for example between the upstream and downstream people case of Delaware watershed and New York Municipality in the US) is required. Necessary institutional mechanisms should also be in place along with well-defined property rights. Often such conditions are either absent or poorly available for developing countries and the role of government becomes very important.

To move towards meeting the Millennium Development Goals and a longer term poverty alleviation strategy, water management will need to focus on the more effective use of water⁽¹⁴⁾, but also further consider the trade-offs between various competing demands for water use. The challenge is to meet these ever-changing demands whilst considering the impacts of water management on the full range of ecosystem services.

For further information, contact Pushpam Kumar, Institute of Economic Growth, Delhi, India (pk@iegindia.org) or Neville Ash, UNEP-WCMC, Cambridge, UK (ash@millenniumassessment.org), or visit www.millenniumassessment.org

References:

1. Dasgupta, P., 1995. The population problem: theory and evidence', *Journal of Economic Literature*, 33: 1879-902.
2. Southgate, D., 1988. 'The economics of land degradation in the third world', Environment Working Paper No.2, The World Bank, Washington, DC.
3. Mink, S.D., 1993. *Poverty, population and the environment*, Working Paper No. 189, The World Bank, Washington, DC.
4. Dasgupta, P., 1996. *Environmental and Resource Economics in the World of the Poor*, Washington, DC: Resources for the Future.
5. Lopez, R., 1992. 'Environmental degradation and economic openness in LDCs: the poverty linkage' *American Journal of Agricultural Economics*, 74: 1138-45.
6. Lopez, R., 1997. *Where development can or cannot go: the role of poverty-environment linkages*, Proceedings of the Annual Bank Conference on Development Economics. *The World Bank, Washington DC*.
7. Heath, J. and H. Binswanger, 1996. 'Natural resource degradation effects of poverty and population growth are largely policy-induced: the case of Colombia', *Environment and Development Economics*, 1 (1): 65-84.
8. Bojo, Jan and R.C. Reddy, 2002. Poverty Reduction Strategy and the Environment, *Paper No.86, The World Bank Environment Department, The World Bank, Washington DC*.
10. UN Millennium Development Goals and Targets www.un.org/millenniumgoals/
11. Millennium Ecosystem Assessment, 2003. *Ecosystems and Human Well-being: A Framework for Assessment*, Island Press, Washington DC.
12. Groombridge, B.C. and M.D. Jenkins, 2002. *World Atlas of Biodiversity*. University of California Press.
13. Millennium Ecosystem Assessment, (2005) General Synthesis Report, Island Press, Washington DC, Forthcoming in September.
14. Gleick, P.H., 2003. Global Freshwater Resources: Soft-Path Solutions for the 21st Century, *Science* 302: 1524-1528.

Participatory 3-D Modelling for ecological monitoring in mountainous areas

C.N. Anil, ICIMOD/IFAD Partnership Programme



A topographic map represents only two dimensions and is not always easy to use, especially if that map represents hilly or mountainous terrain. Participatory Three-Dimensional Modelling (P3-DM) adds the third dimension, and a replica of a topographic map can be constructed into a visual model that captures and integrates people's knowledge and spatial information.



Such a model is constructed through the active participation of a community with facilitation by mapping experts, and hence derives its name, Participatory 3-D Model. A P3-DM is constructed with simple, locally available material like rubber sheets, ply board, paints, etc. The P3-DM is communicative facilitation method used in planning and innovation processes related to resource use and tenure. This method has been conceived to support initiatives aimed at increasing community participation in problem analysis and decision-making.

As part of IFAD-ICIMOD collaborative work, the Norkrek Biosphere Reserve in Meghalaya, India, was selected as the location for mobilising communities and building their capacities for natural resource management in protected areas. During 2003, the village of Sasatgre, located close to the reserve, came together to construct its own 3D model for use in planning the management of its natural resources. The village established a Natural Resource Management Group that received training on participatory rural appraisal to help collect information for construction of their 3D model. Once the model was built, the community's first major use of it was in the annual allocation of *jhum* (shifting cultivation) plots. Households were able to ascertain exactly how much of the village area was available for *jhum*, as well as the size of each of the 22 *jhum* plots required. After allocation of the plots was completed, it was found that the area for *jhum* had drastically decreased from about 140 ha in earlier years to only 41.3 ha in 2003. Moreover, allocations were more contiguous and more consolidated than in previous years. The village was also able to identify areas along the stream that required protection for water catchments and areas available for grazing. The community was extremely happy with the results of the exercise, and was even able to identify and solve potential problems in the allocation of *jhum* plots before the cultivators had to face difficulties.

P3-DM is a powerful tool that could be used for community level monitoring of ecological change in a more systematic manner. It could also be used to incorporate financial data and provide information on the economics of community management of natural resources. P3-DM also allows community members to communicate with policy makers and scientists in a more confident manner.

For a more details on Participatory 3-D Modelling, visit <http://www.ecoeco.org/Members/post-it.htm>

USSEE Policy Briefs

The United States Society for Ecological Economics (USSEE) commissions and posts "Policy Briefs" from leading scholars on specific topics in ecological economics. These documents provide concise overviews concerning the problem, solutions, and policy implications of important issues in environmental policy. Readers may consider these Briefs as starting points and review articles in Ecological Economics, other journals, magazine, and books for more detailed discussion of each specific topic.

Policy Brief on Biodiversity

Richard B. Norgaard

The diversity of life on earth is understood typically at three interacting levels: genetic diversity, species diversity, and ecosystem diversity. Population diversity can also be important to the maintenance of species and genetic diversity. Acknowledging the role of people in nature, we see a fifth interactive level, cultural diversity, or the diversity of ways people potentially reinforce diversity at the different biological levels.

Quantifying biodiversity is difficult because our understanding of genes is undergoing rapid change, our understanding of species is changing through our new understanding of genetics and the use of new genetic technologies, and ecosystems can only be defined in terms of particular combinations of species and degrees of interrelatedness. Scale is also important. The local diversity of species can increase through the introduction of species from other areas, yet since some native species are almost always lost with introductions from other regions, global diversity decreases through introductions.

Nevertheless, even though measures of total diversity are difficult to impossible, all available evidence indicates that the diversity of life is in very rapid decline and will continue to be in decline throughout the 21st century. It is generally accepted by the hundreds of natural and social scientists contributing to the Millennium Ecosystem Assessment that the rate of species loss currently is as much as 1000 times the background rates over the planet's history and much higher than the rates that occurred during earlier periods of rapid extinction due to natural processes. The evidence also indicates that across a range of taxonomic groups the size and ranges of populations of many species in the group are decreasing.

The relationship between human well-being and biodiversity is difficult to assess because it is clearly interactive with other factors, especially income and education. Since income can increase through



economic activities that reduce biodiversity and its benefits for future peoples, false correlations are easy to find. The relationship is also complicated by the fact that income attached to people in one area may stem from economic activities that affect biological diversity in other areas. How biological diversity contributes to ecosystem services of different types is also very complex. Nevertheless, the hundreds of natural and social scientists contributing to the Millennium Ecosystem Assessment conclude:

... biodiversity is an important means as well as an end to a number of key constituents and determinants of human well-being. If we keep all other variables constant, we can say with medium certainty that biodiversity loss and deterioration in ecosystem services will contribute—directly and/or indirectly—to worsening health, higher food insecurity, increasing vulnerability, lower material wealth, less freedoms and choices and personal unhappiness. However, there are insufficient data globally to allow rigorous estimations of the full consequences for human well-being of biodiversity loss and deteriorating ecosystem services.

Clearly, there will never be sufficient data to fully understand the consequences, but the directions we need to go are clear. We need to stem the major drivers of biodiversity loss: 1) habitat transformations, such as conversion of forests to agricultural lands, that reduce the diversity of ecosystems, 2) habitat fragmentation that limits the ranges of species that require considerable space, 3) the invasion of species from other areas that out-compete native species, 4) the introduction of materials into environmental systems that are toxic to a significant number of species or overload ecosystems with nutrients, 5) overexploitation of particular species through hunting, fishing, and timbering, and 6) changes in local climates and the geographical shift of climates acceptable to particular species and ecosystems through global warming. Here we begin to see how economic activity and the conceptual frameworks by which we understand and modify economic activity are important. Habitat change is slowing down largely because there are fewer and fewer habitats left to fragment. The introduction of species from other regions, however, is increasing dramatically with increased travel of goods and people associated with globalization. The generation and release of toxic materials is heavily associated with industrialization and chemical over ecological approaches to agriculture. Overexploitation of particular species occurs through misinformation about species abundance and dynamics and inadequate management of the commons. Climate change is largely driven by the past and still increasing dependence of our economies on the combustion of

fossil hydrocarbons, natural accumulations of past photosynthetic activity, rather than working with current flows of energy from the sun.

Biodiversity loss is occurring through these six drivers and other processes in different combinations in different places. We do not know whether the diversity loss from toxics associated with the greater intensification of agriculture on existing lands is more or less than the diversity loss would have been had the same increase in production occurred through the conversion of new land to agriculture. Efforts to sustain diversity in one region have implications, both through biological and economic processes, for other regions. The complexity means it is not possible to prescribe ideal marginal adjustments to existing environmental policy, the style of most environmental economic policy analyses. Rather, the loss of biodiversity provides strong evidence that substantial change is needed. It is generally held that we can move in the appropriate direction by reducing population levels, reducing material and fossil energy use, especially that related to questionable consumption and over consumption by the rich, and shifting the economy toward more ecological technologies.

Duraiappa, Anantha and Shahid Naeem, *et al.* 2005. Biodiversity Synthesis Report. Millennium Ecosystem Assessment.

For other Policy Briefs in the Series, visit the USSEE website at: <http://www.ussee.org>

SAGE-P, System of Accounting for Global Entropy Production

Anthony Friend

The SAGE-P (System of Accounting for Global Entropy Production) Project is a coherent redefinition of the macro-level accounting identities compatible with the axiomatics of Ecological Economics and the limits-to-growth of the global economy. The theoretical base is G-R Entropy Law and the Economic Process and Flow-Fund Accounting -the late twentieth century challenge to the Walrasian General Equilibrium Model (circa 1870s). The latter ushered in the marginal revolution that, in turn, had challenged the earlier axiomatics of the material supply-cost economy and its derivative labour theory of value (i.e., Kinetic energy). The latter envisaged a Malthusian-Ricardian destiny for the global economy of subsistence wages, zero profits, and rents soaring to its maximum - acquiring the well deserved moniker of the dismal science, a prediction in harmony with Hardin's Tragedy of the Commons and the dire warning of Our Common



Future, symptoms manifest in climate change and the emergence resource wars.

SAGE-P is a system of accounts that monitor, map, and model the rate of entropy production, henceforth e-values, of economic activities well defined within the framework of the system of national accounts (SNA). The political appeal to SAGE-P is the efficient management of some culturally-defined e-values, or what Kozo Mayumi likes to refer to as the socially acceptable rate of entropy production. The key implication is for sustainability to be defined in terms of cultural values, accompanied with an economic policy which shifts the emphasis from a growth economy (i.e., velocity of product circulation; time/cost efficiency) to a duration economy (i.e., conservation of the stock of low entropy products; or material-energy/cost efficiency). Indeed, Kenneth Boulding said so much over fifty years ago in his article in the *Review of Economic Studies*, (Vol: 17, 77-86) on "Income or Wealth".

I shall argue that it is capital stock that we derive satisfaction, not from additions to it (production) or subtractions from it (consumption): that consumption far from being a desideratum, is a deplorable property of the capital stock which necessitates the equally deplorable activities of production: and that the objective of economic policy should not be to maximise consumption or production, but rather minimise it, i.e. to enable us to maintain our capital stock with as little consumption and production as possible. It is not the increase in consumption or production that makes us rich, but the increase in capital, and any invention which enables us to enjoy a given stock of capital and a smaller amount of consumption and production, out-gor or income, so much the gain.

While e-values are a well established factor of production in the discourse of ecological economics, these values are conspicuously missing from the vocabulary of mainstream economics. The entropy law underpins the axiom of the accounting identities, while inconvenient for growth economists, cannot be ignored in construction of limit functions in the capital accumulation accounts. The good news is that the fundamental Keynesian identities of an economic system (i.e., $Y^* = C + S$, $S^* = I$) remain intact, only the production/consumption boundaries are redefined to be compatible with the thermodynamic equations of transformation low entropy stocks to high entropy products.

While G-R basic argument underpins the Project, progress in defining the concepts and definitions for e-value accounting has been made by G-R's brilliant disciples such as Herman Daly and Kozo Mayumi. The Project, armed with the body of thermodynamic accounting rules, introduces the entropy law to the four fundamental accounts of the SNA, viz (i) production,

(ii) consumption, (iii) accumulation and (iv) trade with the rest-of-the-world. Note that the special case SNA, by default, collapses the general case of SEEA, into the Procrustean Bed of the Walrasian General Equilibrium System - the perfection of the imperfections of the market (see:

<<http://unstats.un.org/environment/SEEA2003.htm>>).

The announcement of Canada's obligations to the Kyoto Protocols – the first formal agreement to reduce the rate of e-values of the World economies, albeit restricted to GHG emissions - is well-timed for the Project. The eco-efficiency approach is a far more desirable, and more likely to achieve the Kyoto objectives, than the current sledge hammer target approach to reduce GHG emissions. The implication is obvious, a holistic policy of e-value reduction addresses the actions required to change human behaviour, cultural values, and the social organization of production rather than an implementation policy of target reductions which imposes costs and regulations on business-as-usual.

As many of you already know, SAGE-P is a continuation of my earlier research on the ecosystem approach to SEEA where I developed the Sraffian Environmental Valuation Method (SEVM). This Project, as well as the previous work, came out of the abandonment in Canada of the STRESS framework and ecosystem approach to SEEA. There are complex reasons for this, but the primary motivation to revert to more conventional environment accounting was political/administrative, rather than scientific. The predictable result is fragmentation of the database and the modular constructs of statistical domains (i.e., air/water/ land, pollution time series and so forth). The NRTEE indicators on environment and sustainability were essentially a regression from the more holistic approaches for the 1970s and 80s. In my opinion, the \$9 million fund to develop these indicators was not only misspent but a missed opportunity to employ the ecosystem as the integrator for the NRTEE, ESDI Project. The Kyoto Accords may provide yet another window of opportunity to revive the Canadian inspired ecosystem approach to SEEA.

Unlike SEEA, the SNA is a well-integrated system for organizing time series data and indicators on the economy. While a superb system designed by Richard Stone in the 1950s and 1960s, it is nonetheless grounded in the Keynesian theoretical model of the 1930s concerned with the development of full employment policies. Concerns largely out-dated in the global economy and, despite the 1993 revisions, the system design is insensitive to environment-economy transactions, sustainability, and limits to economic growth. The Project treats the current SNA, including the iconic GDP, as a special case of a market



economy being useful for short-term monetary and fiscal policies. SAGE-P takes the special case SNA as given, and proposes an extension of the boundary conditions of the production/consumption matrices conforming to thermodynamic concepts and definitions. In this way the economy becomes a subset of the larger scale global ecosystem production functions. In other words, the single value SNA (i.e., market prices) assumes pluralistic values (i.e., ecoprises and econprises) allowing for the full integration of the material economy with the institutional economy.

It does not take much to realize that the outcome of fragmentation of data is inefficiencies in policy implementation effecting highly complex systems, qua Kyoto Accords. For instance, Denmark started planning for Kyoto targets in 1996 with a well-integrated economic policy to reduce e-values - 25% of its current power supply is obtained from wind! The public knew very well that their aggregate contribution to GHG build-up in the atmosphere was minuscule, a drop in the ocean, but accepted the political/moral obligation (i.e., the socially acceptable rate entropy production).

Note on the accounting identities and ecopricing

$Y * C + S, S * I$

Note that in thermodynamic accounting, when $S = I$ the production system is at steady-state, when $S < I$ the production system grows, and when $S > I$ the production system declines. Keynes referred to the liquidity trap as a regressive function, $S > I$, leading a fall in Y in the next period. Simply put, the investors by hold liquid assets in non-productive state conditions, albeit in the expectation of change in future demand, and inadvertently sets in motion the feedback effects leading to the economic downspin.

The equivalence of the liquidity trap is the entropy trap, where the economy expands and the ecology shrinks at equal measure, resulting from the inequalities arising from the differences between the conservation value (ecoprises) and the market values (econprises) of ecosystem-economy transaction matrices.

Y = the stock of (low entropy) ecoproducts;
 C = the stock of basic-ecoproducts to necessary to maintain the stock of Y at steady-state;
 S = the stock of non-basic ecoproducts (i.e., surplus) available for human consumption at steady-state;
 I = stock of ecoproducts expropriated¹ for human use.

Thus:

$S = I, Y = 1$: ecoprice = econprice = steady-state ecosystem production function;

$S > I: Y > 0$: ecoprice > econprice = growth-state ecosystem production function;

$S < I: Y < 0$: ecoprice < econprice = declining-state ecosystem production function;

To escape the entropy trap requires that the market value and the conservation value requires a reversal of conventional economic policy of maximizing the velocity consumption (i.e., growth in GDP), to minimizing the rate entropy production (i.e., conservation of stocks of low entropy resources).

ISEE under New Management!

From July, the administration of ISEE and its membership will be managed by Association Management Resources (AMR). AMR was started by Marsha Kopan in 1998. Located in West Allis, Wisconsin, USA, the company provides business management solutions for trade associations. Marsha Kopan brings practical experience of serving associations and their needs through her involvement as an officer in two associations. She served as Secretary of the Wisconsin Burglar & Fire Alarm Association, as well as consecutively, Vice President, President and Past President ending in 1998. The members of the International Virtual Assistants Association elected Marsha to Vice President of Membership in 1999 until 2002.

AMR will carry out the full range of association management functions for ISEE, including management of membership renewals and the membership database, journal subscriptions, and accounting and financial management.

ISEE Encyclopaedia

Eric Neumayer

Since its launch in March 2003, the Online Encyclopaedia of Ecological Economics (OEEE) has continued to expand at a steady rate. The most recent entries to the encyclopaedia include: Agent Based Modelling by Marco A. Janssen; Consumption in Ecological Economics by Inge Røpke; Economic Globalisation and the Environment by Roldan Muradian; and Politics and Ideology in Ecological Economics by Peter Söderbaum.

We continue to actively welcome suggestions for new entries and potential authors. The encyclopaedia's authors are not restricted to members of the ISEE (even though most authors are members), and the



ISEE

authors retain the copyright and can therefore use their own entries in other publications.

For suggestions on topics, authors or any other idea relevant to the encyclopaedia, simply send an Email to e.neumayer@lse.ac.uk mentioning the encyclopaedia in the subject line.

A reminder that the OEEE can be found at <http://www.ecologicaeconomics.org/publica/encyc.htm>. It provides students, academics, journalists, activists, policy makers and everybody else interested with a first-hand introduction to many of the topics at the heart of ecological economic analysis.

Regional Societies News

ASAUEE Regional Meeting 2004

The second meeting of ASAUEE, the Argentinean – Uruguayan Society for Ecological Economics was held on November 12-13, 2004 in Lujan city, 50 km from Buenos Aires. During the two-day meeting, participants came from different regions of Argentina, Uruguay and Brazil to present and discuss new points of view that could help provide solutions for questions concerning the environment and society.

Over 70 contributed papers were presented at the Conference in four main sessions. The main point of the meeting concerned *“Energy, Transportation and Agriculture Production in the Mercosur”*. The Sessions addressed Regional Environmental Points, Specific Environmental and Agricultural Issues, Management and Tools for Environmental Policy and Social Studies of Environmental Problems. Themes in these sessions ranged from valuation, physical indicators, accounts, food security, environmental equity, and land use planning to biodiversity conservation, agriculture, soybean production, no tillage systems and environmental effects, and ecological debt in agriculture. Many of these papers were focused on the local or regional level.

More than one hundred people assisted and enthusiastically participated in the sessions. They came from a variety of institutions from the national and private universities, government and NGOs. The Meeting was opened by the Rector of Universidad de Lujan, Lic. Amalia Testa and Dr. Carlos Barrera opened the Plenary Session by presenting ASAUEE, Meeting Activities and the first Conference session, *“Environmental and International Trade”*. The Central Session was a Round Table entitled *“Changes in the Agroproductive Scenario facing the XXI Century”* with

the participation of Walter Pengue, Horacio Feinstein, Pedro Tsakoumagkos and Jorge Morello. The last Plenary Session was a lecture by Dr. Jorge Morello, *“Strategies and Future Possible Scenarios towards Sustainable Agriculture in the Mercosur”*.

The Meeting received the support of the National University of Lujan, Rector and Academic Bureau. Participants received a book of abstracts and documentation on Ecological Economics. This information will be on the webpage of the society at www.gepama.com.ar with its link to ISEE. Completed papers will be compiled in a CD with ebooks on Ecological Economics during the beginning of 2005.

Pedro Tsakoumagkos, in the name of Universidad de Lujan, and Walter Pengue representing ASAUEE gave the last words and information about the next steps of the Society, i.e.: Information of financial situation and needs; Preparations for the Third Meeting and Calling for defining the new place for it; Regional Meetings during 2005 and 2006 in Argentina and other administrative information.

Steering Committee of ASAUEE:

Jorge H. Morello (Argentina), President, Daniel Panario (Uruguay), Vice-president, Hector Sejenovich (Secretary), Walter A. Pengue (Vice Secretary), Horacio Feinstein (Treasurer) and Gustavo Sension (Vice Treasurer).

Contacts:

Jorge Morello (morello@gepama.com.ar),
Walter Pengue (wapengue@sinectis.com.ar),
email ASAUEE Society: asauee@gepama.com.ar

News from ESEE

ESEE 2005 - the 6th International Conference of the European Society for Ecological Economics will take place in Lisbon in June 14-17, 2005. ESEE 2005 will provide a forum for scientific debate and discussion on theoretical and practical issues in the field of ecological economics, focusing on the links between science, society and policy. The general theme of ESEE 2005 will be Science and Governance - The Ecological Economics Perspective. We would like ESEE 2005 to constitute a forum gathering all those interested in sustainability issues. Additional information is available from the Conference website - www.esee2005.org

New Members of the ESEE Board

Two new members have been elected to the ESEE administrative board. Christian Rammel from the Institute for Anthropology, Human Ecology Research Group & Institute of Ecology and Conservation Biology,



University of Vienna, and Jouni Paavola from the Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia, now join the team.

Worldwide Virtual Network of Young Researchers Working on Science and Society Issues

There is a close relationship between some members of ESEE and the Worldwide Virtual Network of Young Researchers Working on Science and Society Issues. Through its website the network aims to further develop work in this area, to enhance communication and discussion, and to encourage others working on Science and Society interfaces to join us.

The website can be found at:

<http://alba.jrc.it/science-society/>

For more information about ESEE activities please see the website:

<http://www.euroecolecon.org/index.htm>

News from INSEE

The Indian Society for Ecological Economics (INSEE) is organizing its Fourth Biennial Conference on *Ecology and Human Well Being* on 3-4 June, 2005 at Indira Gandhi Institute of Development Research, Mumbai. More than 150 researchers and teachers working in the areas of ecological economics from India and other parts of South Asia shall be deliberating on the following themes:

- Ecological and Social Resilience.
- Ecosystem Services and Quality of Life.
- Policy Reform for Sustainable Development: Governance and Institutions.
- Valuation for Ecosystem Changes.
- Communities and Collective Action

There will be plenary sessions, Concurrent Technical Sessions and Panel Discussions on topics around the main theme. In addition to invited keynote addresses and roundtable presentations. The structure of the conference provides for technical sessions at which the contributed papers will be presented and discussed; plenary sessions for invited keynote speakers, roundtables and Poster Presentations. For details contact Pushpam Kumar, Ph.D., (Email: pk@iegindia.org) Convener, Conference Programme Committee, INSEE2005 or visit www.ecoinsee.org

News from RSEE

The Seventh International Conference of the Russian Society for Ecological Economics "*Globalization, New Economy and the Environment. Business and Society*

Challenges for Sustainable Development" to be held at St Petersburg State University, St Petersburg Russia, June 23-25 will offer an opportunity to discuss modern ecological-economic problems of society and business in the context of globalization and the development of new economy. Special attention will be paid to the theory and methodology of ecological-economic research, international, macroeconomic and regional aspects of sustainable development, development of the new generation of resource and environmental policy instruments, issues of economics of biodiversity, ecologically sustainable and socially responsible decision making by business, the questions of ecological-economic modelling as well as governance, institutional aspects of sustainability reform and environmental psychology. The conference will bring together 200 participants from more than 25 countries.

For additional information please see www.rsee.org or contact the Secretary of the RSEE Dr Stanislav Shmelev s.shmelev@open.ac.uk

Jobs

Lectureships (x2)

Sustainability Research Institute, University of Leeds
 Deadline: June 10, 2005
<http://www.notes2.leeds.ac.uk/jobs/unijob.nsf/Jobs>

Natural Resource Economist

Leipzig, Germany
 Deadline: June 15 2005
<http://www.ufz.de>

Massachusetts Environmental Fellows

University of Massachusetts Amherst
 Deadline: July 1 2005
<http://www.umass.edu/tei/>

Program Dean

School for Field Studies (SFS), Salem, MA, USA
 Deadline: Until filled
<http://www.fieldstudies.org>

Assistant Professor

Environmental Economics
 The University of Nebraska – Lincoln
 Deadline: Until filled
<http://wrri.unl.edu/jobs.htm>



2006

Forthcoming Conferences

Non-ISEE Conferences

2005

June 23-26, 2005

Fourteenth EAERE Annual Conference
Bremen, Germany

Organised by: the European Association of Environmental and Resource Economists
<http://www.conferences.iu-bremen.de/EAERE2005/>

June 27-July 1, 2005

Fifteenth International Input-Output Conference
Beijing, China

Organised by: The International Input-Output Association (IIOA) and the Chinese Input-Output Society.
http://www.iioa.org/conf/15_conference.html

September 11-14, 2005

Complexity and Ecological Economics
Liverpool, UK

Organised by: The Centre for Complexity Research
http://www.liv.ac.uk/ccr/2005_conf

September 20-21, 2005

Economics and the Analysis of Ecology & Biodiversity
Cambridge, UK

Organised by: BIOECON
<http://www.bioecon.ucl.ac.uk>

October 28-29, 2005

Climate or Development?
Hamburg, Germany

Organised by: Hamburg Institute of International Economics

November 10-12, 2005

Integrating biodiversity science for human well-being
Oaxaca, Mexico

Organised by: DIVERSITAS
<http://www.diversitas-osc1.org>

December 2-3, 2005

International Organisations and Global Environmental Governance
Berlin, Germany

Organised by: German Political Science Association
<http://www.fu-berlin.de/ffu/akumwelt/bc2005/>

July 3-7, 2006

Third World Congress of Environmental and Resource Economists

Kyoto, Japan

Organised by: SEEPS, AERE, EAERE in cooperation with ALEAR.

<http://www.worldcongress3.org>

Publication Discounts

Discount from RFF Press

RFF Press has kindly agreed to provide ISEE members with a 20% discount on their publications. To receive the discount, ISEE members must use the Special Promotion Code "NAF" either online or via phone at 1-800-537-5487.

Visit www.rffpress.org to see the complete list of titles.

Latest books from Edward Elgar

The following titles from Edward Elgar are available to ISEE members at 50% of the price listed. Email Laura Wyer for further information on: laura@e-elgar.co.uk

Current Issues in Ecological Economics series

'The Ecological Economics of Consumption' (2004) L.A. Reisch and I. Røpke.

'Modelling in Ecological Economics' (2004) J. Proops and P. Safonov.

Advances in Ecological Economics Series

New Series Editor Jeroen van den Bergh

'Sustaining Agriculture and the Rural Environment' (2004) F. Brouwer.

'America's Changing Coasts' (2005) D.M. Whitelaw and G.R. Visgilio. 'The Economics of Technology Diffusion and Energy Efficiency' (2005) P. Mulder.

'Time Strategies, Innovation and Environmental Policy' (2005) C. Sartorius and S. Zundel.

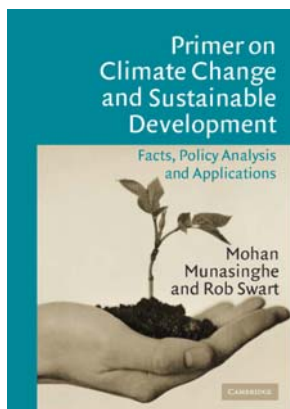


New Journals and Books

Cambridge University Press

Primer on Climate Change and Sustainable Development by *Mohan Munasinghe and Rob Swart*

ISBN-10: 0521008883 | ISBN-13: 9780521008884



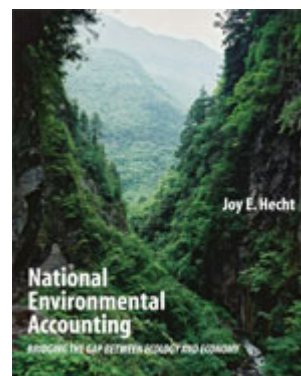
Climate change and variability has become the primary environmental concern of the 21st Century. The potential impacts and mitigation of climate change need to be analyzed within the context of sustainable development. *Primer on Climate Change and Sustainable Development* presents a condensed and accessible review of the latest state-of-the-art assessments of the Intergovernmental Panel on Climate Change. The book begins with a foreword from the chair of the IPCC. Our current knowledge of the basic science of climate change is described, before moving on to future scenarios of development within the context of climate change. Possible adaptation and mitigation measures, including cost and benefit analysis, are discussed. The book will be an invaluable textbook for students of environmental science and policy, and researchers and policy makers involved in all aspects of climate change.

RFF Press

National Environmental Accounting: Bridging the Gap Between Ecology and Economy by *Joy E. Hecht*

Cloth, ISBN 1-891853-93-7 / \$60.00

Paper, ISBN 1-891853-94-5 / \$24.95



This book presents national environmental, or "green" accounting as it has developed in Europe and other parts of the world. It introduces the most recent methods developed through the United Nations Statistical Department and other international organizations, but bridges the gap between the superficial treatment of environmental accounting in economics textbooks and environmental literature, on the one hand, and the highly technical manuals of international organizations, on the other.

Joy Hecht begins with a history and introduction to national income accounting. The first part of her book explains how the environmental accounts build on the structure of the 1993 System of National Accounts. She then shows the UN approach to accounting applied to pollution, recycling, and the management of natural resources such as forests, minerals, and fisheries. The third section discusses how the accounts approach green GDP and other macroeconomic indicators. The book concludes by going beyond the UN structures to discuss other adjusted macroeconomic measures and how accounting data can be used to build them.