

Futurewatch

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A scanning service of information about our futures, prepared by futures scanner, *Jennifer Coote*, New Zealand Futures Trust. Annual dates given in last two digits.

Food/Fibres/Forests

Perils and Prospects for Farmers

M. Jaye et al examine the lessons for New Zealand farming from the UK outbreak of foot-and-moth disease. It would also impact on the national economy and society, since damage to exports and tourism is potentially far more devastating. Using ecological mapping, a projected epidemic is assessed for its distribution and also for the institutional and social responses. The diversification of rural lifestyles means that impacts would be felt very widely, government agencies would need to co-operate closely and a heterogeneous population does not necessarily appreciate the need for, or the methods of, control. *NZ Geographer No 59/1, 03*.

A. Fricker; NZ Geographic, No 66, 03, investigates the effects on N.Z. beekeepers and horticulturalists as *varroa mite* reduces the availability of the staple pollinator, the honey bee. Pesticides can treat a *varroa* infestation if the mite is not confused with another, harder-to-exterminate pest, but research needs to keep pace with resistance development. Both the humble - and native bees may be advantaged by the honey bee's plight. Australia remains the only land-mass *varroa*-free.

M. Bogwitz reports that a multinational research team has found a super-gene resistance gene in *drosophila melanogaster* (vinegar fly) which causes resistance to a range of insecticides with diverse ways of acting, some not even field-tested. This insect is not one

targeted by DDT use but it vindicates *R. Carson's* concern that non-targeted organisms would be affected by DDT use. *Australasian Science, March, 03*.

S. I. Karlsson, Environment, May 04, examines the issues, risks and possible strategies for multilevel governance of pesticide use in developing countries. More research and monitoring are needed, stakeholder views range widely and there are doubts about food security under organic systems.

A Danish robot has been developed which scans and spot kills weed fields. This could reduce the use of pesticides 70%. *New Scientist, 7 June, 03 p 16*.

New research suggests that the effects of endocrine disruptors (estrogen-like compounds) on plants may be more widespread than had been realized. They block communication between legumes and nitrogen-fixing microbial partners, preventing symbiosis forming, and stunting plants, *Science, 13 Feb, 04, p 950*.

A new research center in Uganda is focused on bananas and other plantains. These are staples for many millions of poor peoples globally, but, being clones, they are susceptible to disease. Since their genetic diversity is limited, banana tissue culture-based research and eventually molecular biology could benefit African scientific capability and banana farmers. *The Economist 23 Aug, 03, p61*. Massey University (NZ) is leading a renaissance in *taewa* or Maori potato, using sixteen, many-hued varieties to stimulate marae-based growers. *Te Karere News, April 03*.

Nature, 22 April 04, pp 792-798 reports on global developments in organic farming and food. Three pivotal questions define organic farming and illuminate the trend's probable extension. Is organic food better for us? Is organic farming better for the environment? And

can organic farming replace conventional agriculture?

Foreign investors see good prospects for China to become Asia's farm kitchen, raising a host of new cash crops for export and for the domestic market. Western style horticulture using improved seeds and chemicals on larger scale farm units, could produce standardized products for a more affluent Chinese middle-class and for fast food companies. *Financial Times*, 30 Sept 03, p9.

Putting it on the Table

The State of Food Insecurity in the World, FAO, 03, (www.fao.org) reports that the number of chronically malnourished people is increasing by five million annually, and the 2015 target to reduce the total by 5% is receding. AIDS in Africa has compounded the problem, but China, Brazil and Latin America have improved. *British Journal of Medicine*, 6 Dec, 03, p1303.

Food for All: The Need for a New Agriculture, J. Madeley, Zed Books, 02, provides a broad perspective, with particular emphasis on much-needed strengthening of the agricultural base in poorer countries and with small farmers.

Ending Hunger in Our Lifetime: Food Security and Globalisation, C. Ford Runge et al, John Hopkins Univ. 03. Present day farming, especially with modern methods, produces sufficient food for all. The global spread of hunger is a distribution problem, which can be rebalanced by redirecting investment in research, reform of international governance, social programmes such as women's education, and market incentives.

Former UK Minister for Environment, M. Meacher uses recent research with at-risk students and young offenders, to advocate for a reform of school and prison diets to save on the need for more prisons and to reduce general anti-social behavior. Healthy lunches and diet pills to improve nutrition feed the brain, which requires large amount of available energy for behavior control and learning. *New Statesman*, 16 Feb, 04, p 30.

K. Baghurst examines the shortfalls in

intake levels of fruits and vegetables in Australia, a country with abundant supplies. Surveys have shown that consumers recognise the value of these foods, but the drivers of the intake shortfall have not been examined. They are psychosocial: - sensory, price and specific preference variables, health concerns, and difficulties in eating less of another food type, all of which may be more significant than age, education and social status. The best predictors on increased consumptions were:- the benefits, overcoming perceived barriers, value placed on nutrition and consumer rigidity/flexibility. Surveys of food consumption also indicate that many consumers are over optimistic in estimating their real intake. *Nutrition Today*, Jan/Feb, 04.

Bringing the Food Economy Home, H. Norberg-Hodge et al, Zed Books, 04, provides ways to " shift from the global to the local" in food supply with community-supported agriculture, rooftop gardening, seed-saver garden suppliers and more. The global still predominates.

Obesity and Sugar Wars

Rising concerns over obesity levels are provoking action-responses reminiscent of those over tobacco. UK is considering policies to ban advertising of junk food aimed at children while the food industry is countering with claims that it is not the food which causes obesity but people's slothful lifestyles. *New Scientist*, 29 Nov 03, p 16. The US restaurant industry is seeking Congressional protection from lawsuits over obesity. A nationwide group led by a leader of the anti tobacco campaign is demanding that the main fast-food chains display warning signs or face lawsuits. *Financial Times*, 9 June, 04 p5.

K. Dalmeny examines the techniques used by the sugar industry in US and UK/Europe to promote the consumption of sugared foods, especially directed to children. These negate efforts by concerned professional groups to educate consumers. *The Ecologist*, Nov 03. Globally, a WHO effort to curb the levels of sugar consumption is being thwarted by the influence of the US sugar lobby, a key Republican financier. Of greater concern to this interest group is the need for protection from

cheap imported sugar. World Bank analysis reveals sugar as the most distorted of all commodities. An Oxfam study accuses the EU of inflicting big losses on poor countries, offsetting its levels of aid, through the subsidisation (estimated 3 euros to 1 exported) of domestic sugar producers. *Financial Times*, 27 Feb 04, p11; 14 April 04, p3.

Once More Unto – GE

Dangerous Liaisons: When Cultivated Plants Mate with their Wild Relatives, N. C. Ellstrand, John Hopkins Univ, 03, provides detailed analysis for a wide range of readers, one of the major areas of controversy in the GE debate. This is the key area which will affect the verdict.

U.K. Farm Scale Evaluation (2000-2002) on the effects of genetically modified crops on farmland biodiversity involved intensive but wide ranging studies, with two key results. One was that the herbicide use drives the ecological system and second, that the type of crop is as significant as whether it is GM. Ultimately the debate may evolve to consider what role is there for wildlife in our management of landscapes. *Nature*, 23 Oct, 03 p 751; *Science* 7 Nov, 03 pp 994-996; *Interview with project director L. Firbank*, *New Scientist*, 25 Oct, 03 pp 47-49. *Eco-agriculture: Strategies to Feed the World and Save Wild Biodiversity*, J. A. MacNeely, Island Press, 03, explores a variety of issues under this theme, with policy responses to promote ecoagriculture, plus market incentives and supportive institutions.

Brazil, a giant in global soyabean production, has officially permitted the planting of GM soya. Many farmers have already grown the seeds, illegally, yet officially Brazil continued to supply Europe, cheaply, with GE-free exports. Now prices will rise as Monsanto claims its royalties. *The Economist*, 4 Oct, 03, pp 41-42. Argentina rushed into GE soyabean production, extending cropping to marginal areas, where overuse of herbicide spray severely damaged local mixed crop-farmers, encouraged glyphosphate resistant weeds, and ruined the soil ecology. Even Monsanto has qualms. *New Statesman*, 1 March 04, p31, *New Scientist*, 17

April, 04 p41-43.

Food Inc, Mendel to Monsanto: The Promises and Perils of the Biotech Harvest, P. Pringle, Simon & Schuster 03, provides a middle-road through the biotech debate, particularly useful on the difficulties facing developing countries concerned about risk of GM products and threats to their local producers. (See also his article in *World Policy Journal*, Summer 03). Researchers are also turning back to traditional cross breeding, with a genomic twist, by hybridizing commercial rice varieties with wild species, which can increase yields 10-20%. Open-source is another approach whereby the major research companies help poor ones by agreeing to share "enabling technologies" in return for access to any innovations on that particular biotech tool. *Biotechnology and Development Monitor*, (Netherlands), March 03, is fostering networks to explore issue in the paradigm change "beyond modernisation" and the biotech debates. "The important questions are if, and how, the potential of modern and rational biotechnologies can be negotiated, modified and related to issues of food security, equity and sustainability."

Fish and Forests

World Agriculture: Towards 2015/2030: An FAO Perspective, Ed J. Bruinsma, 03 is a comprehensive update and resource on food, fisheries and forests.

Ministry of Agriculture and Fisheries report, Contribution of Land-based Industries to NZ's Economic Growth, 03, affirms that only agribusiness and forestry have the potential to grow the national material wealth. Market access and trade negotiations are crucial, but domestic barriers include upskilling, infrastructure, limited capital markets, short-termism and regulations.

In a Perfect Ocean, D. Pauly, J. Maclean, Island Press, 03. Reports for the general reader on a bold research venture, a holistic assessment of the state of fisheries and ecosystems in the North Atlantic Ocean, part of The Sea Around Us programme. The full extent of fisheries depletion is revealed.

A definitive study, R. A. Hites et al, *Science*,

9 Jan 04 confirms that farmed salmon in Europe and N. America have higher levels of polychlorinated biphenyls (PBCs) than do wild-caught salmon, and those in Europe are the highest. The contaminant sources need identification. Farmed salmon may pose a health risk.

Unasylva, (FAO), No 214/215, 2003-2004, is devoted to presentations on forest management at the XII World Forestry Congress, Sept 03, with emphasis on sustainable forest management and an ecosystem approach. *Journal of Forestry* July/Aug 03, features articles on an international dialogue on sustainable forest management, especially the Montreal Process (NZ participates) which is shaping this concept.

Economics/Business

On Knowledge and Public Policy

Strategic Policy Director *D. Adams* examines ways of knowing and using knowledge in public policy, *Australian Journal of Public Administration*, March 04. At present this is based on false assumptions created by a self-referencing system in which the way of working and the tools used define what is good and proper in policy work. Present practice is dominated by centralized and instrumental information constructed and controlled by experts: - facts, ideas and values, rationally mediated through efficient systems which develop policy goals and outputs for delivery. This is aspirational, since in practice systemic breakdowns occur. Language usage illustrates the paradigm: - economic growth, hard evidence productivity.

More recently other types of usable knowledge have come into the policy stream, especially local or community knowledge. Associated language includes: - judgement, feeling, partnership, consultation, which are expressions from the social capital which the dominant paradigm seeks to harness. Knowledge is embedded in four integral types of capital: - social, economic, human and natural. Some organizations are beginning to view knowledge as a construction between multiple stakeholders in which judgement and valuation foster understanding of complexity.

This framework would view communities

as entities which co-produce policy, not as recipients of pre-conceived expert-based policy and programmes. Understanding communities considers more than their component parts. Programmes should be rethought in terms of the future of communities, not the future of the specific programme. Indicators are needed around community wellbeing. The key unit for public sector management should move from programmes to relatively small scale sites for the planning and delivery of many services with a new role for local bureaucrats and councils as brokers of deliberative knowledge. They are the nodes in the knowledge networks.

M. A. Peters examines Knowledge economies and Knowledge societies through the lens of sociology and economics. *NZ Sociology*, Vol 19/1, 04. Neither discipline has learnt much from the other in understanding of knowledge capitalism. He traces three waves of the sociology of knowledge through to the concept of knowledge societies. Recent analysis highlights the contradictions of knowledge capitalism. The path from the economics of knowledge to the knowledge economy (or knowledge capitalism) leads from Hayek through the neoclassical schools, the awareness of technological change as driver of economic growth, to the recent focus on networks. Peters foresees a theory of knowledge capitalism emerging based on classical understanding of Marx, Wittgenstein and Heidegger, that knowledge and its value is rooted in social relations; practical knowledge and reason takes priority over the theoretical, and also recognition that tacit knowledge often depends on personal or cultural knowledge which is not easily codified.

Local Social Knowledge Management: Community Actors, Institutions and Multilevel Governance in Regional Foresight Exercises, *M. S. Gertler*; *D.A. Wolfe*, *Futures*, Feb 04, advocates for regional foresight exercises as socially organized learning processes.

Economics of Sustainability

NZ economist on sustainable development OECD, *V. Vitalis*, *Public Sector*, Dec 03, examines the question of transboundary effects in the economic measurement of sustainable

development. Assessing the state of the global commons requires a reliable set of global indicators. Most sustainability indicators focus on the national level. While for some countries these may appear very favorable, there is uncertainty about their integration at the global level where pressures may be building to cross critical thresholds. Carbon flows illustrate the problem. There is sufficient accurate information about the impact of these environmentally, and national indicators are widespread. There is failure to account for the intensity of trade flows, e.g. do national imports contain significant levels of embedded carbon in their production?. Preliminary measurements suggest that the highest levels of outflow carbon emissions come from China and Russia, exceeding their carbon consumptions by 15-10 % respectively. Four Nordic states, France, Netherlands, Korea, N.Z. have embodied emissions in imports which exceed 30% of domestic production. This perspective puts indicators on a more constructive footing, and complements present measures of sustainability, particularly with regard to consumption patterns.

Sceptical environmentalist/statistician *B. Lomborg* assembled eight prominent economic experts to identify, and then find the cost-effective solutions to, the major global woes: education, financial instability, migration, sanitation and water scarcity, trade barriers, bad governance and corruption, This "Copenhagen Consensus" is reporting (www.copenhagen-consensus.com) Summaries are printed in *The Economist*, starting 6 Mar; 04, p 72 and thereafter (www.economist.com/copenhagen-consensus).

A Carbon Disclosure Project conducted by a consortium of major international investors examined the risks if global businesses failed to take prudent action regarding climate change impacts. These included: -direct impact from the environmental effects; possible litigation over their greenhouse gas emissions; possibilities of being sued by their investors, decline in profitability because of new regulations to curb greenhouse gases. Uncertainty over US policies affects US companies more than those in EU where commitment to Kyoto provisions is more

certain. *Financial Times*, 16 Oct, 03, p2, *Special Report on Sustainable Business*.

Ecological Economics: Principles and Applications, *H. Daly, J. Farley*, Island Press, 04. A six-part summation from the guru of this "transdiscipline"; critical thinking for the 21st century economist and policy maker.

Harnessing Markets for Biodiversity: Towards Conservation and Sustainable Use, *OECD*, 03, provides a conceptual framework for identification and such use of markets. Biodiversity values are implicit rather than explicit, thus contributing to exploitation and loss. Explicit valuation would contribute to clear property rights, emerging private markets for biodiversity products, sustainable forestry, ecotourism, financial mechanisms for market enhancers, community management and venture capital.

Regional Perspectives

Chicago Fed Letter, March, 04, (<http://www.chicagofed.org>) reports on research into the impacts of China's economic growth on neighboring economies. Benefits include a major boost to its imports from neighbors who have been motivated to move up the value chain in production. Negative impacts emerge faster than anticipated in sectorial transitions for these countries, as China and Malaysia/Philippines/Indonesia/Thailand (the ASEAN-4) are moving into the production niches for the developed markets vacated by the NIEs (Korea, Singapore, Taiwan). *S. Wang, Issues and Studies*, Vol 39/4 Dec 03, researched the impact of trade liberalisation on China's society. Overall the move has been beneficial in terms of economic growth but the gains are most unequally distributed. For all the problems in its domestic administration, and the constraints of liberalisation, policymakers do have choices and can redress the imbalances if they so choose. Failure to do so could trigger far worse winner/loser conflicts than at present occur, and could endanger future growth.

Arab participants are seldom a part of the emerging global economy, with many of them ranking among the world's poorest nations. A reform movement of educated elites is seeking,

in co-operation with UNDP, to foster initiatives for a pan-Arab Free Trade Zone, which would encourage further reform and lead to knowledge societies. To-day even smaller regional trade zones are hindered by economic realities. The Arab Business Council identifies three platforms for action: - economic liberalisation and reform, governance and human resource development. *The Middle East, March, 04.*

B. Edlin reports on debates over a common currency for Australia and N.Z. A currency union like the EU would require a central bank and new currency, while dollarisation would mean one country adopting the others, i.e. N.Z. merging with Australia's. Neither type is a magic bullet for economic growth. A union of whatever type could also limit the scope of the N.Z. government and Reserve Bank to moderate effects of financial shocks. A quick survey of similar concepts in other regions shows that E. Europe and Francophone Africa are moving in favour of currency union, S. Asia is superficially favorable but fundamentally mistrustful and E. Asia has a grand vision which may progress. *The Independent, 19 May, 04 p 14.*

Listings

A Perfect Market: A Survey of E. commerce, The Economist, 15 May, 04. Current trends, successes and possibilities from the US scene. Most retailing is still place-based.

Pattern Recognition, W. Gibson, Putnam, 03. A recommended study of the function and power of modern branding.

Environment

The Futures of the Oceans

The Unknown Ocean: The Baseline Report of the Census of Marine Life (CoML), www.coml.org Consortium for Oceanic Research and Education, Oct 03 is a framework for the general reader. This international research programme aims to assess and explore the diversity, distribution and abundance of oceanic life. Six realms are studied: - Human edges, hidden boundaries, the central waters, active geology, eg seamounts, ice oceans and microscopic. *J. T. Swing asks What Future for*

the Oceans? Foreign Affairs, Sept/Oct, 03, and outlines seven major issues: - Pressures in fish stocks, aquaculture threats, land-based pollutants, the "Asian" haze, algal blooms, offshore oil, and methane on the ocean floor (potentially a major energy source). Much of the ocean is uncharted territory, where more US research funding is needed. A privately funded study from Pew Oceans Commission, and a recent official report from *US Commission on Ocean Policy* address the way by which USA studies, manages and protects its oceans, Major problem is the chaotic, fragmented governance system. More research is needed, currently under 4% of the federal research budget. Eventually a clear long-term vision may emerge. Some of the debate is reported in *Congressional Digest, Sep, 03,* giving Pros and Cons.

Physical oceanographers have completed studies that reveal a decade-long shift in the cycling of water through the Atlantic system from pole to pole, an acceleration possibly caused by climate change. Ultimate concerns focus on whether a surge of fresh water into the polar latitudes could disrupt the climatic system. *Science, 2 Jan 03, p35.* Climate specialists are noting that the oceanic chemistry is changing as rising levels of carbon dioxide raise the acidity levels. A business-as-usual projection shows emissions peaking by 2300 at five times today's levels, some of which will be absorbed into the ocean. Previous rises in atmospheric levels of carbon dioxide where much slower and carbonate rocks on the seafloor acted as buffers. Satellite measurements of new biomass production in the sea reveal a drop of 6% in two decades. *New Scientist, 27 Sept, 03 p 8.*

Deep New Zealand; Blue Water, Black Abyss, P. Batson, Canterbury Univ Press, 03- examines some of the world's deepest water in its fourth largest EEZ, where new species are being reported on average three a week. Fishing practice and policy are major issues.

The Price of Water

With a fifth of the global population lacking access to safe drinking water, leading to massive impacts on health, privatisation has been touted as the magic fix to improve servic-

es. Many unfortunate experiments in this from Europe to Latin America have resulted in denial of service for the poor, corruption and massive social disruption. Yet good governments can and do run monopoly public water utilities. *The Ecologist*, March 04. Yale environmental economics professor *S. M. Olmstead* analyses the issues of pricing and access, especially for the poor. Various options such as subsidies, income transfers, increasing block rates and uniform tariffs with rebates, need more careful analysis of the increasing feedback data. Agnosticism is recommended on the private v. public debate. *Environment*, Dec 03.

Some Indian rural areas survive long periods of drought comfortably by reviving an old practice of check dams which hold rainwater, allowing it to seep into the groundwater. Remote sensing technologies help locate natural underground dykes. *New Internationalist*, March 03, p24-25. *China's Water Crisis*. *M. Jun, Tr. N. Y Liu, L. R. Sullivan*, Eastbridge, 2004 offers a comprehensive analysis of the enormous water resource crisis, including history of floods, water scarcity, and pollution problems in China's seven major drainage basins. Solutions for future sustainable management are proposed.

The 3rd World Water Forum, Kyoto 2003, included an examination of climate change effects on lakes. Normally seasonally-affected, warmer temperatures stabilise the upper and lower water strata in lakes, changing oxidation levels and facilitating algal growth. Permanent stratification alters the whole lake ecology. *Water & Atmosphere*, (NIWA, NZ), Vol 11/2 03.

Climate Change, More Concerns

Leading researchers of the Intergovernmental Panel on Climate Change, *W. Steffen et al*, examine the possibilities for abrupt climate, *Environment*, April 04. Rather than a short-term perturbation in the Earth system, non-linear, abrupt change may occur, at an unexpected rapid rate as a tipping point is reached. This has happened before, and fundamental questions are now focused on a recurrence, along with the role of human action in this. Melting of Arctic ice, which released vast amount of fresh

water into the North Atlantic, caused rapid cooling twelve thousand years ago. Path-dependence is shown in the effects of temperature rises in permafrost regions in the last decade, warning that critical thresholds may be approaching. A complex dynamic of feedback loops from a number of parts of the Earth system triggered the drying out of N. Africa six thousand years ago. As we learn more about the nature of the Earth system it appears that abrupt change may be the most important aspect of climate change.

An Abrupt Climate Change Scenario and its Implications for US National Security, *P. Schwartz, D. Randall*, Pentagon, October 03. Though based on expert interviews and research, this tries to imagine the unthinkable. It carries warnings from scientists that the scenarios are not likely to occur globally, but rather in isolated regions, and that the magnitude may be smaller. A pioneering scientist of abrupt change, *W. Broecker*, warns that exaggerated scenarios serve to intensify the polarisation of the debate, adding words without offering ways to offset the problem. *Science*, 16 April 04, p 388.

Recent Australian research based on longitudinal data about water isotopes could provide the missing link for modelling global atmospheric and oceanic behavior in climate change studies, because it confirms the role of deforestation in greenhouse warming and wet season moisture. *The Bulletin/Newsweek*, 24 Feb 04 p31.

Caring for Our "Commons"

Win-Win Ecology: How the Earth's Species Can Survive in the Midst of Human Enterprise, *M. Rosenzweig*, O. U. P., 03. An ecologist who sees time running out for the conservationists in face of the human threat to diversity, argues for new and hopeful thinking. A reconciliation ecology would invent, establish and maintain new habitats in place swchich humans frequent. But the details have yet to be explored.

Ecosystems and Human Wellbeing: A Framework for Assessment, *Millennium Ecosystem Assessment*, Island Press, 03. This is the first report from a four year, UN-inspired

international study for decision makers on the scientific information about the human-ecosystem linkages. Important new conceptual thinking.

The Tragedy of the Commons, Special Section, Science, 12 Dec 03, takes up the stark choice posed by *G. Hardin*, 1968, that management of the Commons requires either coercive centralised government or institutionalised private property. Nine essays here offer alternatives. Adaptive governance systems are emerging, but with difficulty arising from limited communication between institutions, disciplines and stakeholders.

Victoria University, Wellington, ecologist *C. H. Daugherty*, *N. Z. Science Review, Vol 60/4, 03* outlines how New Zealanders are learning to appreciate and conserve fauna and flora which are part of their many million-years-old heritage, such as the ancient, reptilian tuatara. Providing predator (mammalian)-free environments, on off-shore islands or in "mainland islands", is the latest solution, but what are the limits to such conservation? Can we choose a future that better reflects the ancient natural heritage of New Zealand?

Listings

Waste Reduction in Focus, A. Fricker, Futures, June 03, argues for more application of natural processes in waste reduction and diversion from an efficiency focus which encourages consumption, towards development of products which emulate the natural world. Leading-edge thinking from this late N.Z. futurist.

Environmental Conflict in the Asia Pacific, Asia Pacific Viewpoint, April 04, among the studies researched here are two on N.Z. issues: *A. Elias et al* on stakeholder relationships in case-study on transport infrastructure, *R. L. Montgomery, J. A. Kidd* appraise conflict management in N.Z.'s Resource Management Act, and *G. Chan* examines China's compliance in global environmental affairs.

Futures Thinking

Millennial Perspectives

US planner *B. Tomm* supports the concept

of 1000 year planning, a means whereby the threats to the long-term survival of the human species can be reduced. This timeframe enables the big picture to emerge, as the present day problems are stripped away. It becomes possible to solve problems which at present appear unsolvable. Topics for such planning include: - energy, carbon management, biodiversity, nuclear and hazardous waste, human settlements, near-earth objects, space exploration. Such planning in the near-term must be driven by a coalition of scientists, policy analysts, environmentalists planners and concerned citizens. *Futures, Feb, 04*. A small example- *Risk and Safety Analysis in Long-term Perspective, Y. Yuggla, Futures, June, 04*, is applied to management of mercury and radioactive waste in Sweden.

Shaping the Next One Hundred Years: New Methods for Quantative, Long-term Policy Analysis, R. J. Lempert et al, RAND, 03. RAND'S new Frederick S. Pardee Center applies sophisticated software to analytic methods for the long-term future. Four key elements: -consider large ensembles of scenarios (hundreds to millions), look for robust strategies, adapt to achieve this, develop analytical methods to explore interactively the multitude of plausible scenarios. Ask the basic question, What can go wrong? Rather than intensify near term prediction, the method considers how best we can frame our actions to shape futures to our liking.

Recolonisation or Decolonisation

Professor *J. Kelsey*, Auckland University, *N.Z. Political Review, Summer 04*, considers that if truly transformational N.Z. futures can be achieved in the next couple of decades, then single-issue politics, eurocentric and patriarchal stereotypes of class, must all be transcended, thus encompassing political, cultural and economic decolonisation. Social movements, primarily from the South, are engaged in an effective global counter-hegemonic war of position, and New Zealanders have opportunities to forge new alliances. This abandons the present road-to- nowhere, with N.Z. political and economic leadership in denial about the failure of neoliberal globalisation, as evidenced at

Cancun, 2003. WTO is paralysed by a combination of internal division and external dissent.

Regional, bilateral free trade agreements offer minimal advantages for N.Z.

Globalised markets will continue to operate in cycles of creative destruction with states facing the resulting problems of containing the tensions as economic and political power is increasingly concentrated under international capital. Four political management strategies have been proposed (*B. Jessop, The Future of the Capitalist State*). Two are grafted onto the neoliberalist mode: - Neocorporatism, or Third Way, balances competition and cooperation in stakeholder partnerships, with negotiated outcomes: Neostatism features a stronger role by governments in economic development with infrastructure provided in private/public partnerships, where the people buy into the success of global capitalism, e.g. student loans are paid off by overseas jobs, and superannuation funds are invested internationally. If these cannot be maintained the veneer of democracy may break and authoritarian backlash emerges. A fourth model, neocommunitarianism, limits free-market competition and social-use values take priority.

In Cancun a three-day indigenous peoples and farmers' forum convened by *Via Campesina*, which represents sixty million farmers in forty-six countries, mobilized to effect the collapse of the WTO meeting, but aims long-term aim to shift agricultural production from the liberalized trade system to a food-system based on people's self-determination. Their alliances extend to worker and trade union, intellectuals and sympathetic national and local politicians, and they are reshaping the international stage. A parallel movement of food, agricultural and allied workers focuses on food subsidies, not for the corporate agribusinesses of the developed world but for socially and environmentally sustainable agriculture, for public services for rural communities, job creation and the end of rural poverty. N.Z. needs to refocus from the interests of agricultural exporters, to the forces that are shaping our future as farm workers, food processors supermarket consumers, and port personnel.

Listings

Population and Sustainable Development 2003, Ministries of Economic Development, Social Development, Dept. Of Labour, June 03. This is a notable New Zealand government initiative to look ahead fifty years at the likely impact of population changes on national development and wellbeing. Useful for policy making and wider debate.

Roadmapping: From Sustainable to Disruptive Technologies, Technological Forecasting and Social Change, Jan/Feb 04. This whole issue examines aspects of the tool for decision-making, especially where complex disruptive technologies emerge. It includes application from the UK Foresight results.

Lessons for the Future: The Missing Dimension in Education, D. Hicks, Routledge Palmer, 02. A noted UK educationalist with long practical experience applying futures thinking in the classrooms, promotes global and futures perspectives in education with practical examples.

The Next Enlightenment: Integrating East and West in a New Vision of Human Evolution, W. T. Anderson, St Martin's Press, 03. This examination of the effects of modern science and technology on our worldviews and our identities builds on old insights from the mystics, Eastern and Western. Ordinary maturity is not the crown of human development; enlightenment takes one beyond one's own culture, to achieve a maturation of vision. A new enlightenment project would integrate the core concepts of the Eastern and Western traditions, which is crucial as we begin conversations about our evolutionary future.

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