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31 January 2005

Economies of nature

Letter to the Straits Times in response to an economist. My reply should not be taken as thoroughly antagonistic to his position, but more as a expression of concern for the usefulness (and limitations) of market-oriented tools and models, as well as the tendency of modern economics to place the market before man and nature.

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Dr. Quah (ST, 31 Jan 2005) highlights the pertinent need to evaluate the value of nature using tools that would help policy-makers make better-informed and meaningful decisions on what should be preserved or sacrificed.

However, it could be said that seeking to place a market dollar value on a habitat, species or biodiversity of a locale is an exercise fraught with subjectivity as well as dangerously reductionist in its attempt to subsume the worth of complex and irreplaceable systems into a monetary scheme of value. One could well argue that the little utilised space afforded to largely-empty padangs and under-visited national monuments represents a tremendous opportunity cost lost to real estate developers (as well as the state, being the landlord). But could not the civic and historic value of such public space be likewise appraised? How should one then judge the 'loss' suffered by any individual or nation at the draining of a marsh, the extinction of a tree or bird, or the clearing of a green patch? Whose lives would be measurably affected by the eradication of the tiger, the leaf monkey or a mangrove swamp?

Economic assessments of nature that rely solely on marketised notions of real estate value are likely to overlook two vital concepts: the idea of externalities (whereby the consumption of good entails gains or losses that are not factored into its price/cost), and the provision of public goods. (The ongoing debate about the casino proposal could be said to hinge largely on differing views of how significant and manageable the negative externalities of a casino would be.)

More rigorous study of the positive externalities generated by intact eco-systems, as well as the negative externalities which their loss could incur, is certainly warranted to ascertain what their preservation (or destruction) could mean to both individuals and society at large.

Possible correlations include the loss to fisheries (think of all the seafood) from degraded mangrove swamps and coral reefs (which respectively serve as refuges for the fry and adults of many delectable species); the role of dense tree cover (no, Bishan Park doesn't count) in mitigating ambient temperature and improving air quality and health; the drainage regulation afforded by peat swamps; as well

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BUDAK'S LINKS

[Aquatic Biodiversity in Asia](#)

"Found here and nowhere else" and "soon to be lost forever" are two traits shared by the animals and plants living in Southeast Asia's peat swamps. Read about all them before the second trait is expressed.

[AquaticQuotient](#)

The most authoritative Singapore-based site for weird people who like to cram their aquaria with so much vegetation that you can hardly see the fish.

[Cryptocorynes - The water kettles](#)

Relatives of the yams and 'money plants', the genus *Cryptocoryne* has solved the dilemma of underwater sex without getting wet. Jan D. Bastmeijer offers a comprehensive survey of this fascinating and fragile complex of aquatic aroids.

[Darwin vs. Design @ Talk Origins](#)

Evolution's a mere theory? Unproven? Unobservable? Try convincing these guys here....

[Discovery Institute - Science with a divine face](#)

Less I be seen as one-sided, here's the premier think-tank for the school known as Intelligent Design, i.e. whatever observations that can't be explained using current theories and known mechanisms must be due to the hand of God. I

as the psychological significance (stress levels, sense of belonging etc...) of retaining natural areas to the population. Might the steady (and seemingly irrefutable) encroachment of the bulldozer be a substantial factor in the minds of emigrants wanting to live in an environment with more open space and less manicured parkland? What would be the cost too to Singaporeans who might one day have to fly further afar just to catch sight of a creature extinct locally, or simply to find respite from the endless towers of development?

There is also the troubling view that economic development and the preservation of natural spaces is a zero-sum game. As conservationist Ria Tan remarked, where else in the world can one find pristine rainforests, tropical mangroves and rich coral reefs all within 20 minutes of each other? We welcome millions of tourists, many of whom come from lands where biodiversity is prized and learning about nature is a common pursuit. Not every traveller is physically equipped to traverse the rivers of Sarawak or climb the mounts of Borneo. Why not explore the idea of pitching Singapore's reserves and waters as a safe haven and stopover for elderly or less able visitors who would appreciate a safe plank walk through lush mangroves or forest paths in the morning, with time enough for tea at Raffles Hotel after mid-day?

To this one could add the promise of biochemical miracles that Singapore's indigenous flora and fauna are just beginning to reveal to researchers.

Economists are often uncomfortable with public goods, as it is difficult to place such items within the conventional framework of discrete supply and effective demand. The provision of street lighting, national defence, basic education and healthcare, transportation networks and urban planning are typically assigned to the tax-collecting state, as private delivery of such goods is hindered by their liability to the free-rider syndrome, i.e. the good's provision benefits everyone, so there is no incentive for a rational individual to pay for what he could enjoy freely thanks to a less calculative person).

Ecosystems and nature areas share this feature, along with the tremendous (and under-estimated) externalities associated with their existence (or demise). Unless one opts to ring-fence local parks and green areas, and charge each visitor the maximum fee he is willing to pay, rigid econometric models are likely to both underrate the true utility of nature as well as ignore the unquantifiable human values accorded to the sustaining of native biological diversity.

Asad Latif pleads for a balance; it seems to me that by far, the balance of power between nature and 'development' has been skewed in favour of the latter, taking not into the account the valid idea that human welfare is linked to nature's health and that 'development' does not have to come at nature's expense. With land an increasingly scarce and costly commodity, surely it makes sense for Singapore to incentivise the pursuit of activities that create high value from renewable resources (e.g. brainwork by the finance and creative sectors, eco-tourism, tropical bio-medical research) rather than await the implied day when every square inch of soil must contribute to the balance sheet.

A cost benefit analysis can be helpful in gauging the utility of a choice, but the

am sure Maradona would agree.

Fighting the Fundies: Essays by Brian Elroy McKinley

Finally, a 'saved' soul who knows how to turn the tables on those who are so Right that they are wrong, using the very words of God to cast down the devilry of Focus on the Family and others-who-know-god's-will-better-than-the-rest-of-us.

Habitat News - Natural History news for the busy Singaporean

The antidote for those who think Singapore lacks any nature worth preserving.

Killies

Everything about pretty lil' fish with long names and short lives. KL also runs a zero tolerance policy on cyberfools, bums and folks who underutilise their brain cells. The chill-out corner of the forum, however, is a misnomer. Passions there run high and mental faculties are severely taxed.

Landover Baptist Church

Who would Jesus bomb? Why, all of 'em abortin' bahby killahs and farkin gahy liberhals, by Gawd! Get the Good News at American's holiest house of worship. Unsaved and Under-18s unwelcome.

Mike's Bornean biodiversity page

Kuchingite Mike Lo takes weekend safaris to capture the natural wonders of Sarawak before the loggers and oil palm plantations move in.

Nature Aquarium World

Zen and the art of underwater gardening. Frozen in midstep, Vectrapoint's work in permanent progress is still a potent introduction into the aquascape mastery of Takashi Amano.

No Kidding!

Strictly not for minors. My virtual "up-yours" to traditional family values.

Raffles Museum of Biodiversity Research

Singapore's most unknown and unappreciated museum, a showcase of the species that were

adoption of too narrow a definition of value is likely to result in decisions that sacrifice long term well-being for more immediate (and not necessarily sustainable) revenue streams. Besides, should such an approach be universally prescribed for all facets of life as well? Whether to marry, to have children, to pursue a hobby, embrace a faith, honour our history and leave a legacy? Should we seek to assign a price to everything, and in doing, forget the value of it all?

Economy v environment: Let's talk dollars and sense

31 Jan 2005

I HAVE been reading with some amusement, and perhaps a little frustration, the latest Straits Times coverage on the nature versus economic growth debate in Parliament ('Debate over the price of being green'; ST, Jan 26), as well as the commentary by Institute of South-east Asian Studies fellow Lee Poh Onn on the worth of natural heritage in Singapore ('How much is natural heritage worth?'; ST, Jan 23).

More than 10 years ago, The Straits Times featured in its Life! section a lengthy debate between me, as an academic economist, and Dr Ho Hua Chew, who was at that time president of the Nature Society of Singapore, on precisely the issues discussed today (ST, Oct 29, 1992).

My frustration comes as a result of not seeing more that could have been done to solve, or perhaps more aptly handle, such environmental concerns by the use of well-known and established methods taught in all environmental economics courses across much of the developed world.

In the 1992 article, I explained the merits of techniques such as cost-benefit analysis, valuation of non-market environmental goods and impact analysis in dealing with such problems. It is important, in my view, to attempt to place money values on the environment where it is affected by development projects. It is only by putting such things on a common plate, by deriving values in dollar terms, that some means of comparison and relative worth of projects and policies can be assessed inclusively.

There is not much advantage in listing, as is done traditionally by most nature societies, all the so-called biodiversity and species that face extinction in an attempt to stop a proposed project. On the one hand, there is a development project worth, say, \$50 million. On the other, there is a list of 10,000 species of birds, 8,500 types of insects, more than 2,000 species of trees and so on. How is one to make much meaningful sense of this, let alone weigh the merits of the project?

The article by Mr Asad Latif on the economy versus the environment makes more sense in creating awareness that we, as a society, cannot have a so-called 'free lunch' in getting more growth ('Economy v environment? No, it's about achieving

and are found in this barren urban jungle.

SingaPrata

The remnants of Sintercom refugees who prefer free (and farking frank) speech to genteel euphemisms and self-censorship, minus the largely ball-and-brain-less rants of other alfresco kopitiams. I must also say nice things because it's run by mrs budak.

The Panda's Thumb

Separating science and nonscience - An evolutionary blog for biological slogs.

Wayne's Wild Words of Natural History

If only botany lessons were so wild and wacky in school..... *sigh*

Wild Singapore (no, not Geylang!)

Ria Tan's (of the Chek Jawa guidebook) labour of love for the last wild places in Singapore.

mrbrown

Singapore's premier and pioneering blog, long before the noun was concocted. How he juggles his games, geekery and girls (and guy) I can't imagine.

mrs budak's lair

For a kinder, gentler blog than budak's, please go be charmed by mrs.

RIP (READING IN PROGRESS)



Deni Bown: Aroids: Plants of the Arum Family

The sexiest family of plants, offering infinite botanical intrigue and horticultural plasticity. Man and bug alike have fallen prey to the chaste allure of spathes that harbour seductions of cruel chemistry. Besides, what do you expect from the likes of plants called Amorphallus?



there is a need to balance further growth (and with it, employment, consumer goods and so on) with preserving or enhancing nature.

It is important to remind ourselves that Singapore is a land-scarce country and at the same time realise that as more land is devoted to projects, the remaining pristine environment gets smaller.

Ultimately, it depends on what a society wants: more nature or more urbanisation (both have benefits). However, the test of the relative worth of each new project should be based on the economic science of common sense in valuing and comparing in a systematic way the benefits and costs of each proposal.

Euston Quah Teong Ewe (Dr)

31 January 2005 in [Biodiversity & Conservation](#) | [Permalink](#)

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VLADIMIR NABOKOV: Bend Sinister

A philosopher living in a police state led by his old schoolmate must choose to resist tyranny or be co-opted to validate the regime. Duh.



Tijs Goldschmidt: Darwin's Dreampond : Drama in Lake Victoria

Speciation and cichlid diversity in an African lake. Also a warning tale of how man-made introductions cause irreparable damage to complex and fragile eco-systems.



Francis Halle: In Praise of Plants

Even biologists have tended to overlook the matchless creativity of plants in forging a foothold in every cranny. Botanist Francis Halle spins a tender vine through the molecular ingenuity of green protoplasm to the breathing canopy on which life on earth depends.



Konrad Lorenz: King Solomon's Ring

The ethologist as interpreter of silent tongues. As close as one could possibly get to learning the language of nature.



Anais Nin: Little Birds

My recommendation for a nice little volume for your loved one (preferably female or lesbo) this festive season (for others, try E.M. Forster's 'Maurice' instead). Guaranteed to whet (or wet) your appetite for life's little pleasures.

Ho Mae-Wan : Living with the Fluid Genome

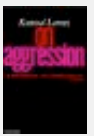
Horizontal gene transfer, reverse transcription and other heresies of neo-Darwinian theory are touted by this author as grounds for opposing genetic engineering. I honestly can't judge her science, but it sure sounds frightful.



Jordi Agusti: **Mammoths, Sabertooths, and Hominids**
Megafauna evolution for those tired of terrible lizards.



John Fowles: **Mantissa**
Kinky nurses, unclothed lady doctors and endless sexual repartee. What better way to delve into timeless themes, as recast by the best living novelist yet to win a Nobel. Selected excerpt for your objective evaluation: "The nurse removed her hands.... one of them deftly lifted his limp penis and laid it back and rested on it; while the fingers of the other hand encircled his scrotal sac and began to massage it slowly..."

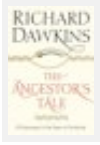


Konrad Lorenz: **On Aggression**
Why is man so violent, quarrelsome and warmongering? Seeking for clues, Lorenz looks at the role of ritual and rechanneled drives in regulating social interactions amongst animals. The troubling (to some) conclusion suggests that aggression and love are Siamese twins integral to the nature of humanity.



Peter S. Bellwood: **Prehistory of the Indo-Malaysian Archipelago**
Just a few thousand years ago, you

could walk all the way from Burma to Borneo without catching sight of the sea. Some even claim Sundaland is the cradle of civilisation. Bellwood's review offers a more staid, though no less fascinating look at a vanished world.



Richard Dawkins: The Ancestor's Tale : A Pilgrimage to the Dawn of Evolution

Evolutionary theory's high priest offers a new tale of the phylogenetic tree of life and its myriad branches. Not for those suffering from a "dangerous collective delusion."



Mauricio Anton: The Big Cats and Their Fossil Relatives

Nature long in tooth and claw. For the feline lover and fossil fan alike.



Karl J. Niklas: The Evolutionary Biology of Plants

Using the metaphor of fitness landscapes (Don't read this book unless you want to think, warns the back cover), Niklas offers a careful exploration of the vital nodes in an oft overlooked branch of life, without which non-photosynthetic metazoans like you and me would wither like blooms in autumn.



John Fowles: The French Lieutenant's Woman

The Victorian novel recast in 20th Century sensibilities and the era of supreme uptightness redeemed in all its lurid shame. All the good elements of a good book - sex,

scenic English coastlines, scientific discussion, unseemly scandals, bigoted 'Christians', a sojourn in America and a denouement topped (some say marred) by a "choose your own adventure" device.



Karel Capek: The Gardener's Year
Czechoslovakia's (and one of Europe's) most penetrative writer offers a slim, moving and often hilarious portrait of the wonders and woes of life as a gardener. Leaf through it and laugh.



Colin Tudge: The Variety of Life: A Survey and a Celebration of All the Creatures That Have Ever Lived
Proof, if it was ever needed, that Homo sapiens is but a footnote in a quirky mammalian chapter of the annals of life on earth.



Karel Capek: War With the Newts
A must-read for all lovers of salamanders. Campy sci-fi meets realpolitik in a drama of geopolitical proportions, courtesy of the man who fathered the very idea of the "robot" (sorry, Asimov!)

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