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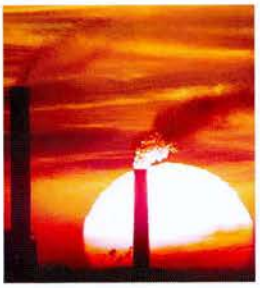

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observer@oecd.org
www.oecd.org

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EDITOR-IN-CHIEF: Rory Clarke
SENIOR EDITOR: Sue Kendall-Bilicki
STATISTICS EDITOR: Eileen Capponi
EDITORIAL ASSISTANTS: Alison Benney, Lorcan Lyons
PHOTO RESEARCH: Silvia Thompson
PRODUCTION CO-ORDINATOR: Nadine N'diaye-Robinson
WEB EDITION: Rory Clarke
MARKETING: Jill Colonna
LOGO AND DESIGN: Café Crème, Peggy King
HEAD OF PRODUCTION (FTB): Mhairi Swann
PRODUCTION (FTB): Celine Bijleveld, Kay Burton
ASSOCIATE PUBLISHER (FTB): Angus Cushley

GLOBAL ADVERTISING MANAGER (FTB): Adrian Northey, +44 (0)20 7896 2109

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Temporary job problems

The article, "Tackling some myths about temporary jobs" (*OECD Observer*, No. 231/232), seeks to "re-balance" a debate which you consider to have been distorted by unfounded assertions.

It appears to be based on the assumption that no one has a good word to say for temporary employment. But on the contrary, the view that temporary work is of some advantage, to employers at least, is commonplace. As you note, it increases labour market flexibility by making it easier for employers to hire and fire workers in line with shifting demands. You also refer to the scope for employers to screen possible long-term recruits while they are temporarily employed.

The larger question, however, is whether these advantages to employers should be allowed to outweigh the drawbacks. If all the drawbacks were suffered only by employers it might make sense to leave them to make up their own minds without regulation. However, despite your efforts to minimise the disadvantages for workers, these are far from negligible.

A brief summary of the disadvantages from a worker perspective would include: lower pay; limited access to paid vacations, sick leave, unemployment insurance and training (and this despite the "equal treatment" principle of European regulation); and of course the inherent insecurity. It is suggested that account should be taken of the profile of temporary workers – they are disproportionately younger and less well educated. But one might question why temporary jobs are disproportionately filled by those who are vulnerable in labour market terms.

To argue that the gap in overall job satisfaction between temporary and permanent workers is quite small is disingenuous when temporary workers report (elsewhere) that they are much less satisfied with pay and job security than permanent workers. They also more often report inflexible work schedules and monotonous work tasks.

That some workers make a successful transition from unemployment or inactivity to secure labour market status via temporary work, while certainly true, is not on its own a conclusive argument in favour of temporary work. Some evidence is required that this transition could not have been accomplished otherwise.

David Foden
Brussels, Belgium

Workable Tobin tax

Your article "Tobin tax: Could it work?" (*OECD Observer*, No. 231/232) supposes that the tax would be levied at the dealing sites, which would create huge administrative problems and make it unfeasible. The foreign exchange (Forex) market has two sides to it. According to Rodney Schmidt, a Canadian economist from North-South Institute, while dealing is not organised, settlement, which usually operates two days later via the back office, is very regulated, centralised and organised – the money is closely tracked. Mr Schmidt suggests that centralised payments systems could be used to collect the tax. Systems have been modernised lately, easily distinguishing a Forex trade. It is very simple to programme a computer to take a percentage of each trade. The central bank could do this or designate a payments system. Thus the administrative cost would be zero and avoidance would be practically zero for the currencies that are covered by the Tobin tax.

As to which currencies to tax, a handful of currencies dominate, such as the dollar, the euro and the yen. Even exchanging Indonesian rupiahs for Russian rubles needs to go through such a vehicle currency. So if these major currencies were covered by the Tobin tax it would already be nearly global. Also, if only one major currency is outside of the Tobin net, even the US, then if everyone else is covered by the tax, US dollars traded would be taxed as well.

You also suggest that a Tobin tax would cause liquidity to fall. But if the Tobin tax, through a managed flow, could at least decrease the amplitude of a currency crisis, then in fact there would be increased liquidity in that currency. Also, it could be argued that there is too much liquidity in the Forex market, which is a fundamental problem as profits are too easily made in transactions that hurt the real economy.

Matti Kohonen
London, United Kingdom

On the cover

In *Unsustainable risk*, David Rooney captures the high-stakes gamble with the Earth and its entire life support system, a game which must stop if we are to achieve sustainable development. Mr Rooney regularly illustrates for *The Irish Times* and *Wirtschaftswoche*, as well as popular magazines, and his work includes award-winning illustrations for The Folio Society. He can be reached at lofthouse@eircom.net.

Sustainable development
Our common future

Donald J. Johnston, Secretary-General, OECD

There seems to be a wide variety of definitions and opinions as to what "sustainable development" really means. One might even be tempted to conclude that sustainable development is in the eye of the beholder!

Some 15 years ago, the World Commission on Environment and Development chaired by Gro Harlem Brundtland, in its report, *Our Common Future*, offered the following definition of sustainable development: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Because the Brundtland Commission put much emphasis on the needs of the poor in developing countries, many observers thought its message was poverty reduction and the elements that can support it – market access for developing countries, education, basic public health, etc. Others, principally in industrialised countries, saw the report as encompassing their own needs to sustain, from generation to generation, high living standards, including a clean environment.

As we head towards the World Summit on Sustainable Development (WSSD) in Johannesburg, the international debate about our common future seems to be defined in terms of development versus environment. While the public in developing countries, naturally, expects results on sustainable development measured by poverty reduction, the debate in the OECD countries focuses on the environment.

The truth is that even as developing and industrialised countries are interdependent, so too are these issues. Even if developing countries devise the policies and good governance that can vanquish their poverty, they will not succeed unless their economies become integrated into the global economy. This means that industrial countries must open their markets and, no doubt, also offer various forms of support. The wealthier countries, that have caused most of the environment problems, must do their utmost to put the planetary biosphere back onto a sustainable trajectory, but lasting progress will depend on the co-operation of developing countries.

Can the dialogue in Johannesburg establish a common denominator on which both developed and developing countries can agree, and from which mutually acceptable and coherent public policies will flow? A truly testing question.

The Brundtland Commission wrote: "At a minimum, sustainable development must not endanger the natural systems that support life on earth: the atmosphere, the waters, the soils and living beings."

To state the obvious, the absence of any one of those elements condemns the future of the planet as a home for human development. Those elements represent the platform upon which all else depends. In our modern, dynamic, industrial OECD world, we have been building on that platform, but in the process, have weakened the platform itself through erosion of the soil, pollution of the air and water, global warming and its concomitant climate change, depletion of fish stocks, and so on. While the material and social progress of humankind in the developed world has been stupendous, especially in recent years, its travelling companion has been the continuing and accelerating degradation of the biosphere itself. Can the platform still support global development?

The sustainable development challenge is, as the experts say, to "decouple" material progress and the environment, by putting them on parallel, complementary and hopefully mutually reinforcing tracks. In simple terms, this means maximising economic growth and environmental improvement at the same time. This is an urgent challenge for OECD countries whose activities still put the greatest stress on the environment.

Some industrialists will argue that, indeed, environmental protection measures have stimulated the development of technologies that will promote decoupling, and that eco-efficiency is more than just an idea, it is working! I look forward to discussing such possibilities with business leaders attending the WSSD.

Thinking within this framework makes one realise how inseparable the issues of human economic and social progress are from the protection of the physical environment. And so, limiting the issues to one or the other would, as the Brundtland Commission warned, be a grave mistake: "The environment does not exist as a sphere separate from human actions, ambitions and needs, and attempts to defend it in isolation from human concerns have given the very word 'environment' a connotation of naivety in some political circles. The word 'development' has also been narrowed by some into a very limited focus, along the lines of 'what poor nations should do to become richer', and thus again is automatically dismissed by many in the international arena as being a concern of specialists, of those involved in questions of 'development assistance'."

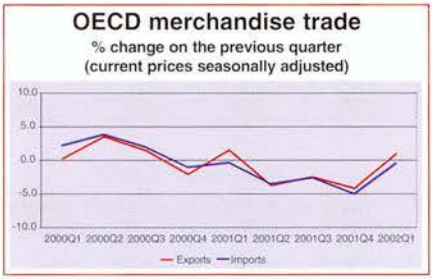
Rich and poor countries alike need to grow in a healthy biosphere, and both have to work together to achieve this. It is an imperative that must be built into all our development paths, including those that address poverty.

Let us hope that at the Johannesburg summit we can agree upon a common understanding of sustainable development that does not endanger the atmosphere, water, soils and living beings, but strengthens the platform upon which all future generations can build their dreams. ■

• News brief •

Trade fall bottoms?

The fall in merchandise trade in OECD countries levelled off in the first quarter of 2002 after nine months of accelerating decline, but remained at a low level compared with last year. In value terms and at current prices, merchandise exports increased by 1.1% in the first quarter of 2002 compared with the fourth quarter of 2001 while imports fell by 0.4%. On a year-on-year basis, trade was still sharply lower. Compared with the first three months of the previous year, exports in the first quarter of 2002 were down 8.9% and imports dropped 11.0%.



In volume terms, trade fell both on a quarter-on-quarter and year-on-year basis, with G7 exports down 5.8% from a year earlier compared with a fall of 7.0% in the final quarter of 2001, and imports down 5.1% compared with a 4.5% drop the previous quarter. But the quarter-on-quarter figures showed stabilising negative growth, with exports down 2.3% and imports falling 3.7%.

The United States suffered the sharpest fall in export growth in volume terms, down 12.7% from a year earlier, while imports dropped 5.8%. France saw the heaviest fall in import volume, down 11.2%, with exports in volume terms down 4.4%.

Japan's export and import volume fell less sharply, with export volume down 2.9% from a year earlier and imports down 5.6%. Compared with the previous quarter, exports edged up 0.2% in volume terms while imports fell 5.4%. ■

Soundbites

Wake-up calls...

...for business...

"Too many corporations seem disconnected from the values of our country. Their scandals have hurt the reputations of many good and honest companies. They have hurt the stock market. And worst of all, they are hurting millions of people who depend on the integrity of the businesses for their livelihood and their retirement, for their peace of mind and their financial well-being."

- *US president,* ***George W Bush****, in a speech to business leaders in New York, 9 July 2002.*

...for drivers...

"I am absolutely horrified by the fact that French roads are the most dangerous in Europe."

- *French president,* ***Jacques Chirac****, announcing new road safety measures on nationwide television on Bastille Day, 14 July 2002.*

...for our planet.

"Was Earth lucky to get this far? (...) Even on the best of planets, advanced life only flourishes for a relatively short period of time."

- ***Donald Brownlee****, co-author of a new book,* Rare Earth, *and professor of astronomy at the University of Washington, in a comment in July on the NBC website,* msnbc.com.

IT outlook is not so dim

Prospects for the information technology industry remain strong despite the recent downturn, the latest *OECD Information Technology Outlook* says. New products and services such as broadband will continue to drive demand from firms, households and governments, and falling costs and technological developments will help. And despite the slowdown, markets for information and communications goods and services were equivalent to 8.3% of total GDP of OECD countries in 2001, compared with less than 6% in 1992. Just as the information technology sector was affected by, and contributed to, the current downturn, there is strong reason to believe it will have a significant role to play in the next recovery, the report says.

Early check-up for business ethics

Business ethics are in the spotlight everywhere and OECD countries have agreed to bring forward a planned assessment of the OECD Principles of Corporate Governance to 2004 from 2005. Meanwhile, the OECD plans to examine governance developments in corporate and financial spheres in a bid to identify lessons that can help the assessment. The decision to bring the assessment forward was made at the OECD annual ministerial council in Paris in May (see OECD.org, page 54) and follows several headline stories where business behaviour was called into question, from failure to transmit information to shareholders to alleged false accounting.

Ministers agreed at the May meeting that effective enforcement of corporate governance rules is essential and they determined to improve the rules to enhance transparency and accountability and so strengthen investor confidence and market stability. They also stressed that governments and supervisory bodies need to be vigilant to ensure that financial standards, regulations and market surveillance protect the interests of stakeholders.

OECD ministers adopted the non-binding Principles of Corporate Governance in 1999. The principles are intended to serve as a reference point for countries' efforts to evaluate and improve their own legal, institutional and regulatory framework for corporate governance. The OECD is co-operating with the World Bank to promote corporate governance reform efforts worldwide, using the Principles of Corporate Governance as a benchmark. ■

- For more on OECD work on corporate governance: www.oecd.org/corporate

• News brief •

Agricultural markets may recover

Global agricultural commodity markets have taken a long time to recover from a precipitous drop in prices during the second half of the 1990s, caused by slack demand and trade in the wake of a general downturn in world economic growth, as well as continued high levels of government spending on farm support. However, according to the OECD's *Agricultural Outlook 2002-2007* published on 16 July, world agricultural prices should gradually rise from their current weak levels as the economic recovery strengthens at the end of this year and into 2003. It forecasts a more marked increase in prices for certain meats and dairy products than for cereals and oil seeds.

The report says world agricultural markets will improve between now and 2007. Much of this will be due to stronger demand and growing imports in rapidly developing countries outside the OECD. The growth in trade of livestock products and feedstuffs will continue to be faster than that of food grains. Yield and productivity rather than increased land use will contribute most to crop expansion.

The *Outlook* provides a comprehensive set of projections for all sections of agriculture over the next five years. It also takes a special look at Russian agriculture and at the issue of food security in developing countries. ■

- For more, see www.oecd.org/agriculture or order the report at www.oecd.org/bookshop

Russian visit

Mr Kasyanov

Russian Prime Minister Mikhail Kasyanov discussed areas for further co-operation with the OECD during a visit to OECD Secretary-General Donald Johnston in Paris in July. According to Russian press sources, Mr Kasyanov also said his country would be interested in joining the OECD after Russia has become a member of the World Trade Organization. The OECD's programme with Russia is the organisation's largest with a single non-member country and the OECD issued its fourth *Economic Survey* of the Russian Federation in February 2002. ■

- For more on the OECD's work with Russia: www.oecd.org/ccnm/russia

Development aid holds steady

The US was the world's largest aid donor in 2001, resuming the position it ceded to Japan in 1992, while aid from several European Union (EU) countries also rose. However, overall net official development assistance (ODA) from the OECD was little changed from the previous year. Japan's ODA fell by 18% in real terms, partly due to a 12.7% fall in the value of the yen, but also because of the timing of disbursements to multilateral organisations and the receipt of loan repayments from Asian countries that have recovered from the Asian financial crisis.

The level of aid as a proportion of combined gross national income of member countries in the OECD's development assistance committee (DAC), which accounts for at least 95% of total world ODA, was unchanged from the previous year at 0.22%. Denmark, Norway, the Netherlands, Luxembourg and Sweden continued to be the only countries to meet the United Nations' adopted ODA target of 0.7% of gross national income.

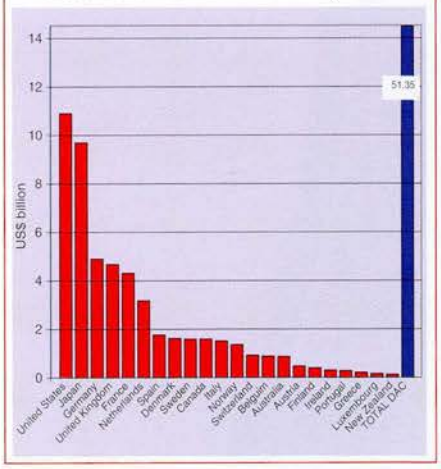
US aid rose to US$10.9 billion, or 0.11% of gross national product, up slightly from the previous year, with much of the increase reflected in a US$600 million disbursement to Pakistan for economic support following the events of 11 September. Japan was the second largest donor with US$9.7 billion, followed by Germany, the UK, France and the Netherlands. Total aid from EU countries came to US$26 billion, while aid from the European Community rose 21.1% to US$5.91 billion.

The annual meeting of development ministers and heads of development agencies from member countries of the OECD Development Assistance Committee (DAC) in Paris on 15-16 May welcomed the significant increase in ODA that is expected over the next four to five years, largely following commitments made at the Financing for Development summit in Monterrey in March. The meeting underlined that the increase in aid would go hand in hand with intensified efforts to improve aid effectiveness and achieve measurable progress in transforming the lives of poor people.

Representatives of the New Partnership for Africa's Development (NEPAD) attended the meeting, and ways to tackle the problems underlying the lagging development performance in a large part of Africa were discussed. In particular, there would have to be more sharing of methods to assess when countries in difficulty are in danger of slipping into violent conflict and acting quickly to stop this from happening. This included using development co-operation to help identify and deal with the risks of terrorism. ■

Development aid

Net official development assistance flows from DAC member countries, 2001



- For more on the aid figures and the DAC meeting: www.oecd.org/development
- OECD (2002), *The DAC Journal: Development Co-operation Report 2001 – Efforts and Policies of the Members of the Development Assistance Committee Volume 3 Issue 1*

Politicians will probably tell you that plates are getting bigger.

You may not have noticed, but fish have gradually been getting smaller and smaller. There aren't enough adult fish in the sea to meet demand, so fishermen are catching baby ones. The fish on your plate probably didn't live long enough to reproduce, as a result the stock it came from didn't get a chance to recover. Scientists have been warning the politicians about the disastrous effects of overfishing for years, but the powers that be chose to stick their heads in the sand and think of the short term. Well now it's their last chance. This year, ministers will vote on the future of the EU common fisheries policy. Unless they make radical changes, marine eco-systems will be destroyed and fish will become a rare delicacy. If we don't stop overfishing now, fishing will be over.

www.panda.org/stopoverfishing

WWF

Back to the basics

Simon Upton, Chair, OECD Round Table on Sustainable Development*

The Johannesburg summit is a golden opportunity to move forward on some tough sustainable development issues. But the agenda has grown and become unwieldy. Progress will depend on getting back to some global basics.

© Goran Tomasevic/REUTERS

What are the realistic prospects for sustainable development in the first decade of the new millennium? The short answer is that they will be a lot brighter if those who rally behind the sustainable development banner – particularly in developed countries – confine themselves to a *less* rather than a *more* ambitious agenda. Why?

The Rio Earth Summit of 1992 was a conference on *environment and development*, with the focus on meeting the developmental and environmental needs of both present and future generations. Significantly, the programme of action it laid out, called Agenda 21, consisted of two sections: the social and economic dimensions on one hand, and the conservation and management of resources for development on the other.

A reading of the 27 principles of the Rio Declaration discloses a breathtakingly ambitious policy terrain. But it is still tractable. It adheres to the environment and development dimensions that drove the Brundtland Commission. And most of the Rio Declaration's principles can still be made sense of and implemented by governments, regardless of their political persuasion.

I have no argument with the Rio Declaration as a working guide. But I do harbour doubts about the agenda which has been grafted onto it since Rio, and in particular the emergence of the so-called "three pillars" definition of sustainable development. The original two-part division between the socio-economic and the biophysical sphere apparently did not go far enough for some, and the socio-economic sphere has now been divided again into two separate social and economic "pillars" of sustainable development. I have made considerable efforts to find out when this characterisation of sustainable development emerged, but without success. It was certainly not part of the Rio outcomes, but is now firmly embedded in European Union and OECD literature.

In essence, the idea is that of a virtuous triangle of mutually reinforcing economic, social and environmental policies that together advance "a society that is more prosperous and more just, and which promises a cleaner, safer, healthier environment", not just in the near term but in the long term, too.

This is, unquestionably, an elegant formulation. But it cannot provide any definitive boundaries for the trade-offs that inevitably occur between, for instance, seeking improvement in material living standards and maintaining ecosystems in their natural states.

There are two dangers here. The first is that in the search for "balance" between the three pillars, we end up in a world where everything is tradeable, with few, if any, environmental "bottom lines". The second is that it is hard to see what might be excluded from these three all-encompassing pillars. In short, we risk emptying sustainable development of content by seeking to extend it to everything.

Now it might be objected that this is harmless enough; that sustainable development embraces many disciplines and that anyone worth their salt would know where the live issues are. But at Rio, considerable store was placed on the need to develop robust indicators that can inform

Sustainable development is surely about global concerns; but can retirement incomes really be included in that definition? Even if they can, are they as important as, say, basic literacy or even culture?

decision-making on a hard core of issues. Indicators are vital, but we have made little progress in developing them – and the extension of sustainable development to a "three pillars" approach could mean that we never get there.

The European Commission, in its 2001 Strategy for Sustainable Development, referred to the need to focus on "a small number of problems which pose severe or irreversible threats to the future well-being of European society". It identified a set of structural indicators, ranging from lifelong learning and childcare facilities to energy intensity and biodiversity. In the end, no fewer than 53 different indicators were envisaged, some of them with a distinctly developed-country feel.

The OECD's approach has had similar teething difficulties. Its sustainable development indicators are expected to be included in economic reviews of member countries from 2004, alongside long-familiar economic indicators such as inflation, GDP growth, interest rates, and so on. The preliminary list embraces a sensible clutch of traditional environmental indicators covering water quality, air pollution and CO_2 emissions. But there is just one social indicator – sustainable retirement-income policies.

The orphan state of this indicator is one issue, but more important is the question of what might be considered not part of sustainable development if such indicators are seen as relevant. Sustainable development is surely about global concerns; but can retirement incomes really be included in that definition? Even if they can, are they as important as, say, basic literacy (not on the OECD list) or even culture?

The consequences of selecting an indicator such as retirement incomes is meaningless in a region such as sub-Saharan Africa where the average life expectancy is less than 50. If the answer to that criticism is that sustainability is a relative, country-specific matter, we're back where we started: policy trade-offs and insoluble debates about the distribution of wealth. No doubt these questions will be resolved, but we should begin by accepting that if sustainability is to have a meaningful, universally recognisable core, many issues will have to be excluded. Otherwise, the cart will simply not move forward.

Sustainable development as Rio launched it sought to tackle, at the global level, the relationship between development ambitions (in all countries) and environmental sustainability – a big enough task in itself. If we are not very careful, a "three pillars" approach will quickly become vacuous, particularly if it incorporates elements beyond the already awesome problems posed by absolute poverty and morbidity, or the depletion of the biosphere.

This is not to deny the importance of the social dimension of sustainable development. But our approach has to be based on hard information that can change minds and win debates. Using the UN's Human Development Index (HDI), a core set of health, education and income indices, may be a way forward. Such an approach would leave us in a more analytically tractable situation: rather than pretending that some magical balancing trick is possible between the three pillars, we would be considering a human sphere of economic and social development that can be managed for better or worse, and a biophysical (or environmental) sphere subject to some real, scientifically demonstrable thresholds. The focus of policy attention would then be directed to development trajectories within those thresholds.

Institutional challenge

But even if we build the hard information and data we need, do we have the institutions to do anything with it? Rio spawned the challenge, "think global, act local", but tackling global issues requires a huge commitment of diplomatic and negotiating resources. Surely, then, the focus should be on dealing with those things that can only be done at the global level. The atmosphere and the oceans are the obvious candidates; others are abject poverty and health threats, like AIDS and TB.

Not that there is any shortage of international treaties relating to the global commons, though many of these remain either incomplete or unratified. There are the Straddling and Migratory Fish Stocks agreements, for instance, or the Convention on Persistent Organic Pollutants, to name but a few.

One of the key problems is that political goodwill and interest have been dulled by inter-governmental processes that, in the end, have no impact on national policies. Sustainable development meetings risk becoming the preoccupation of a self-perpetuating clique of negotiators and interest groups. This is increasingly the fate of the UN Commission on Sustainable Development (CSD), Rio's contribution to the stable of international forums.

The CSD was set up to "ensure the effective follow-up of the [Rio] Conference, as well as to enhance international co-operation and rationalise the intergovernmental decision-making capacity for the integration of environment and development issues and to examine the progress in the implementation of Agenda 21 at the national, regional and international levels..."

It would be hard to argue that the CSD has fulfilled any of these roles. Its multi-stakeholder remit held out the hope that ministers, academics, business leaders and NGO leaders would be able to engage frankly to unblock the way to a more sustainable future. Instead, we have had a country-based negotiating mindset, with foot-dragging consensus.

It need not have been this way. Rather than a toothless negotiating forum, the CSD could become a catalyst for sharp-edged, time-bound commissions to report on difficult issues that require international attention. Such commissions would need to be supported by teams of experts, but as importantly, they would have to include elected

ministers who can then start to reclaim a popular grassroots mandate for the UN from its current diplomatic ownership. The World Commission on Dams chaired by South Africa's education minister, Kadar Asmal, shows it can be done. Jeffrey Sachs' Commission of Macroeconomics and Health is another model. This is the sort of stuff we should be serving up to CSD meetings. As a former CSD chairman I am acutely aware that this kind of action is needed to revive ministerial interest in pursuing sustainable development issues at the global level.

Beyond this, governments hold the keys to many of the barriers that stand in the way of development. Trade barriers, subsidies, aid, pollution control: all are creatures of government. But the institutions and instruments they have traditionally used to solve problems are no longer suited to the sort of global community that is emerging. This is a repeated refrain of many businesses and NGOs that claim to have transformed their own modes of operation. Governments have to catch up.

So, while we must always confirm the importance of market access, development assistance and insisting on improving our scientific underpinning of the debate with credible indicators, we should also recognise that institutions of international governance are needed to tackle genuinely global problems such as those that affect the global commons. If we can go on from Johannesburg to leave the negotiating mindset of the 20th century firmly behind by thinking laterally and flexibly about how global dialogue and rule-making should proceed, then the summit would have done more than many dared to hope. ■

* *The OECD Round Table on Sustainable Development was created in 1998. OECD ministers have formally endorsed its role as "a forum for international dialogue among stakeholders". Twice a year it brings inter-governmental organisations, business and civil society together to discuss the cross-cutting economic, environmental and social challenges of sustainable development. Its role is "to continue to generate policy ideas" which could achieve "sustainable development objectives". Mr Upton, New Zealand's former environment minister and former chair of the United Nations Commission for Sustainable Development, has presided over the OECD round table since its inception.*

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Unsustainable risks

Sustainable development is a fundamental global challenge and the risks from inaction are immense. But there are encouraging signs.

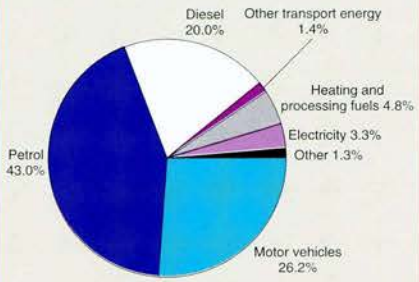
An economic commentator in a British newspaper once wrote that things have become so bad, you simply have to be an optimist. How appropriate this view may appear now as attempts to give new momentum to the sustainable development train get under way in Johannesburg.

For one thing, some progress has been made in the 10 years since the 1992 Earth Summit, particularly in OECD countries. They have managed to lift their economic growth potential and social conditions while reducing certain environmental pressures. They have virtually eliminated emissions of lead from petrol and of ozone depleting CFCs, and have increased forest area. Surface water cleanliness has greatly improved too, while water use per head is falling.

This progress is encouraging since the OECD area has such a large effect on the Earth's environment. The trouble is that so

Cleaner tax

Proportion of revenues from environmentally related taxes, OECD countries[1], 1995



Note: "Other" includes waste management (0. 6 %); effluents to water (0. 3 %); emissions to air (0. 2 %); ozone depleting substances (0. 2 %); non-point water pollution (0.03 %).
[1] Data cover 21 OECD member countries
Source: OECD/EC, Database on environmentally related taxes

much of the world's natural resource base continues to be overexploited or damaged, including the atmosphere, groundwater, fish stocks and crop-yielding soils. And the biodiversity on which humans depend for food and many medicines is being destroyed. Meanwhile, developing countries that aim for sustainable development find themselves held back by difficult market and technological conditions, as well as by debilitating poverty and rampant diseases.

Can anything be done? Of course. Only a profound pessimist would say otherwise; the large, seemingly intractable, global problems the world faces, like climate change, ozone depletion, deforestation, energy and food security, and health, are surmountable. The developed economies of the OECD may be held responsible for much of the mess, but nor are developing countries innocent. Everyone accepts that the solutions have to come from everyone together.

Still, the real burden of initiative lies with our leaders; that is the role of power and indeed of summits. Again, as the contributions from ministers in this *OECD Observer* suggest, a real international political commitment is evolving to achieve sustainable development based on its economic, social and environmental dimensions. It may be too early to talk about a perfectly holistic approach to government decision-making, but sustainable development considerations are gaining influence on policies of all types, from farm reform to international trade.

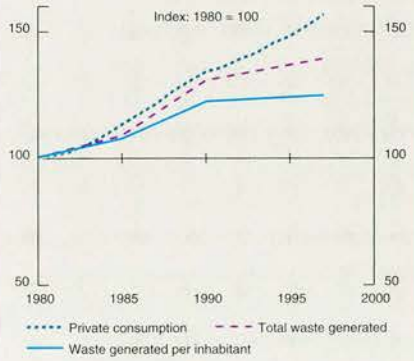
Whatever pillars are propped under the sustainable development banner, most people accept that the ultimate risk of continuing the present game without change is total loss. This does not mean halting growth, far from it. Sustainable development is about using the Earth's resources intelligently and responsibly, hence the need for balance between the different pillars.

Politics is the art of the possible and progress depends largely on OECD countries leading by example in curbing their sizeable environmental toll on the planet. But they cannot truly expect the developing world even to be able to follow suit unless, apart from doing their utmost to help poor countries overcome debilitating poverty and disease, they also give far more access to their wealthy markets, modern technology and know-how. Without these, it is difficult to see how sustainable development could begin to take hold.

The OECD area's 30 member countries account for about 80% of world GDP and consume about 60% of world energy supplies. Historically, they have been responsible for most of the build-up of greenhouse gases and still account for over half of world carbon dioxide emissions. CO_2 emissions are expected to rise by 33% in OECD countries by 2020 and to double in developing countries. Energy demand is expected to shift towards countries like China and India, but when it comes to

Throwaway culture

Municipal waste generation, OECD



Source: OECD

Sustainable development is about using the Earth's resources intelligently and responsibly, hence the need for balance between the different pillars.

ownership of motorised vehicles, for instance, developed countries will remain well in the lead for years to come. It is the environmental impact of questions such as this that sets the World Summit on Sustainable Development apart from, say, the Monterrey meeting on Financing for Development in March 2002.

Transport is just one area where ways to decouple activity from the environment must be found, and the guidelines on Environmentally Sustainable Transport may be a start (see article page 46).

Buildings are another major problem. They too use energy, often very inefficiently, and emit massive pollution too. Factories, offices, houses: all are guilty. Galloping urbanisation will worsen matters. Regulation and market innovation are beginning to improve matters, but progress could be quicker.

Then there is the rising volume of municipal waste, from used-car mountains and stacks of old tyres, to old building materials and, despite the promise of dematerialisation through technology, toxic computers. Maybe new technology and recycling will help, but it is hard to see how the pile can be fought down without tougher government rules and changes in material behaviour, particularly consumption.

The likelihood is that sustainable development solutions will come from governments and markets working together. A case in point is the steep reduction in emissions of two dangerous pollutants, nitrogen oxide and sulphur dioxide, that OECD countries have managed since 1990. Regulations helped by requiring coal-fired power plants to reduce emissions; economic considerations played their part in causing many households and power plants to switch from coal and oil to easier fuels like natural gas and to buy only cars fitted with

catalytic converters. None of this could have happened if the technology had not been available, of course, nor without public awareness and pressure. Rules, markets, technology and education combined to produce these results. They can do so again. Who knows, maybe the next economic boom will be driven by energy and environment applications, rather than information technologies, with political action helping to get the process rolling.

The OECD has advanced a number of instruments to spur sustainable development. Environmentally related taxes, for instance, can encourage producers and consumers to take the full environmental or social costs of goods into account, whether fuel, water, or plastic bags. This has proved successful in many OECD countries, particularly when combined with innovative techniques. In Denmark, for example, the tonnes of cadmium batteries turned in for safe disposal tripled in the 12 months following the introduction of a tax-rebate scheme on the batteries in 1996. In Brisbane, Australia, water demand fell by 20% in the two years following the adoption of volume based water charges in 1995-1996.

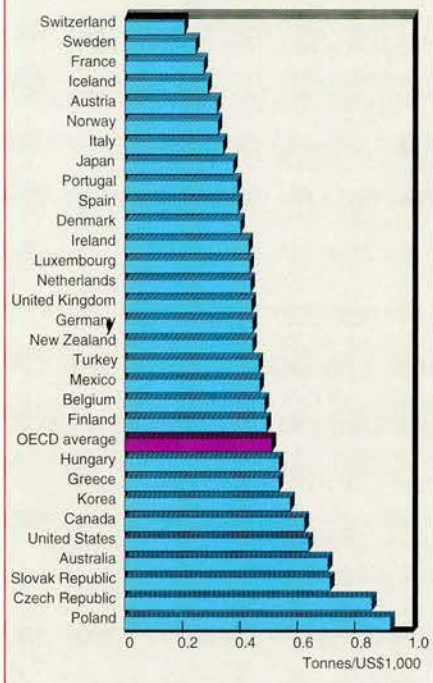
However, exemptions to environmental taxes can be significant, and are sometimes granted to the most polluting industries. And there is some resistance to them, partly out of fear of losing competitiveness, jobs or income, and also a lack of conviction that the taxes are all genuinely aimed at sustainable development and not simply lining government coffers. Policies are needed to address these concerns.

Taxes are not the only market-based instrument governments can try; tradeable permits are another and have been used with some success to reduce greenhouse gas emissions (see article page 38).

One area governments must encourage is research. Science and technology have the potential to deliver many breakthoughs, like alternative fuels, or medical properties of new plant discoveries, not to mention breeding crop strains that better resist disease. More funding of basic research may be required in some cases, removing market barriers that limit the development and dissemination of new technologies in others.

Carbon rating

CO_2 emissions per unit of GDP[1], OECD countries, 1999



Note: Carbon dioxide from energy use only; international marine and aviation bunkers are excluded.
[1] At 1995 prices and PPP
Source: OECD

Fighting poverty

Of course, none of these innovations will mean much to people whose first concern is to survive from day to day. Millions of people suffer chronic hunger, and diseases like HIV/AIDS and malaria are destroying the very foundations of society in several countries.

The likelihood is that sustainable development solutions will come from governments and markets working together. Who knows, maybe the next economic boom will be driven by energy and environment applications, rather than information technologies, with political action helping to get the process rolling.

OECD countries account for some 95% of official development assistance (ODA) worldwide and have no choice but to help turn this catastrophe around. That means technology transfers to improve farmland, for instance. ODA has to be made more effective and brought to a level that can help poorer countries develop the human capacities, institutions, and governance they need to take advantage of globalisation, rather than being left behind. Although most OECD countries currently fall well short of the longstanding UN target of devoting 0.7% of their gross national income (GNI) to development assistance, the new readiness to increase aid efforts expressed at the UN Conference on Financing Development in Monterrey in March 2002, has to be built upon.

Bringing down trade barriers would help. OECD countries account for three-quarters of world trade, yet many of their markets remain highly protected from poor country exports. The gain to developing countries from unrestricted access to OECD country markets for textiles and clothing, other manufactured goods, and agricultural products could total US$43 billion per year. OECD and non-OECD countries have to work together to change this and other trade distortions, including possible environmental ones, through the Doha Development Agenda under the World Trade Organization (WTO).

An important task of the OECD is to develop performance indicators of sustainable development and it plans to incorporate them into its regular country economic surveys from 2004. The results may tell us that prospects for our planet are not as hopeless as some would have it. In fact, as the evidence shows, if we can identify the problems, we will find ways to resolve them; what we will always need is concerted action to put plans into action. ■ *R.J.C./S.K.*

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What does sustainable what specific measures to make progress

Finland

A guiding principle of Finnish society


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Jouni Backman, Minister of the Environment, Finland

We in Finland have long been striving to make sustainable development a guiding principle of our society. The process may be characterised as a joint effort involving administration, politicians, private sector, scientific society and civil society.
The Finnish National Commission on Sustainable Development (FNCSD), chaired by the prime minister, was established as long ago as 1993. It brings together expertise from different fields, combining high-level political involvement and broad participation by all major actors, so ensuring transparency and continuity.

Finland's initiatives towards sustainable development include a national action programme for sustainable development (1995), the government Programme for Sustainable Development (1998), currently under evaluation, as well as the development of national sustainability indicators (2000). Various sectors and stakeholders have also produced their own sustainable development programmes. At the local level the concept of sustainability has also become a key goal, with almost 70% of our municipalities now implementing their own Local Agenda 21. This work has not been without reward; the World Economic Forum's sustainability index has ranked Finland first in its comparison of international competitiveness and sustainability for two years in a row.

It is with some justification, therefore, that Finland sees itself as a credible leader in the global campaign for sustainable development. We see that sustainable development now integrates the environmental, social and economic dimensions, and so goes beyond the original dual concept of environment and development. Concrete targets and timetables are now needed, to be undertaken by governments, the private sector and civil society.

My advice is: "Think big, act small and move fast". It is an old wisdom that can help us in shaping the world's sustainable future. Whether at Johannesburg or beyond, we will need a Declaration with political vision, an Implementation Plan guided by that vision and Partnership Agreements to put it into practice.

There is already a consensus on the poverty-related Millennium Development Goals. These need to be complemented by a solid programme on changing our consumption and production patterns, with a commitment to safeguarding our planet's biodiversity. There is also a good basis for consensus on implementation in the Monterrey and Doha agreements, which must be reconfirmed at Johannesburg. We understand the interrelationships; now we must agree to concrete action based on small, fast steps, that together will enable us to make sustainable development a reality.

- Visit: www.vyh.fi/

Roundtable

What ministers are doing

How serious are we about sustainable development? Governments are frequently accused of paying lip-service to the idea, but not taking enough action to make it work. We asked ministers from a cross-section of countries – South Africa as a non-OECD country and host to the Johannesburg Summit on Sustainable Development; Finland as a smaller, though environmentally progressive, OECD member; France, whose government has recently instituted a sustainable development portfolio; Mexico, as one of the largest and poorest OECD countries, and the United States as the OECD's biggest and perhaps

South Africa

People, planet and prosperity


© Adil Bradlow/AP

Valli Moosa, Minister of Environmental Affairs and Tourism, South Africa

The slogan we have offered for the World Summit on Sustainable Development in Johannesburg – "people, planet and prosperity" – sums up sustainable development perfectly for me. It is about ensuring that people have access to the basic necessities of life: food, water, sanitation, modern energy services, healthcare and a proper education. It is about providing an enabling environment, internationally and domestically, which creates jobs, attracts investment and supports fair trade. And crucially it is about doing all this while safeguarding our planet for future generations by using our natural resources in a sustainable way and conserving our environmental heritage. It is also about recognising the singular and profound impact poverty has and knowing that the eradication of poverty is key to guaranteeing global and local sustainable development.

development mean to you and are you taking or recommending towards achieving this goal?

most environmentally important member – to answer the same straightforward question:

What does sustainable development mean to you and what specific measures are you taking or recommending to make progress towards achieving this goal?

No one would deny that there is much to be done. The answers that follow show that governments are not only clearly committed to the goal of sustainable development, but they are also doing something about it.

I think it appropriate that South Africa should host the World Summit on Sustainable Development because in many ways South Africa represents the world in one country. We face the challenge of balancing economic and social development with the need to protect our environment. We want to create a more equitable society in which wealth is more evenly distributed, and all our people can share in our prosperity and improve the quality of their lives. I also believe that as an African country it is our duty to demonstrate to the world that our continent is committed to a more sustainable development path and that we are willing and able to take the necessary action to eradicate poverty, with support from the international community.

Since the democratic elections of 1994 we have made significant progress towards sustainable development in South Africa. The government has built over a million new homes, we have provided basic water supply to a further seven million homes and delivered electricity to over three million that never had such access. Our constitution guarantees the right of all South Africans to a healthy environment and to ecologically sustainable development, and the landmark 1998 National Environmental Management Act provides a supporting legislative framework.

Like most countries we still face many challenges ahead. Together with various stakeholders, our youth, women, NGOs, labour and business, sustainable development will be one of the government's major objectives over the coming years in order to meet those challenges toward a "better life for all".

- Visit: www.environment.gov.za/

France

Towards "eco-responsible" government

© Jean-Loup Gautreau/AFP

Roselyne Bachelot-Narquin, Minister for Ecology and Sustainable Development, France

Sustainable development has become one of the great imperatives of our time. It is based on environmental, economic and social demands. Its ecological dimension must be humanistic and it must cement the alliance between the environment, science and economic progress. Sustainable development is above all a cross-cutting concern that ought to be implicit in any government project. That is why President Jacques Chirac decided this year to set up, for the first time in this country, a Ministry of Ecology and Sustainable Development, which I head, and within it a State Secretariat for Sustainable Development, led by Tokia Saifi. This genuine political resolve is rooted in a sense of solidarity with future generations and a real concern for the public interest. Our objective is to rally all parties involved in sustainable development – in France, Europe and beyond – to this common cause.

On an international level, we want above all to bolster the fight against poverty by expanding access to drinking water, sanitation and energy, not forgetting healthcare and education. In particular, we are striving for responsible management of natural resources in order to foster equitable sharing of the world's riches. Meanwhile, bringing sustainable development into the mainstream of civil society in France entails formulating a national sustainable development strategy, underpinned by extensive consultations and incorporating the government's overarching aims. It is expected to be formally adopted towards the end of 2002. One of the main thrusts of this policy is for the State to set the example in applying the principles of sustainable development. What this really means, in my view, is that government agencies should become "eco-responsible", whether in handling their architectural and natural heritage, waste management, or water and energy consumption. It also means that all ministries and departments should incorporate these principles into all of their policies and actions.

Another of my missions is to ensure that sustainable development objectives are factored in whenever public policies are framed or implemented. Sustainable development also means including citizens in the decisions taken by government. Bridges have to be built between the many local initiatives and representatives at the national level, and efforts stepped up to educate people about the environment and sustainable development. And we must move quickly in our fight to foster responsibility and higher ethical standards.

- Visit: www.environnement.gouv.fr/

Mexico

Building environmental governance


© Ryan Remiorz/AP

Victor Lichtinger, Secretary for Environment and Natural Resources, Mexico

Sustainable development is described in the Brundtland report as a model of development that meets the needs of the present without compromising the ability of future generations to meet their own needs. For Mexico, attaining sustainable development is a challenge that must be met, and implies reconciling the urgent need to improve the wellbeing of people, while conserving our biodiversity and natural resources. This can only be achieved through the balanced integration of economic, social and environmental goals and policies.

For Mexico, 1 December 2000 was a political watershed, thanks to the entrenchment of democratic rule in government. Among the most important aspects of this new democracy is the integration of sustainable development as a guiding principle underlying all policymaking processes, as stated in the National Development Plan 2001-2006. The reorganisation of government institutions and the inclusion of the Ministry of the Environment in all three of the new government's cabinet divisions, dealing with social and human development, growth with quality, and law and order, was a first step towards this new approach to environmental governance. The present administration is committed to implementing environmental policy across the entire spectrum of government departments, as exemplified by the adoption of sustainability targets and indicators in the programmes of 14 institutions responsible for fiscal, economic, agricultural, energy and transport policies. Mexico has also sought more active involvement in international forums, where social, economic and environmental issues converge, encouraging other countries to share responsibility for global environmental challenges, such as climate change and biodiversity loss.

Mexico invites other nations and international organisations to commit themselves to improve governance strategies which address these and other pressing environmental problems. At Johannesburg and beyond, Mexico will promote innovative initiatives in the context of the recently formed group of like-minded "megadiverse" countries.* And, bearing in mind the critical issue of equity, Mexico will also emphasise outstanding aspects relevant to financing sustainable development.

Our firm steps to consolidate a new institutional framework will enhance co-ordination between public and private sectors, including all relevant stakeholders at home and abroad, so as to promote the goals of sustainable development.

We may have to revise some original concepts. For instance, the notion of meeting the needs of the present without compromising future generations is, in my view, outdated; for the future is now, and it is time for commitment.

**The megadiverse group of like-minded countries includes Brazil, Bolivia, China, Colombia, Costa Rica, Ecuador, Philippines, India, Indonesia, Kenya, Malaysia, Mexico, Peru, South Africa and Venezuela.*

- See the Cancún declaration of 18 February 2002 at: www.semarnat.gob.mx/internacionales/reunion/doc/CANCUN-DECLARATION.doc

United States

Empowering communities


© Dennis Cook/AP

Christine Todd Whitman, Administrator, U.S. Environmental Protection Agency

Sustainable development calls for us to manage our environmental, economic and social resources for the long term. It asks us to protect the quality of life for both present and future generations. For the US, this means working with our partners at home and abroad to achieve more sensible use of human, natural and financial resources by instilling an ethic of environmental stewardship among individuals, institutions and corporations.

The Environmental Protection Agency (EPA) is working to encourage this ethic in a variety of ways. I would like to highlight just a few examples that may be helpful to others.

I have committed EPA to providing open and easy access to environmental data and information. In 2002 EPA will issue its first State of the Environment report, detailing progress over the past 30 years, and identifying the challenges before us. This report will set the stage for a comprehensive, holistic view of environmental protection that gauges success based on results rather than administrative accomplishments.

EPA is also pushing the envelope on computer technology, so that citizens can view a range of environmental information about their community at the click of a mouse. Armed with this information, local officials and community groups can make better decisions about how to protect and restore valuable resources, and how to plan for future growth and development.

EPA promotes integrated environmental management and long-term planning, through programmes like the Smart Growth Network – a loose affiliation of organisations which agree that where and how we grow matters – and the "watershed approach" to managing water quality. For businesses, corporations and institutions, EPA is supporting the development of Environmental Management Systems that take a holistic view of environmental impacts, focusing on pollution prevention and continual improvement.

Finally, EPA is empowering communities to pursue sustainable development by providing direct financial and technical assistance. In January, President Bush signed new "brownfields" legislation to help states and local communities turn environmental eyesores into economic assets. Shortly after, I announced my own initiative to help EPA achieve these goals by using smart growth to enhance brownfields revitalisation and alleviate pressures to develop open space. Also in January, I announced a new initiative to channel federal resources to priority watersheds.

Through activities like these, our aim is to give people the opportunity to make choices that will enable them to live healthier and more prosperous lives – economically, socially and environmentally – and to protect that same chance for their children and grandchildren.

- Visit: www.epa.gov

Rethinking agriculture and food

Renate Künast, Federal Minister of Consumer Protection, Food and Agriculture, Germany

"Our model is sustainable agriculture and food production. The social costs of 'ever more at ever lower prices' must be reduced." – Renate Künast, here seen attending the Nuremberg Bio Trade Fair.

"Trust is a delicate plant; once destroyed, it doesn't grow back quickly." When Otto von Bismarck made this observation in the late 19th century, he probably did not mean to include consumer trust in food safety. At that time and until well into the second half of the 20th century this aspect played at most a minor role in food production. The central task of the agri-food sector was to produce sufficient food at the lowest possible price. These times are now over. Most people in industrial countries have secure quantities of food, so consumers increasingly focus on food safety and food quality, including subjective and ethical issues like animal welfare and environmental protection.

The arrival of "mad cow" disease (BSE), outbreaks of foot-and-mouth disease and various food scandals have deeply shaken consumer confidence in the safety of the food they buy and eat. Such problems have also led consumers to question previous agri-food policies, including the comprehensive payments granted to farmers. The time was ripe for a fundamental reorientation of farm

and food policies, since it was perfectly obvious that the path taken previously would lead to a dead end.

Today's new agri-food policies are first and foremost geared to the interests of consumers. Consumer protection, full information about production methods and improved product quality are now the priorities. These new policies encourage sustainable food production and promote consumer choices that support sustainable production methods. The reorientation of agri-food policies also means becoming more market-oriented in our approach. This means phasing out production subsidies and helping farmers to hold their own in competitive markets by improved quality and additional services, like farm-based leisure activities. This way, farmers can achieve added value and income in secure rural jobs.

But food safety must be the overriding imperative. There cannot be any compromise in this area, since safeguarding health takes priority over economic interests. Placing safe food on the market must simply be a matter of course. All operators in the food chain, from farmers to retailers via distributors, are responsible for food safety. Policymakers, meanwhile, are responsible for providing the legal provisions and efficient controls people need. The consumer is prepared to reward their efforts, as has been seen in the beef industry, where demand for beef, which had fallen sharply, has recovered thanks to rigorous BSE controls.

The question of how food is produced, handled and processed is gaining importance. Ultimately, it is the consumer who determines the desired quality of food and how much he is willing to pay for it. But to make such a choice, the consumer must also be able to assess the safety and quality of the foods on offer. This is where policymakers come in: to establish the legal framework and information requirements that will enable consumers to make informed decisions. Only then will consumers feel more confident in selecting or rejecting certain products and will better quality be rewarded by the market.

Comprehensive food labelling is particularly important. Uniform labels help the consumer to discern quality. In Germany, the eco-labelling system offers a simple, uniform way for consumers to distinguish organic products from other foods quickly and easily, to the benefit of consumers, retailers, farmers and the processing industry. Products from third countries or other EU member states can also qualify for the German eco-label as long as they comply with the EU standard on which the label is based.

European agricultural policy must take the social demands on agriculture fully into account. For this reason it is in our interest to initiate a fundamental reorientation of EU agricultural policy.

Our model is sustainable agriculture and food production. The social costs of "ever more at ever lower prices" must be reduced. Natural resources must be preserved for both current and future generations. As organic farming is already clearly geared to sustainability, support for organic farming and for sales of organic produce is an essential building block in reorienting agri-food policies. Germany aims to increase the organic sector's share to 20% of the land being farmed within 10 years.

Yet this is not all there is to reorienting agri-food policies. The goal is to gear farming to sustainability by supporting environmentally benign and welfare-friendly production methods. In the past few months, many measures have been adopted to this effect in Germany, ensuring that public money for farming is targeted to sustainable methods such as improving animal welfare or preserving biodiversity. An additional priority is to strengthen rural areas as business locations. We must not forget that economic efficiency and the competitiveness of enterprises are the basic prerequisites to achieve this.

But a new direction is needed beyond national level if we are to attain our objectives. European agricultural policy must take the social demands on agriculture fully into account. For this reason it is in our interest to use the forthcoming mid-term review of Agenda 2000 to initiate a fundamental reorientation of EU agricultural policy. The cornerstones of our reform policies at European level were laid out in Agenda 2000, covering the period 2000-2006. The key elements are reinforced market orientation and quality competition, reduction of production support instruments and more support for rural development. There are a number of other reasons for reorienting agricultural policy, such as EU enlargement (more farmers in the Union), and the World Trade Organization (WTO) negotiations on agriculture. Not forgetting implementation of the Agenda 21 agreements on sustainable development adopted by the Earth Summit in Rio de Janeiro in 1992 and no doubt up for discussion at the World Summit on Sustainable Development in Johannesburg.

As well as producing safe food, agriculture renders many important social services. Changing demands from society open up opportunities to develop new sources of income. Instead of indiscriminately handing out subsidies more or less evenly based on the amount produced, socially desired services of agriculture such as keeping the land viable for future generations, providing a habitat for rare wild animals and plants, or providing tourist activities, must be rewarded in a targeted way. This is all the more true if they cannot be remunerated through the market or if they are linked to requirements the farmers have to meet such as reducing pesticide use. This is also the only way to convince the consumer that supporting agriculture is in the interest of society.

This way the circle starting and ending with the consumer is complete. Good agri-food policies can help strengthen Bismarck's delicate plant of trust I mentioned at the start and return to agriculture the social credit it deserves. Trust through change must be our motto. ■

Sustainable agriculture depends on biodiversity

Kevin Parris, OECD Agriculture Directorate*

Agri-food production relies on biodiversity. Yet farming can weaken it. Increasing food production will mean finding ways of expanding agriculture without upsetting our planet's biological interdependence.

Natural pest control. Ladybirds are nature's way of controlling aphids and other pests on plants. They are increasingly popular with organic farmers as a natural and effective way of keeping their crops safe.

Earthworms, bees, Ethiopian wild barley, peregrine falcons, orchids, mangrove swamps and tropical rainforest: on the face of it, these might seem a motley collection, but they are all symbols of both the diversity and the fragility of the linkages between agriculture and nature.

Biodiversity is the term commonly used by scientists and policymakers to capture nature's richness and diversity, but also its biological interdependence. In fact, all species on earth may to a greater or lesser extent be dependent on one another; each species that disappears may weaken the survival chances of another. On a broad scale, tropical forests, for instance, digest carbon dioxide from the atmosphere and produce oxygen. So, without them, our future could be seriously imperilled. And because farming occupies more land than any other human activity in most countries, it should be no surprise to learn that agriculture and biodiversity are interdependent too.

While biodiversity "richness" differs according to climate, terrain, farming practices and so on, farms based on multiple crops and livestock with natural pasture are richer in biodiversity than monocultural farms. But most systems, by seeking to maximise the yield of a limited number of plant and animal species, inevitably weaken and reduce competition from unwanted species.

Farming can affect the worms and soil micro-organisms that play a critical part in maintaining soil fertility, or the bees that provide an important eco-service as pollinators for agricultural crops. The parasitic mite, varroa, in bee populations in North America and Europe has, for example, reduced yields for some crops in affected areas. But in some cases farmers are in a constant battle to control invasive species like weeds and pests that can harm their stock and threaten crop production.

Take the southern maize leaf blight in the early 1970s that led to a 15% fall in US maize yields and an estimated loss to producers and consumers of more than US$2 billion. The crop recovered thanks to help from a Mexican maize variety, but it shows that biological interdependence is not just about preserving wild birds or flowers, but about hard, sustainable, economics. In Australia feral populations of mammals, such as rabbits,

dogs and foxes, have inflicted economic losses on farmers through damage to crops, the spread of disease to livestock and the destruction of native wild species.

Farming develops crop species and livestock breeds, as the genetic raw material providing the basis for food production and agricultural raw materials, like cotton. Breeding commercial crop species with wild relatives has also played a vital role in combating pests and diseases. For example, a gene from an Ethiopian wild barley variety has provided protection for the farmed barley crop in North America.

But while farming depends on biodiversity, it is also considered a major contributor to its loss. The intensification of farm production across OECD countries has been associated with the decline in certain wild species, both fauna, such as the peregrine falcon in Europe, and flora such as orchids. In some regions the spread of agriculture has led to the loss of valued wildlife habitats, such as mangrove swamps in the United States and tropical rainforests in Australia. At the same time, farming can enrich society through maintaining and enhancing a variety of wild plant and animal species and habitats, all of which have not just economic or scientific value, but also recreational, even aesthetic advantages, too, such as alpine pastures and water meadows.

One complication is that biodiversity can suffer from invasion of introduced species. These can be beneficial, as in the Mexican maize example, but can be damaging too, whether it be wild mink attacking poultry in Denmark or wire grass spreading in Greece. A US government study estimated economic losses from non-indigenous fauna and flora in the US over the 20th century at US$97 billion. The question of invasion has a new urgency these days, with the development of genetically modified crops and our need to understand their potential effects on local species.

The underlying challenge is how to expand and improve agricultural production – especially given the projected need to increase global food production by over 20% by 2020 – while securing our planet's biodiversity. Up to now, the main focus of policy in the area of biodiversity has been to protect and conserve

Biological interdependence is not just about preserving wild birds or flowers, but about hard, sustainable, economics. One US government study estimated economic losses from non-indigenous fauna and flora in the US over the 20th century at US$97 billion.

endangered species and habitats, but a number of countries are beginning to move toward a more holistic policy approach by developing national biodiversity plans that include agriculture. These plans often reflect the commitments countries have made under the international Convention on Biological Diversity, agreed in 1992, which aims at the conservation of biodiversity, including genetic resources, wild species and habitats.

Part of the task is to quantify the linkages between human activities and biodiversity. As Harvard University specialist, E.O. Wilson, comments, "New indicators of progress are needed to monitor the economy, wherein the natural world and human well-being, not just economic production, are awarded full measure." In a similar vein the Nobel prize winning economist, Kenneth Arrow, observes, "It would be especially useful to develop better data quantifying the losses of natural capital we currently are experiencing."

This is not an easy task. Few countries have systematic monitoring systems in place that track trends in biodiversity. In addition, there are formidable scientific difficulties in linking changes in biodiversity associated with agriculture to specific policy measures. To overcome some of these deficiencies the OECD is developing a set of agri-biodiversity indicators.

The first step has been to establish a common agri-biodiversity framework or tool that helps simplify the complexity of agri-biodiversity linkages and identifies suitable indicators to track trends. The framework depicts agriculture in terms of a three-tier, hierarchical structure. The first and basic layer refers to farmland itself, to see if it is expanding or contracting or affecting nearby ecosystems, like forests. The extent of crop and livestock production species – the genetic resources of farming – are also covered in this layer, as is the effect of support species, like earth worms, on soil quality.

The second layer focuses more on structural elements that may affect the ability of a farm to support a varied biodiversity, such as the variability in cropping patterns, field size, and the distribution and extent of uncultivated areas such as ditches, ponds and trees usually associated with a greater biodiversity. This layer also checks for the impact of different farming practices on biodiversity: organic, extensive, intensive and so on.

The final layer assesses the quality of the farming system by finding out how many wild species use it for breeding, feeding and other needs. The richer the biodiversity, the higher the farming quality will be. That means actually counting species, a job for which some governments already earmark budgets.

Perhaps not a spectacular framework, but it should help us answer several key questions. What are the impacts of alternative farming systems, such as organic farming, on sustainable food production capacity? What are the impacts on biodiversity of current farm policies, and in the future, of reducing subsidies to agriculture? And are international interests in biodiversity and trade liberalisation complementary, or in conflict?

Further work will also be necessary to explain and monitor these complex, two-way, dynamic relationships. Still, it is the only way to identify alternative ways to achieve sometimes competing public objectives while not upsetting Earth's fragile biological system. ■

** Note: Wilfrid Legg, Ken Ash and Laetitia Reille also contributed to this article.*

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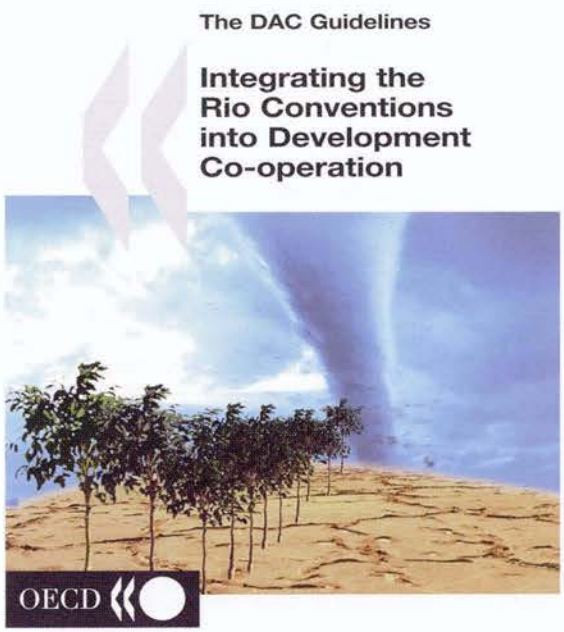
Integrating the Rio conventions in development co-operation

Policy statement by the **Development Assistance Committee** High-level Meeting, 16 May 2002*

Addressing global environmental issues is key to sustainable poverty reduction.

Nearly a billion households, particularly the rural poor, rely directly on natural resources for their livelihoods. But global environmental threats are undermining this resource base. Biodiversity loss is proceeding at a rapid rate in many countries, as is the build-up of toxic chemicals. Desertification and drought are problems of global dimensions, affecting all regions. Greenhouse gas emissions pose risks to the world's climate and developing countries are likely to be the most vulnerable to the impacts. Three UN conventions, on climate change, biological diversity and desertification – closely associated with the Earth Summit, held in Rio de Janeiro in 1992 – address these threats, which could undermine collective efforts to eradicate poverty and foster sustainable development worldwide.

We recognise that OECD countries bear a special responsibility for leadership on sustainable development worldwide, historically and because of the weight they continue to have in the global economy and environment. We also recognise the need to help developing countries address sustainable development issues as well as the need for further work on global and "mixed" public goods. These issues include those related to a clean atmosphere and the control of infectious diseases such as malaria and HIV/AIDS. Tackling these complex challenges will require better coherence in a wide range of policy areas, such as energy, trade, health, agriculture, investment and development co-operation.



Global environmental threats hurt the poor most –

Although all countries are affected, the poorest are the most threatened because they have fewer resources to address the root causes of environmental threats and adapt to their impacts, and because their populations are highly dependent on natural resources for their livelihoods. Sustainable poverty reduction, a central priority on the development agenda, is therefore closely linked to sound environmental management at the local, national, regional and global levels.

We are concerned about the high vulnerability of many of the poorest countries to desertification and biodiversity loss and to the impacts of climate change. These environmental threats impact on rural livelihoods, food security and health, while exacerbating natural disasters such as floods and droughts. This vulnerability risks intensifying competition and conflict over already strained land and water resources and undermining efforts to reduce poverty. For many countries, these represent near-term threats requiring urgent responses.

– and must be dealt with as part of the development agenda.

Integrating environmental concerns in poverty reduction strategies and other national planning processes is a priority. Global environmental threats, and issues of global importance such as desertification and drought, present us with particular challenges in this respect. Their causes and consequences respect no national boundaries, but they call for responses at the international, regional, national and local levels. Addressing the causes and impacts of biodiversity loss, climate change and desertification require measures in sectors such as agriculture, forestry and energy. Development co-operation agencies, which provide assistance in many of these areas, can play an important role in assisting with capacity building in developing countries to improve the integration of these critical issues in national planning and policy-making mechanisms.

We are already working towards this objective in a number of forums, including through the Global Environment Facility (GEF), but this is not enough. The Rio conventions reflect the commitment of all countries to preserve the

global environment, on the basis of common but differentiated responsibilities and respective capabilities. They also clearly recognise that meeting national development needs and responding to global environmental threats must go hand in hand. Thus, they are about sustainable development, not just about the environment.

Too often, global environmental issues have been considered as a "stand-alone agenda" of limited concern to national or local development priorities. In many countries, for example, environment ministries have been assigned the prime responsibility for implementing the conventions, without co-ordination at a government-wide level to implement the necessary response measures in key sectors such as agriculture, energy, transport, and beyond.

It is urgent to recognise this shortcoming and take necessary corrective action, focusing on national development strategies which respond simultaneously to social, economic and environmental concerns.

There are many opportunities for "win-win" approaches. Tackling environmental degradation should go hand in hand with improving economic and social welfare. Improving food security and livelihoods for rural population requires combating desertification, conserving biodiversity and reducing vulnerability to climate change. Safeguarding the livelihoods of poor landless peasants, pastoralists or forest dwellers requires protecting the ecosystems on which they rely for food and shelter. Improving access to efficient fuels and cookstoves improves the health and safety of women and children, reduces the burden of fuelwood collection chores, and also helps reduce pressures on forests.

Priorities

In our capitals, we will develop our agencies' capacity to recognise critical poverty reduction and global environmental linkages and formulate appropriate responses. A sound understanding of poverty-environment linkages, and the threats arising from global environmental degradation, is necessary for the formulation of sound policies. We are committed to integrate these issues in our policies and country support strategies. We will also work to ensure that understanding of these issues is shared throughout our agencies, and not confined to the environmental specialists.

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We will also intensify our relationships with other ministries and agencies involved in global environmental issues. This will help to formulate coherent approaches. Our active participation in international negotiations on global environmental issues and in the formulation of national positions gives us direct opportunities to ensure that the agreements made, and the mechanisms established to support them, complement our efforts to sustainably reduce poverty and reflect our experience in the field.

We will help our developing country partners meet their commitments and take advantage of the new opportunities arising from global environmental agreements. This includes helping our partners avail themselves of incentives provided by emerging market-based mechanisms to achieve global environmental goals.

In this context, there will be a heavy focus on support for capacity development, in the public and private sectors and civil society, making full use of available capacity. The Rio conventions identify a wide variety of fields where capacity development is needed – for example, for compliance with reporting obligations; for scientific monitoring and technology assessment; for policy formulation; and for effective participation in international negotiations on environmental conventions. The GEF, the Global Mechanism of the Desertification Convention and, in the context of climate change, the new funds established in Marrakesh, are all valuable instruments in this connection. Additional support will be provided through our bilateral programmes and through multilateral development banks. We will also support pilot-scale projects in order to experiment with new emerging approaches, and to demonstrate their feasibility, thereby helping create a critical mass of concrete experience.

Poverty Reduction Strategies

We will also help our partners to integrate global environmental issues in Poverty Reduction Strategies. Country-led planning frameworks such as Poverty Reduction Strategies or National Agendas 21 provide unique opportunities to integrate issues of environmental sustainability in poverty reduction efforts. This will imply integrating the national action plans formulated under the global environmental conventions in relevant national, or sub-national, or even regional-level planning processes.

We will highlight the importance of global environmental issues and their links with development objectives, by systematically putting these issues on the agenda of our regular dialogues with senior policymakers from partner countries, in the context of aid programming.

We are already supporting efforts in a number of areas which link closely with one or several issues addressed by the Rio Conventions. We will ensure that these ongoing initiatives recognise and take maximum advantage of opportunities for win-win approaches. ■

** This article is adapted from the DAC statement. The full statement can be seen in the new OECD publication,* DAC Guidelines – Integrating the Rio Conventions into Development Co-operation, *available at www.oecd.org/dac. The Development Assistance Committee (DAC) is the principal body through which the OECD deals with issues related to co-operation with developing countries. Its 23 members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States, Commission of the European Communities. These countries account for some 95% of the world's Official Development Assistance* *(see News briefs, page 5).*

Sustainable food for all

Tom Arnold, Chief Executive, Concern Worldwide, Ireland*

The agenda at Johannesburg will be wide and the issues interconnected, but one thing is clear: food security in developing countries must be a cornerstone of any notion of sustainable development. Mr Arnold offers a course of action.

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Better technology would help

When it was decided some years ago to hold the Summit on Sustainable Development in Johannesburg in August 2002, few would have predicted then that the southern African region would, by now, be in the grip of a food crisis. The scale of the crisis is frightening. The World Food Programme/FAO estimate that some 13 million people in the region are at risk due to food shortages and lack of income to purchase food. Imports of some 4 million tonnes are needed over the coming months. Enough food is available in the world, but even if massive imports were organised now, distributing them to those in need would be a race against the clock. If these imports do not take place in time, southern Africa faces a humanitarian crisis as bad as, or worse than, anything seen on the continent over the past three decades.

So while the Johannesburg summit would have wished to focus on the degree to which the world community has met the commitments it made in Rio de Janeiro in 1992, including such long-term issues as global climate change, environmental standards, and natural resource conservation, there could be, quite literally, a spectre at the feast – the spectre of millions of people starving in the region.

Any longer term notion of sustainability has, of course, to start with the present. Thus the short-run challenge is to get food into the region, through commercial imports and food aid, and get it to the poorest people who cannot afford to buy food. The longer run challenge is to ensure that the region, and indeed other parts of Africa, do not face recurrent crises of poverty and hunger. Many of the issues on the summit agenda are entirely relevant to meeting this longer run challenge.

One of the risks which the summit will face, in common with many other international gatherings, is that the agenda becomes so wide and the range of issues so interconnected, that it is very difficult to reach an overall agreement which is practical and implementable.

But one thing is clear: longer term food security in developing countries must be a cornerstone of any notion of sustainable development. Using the experience gained by Concern Worldwide in the world's poorest developing countries over more than 30 years, I would suggest there are five priority issues to be tackled: democracy and governance; food security; technology; international trade; and health, particularly HIV/AIDS.

Priorities for action

First of all, famines today do not occur in democratic countries. That is the key insight provided by Nobel prize-winning economist, Amartya Sen, from his study of many of the famines that occurred during the 20th century. In a democracy, politicians and civil society should sound alarm bells and demand action long before a food crisis deteriorates into a famine. So a key element of any policy aimed at eliminating the obscenity of famine from the 21st century should be promoting accountable government, developing an active civil society and supporting an independent news media.

On the second priority, famine is, of course, the most extreme form of food insecurity. But hunger, in its chronic form, affects some 800 million people. Such malnourishment stunts physical and mental growth of children and acts as a major blockage to economic and social development.

If the number of people suffering from this "silent hunger" is to be reduced, changes in policies and resource allocation are necessary in many developing countries. Achieving food security depends on real action, not lip service. In many countries where agriculture is the major economic sector, and will continue to be so for the foreseeable future, appropriate support should be given to improve its productivity. This is a message both for developing countries and for donor agencies.

If this message is accepted, a number of very practical consequences follow, some of which may sound old-fashioned but which are, I believe, entirely relevant today. There needs to be more investment in developing better agricultural technologies, through well-focused research. This is Concern's third priority. The little research that exists may be too often removed from the needs of ordinary farmers. Research is about improvement and so should aim at producing results that are relevant to ordinary peasant farmers, not outside suppliers or to suit theories of how markets *could* look.

The truth is, in many African countries, the national capacity for research is still limited, especially for something as unglamorous as agricultural research. Boosting that capacity is essential. We should look at what farmers are actually doing and help them to do it better!

Research should focus on improved cropping patterns and mixes which take account of the labour constraints on small farms. Customs and habits do exist and must be taken fully into account: that is what "ownership" of development programmes means. The AIDS crisis, through deaths and the need to care for existing sufferers, is reducing labour supply on farms and, consequently, food production. The consequences of this need to be taken into account in any applied research programmes.

There is little evidence that the Doha round will lead to such a radical shift in trading relationships that the climate for improved food security within developing countries will be improved. Developing countries, while negotiating the best deal possible, should probably take a coldly realistic view of the likely outcome.

However, most peasant farmers in the developing world are operating at levels of productivity and output well below what could be achieved even with current technologies. They don't have the seeds, the fertiliser, the credit, the simple labour-saving technologies or, in many cases, the skills to increase productivity. Getting such inputs into the hands of the peasant farmers, and making an act of faith that they will then produce more of their own food, and some surplus, is vital. The debate on what role biotechnology might play in achieving longer term food security has tended, up to now, to generate more heat than light – and, given current realities, must appear somewhat irrelevant for most developing countries. It is, however, important to acknowledge that, in the longer term, biotechnology can make a contribution and that more attention needs to be paid to the legal and political framework within which it can do so.

The achievement of a fairer international trading system for agricultural and food products is a fourth priority of Concern, and it is one of the challenges facing the WTO's Doha trade round. Professor Jagdish Bhagwati may well be right that developing countries have high trade protection themselves (see *OECD Observer* No. 231/232). But from a food security perspective, developing countries have right on their side when they demand greater access to the markets of developed countries and reduced levels of export subsidies and supports to rich country farmers.

International negotiations on agricultural trade have proved difficult in the past. There is little evidence that the current Doha round will lead to such a radical shift in trading relationships that the climate for improved food security within developing countries will be substantially improved. So developing countries, while continuing to negotiate the best deal possible, should probably take a coldly realistic view of the likely outcome and plan on the basis that say, over the next five years, it will be their own decisions, rather than a fairer international trading system which will affect their food security.

But one underlying issue that will make a big difference to food security is the HIV/AIDS crisis. This is our key fifth priority. In many African countries the disease is now at a point where it is having a direct and major impact on food production and food security. The importance of better nutrition in postponing related illnesses and prolonging life needs to be explicitly recognised.

If there is one cry from the heart which Concern would make to the decision makers of the world, it is this: the AIDS crisis has the capacity to devastate the African continent, and indeed other continents, so you must ACT NOW. ■

* *Tom Arnold is chief executive of Concern Worldwide, an international NGO with its headquarters in Ireland. He is a former Assistant Secretary in the Irish Department of Agriculture and also worked with the European Commission. He is also a former Chairman of the OECD Committee of Agriculture.*

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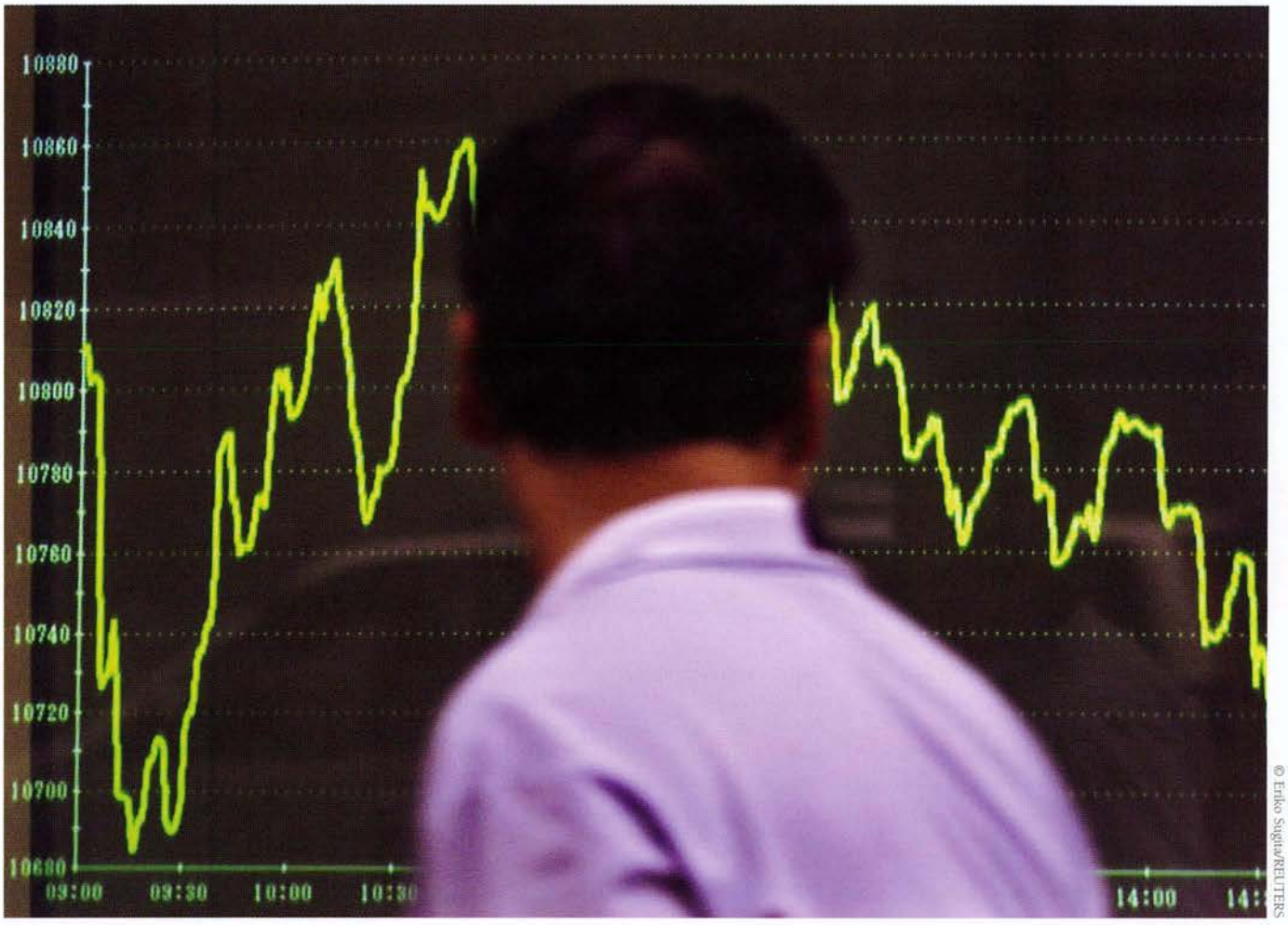
Millennium Development Goals
Looking beyond the averages

Jan Vandemoortele, Principal Adviser and Group Leader, UNDP Socio-economic Development Group



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Development is not working as well as it might because we are looking too much at average performance.

The Millennium Development Goals (MDGs) embody the key dimensions of human development – poverty, hunger, education, health – expressed as a set of time-bound targets. They include halving income-poverty and hunger; achieving universal primary education and gender equality; reducing under-five mortality by two-thirds and maternal mortality by three-quarters; reversing the spread of HIV/AIDS; and halving the proportion of people without access to safe water. These targets are to be achieved by 2015, the comparison point being 1990.

It is often said that global targets are easily set but seldom met. The real question for the goals is whether they are feasible and

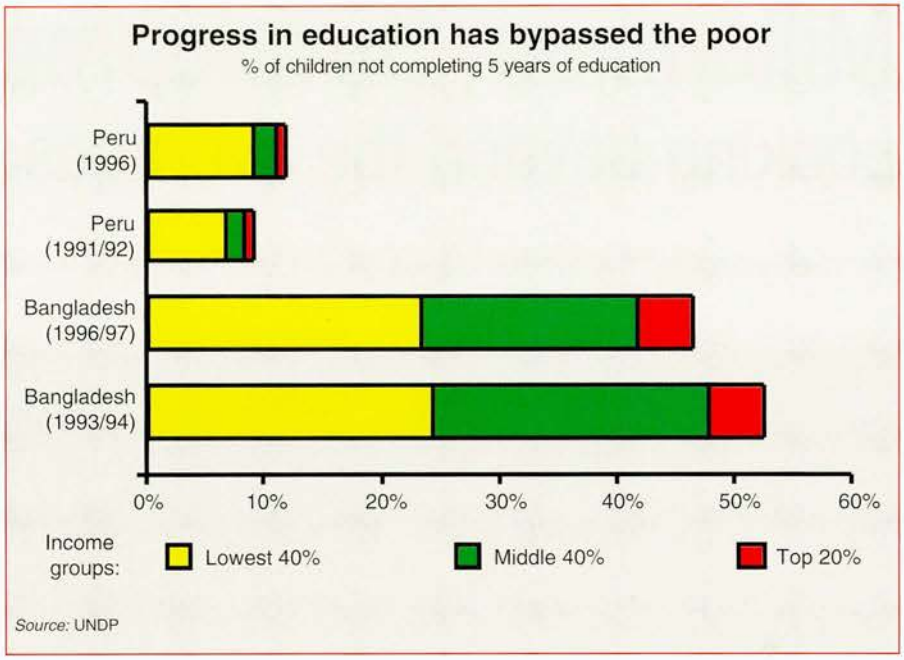
how we measure whether we are achieving them. Progress to date in areas such as education, health, nutrition and income in more than 130 developing countries is difficult to summarise.

The 1990s saw many success stories, including a sharp increase in primary education enrollment in Guinea and Malawi; a halt to the rise in incidences of HIV/AIDS in Senegal, Thailand and Uganda; a sharp fall in child mortality in Bangladesh and the Gambia; improved nutrition in Indonesia, Mexico and Tunisia; and a reduction in income-poverty in China.

But for each success story, there is another tale of setbacks. The under-five mortality rate increased in Cambodia, Kenya, Malawi and Zambia – an unprecedented trend after decades of steady decline. The primary school enrolment ratio dropped in Cameroon, Lesotho, Mozambique and Tanzania. The gender gap in primary education widened in Eritrea, Ethiopia and Namibia. Instead of decreasing, malnutrition increased in Burkina Faso and Yemen. Access to water became more difficult for millions of people; Bangladesh faced a major problem with arsenic water poisoning. And countless countries saw their HIV prevalence rate double, triple, quadruple, even increase ten-fold – severely undermining the feasibility of most development goals, not just in health.

Overall, none of the agreed targets for the year 2000 was met at the global level. If the 1980s were called the "lost decade for development", the 1990s should go down in history as the "decade of broken promises". And if current trends prevail, only one millennium development goal will be reached at the global level by 2015: that of safe water.

But even if the goals appear feasible at the global level, it does not necessarily imply that they will be feasible everywhere, in all locations. Averages are commonly used at each level to measure progress, but while these give a good overall picture, they can be misleading. Average household income, for example, may exist as a useful concept in the mind of an economist, but bears little relation to the reality faced by the millions of poor women who have little or no control over how it is spent. Nor do average national indicators take into account which sections of the population are actually doing better than before.



Source: UNDP

Unfortunately, the poor have benefited proportionately little from 'average' progress to date, as evidenced by widening disparities in terms of income, education and mortality in many developing countries.

There are different ways of reaching a global or national development target. At one extreme, it can be achieved by improving the situation of the already better-off segments of society – a top-down approach. At the other extreme, a target can be achieved by improving the situation of the worse-off population, which is the bottom-up approach, and of course many combinations are possible in between. But the evidence suggests that most countries come closer to following the top-down rather than the bottom-up approach. And frequently when average national measures show progress it is the disadvantaged groups that are most often by-passed by the average progress.

Overall, none of the agreed targets for the year 2000 was met at the global level. If the 1980s were called the "lost decade for development", the 1990s should go down in history as the "decade of broken promises".

Take life expectancy or education. Data from more than 40 demographic and health surveys show that a child from a poor family is invariably more likely to die before age five than his or her counterpart from a rich family. Similarly, children from poor families are less likely to complete primary education than children from rich ones. Data for 12 countries in Latin America show that over 90% of children in the highest 10% income earners of the population complete primary education. The share falls to two-thirds for children in the middle-income range and drops below 40% for the poorest children.

Demographic and health surveys for 1994 and 1997 in Bangladesh also show that improvements in access to basic education chiefly benefited children from better-off families, while children from poor families saw little or no improvement. And the poor also suffer first when things go wrong. In Peru, where access to primary

Improvements in access to basic education chiefly benefited children from better-off families, while children from poor families saw little or no improvement. And the poor also suffer first when things go wrong.

education worsened in the 1990s, only the poor bore the consequences; the non-poor were not affected. Improvements seem slow at best to trickle down, but setbacks often tumble down like avalanches.

The trend in Zimbabwe offers a particularly stark example of the dangers of "average" measures of progress. Between 1988 and 1999, the national average under-five mortality rate decreased by a modest four percentage points, but under-five mortality in the poorest section of the population actually increased. By 1999, children in the poorest quintile had an under-five mortality rate four times higher than that for their counterparts in the richest quintile.

In sum, averages are deceiving. We already know that, so why do we keep applying it? Some countries appear to be on track for reaching a particular target, based on average progress; yet the situation for disadvantaged groups in those countries is stagnant or deteriorating. So not only was global progress towards the millennium development goals inadequate in the 1990s, much of it bypassed the poor. For them, being "average" still means dying too young or surviving to remain illiterate and excluded. Development goals should be more targeted than that. So should we. When it comes to poverty reduction, we really have to perform much better than average. ■

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For diversity in development strategies

Kenichi Ohno, Professor, National Graduate Institute for Policy Studies, Japan*

The developing world is far more diverse than those responsible for development strategies seem to believe. Unless projects are cut to suit circumstances more, they may be doomed to fail.

Walk in the door of the World Bank in Washington DC and you will see, above the reception, a large slogan: *Our dream is a world free of poverty*. Since 1999, the World Bank has touted poverty reduction as the ultimate aim of development. In September 2000, the United Nations Millennium Summit adopted the Millennium Development Goals (MDGs), a set of social targets to be achieved by 2015, with halving the ratio of people in extreme poverty listed at the top. At the same time, the World Bank is pushing its poverty reduction strategy paper (PRSP) as the key instrument to be used by the developing world for reducing poverty. But does all this make sense?

From a donor's viewpoint, maybe. The Millennium Development Goals and the poverty reduction strategy paper are now linked as the end and basically the sole means of achieving development, and all poor countries are required to draft strategy papers before receiving concessional funds from the World Bank and the International Monetary Fund (IMF). Moreover, all official development assistance (ODA) flows, including bilateral aid, are to be orchestrated by this framework. In the wake of 11 September 2001, as the poverty-terrorism nexus was rediscovered, the world hardened its resolve to fight poverty. The EU and the US have decided to increase their ODA. In 2002, a series of international conferences dedicated to poverty reduction – including the Monterrey conference in March and the World Summit on Sustainable Development in Johannesburg in August/September – have kept up the momentum, as well as the hype.

But are donors doing the right thing? With only targets and procedure and without new insight, is it possible to tackle a problem as tenacious as poverty, which all the efforts of the past half-century failed to eliminate? Despite the renewed enthusiasm and determination, the global drive to cut poverty may go off track if we do not maintain a sense of balance and continuity.

The trouble with the global development strategy is that it shifts too drastically every several years to follow new trends. The current universal imposition of poverty reduction strategies may lead us to wonder what became of the development mantras of macroeconomic austerity and "structural adjustment" required of all highly indebted countries in the 1980s. This intellectual

cascading is partly the result of the group psychology within national and international bureaucracies. While the advocates of development goals and strategies proclaim the fight against poverty as a new global consensus, it is not really so. The UNCTAD's new report on the least developed countries calls for the creation of global growth links, not poverty targeting, in countries with *generalised* poverty. Suppressed discontent with the current pro-poor fervour is detectable in all major international organisations, including the World Bank.

One key problem is that poor countries are diverse in their socio-economic structure as well as causes of poverty. A globally common framework, whether for reducing poverty or otherwise, cannot possibly serve all developing countries with different needs and aspirations. The current drive has diverted our attention from this fundamental point. The World Bank economists estimate that an additional US$40-60 billion – or doubling the global ODA – is required annually to achieve the Millennium Development Goals. Their calculation is based on two alternative assumptions, the one on generating growth through productive investment and the other on counting up the cost of "pro-poor" measures on health, education and so on. But we still have not figured out what combination will work in each country.

The trouble with the global development strategy is that it shifts too drastically every several years to follow new trends. Whatever became of the development mantras of macroeconomic austerity and "structural adjustment" in the 1980s?

This omission could deter progress at the implementation stage.

Consider this classification of developing countries:

- Middle-income achievers – graduating from ODA and becoming competitors in the global market and partners in international co-operation (examples: Malaysia, Chile);
- Late industrialisers – still very poor, promoting growth by building infrastructure and new trade and investment ties while attending to social problems (example: Vietnam);
- Resource-rich – installing mechanisms to use revenue productively, avoid overvaluation and soften price shocks (example: Kazakhstan);
- Small and isolated countries – steady implementation of modest but realistic measures to support agriculture, handicraft, tourism, mining, transportation, etc. (example: Laos);
- Poverty alleviators – building policy and administrative capability to execute

Social vision

Nguyen Thi Than, a blind teacher, leads blind children to class at the Bung Sang, or "flashlight", school for the blind in Vietnam's Ho Chi Minh City in 2000. The school launched a European-funded computer project last month aimed at increasing learning opportunities for some of Vietnam's 60,000-70,000 blind schoolchildren. The students use special audio and speech programmes as well as braille keyboards to control the computers. Further demonstration of Vietnam's innovative approach to development.

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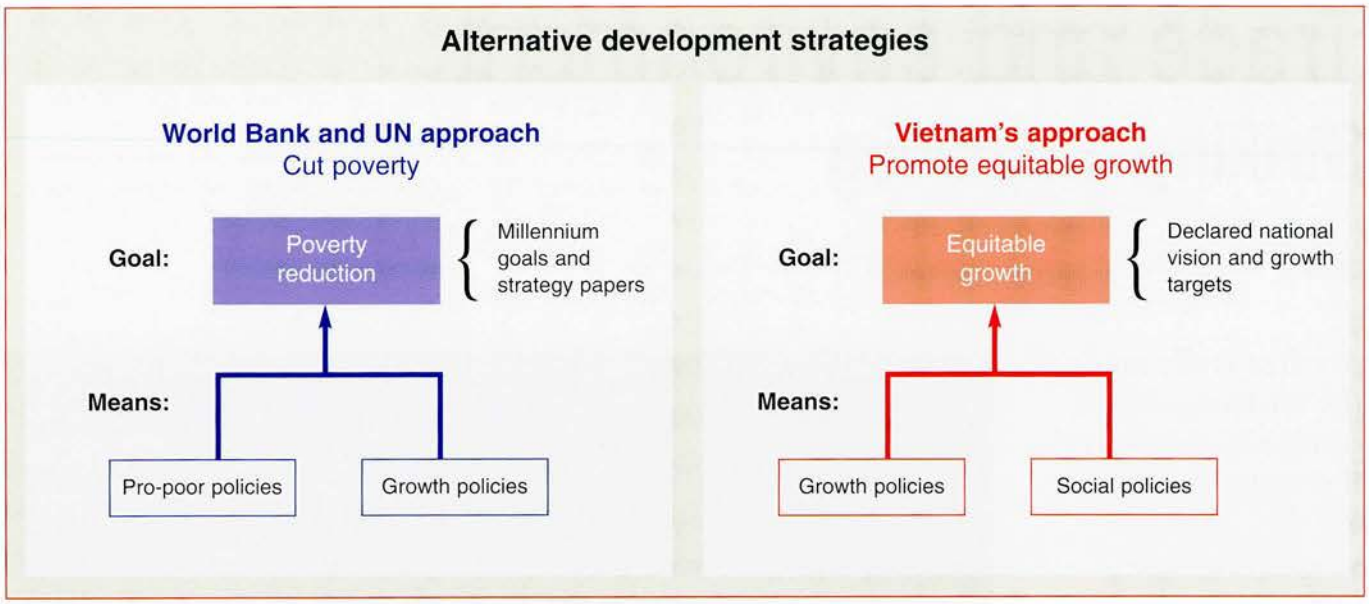

pro-poor measures and achieve social integration (examples: Bolivia, Uganda);
- The fragile and unstable – with international involvement, creating political stability and supplying basic needs in preparation for future development (example: Afghanistan).

The list is not meant to be exhaustive, but it does at least point to the need for diversity in development policies. In formulating the development strategy, each country must be carefully diagnosed with the strong participation of its government. If the wrong medicine is prescribed to the patient, it is ineffective at best and does serious harm at worst. International organisation strategies are essentially aimed at poverty alleviators, and cannot be presented as a cure for all the others. True, Sub-Saharan Africa suffers from widespread poverty. But even so, surely it is up to each developing country, not the aid donors, to decide whether cutting poverty should be the only national goal.

In East Asia, economic growth was realised by staggered participation in a regional production network linked by trade and investment. One after another, countries with different stages of development joined this network and improved domestic capability under intense market pressure. For them, development was not a question of poverty reduction but a social process of catching up with the forerunners. Poverty fell sharply, but this was the result of a successful transformation through international integration, not the cause.

Vietnam became the first East Asian country to complete a full poverty reduction strategy paper in May 2002. But the strain of an externally imposed poverty reduction framework on this growth-hungry economy became apparent. The country already had a five-year plan and a ten-year strategy which defined national goals of doubling GDP by 2010 and achieving industrialisation and modernisation by 2020. All fiscal resources were mobilised accordingly. When some eager donors insisted that their poverty reduction strategies were the supreme tool for resource allocation, the Vietnamese government sternly rejected the idea. The differences were papered over, and the resulting document – renamed the *Comprehensive Poverty Reduction and Growth Strategy* – is lauded as a model by the World Bank! But shouldn't we rather have supported Vietnam's own growth strategy, instead of trying to replace it with an entirely new one?

With pride and ownership, each developing country should be able to select a mix of strategies from a broad menu that includes, among other options, growth driven by trade and investment. East Asia was particularly lucky to have a regional environment which encouraged this. But even without such an advantage, individual countries can also meaningfully integrate with the world as traders and not permanent aid receivers – witness the success of Chile. There is no reason why such a strategy should be denied to Sub-Saharan Africa either. ■

* *Professor Ohno advises the Japanese government on aid policy.*

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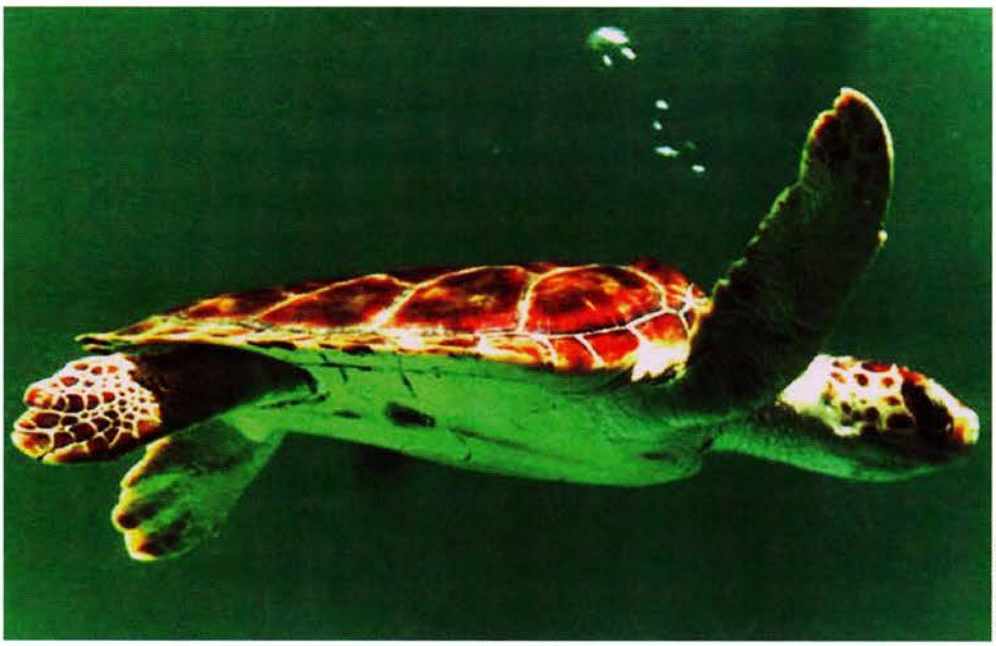
Trade and environment
Striking a balance

Ronald Steenblik and **Dale Andrew**, OECD Trade Directorate

Are free trade and the environment compatible? Yes, and if certain conditions are met, they can strengthen each other.



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Benefiting from greener trade

Developing countries want to boost their income through exports. Importers, particularly industrialised countries, want to ensure that imported goods meet their own domestic requirements for health, safety and the environment. Their consumers may also want to minimise the environmental impact of producing and using those goods. In theory, these goals are compatible. In practice, however, it can be more complicated, as there can be different ways to reconcile these objectives, some of which affect developing countries more than others.

Research carried out by the United Nations Conference on Trade and Development (UNCTAD) has shown that some developing countries have suffered considerable export losses due to an inability to respond to developed country environmental standards and regulations. The point was underscored in the Doha Development Agenda adopted by World Trade Organization (WTO) ministers in November 2001. The ministers then instructed the WTO Committee on Trade and Environment (CTE) to pay particular attention to the effect of environmental measures on market access, especially in relation to developing countries and, in particular, the least-developed. As explained on the WTO website, "Abiding by environmental requirements can be burdensome for an exporter, for example when an exporter wants to sells its products in a country that requires recyclable packaging." The WTO goes on to point out that the Committee's work is "not to get rid of the environmental requirements, but to strike an appropriate balance between trade and environmental objectives."

Trade and environmental objectives should be able to reinforce each other, though getting there can be a painstaking process. Take a seemingly straightforward environmental problem such as the drowning of endangered sea turtles in shrimp trawl nets. Having identified the problem, the United States proposed a simple solution: all such nets operating in US waters would be required to be fitted with cages (known as "turtle excluder devices", or TEDs) that let shrimp through into the net but allow turtles to escape.

The problem appeared to have been solved, at least in US waters. But environmental groups and the US shrimp-fishing industry were unsatisfied. US fishermen felt that the measure gave foreign fishing fleets an unfair advantage in their market, while environmental groups wanted to see the scheme enforced on an international level. This soon led to the US authorities extending the measure; embargoes were imposed on shrimp imports from any country without a turtle protection scheme similar to that of the United States.

To protect their exports, several neighbouring countries then passed laws requiring their shrimpers to use TEDs.

Costa Rica was one of them. However, the devices, imported from the United States and designed for fishing conditions faced by US fishermen, were soon found to be unsuitable for use in the shallow, debris-clogged waters in which Costa Rican fishermen trawled. Heavy, blocked-up cages meant that more fuel had to be consumed and fewer shrimp were caught. It was found that, in Costa Rican waters, trawling with a TED designed for US conditions yielded on average 70% debris and 30% shrimp.

In such cases, where changes in processes or production methods are required, knowledge about how to meet new standards under local conditions may be lacking, for instance because of insufficient prior research. By not taking into account the special circumstances of particular countries or industries, one-size-fits-all policies are less likely to succeed, and may create resentment even if they do. In the event, the Costa Rican authorities came up with a modified TED that better suited their own local conditions, and were eventually able to convince the US authorities that their device offered an equivalent level of turtle protection.

Cases such as the one on TEDs show that there may be scope for designing regulations that can more easily be adapted to local conditions while still satisfying the environmental objective. A general problem for developing countries, however, is lack of capacity to meet such requirements. This can take many forms: difficulty in tracking and understanding proposed new environmental measures; inadequate technical facilities and expertise to monitor compliance with importers' requirements; or insufficient capital to invest in new, less environmentally harmful processes and production methods.

Where environmental conditions allow, providing developing countries sufficient time to react to a regulation before exports begin to be affected can help address the first problem. Under WTO rules, new technical regulations have to be notified to other members before they come into force. Some OECD countries are going beyond this requirement and consulting with foreign exporters or taking other steps to ensure that their proposed new regulations

By not taking into account the special circumstances of particular countries or industries, one-size-fits-all policies are less likely to succeed, and may create resentment even if they do.

do not come as a surprise. This trend certainly marks an improvement over earlier practice, when sometimes the first time that a developing-country exporter learned of a new regulation – e.g. a limit on pesticide residues in tea leaves – was when shipments of his goods were rejected at the importer's border.

WTO rules also encourage countries to base their regulations on internationally agreed standards, and many follow that advice. But what if no agreed international standards exist? The number of such situations is more common, perhaps, than is usually perceived. Many countries simply adopt a regulation similar to that already applied elsewhere. Thus many OECD countries, starting with Japan in 1973, have established limits on formaldehyde in garments and similar textile products. However, when the Netherlands recently decided to establish a limit of its own, it undertook new tests to evaluate the potential risks of human exposure to the chemical through clothing. It found that most of the formaldehyde (which is used, for example, in textile finishing as an anti-creasing agent) present in new clothes is removed during the first wash. The Dutch maximum residue limit reflects this distinction and is an easier regulation for developing-country exporters to meet.

But regulations pertaining to food and beverages are where issues related to compliance arise most often. It is more and more common among developing-country farmers, when faced with a stringent pesticide residue limit, to respond by converting to organic production methods. Although in some cases integrated pest management (IPM) would suffice, the cost of applying IPM and the necessary knowledge may be out of reach of the farmer, who can more easily understand and apply organic methods. Farmers who convert to organic production expect to receive higher prices for their produce than they did previously, and that requires being certified to sell under an organic label. Yet the local certification bodies in many countries are not accredited by the importing countries' authorities. It is this accreditation that is at issue, not necessarily the environmental standard itself. And it leaves farmers that want to export with no choice but to pay the high cost of certification by a certifying body recognised by, and usually based in, the importing country.

Just as developed countries and NGOs have genuine environmental concerns about imports, developing countries can face genuine difficulties in responding to those concerns. There are certainly situations where imports of products that threaten health, safety or the environment should be discouraged. But in general, regulators and other standard-setting bodies should give more thought to the possible effects of their measures on exporters. And when an exporting country makes a good-faith effort to embrace emerging environmental norms, OECD countries should do their utmost to help them comply, for instance by providing technical advice in operating cleaner technologies. Then we would have a much better chance of demonstrating that free trade, development and the environment can work together as a coherent whole. That would make us all better off, not just the sea turtles. ■

WTO rules encourage countries to base their regulations on internationally agreed standards. But what if no agreed international standards exist?

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Fish crisis
A problem of scale

Carl-Christian Schmidt, OECD Fisheries Division

No competition

The earth is mainly ocean, yet our seas are being overfished. The tools to help the fishing sectors adjust are there. Now it is time to implement them.

Fishers have good cause to be unhappy these days. Their resource is dwindling for a start, and yet their prices are being forced lower by competition from alternative cheap food sources. Environmental pressures to go easy on the seas are intensifying, in particular to allow recovery of fish stocks and certain species of fish that are in danger of depletion. Add to the list the growing problem of marine pollution and even global warming, and there really seems to be no end to the plight of fishing communities.

Still, there are ways forward, though they demand tough measures both to stop the massive overuse of national fishing resources and to tackle the global problem of illegal fishing by displaced fleets.

The world's fish harvest has reached a plateau of 100-120 million tonnes of fish with about three-quarters of that going to human consumption and the remainder to feed compounds to feed pigs, hogs and for farming fish. The amount of fish harvested has not changed much over the past five years and so it would seem that the sea's harvest capacity has been reached and will yield no more fish.

With fewer fish and less income policymakers have responded all too quickly to calls from fishers for subsidies. Rather than restructure and institute appropriate management regimes, the result has been increased fishing capacity. In the meantime the fish have not come back and the underlying economic situation has worsened.

A world-wide population nearly the size of that of the United States depends on fish. But there is such an enormous mismatch between excess fishing capacity and the ability of the sea to produce fish that the only option is radical reform. Perhaps the moment is right to make some voluntary codes more binding?

Consequently fishers' incomes have continued to fall. There are exceptions: over the past decade Iceland reformed its fishing sector by squeezing capacity and imposing strict catch quotas and today profitability is rising and fish stocks recovering. Same in New Zealand where the introduction of an efficient fisheries management regime has adjusted the sector and made it a profitable business. But it takes political courage and bold decisions.

Granted, natural phenomena have also taken their toll on the marine fisheries environment: El Niño – a disruption of the ocean and atmosphere in the tropical Pacific – has ravaged both Chilean and Peruvian fisheries; likewise some fishers in the North West Atlantic blame warmer waters and pollution for the scarcity and erratic migration patterns of coldwater fish like cod. But it is inadequate fisheries management and policies that are mostly to blame.

Quite bluntly, too many fishers are chasing too few fish. Over 30 million fishers around the world make a living directly from the sea, with an additional 200 million or so being dependent on fisheries through family or work in related activities and industries. This means that a world-wide population nearly the size of that of the United States depends on fish. Some of these people need fish not just for income but are totally dependent on the seas for their subsistence. Quite apart from some African coastal countries that would simply starve without fish, even wealthier countries, like Iceland, as well as parts of Canada or Japan, would probably suffer considerable hardship were they suddenly to stop fishing.

Yet, something has to be done to secure the sustainability of fisheries and the people that depend on this living resource. At least two problems need addressing: the first is reforming domestic fishing industries and fisheries management, and the second is to stop the spread of uncontrolled fishing on the high seas (see box, page 34).

National capacity

The FAO reported in 2000 that, globally, an estimated 25% of the fish stocks are under or moderately exploited, 50% of stocks are fully exploited, 15% are over exploited and about 10% have been depleted or are recovering from depletion. OECD countries are responsible for 25-30 million tonnes of fisheries or about a fifth of the world total. As most of the fish stocks are under national jurisdiction (in excess of 90%), it is at the national level where policy reforms, in partnership with fishery stakeholders, have to take place.

The trouble is, there is such an enormous mismatch between excess fishing capacity (vessels, gear and fishers) and the ability of the sea to produce fish that the only option is to radically reform the sector. Everyone would benefit; with efficient management systems, more fish could be taken out of the sea for less, while at the same time replenishing and securing the future of the resource. But while the immediate adjustment might hurt fishing communities, the price to pay of doing nothing would be even higher in the long run.

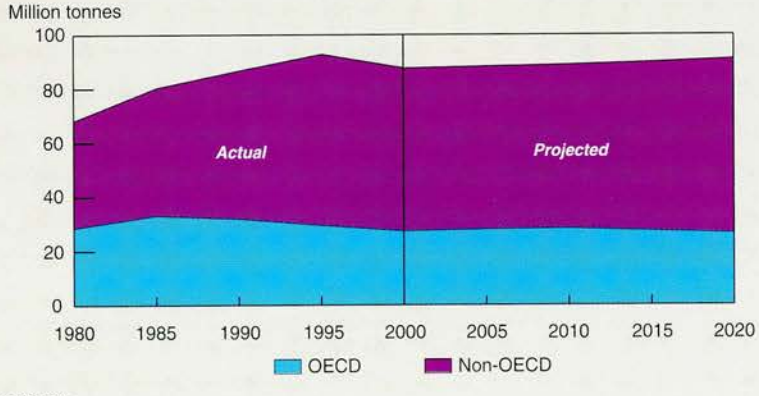
On the plus side, many new legal instruments, guidelines and so forth have been developed. International organisations have provided economic analysis, assessments of the consequences of action or non-action and sets of guidelines for sustainable and responsible management regimes. One such is the FAO Code of Conduct for Responsible Fishing from 1995, which seeks to guide national authorities contemplating fisheries reform. It suggests clever arrangements, like government buy-back of vessels that are then decommissioned, or tradeable fishing quotas, which several OECD countries are now applying to help reduce capacity.

The OECD has also analysed measures to assist fishers in transition (see references). An important lesson has been that policymakers should cover all aspects of fisheries, from harvesting, to marketing to consumers. Such a holistic approach involves a realignment of the various sets of policies that affect both harvesting and post-harvesting sectors, like distribution. Market intervention, for instance, that lowers prices on undersized fish or roe-bearing crustaceans, would remove the incentive for fishers to catch them and for distributors to market them. Labelling may be another instrument, as witness the advent of dolphin-safe tuna, which won consumer support to such an extent that tuna without that label cannot be sold nowadays.

OECD countries spent US$5.5 billion on government financial transfers to the fisheries sector in 1999, most of which

Flatter fish production

Trend and projection in world fish production by region, 1980-2020



Source: OECD

(74%) was for general services, including monitoring, research, and enforcement, which are prerequisites for sustainable fisheries. However, most of the money could be used more effectively to get fishers and fleets out of the sector, with retraining programmes into other related occupations like coast guarding, tourism or recreation. And quite clearly for some fishers early retirement is yet another option. The solutions are there. What's missing so far is the political will to carry them through.

For developing countries, the situation may be more complicated, particularly financially. And yet neither can they afford not to adjust. For some of them, the incentive to change is very great indeed, given their stake in managing the future of fish as their main source of food and protein. OECD countries have to show the way though, and help poorer countries acquire the knowledge and capacity they need. It will not be easy. Some fishing countries in the developing world not only lack proper fisheries management regimes and institutions to manage fish stocks, but many simply cannot afford to monitor and survey fisheries even in their own Exclusive Economic Zones. Also, there may be no alternative to fishing in the local economy. In other words, adjustment at sea must happen as part of a wider development drive. Nevertheless there are developing countries, like Senegal, Indonesia and Argentina, that do well out of fishing and export their products to the OECD area. These countries could perhaps benefit from some finance to help them adjust, though their main requirement would be in management and know-how.

A positive step would be to use occasions like the Johannesburg summit on sustainable development for participating countries to strengthen their commitments to the various fisheries treaties and other international negotiated texts that have been carved out over recent decades. Again, the FAO Code of Conduct is a prime example. Although only a voluntary code, countries should seriously consider implementing it and explicitly incorporating its philosophy and recommendations into national legislation. One luxury we do not have is time. Perhaps the moment is right to make such voluntary codes more binding? Such a move would send an important signal to the world about the seriousness with which we treat our oceans and fisheries. And in the long run, it will cheer up the world's fishers too. ■

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Inconvenient flags

One key problem is how to stop displaced national fishing vessels from searching for fishing opportunities on the high seas and even re-flagging to jurisdictions that do not provide proper surveillance of fleet activities. Indeed, the number of vessels fishing under flags of convenience (FOC), many of which are of OECD origin, has risen in the past decade.

Although FOCs make up only 6% of the world's fishing fleet, the fact that they can avoid fisheries management measures means they have lower costs and so have an unfair price advantage over fishers that follow the rules and observe good conservation practices. They may not catch a lot of fish but the fish they catch are of high economic value, like tuna, swordfish and Patagonian toothfish. The direct problem is one of not adhering to international rules, insofar as they exist, but indirectly these fish could have been caught within national waters through which they often migrate.

rob.01

Most illegal fishing takes place on the high seas where the governance structure is weak and where fishing is a free-for-all enterprise, unless a regional fisheries management organisation has been set up to deal with the issues. However, FOCs make it extremely difficult for regional fisheries management organisations to control the resources under their jurisdiction. FOC fishing activities undermine the work of the likes of the International Commission for the Conservation of Atlantic Tuna, the Commission for the Conservation of Southern Bluefin Tuna and the Convention for the Conservation of Antarctic Marine Living Resources, that were set up to protect particular hot spots.

Sterner international action and commitment is needed to rein in FOC activities and Johannesburg provides both nations that are retiring fishing vessels and the countries that provide the flags of convenience a chance to sort matters out. The FAO International Plan of Action for Illegal, Unregulated and Unreported Fishing provides the framework for doing so. But where there's a market, there's a trade. So, in addition to firm diplomatic pressure, countries may need to impose measures to stop the illegal circulation of fish. Import restrictions for use specifically against vessels and countries that disregard international rules and standards, plus certification schemes and labelling are all areas that should be explored and used. Such controls would benefit not only fishing resources, but markets too.

Global warming
What comes after Kyoto?

Burton Richter, Paul Pigott Professor in the Physical Sciences and Director Emeritus, Stanford Linear Accelerator Center, Stanford University, California, and 1976 Nobel Laureate in Physics

The debate about energy mix will intensify at Johannesburg and beyond. Technological progress may generate some useful surprises in the years ahead, but for now, Professor Richter presents a cold look ahead at our energy choices.

Every study of global climate change has concluded that world average temperatures are rising and that the cause is greenhouse gases, mainly carbon dioxide. These are poured into the atmosphere by our ever-increasing use of carbon-based fuels (coal, oil and gas) that power almost all the world's energy systems. The world economy is growing and a continuation of the present mix of fuels will make the greenhouse gases in the atmosphere accumulate ever faster. Bringing this runaway problem under control, while continuing economic progress, requires a massive shift away from carbon-based fuels.

The first concerted international attempt at controlling climate change is the Kyoto Protocol. The ratification process was long and contentious, and the nations who have signed the Protocol have a great sense of satisfaction that they have finally done something about global warming. However, they have not actually done much; meeting the goals of Kyoto will have an insignificant effect on emission of greenhouse gases. Kyoto aimed to reduce emissions by the industrialised world by 2012 to 5% below what they were in 1990. That sounds like progress, but the bad news is that economic growth projected for the developing world during that period will increase emissions by much more than those reductions. In the year 2012, the clock measuring the increasing level of greenhouse gases in the atmosphere will not be set back to 1990, but only to about 2008. It is actions beyond Kyoto that will count.

A look into the future shows the true dimensions of the problem. By the year

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Professor Richter

Studies show that as far as human health is concerned, only wind energy is more benign than nuclear. We live in a bath of natural radiation, and nuclear energy increases exposure by a negligible amount.

2050, world population will increase to near ten billion from today's six billion, world economic output will triple in real terms, and primary energy use will double.
I use here and below population figures from the United Nations middle scenario, and economic projections from the International Institute of Applied Systems Analysis (IIASA) scenario B – middle growth (see graph page 37). Other organisations make projections that agree closely with these.

Most of the increase in both population and energy use will occur in the developing world and this is good for the alleviation of poverty. It is also here that there is a real opportunity for change, but before discussing that, it is necessary to consider one more key issue: Time.

Time is an essential factor. It is hard to make governments see the need for action as clearly as the science community does, because serious impacts of climate change will not occur for decades. To most governments anything beyond the next general election is an eternity, particularly if action has significant immediate costs.

Compounding the problem is a tendency for society to rely on science and technology for a quick fix to any serious problem. After all, science and technology have transformed our society and they should be able to come to our rescue, say many. That will not work this time because carbon dioxide remains in the atmosphere for about a hundred years. Even if we could somehow today replace all of our energy sources with ones that emit no greenhouse gases at all, it would still be more than a century before levels in the atmosphere returned to near those of the pre-industrial era.

Because of the coupling of energy to the economy, the existing investment in energy systems, and the huge new investment in energy systems required in the next 50 years, bringing the climate change problem under control becomes more difficult the longer significant change is delayed. The carbon dioxide concentration will increase and become harder to stabilise at a sustainable long-term level. Climate change is like a huge truck that is accelerating as more and more greenhouse gases go into the atmosphere. The sooner the brakes are applied, the easier it will be to bring it to a stop.

Conservation and efficiency should come first on the world agenda for mitigating greenhouse gas emissions and their effects. The cheapest and best carbon-free energy source is energy not used. Built into the IIASA and other projections of future energy use is a decline in what is called energy intensity (primary energy used per dollar of economic output) of 1% per year. This is included in the projections to 2050 that give a world primary energy requirement of 27 terawatt-years per year, compared to today's 14. (One terawatt-year equals the energy content of about 750 million tonnes of oil; all of Western Europe, for example, currently uses only two terawatt-years per year of primary energy).

If the rate of decline in energy intensity could be raised to 2% per year, the world economy would use 10 terawatt-years per year less primary energy in 2050 than presently projected. World energy spending would also be nearly a trillion dollars per year less than present projections. This is not easy to achieve, but, as mentioned, the best opportunity lies in the developing world where most of the increase in population and energy use is projected to occur, and where energy intensity is currently about three times higher than in the industrialised world.

The easiest and fastest way to improve energy intensity is by putting modern, efficient energy systems into places where new ones are needed, rather than by retrofitting or scrapping old systems that still have some useful life left. For example, a modern, natural gas fired power plant is about 50% more efficient than an old coal fired power plant. China has already begun to do this; in the second half of the 1990s their economic output increased while their carbon emissions actually declined.

Efficient systems may be more expensive to install than old style systems, although they create savings in the long run. The industrialised world can help enormously in reducing carbon dioxide emissions by subsidising the difference in cost between the two for the developing world, as well as by increasing the efficiency of their own systems.

Much hope is placed in carbon-free energy sources, but, among these, only nuclear energy can be expanded on a large scale today. It faces fierce opposition from some on four issues: radiation, accident potential, waste disposal, and the availability of material for nuclear weapons. The first two are greatly exaggerated by opponents. Studies show that as far as human health is concerned, only wind energy is more benign than nuclear. We live in a bath of natural radiation, and nuclear energy increases exposure by a negligible amount.

Analysis of waste disposal methods has been underway for years and so far no real problems have been encountered. Storage in appropriate underground rock formations will work, though it would have to be done on an international basis because not all countries have appropriate sites. Other methods are under study including one,

transmutation, that might decrease the required isolation time by a large amount.

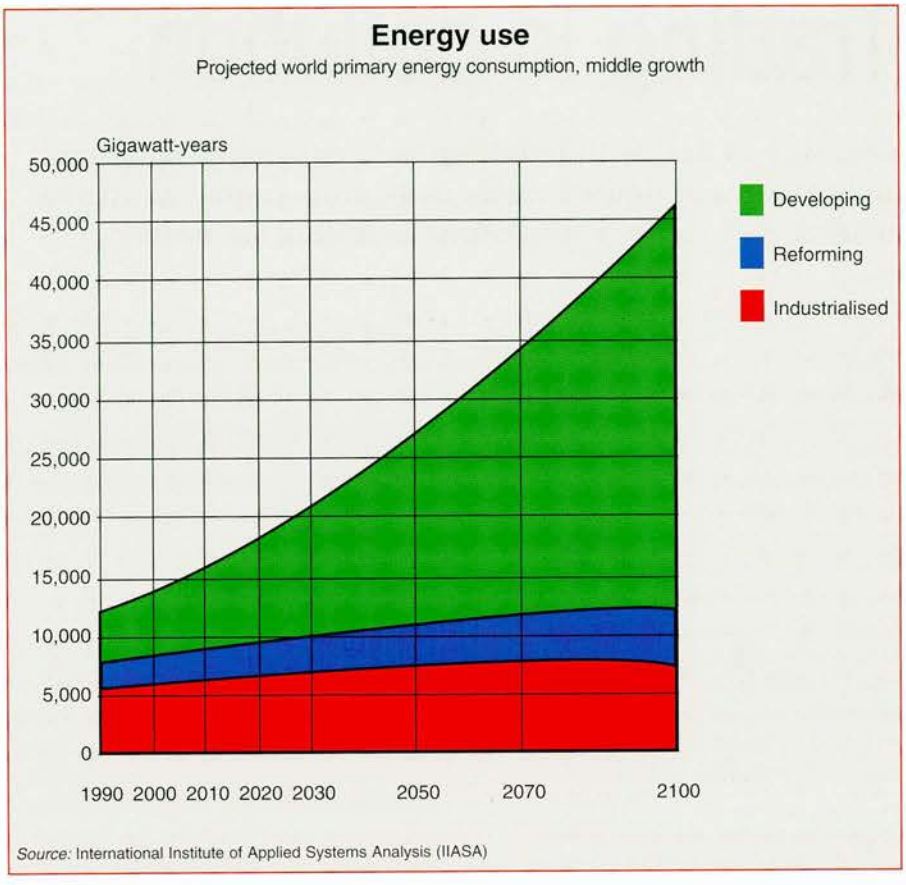
Increased risk of weapons proliferation from an expansion of nuclear power is a concern. We live with it now, and will have to design future systems to minimise the risk. I note that terrorist groups would find it very difficult to extract weapons grade material from spent nuclear fuel.

Other alternatives often discussed are three carbon-free energy sources: solar, wind and biomass. Solar and wind are low energy-density systems requiring much land. For example, a 1,000-megawatt average power solar electric system placed at the equator would require 20,000 hectares or 70 square miles of land, more than one hundred times that required for a nuclear or natural gas plant. Solar and wind also suffer from the problem of intermittence: the sun doesn't always shine, nor does the wind always blow. Both will have important roles to play and their further development should be fostered, but I doubt they can be deployed on the terawatt scale in the foreseeable future.

Biomass aims to grow plants to use as fuel in power generation. The carbon in the plants comes from the atmosphere and goes back when burned as fuel, in theory giving no net increase in carbon dioxide. However, this is an even lower energy density system than solar or wind. I know of no complete analysis of biomass that includes land use, water requirements, fertiliser needs, transportation, etc. If this is to be anything more than a local source, such an analysis is needed.

One other potentially large-scale system is being examined, called carbon dioxide sequestration. The world has enormous reserves of coal and the idea is to capture the carbon dioxide produced when it is burned and to pump it deep underground or deep into the ocean, thus obtaining the energy while burying the greenhouse gas. This has not gone far enough to know if it is workable.

Most of the increase in both population and energy use will occur in the developing world and this is good for the alleviation of poverty. It is also here that there is a real opportunity for change.



Global warming will have very serious consequences and the sooner we start a much larger effort than that in the Kyoto Protocol, the better off we will be. There are many options for the long term, but the one to emphasise now is conservation and efficiency. My next choice would be nuclear energy, but others will have different preferences. Still, if we can reduce energy intensity more rapidly than the historic trend, we will have a bit more time to sort out those choices.

Doing anything sensible about energy will be difficult and a major part of the difficulty is the perverse answers that today's economic analysis gives. At present, economic progress is measured in terms of the current rate of increase in GDP while ignoring what the economists call externalities, such as environmental degradation and the cost of clean-up. So, in long-term environmental issues, it often turns out that bad is good and good is bad. For example, the quickest route to increasing GDP would be to expand energy by building more conventional power plants. The cost of future clean-up is hidden in the externalities that are not included in analyses because the methodology does not exist. If such things were included, I expect we might get very different answers.

The World Summit on Sustainable Development this summer in Johannesburg may bring an increased awareness of the problems. It will be difficult to galvanise governments until we have mainstream "sustainability economics" to go with sustainable development. A policy of business as usual will surely result in severe problems 50 years from now. This will be our grandchildren's problem, but they are too young now to do anything about it. We had better begin. ■

Trading in pollution

One way to deal with pollution is to encourage polluters to buy and sell limited rights or permits to pollute. It is a market that works, though improvements are needed.

A 50% fall in emissions over 10 years: this might sound like fantasy but is exactly what the United States Environmental Protection Agency's Sulphur Dioxide (SO_2) Program (the "Acid Rain" programme) achieved in the 1990s when it set up an "air market" of tradeable permits. The programme, which came into force in 1995 following the Clean Air Act Amendments five years earlier, introduced flexibility into pre-existing regulations mandating the use of flue-gas desulphurisation for electricity-generating plants. Instead, it gave firms the right to determine their own compliance strategy, including the right to purchase tradeable emission permits from other firms.

In short, a cap on total sulphur dioxide emissions was set, and the total permits issued among firms generating sulphur dioxide was equal to this cap. Firms could then trade these permits among themselves: those firms generating more emissions than their initial allocation would buy permits from firms that generated fewer. The total number of permits would remain stable, but the distribution of permits among firms would change with the market.

This made the programme environmentally effective, as well as reassuring regulators and the public (including environmental NGOs), that total emissions would not exceed a certain limit. The system was also economically efficient, because high-cost abaters bought permits from those who could abate at lower cost. And it encouraged managerial and technological innovation as emitting firms and others sought out the best ways to meet the regulatory requirements. Meanwhile, the installation of continuous monitoring devices by the firms themselves reduced the government's administration and enforcement costs.

The test was in the results, of course. From emission levels of 10 million tonnes for affected units of SO_2 in 1990, emissions fell to less than five million by the end of the decade. Moreover, this was achieved at much lower costs than had been anticipated: original estimates of permit prices in the first phase of the programme had ranged between US$181 and US$981, but actual prices have hovered around US$150 and have rarely been in excess of the lower band of estimates.

The Acid Rain programme is not an isolated case. Other successful efforts to introduce tradeable permits reduced lead in gasoline, cut ozone-depleting substances, and other pollutants, like oxides of nitrogen. Now, other countries are following the US example, with notable programmes for a variety of pollutants starting or in existence in Canada, Denmark, the Netherlands, the United Kingdom, and elsewhere.

Perhaps more importantly, the Kyoto Protocol has endorsed the use of tradeable permits on an international scale, as a means to address climate change. Indeed, it is paradoxical that the United States has refused to ratify a protocol which endorses an instrument that they have pioneered. Instead, the baton has been taken up by countries such as Denmark and the United Kingdom, who have developed tradeable permit programmes for carbon dioxide in anticipation of an EU-wide scheme.

However, not all tradeable permit systems have had similar success and many have resulted in few trades and precious few efficiency gains. This has been particularly true of the first American water pollution tradeable permit regimes. One reason for this is the fact that in some cases there were very few participants, since the scope of the market was determined by the affected river or lake. Moreover, those firms that were involved often had similar technological opportunities to reduce their effluent, so narrowing the scope to increase efficiency by trading permits. In addition, the first programmes often placed significant regulatory constraints on trading. Some have adopted fairly cumbersome systems, such as basing the creation of permits on emission reductions below an agreed baseline: The gap between the polluter's improved performance and the baseline would become a permit, which they can then sell to others. Good in theory, but it demands paperwork, not least in trying to define the baseline.

The lessons are that tradeable permits markets should be broad to ensure competitiveness and enable efficiency gains. The rules should be easily understood to encourage participants to exploit the market as fully as possible. And while single undifferentiated markets appear to work for carbon dioxide emissions whose effects are widespread, markets for pollutants with different effects must take account of local "hot spots".

Tradeable permits can work, but they are under-used by OECD country governments. This is part of the problem, since they need to be tried and tested more if they are to be improved. This is likely to happen in the years ahead. The EU carbon dioxide programme, which is expected to get under way in 2005, will be watched with interest. ■ *R.J.C.*

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Nuclear energy
Can it help?

Nuclear energy is back in the public eye in light of the concerns about climate change and the need for a sustainable energy supply. Some powerful public voices are unconvinced about the technology's competitiveness and safety. For Luis Echávarri, Director-General, OECD Nuclear Energy Agency, these doubts should be put to rest.

What role can nuclear energy play in helping countries tackle global warming and in particular meet their commitments under the Kyoto Protocol?

Luis Echávarri: Quite a significant role. The target of the Kyoto Protocol for Annex I countries – meaning developed and transition economies – to reduce greenhouse gas emissions by 5.2% on average from their 1990 levels up to the period 2008-2012 is challenging and will be difficult to meet. Indeed, during the 1990s, global emissions of CO_2 – the gas thought most responsible for climate change – increased by almost 9%, in spite of a decrease by some 32% in the economies in transition. If anything, today's nuclear power plants help keep CO_2 emissions down; if the 438 nuclear reactors in operation worldwide (most of them in OECD countries) were to be closed down and replaced by the current mix of state-of-the-art fossil-fuelled plants, world CO_2 emissions would rise by some 6%.

Although nuclear energy has been effectively excluded from two of the Kyoto Protocol flexible mechanisms – the clean development mechanism and projects implemented jointly – it remains at the very core of the Protocol. We believe it will play a significant role as a nearly carbon-free energy source in greenhouse gas policies of countries that have chosen to look to nuclear as part of their energy supply.

Don't forget, the Kyoto Protocol commitment period ends in 2012. The time frame beyond that is critical from a sustainable development perspective. If everyone agrees to address global warming issues by stabilising CO_2 concentrations in the atmosphere, then even more stringent emission reduction targets than those agreed at Kyoto will probably be required. Again, nuclear could play a role. Long-term scenarios for energy demand and supply show that expanded use of nuclear energy could reduce CO_2 emissions significantly by the end of the 21st century. But a nuclear energy phase-out could result in CO_2 emission rates that are much higher than today.

Critics of nuclear energy emphasise the high capital costs incurred for building and maintaining nuclear power plants. How do these costs affect the economic competitiveness of nuclear energy?

First of all, existing nuclear power plants are competitive and perform well in deregulated electricity markets, thanks to their low marginal production costs. Once they have amortised their initial capital costs, such plants become quite an asset for utilities, as well as for governments in the struggle against global warming.

Everyone wants the use of nuclear energy to be environmentally friendly, economical and above all safe. The NEA does not prejudge the policies of its member countries. Perhaps for that reason our work is highly appreciated by all our members, whatever their policy on nuclear energy.

New nuclear units, on the other hand, do require higher initial investments than most alternatives and are seldom the cheapest option in present market conditions, especially those that require quick returns on capital. In some countries, however, such as Finland, France, Japan and the Republic of Korea, new nuclear power plants are expected to be competitive. For example, Finnish economic studies indicate that the capital cost of a new unit would range from €1.7-2.5 billion, depending on size. It would generate electricity 20% cheaper than gas, the next cheapest option. Perhaps, in addition to climate change and security of supply, it is sums like this that helped persuade the Finnish parliament to give the nuclear industry the green light to go ahead and build a new reactor, which, if it happens, will be the first new reactor commissioned in OECD Europe for several years.

Clearly, there has been progress. State-of-the-art nuclear energy systems of the new generation, reaching commercial deployment stage now or under development for future decades, are designed to reduce those up-front construction costs and additional refurbishment and decommissioning costs. In addition, these new systems are expected to maintain or enhance technical and safety performance compared with existing nuclear power plants. In fact, expected capital cost reductions range between 10% and more than 40% for advanced designs.

Another factor that will affect the competitiveness of nuclear energy versus other sources is the prospect of fossil fuel price escalation. And then there is "internalisation" of external costs associated

with atmospheric pollution, climate change and security of supply. Nuclear energy already internalises its external costs associated with waste and plant decommissioning. In other words, when we say it is competitive, we include those costs. Consumers are in effect already covering waste management and decommissioning costs as part of their bill.

So the cost of decommissioning plants that come to the end of their lives is already factored in? What do these costs involve, who pays and how do they compare with, say, decommissioning a gas-fired plant?

Laws and regulations in place in OECD countries ensure that costs of decommissioning nuclear facilities, as well as costs of radioactive waste management and disposal, are taken into account in the total cost of nuclear-generated electricity. These costs are reflected in prices charged to electricity consumers and thus paid by the users according to the "polluter pays principle". In other words, we are already paying today for future decommissioning, rather than passing the cost on to anyone else.

We already know that decommissioning costs – and this includes not just expenses incurred from dismantling a plant and disposing of the waste, but also restoring the site for other uses – represent some 15-20% of the initial construction cost of a nuclear power plant. The plant operator is responsible for provisioning funds to meet these liabilities. They generally calculate them by spreading out the total decommissioning cost over the estimated life of the plant or some defined shorter period. Schemes in place for guaranteeing that the money will be available when the time comes vary from country to country but, in all OECD countries, the government authorities oversee these matters.

Comparing costs with gas-fired units is easier said than done, since according to current practices in most OECD countries, decommissioning costs of classic thermal power plants, like gas-fired ones, are simply not included in electricity generation costs. This is because operators expect that those costs will be balanced by the benefits of recycling and re-use of materials. But for nuclear facilities, decommissioning costs include extensive cleaning and decontamination treatments of irradiated or contaminated materials before their re-use. The costs may seem higher, but so are the expectations that no burden is overlooked.

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Clear blue skies over a nuclear plant in Finland. The Finnish parliament voted on 24 May 2002 to allow a new nuclear reactor to be built to meet rising energy demands despite bitter opposition by environmentalists.

Critics argue that by boosting nuclear energy, we will be handing costs and burdens on to future generations. How can we factor in the long-term cost of managing nuclear waste? Will those costs fall or rise over time?

The recognition of financial liabilities through the regulatory framework in place in OECD countries guarantees that future costs are accounted for and that provisions are made to deal with those liabilities in due course. The long-term costs of management and disposal of radioactive waste are treated similarly to decommissioning costs and included in total generation costs. So the view that costs are simply being handed on is incorrect.

As with any technology, scientific research and technological progress are expected to bring significant cost reductions for radioactive waste treatment, handling and disposal. Furthermore, advanced reactor and fuel-cycle systems should reduce fuel consumption and radioactive waste. However, in the light of uncertainties inherent to advanced technologies, provisions for waste management and disposal are based upon realistic, and I would argue conservative, assumptions and generally include a rather wide contingency margin of 10-15%.

Do environmental advantages of nuclear energy, such as low emissions, outweigh the costs of, say, disposal of radioactive waste?

Again, here it is difficult to give a fair assessment, since the environmental advantages of nuclear energy, like low atmospheric emissions, are not yet accounted for in market prices. Yet it is generally recognised that costs of global warming could be very high. On the other hand, the costs of radioactive waste disposal are accounted for and already paid for by consumers.

The cost of radioactive waste management and disposal represents only a small percent of the total cost of generating nuclear electricity – in fact, less than 2% in most cases. To get a feel for the cost of atmospheric emissions of CO_2, consider the impact of a carbon value charged on fossil-fuelled electricity generation costs, just as a rough approximation: to increase by some 1% the total generation cost of a gas-fired power plant, a $5/tC value of carbon would be sufficient; for a coal-fired power plant a 2.5 US$/tC value of carbon has the same impact. In short, add a carbon charge to these sources and nuclear energy looks even more competitive.

One of the concerns the public has is the risk, however small, of a nuclear accident. How can we assess not so much the fears, but the possible associated costs?

The costs, as well as the probability of nuclear accidents, are assessed by manufacturers, operators and regulators. International organisations such as ours and the International Atomic Energy Agency (IAEA) based in Vienna have carried out studies reflecting international consensus on this subject. The cost estimates are reflected in the insurance fees paid by operators that, like provisions for future financial liabilities, are included in prices paid by electricity consumers. National laws and international conventions on third-party nuclear liability

establish the compensation to be covered by operators and governments in case of an accident.

Cost estimates can always be improved, of course. For instance, they should include health effects on the exposed populations; psychological effects; impacts on economic activity and employment; loss of capital; and long-term social and environmental impacts. Most of these costs are site-specific and vary greatly, but they remain a small percentage of total generation cost.

Much has been made in the media and elsewhere about the possible implications of 11 September for nuclear energy and in particular its costs. The common view among experts is that nuclear facilities in general and power plants in particular are not very attractive targets. They are well guarded and inherently robust. I don't think that damaging them to a significant extent is feasible.

Several of your member countries do not have nuclear power. In this context, what exactly in your view is the role of the NEA?

The NEA, like everyone, wants the use of nuclear energy to be environmentally friendly, economical and above all safe. We do this by seeking to strengthen its scientific, technological and legal bases. We try to enhance international co-operation for the peaceful and safe application of nuclear energy. The policy and technical work of the agency is carried out by the best specialists from all 28 NEA member countries. We insist that their work be as factual and dispassionate as possible, in keeping with OECD tradition. Furthermore, the agency operates by consensus and does not prejudge the policies of its member countries. Perhaps for that reason our work is highly appreciated by all our members, whatever their policy on nuclear energy. ■

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Renewables
Upwardly mobile

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California is famous for blue skies and leading-edge technology parks. Combine the two and, no surprise, you will find that the state may be taking a lead in solar energy too. Then consider the fact that housing developers are simply replacing traditional roof materials with solar panels as part of new buildings and below the cost of a normal mortgage, and this all begins to sound like a movie script from… California.

A 2001 report to the G8 says that about US$100 billion of investment over ten years in OECD countries would be enough to make renewable technology competitive within 20 years. That figure may be exaggerated.

But is it just an isolated act, or could it be the start of a new market that will spread worldwide, just as the automobile and communications technology markets did before it?

Dismissing renewable energy as somehow marginal is fashionable practice in some mainstream energy lobbies, but over the past few years renewable energy systems have been spreading rapidly. Wind and solar photovoltaics (PV) have been growing at an average of 30% per year over the past five years (the fastest of any energy system, which is dynamic, even if from a low base) even in some developing countries. Although most renewable energy used in developing countries is traditional biomass for cooking, more and more small hydro, wind, geothermal and advanced bioenergy systems are being introduced. And while solar PV roofs are being fitted in some developing countries, it is not yet a vibrant, profitable business, as it all too often has to overcome the locals' lack of awareness and understanding, not to mention red tape and opposition from the utility companies. But this is pretty typical of ground-breaking technologies that solve problems and serve customers in new ways.

A 2001 report on renewables to the G8 says that about US$100 billion of investment over 10 years in OECD countries would be enough to make renewable technology competitive within 20 years. That is equivalent to the value of a year's national income in a country like Ireland and probably less than the cost of new investment in nuclear technology. Moreover, the figure is a customer-led outlay, meaning that there would be returns in both use (lights, heating, etc), technological progress and, of course, the environment.

Renewable technology is improving all the time, as is our knowledge of it. This learning curve within the sector could even mean that the US$100 billion figure is exaggerated. Anyone in 1975 predicting that the price of a computer in 2000 – let alone that of portables and PALMs – would be within reach of millions, would understand the point.

Renewable technology like wind and solar-powered generators requires a

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capital-intensive investment. But that is all it is. For a natural gas turbine, there is the fixed capital cost and the extra charge of extracting (and depleting) the natural resource. In both traditional and renewable technologies, the fixed costs fall over time, thanks to efficiency gains and progress generally. But as renewable technologies by definition do not face the prospect of depletion, their costs are fixed. This makes them a relatively risk-free investment over time. And it becomes a form of insurance against, say, spikes in oil prices. Indeed, the Californian sun roofs insulate those living beneath them from the rather uncharacteristic, though nonetheless real, outages in the local energy grid that have occurred recently.

Perhaps the main area of discomfort for policymakers in dealing with renewables is that it poses a major challenge to monopolistic and price-fixing markets, as well as to large users and suppliers of energy. Today, it would be unfeasible to expect to run the French TGV high-speed train from windmill energy generated somewhere on the Normandy coast. But maybe in the future the technology will exist for TGVs to power themselves, without the need for overhead lines. In other words, policymakers will have to be convinced that the benefits of renewable technologies are real, show a return and outweigh other costs before embracing them. Several countries appear to be taking research and development seriously, though perhaps more could be done.

Policymakers will have to be convinced that the benefits of renewable technologies are real, show a return and outweigh other costs before embracing them.

The 2001 G8 report, whose authors include experts from the International Energy Agency, a sister organisation of the OECD, highlights some barriers to renewables. First, although the cost of renewable energy is falling as volumes increase, in most cases it is not yet directly competitive with conventional alternatives. Another barrier is insufficient human and institutional infrastructure, with limited capacity to support projects and markets due to a lack of experience. There are high up-front costs too, and so, shortfalls in financing programmes. And finally, the report sees weak incentives and inconsistent policies as a barrier, stressing that the benefits of renewables are not always properly addressed in energy policy frameworks.

With these barriers, it is unrealistic to expect renewables to explode onto the market today or tomorrow. Oil and gas now dominate the energy mix, tomorrow it may be hydrogen created from fossil fuels, along with some solar and wind and other new forms. Nuclear too undoubtedly has a role, as long as it can solve waste and security questions enough to win over public confidence. Still, renewable energy may be the way of the future. As one scientist at OECD's Forum 2002 said, renewable technology may be expensive now and may be inefficient in comparison with other modes, but it is not a risk investment in the long run. That surely is what sustainable development is all about. ■ *R.J.C.*

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Transport troubles

Peter Wiederkehr and Nadia Caïd, OECD Environment Directorate

Transport is a cornerstone of modern civilisation, but at what cost? Heavier than you might think.

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Slow burn

Decoupling is more than just a sustainable development buzzword. It essentially means slowing, if not reversing, the growth in environmentally damaging activities in relation to economic expansion. Indeed, without decoupling, sustainable development would probably be unachievable.

Some areas of economic activity have decoupled: industrial output from energy consumption and CO_2 emissions in the EU, for instance – its growth in activity has not led to a similar growth in pressure on the environment. But transport is one area where decoupling has simply not happened. Technologies have got cleaner, with modern engines polluting less, but any benefits from this have been outweighed by the effects of the rising stock of vehicles. In fact, mechanised transport has taken a brutal toll on the Earth's environment since its emergence a century or so ago. Air pollution, land-take, road and air fatalities: many of us may have become used to all this or fatalistically see it as the price of progress. Yet these heavy economic, social and environmental costs are set to get worse.

Travel may be great, but a business-as-usual approach to transport is not on. Political leaders know this and some serious efforts have been made, whether to improve public transport, restrict car use, or even slap on environmentally-related taxes. But such fire-fighting is clearly not enough. Better engine technology will help, but hoping that it will swoop in and save the day is like waiting for Godot. Serious global steps are needed. The Environmentally Sustainable Transport (EST) guidelines, adopted by the OECD's environment ministers in 2001, are one contribution (see box, page 46), though even they have had implementation challenges.

Part of the problem is separating out travel, mobility and communications from transport itself. What was mostly new to the 20th century was not actual mobility, but mechanised transport by road and air. Steam trains revolutionised land travel in the 19th century, but their effect on mobility was as nothing compared with the advent of the automobile, truck and aeroplane. Over the 20th century, the motorised movement of people and goods increased more than one hundredfold, while the total human population increased fourfold. Even locally, road travel rose, while walking and bicycling fell (see graph page 45). Only in poor countries is travel still done mostly on foot and bicycle, with an average of some 3,000 km per person per year. By comparison, the average American travels almost 30,000 km a year, mostly by car. Although freight and trade have also driven up mechanised transport, most vehicles are for personal use. In the US, which accounts for nearly a third of all the world's mechanised road vehicles, some 90% of them are for personal transport. In fact, there are more personal vehicles in the US than commercial vehicles in the rest of the world combined.

The total world fleet of road vehicles currently grows at about twice the rate of population growth. And it is likely to grow fastest in future in countries like China, Brazil and India, whose combined total fleet is about a fifth that of North America and a third that of Western Europe. In fact, the worsening trend in transport problems will affect developing countries most of all in the next few years.

Car-nundrum

If car ownership worldwide were at the same level as in OECD countries, there would be some three billion cars on the world's roads, rather than the current 540 million. The

higher figure is a distant prospect, but the number of vehicles in circulation will remain a determining factor for environmental policy and resource use. The average distance travelled per car in OECD countries has stabilised in recent years, but this stability, even combined with better fuel efficiency and emissions control, has been more than offset by the sharp growth in fleet size and vehicle use.

Fuel type is also important. In particular, consumption of diesel fuel is increasing at a higher rate than consumption of petrol, with a 4.6% annual rise from 1985 to 1995, compared with just 1.8% for petrol. The trouble is that while diesel engines are more fuel-efficient than petrol engines, with lower CO_2 emissions per kilometre, they produce more breathable particulates, like ultrafine carbon, and chemicals like nitrogen oxide. Furthermore, worldwide use of diesel fuel is expected to increase, particularly as road freight traffic rises.

Transport's environmental performance has been poor, yet, realistically, mobility will continue: who would want otherwise? Whether by emphasising technology, innovation, taxation or regulation, achieving the decoupling of mechanised transport will be a hard, though necessary, challenge.

Altitude atmospherics

The atmospheric effects are foremost in public minds. One obvious concern is the emission of greenhouse gases. Emissions of CO_2 from the burning of fossil fuels increased by a factor of seven during the 20th century, resulting in an increase of about a third in atmospheric CO_2 levels. Transport directly contributes about 20% of these CO_2 emissions worldwide, and close to 30% in OECD countries. These rates would be much higher in each case if emissions from vehicle manufacture, road construction and disposal were included. Then there is the methane released during petroleum extraction and nitrous oxide (N_2O) in vehicle exhaust gases.

Air transport adds to the problem. All those artistically criss-crossed jet clouds high in the blue sky have an "altitude effect". At about 10 kilometres up, where commercial aircraft fly, the nitrogen oxides in the

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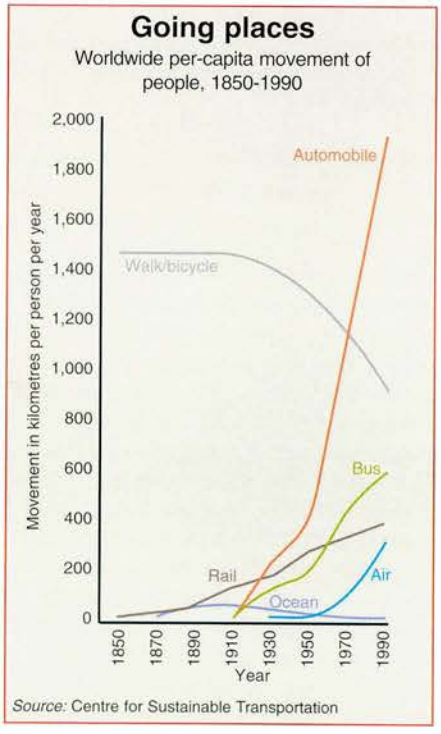
Eco-friendly transport

exhaust gases appear to be especially effective – two to four times more than on the ground – in facilitating the formation of ozone, a potent greenhouse gas. Aviation accounts for about 10% of motorised person-kilometres worldwide, and for less than 1% of freight movement, but this altitude effect may be responsible for about a quarter of transport's contribution to climate change. Aviation is the fastest growing mode for the movement of both freight and people, so its global warming effect may exceed that of trucks or cars by 2030.

Transport also generates a range of air pollutants (car exhaust contains some 500 compounds) that can damage health and the environment. Carbon monoxide (CO), volatile organic compounds (VOCs) and nitrogen oxides (NO_x) are the most serious. CO exacerbates cardiovascular disease and causes neural damage, VOCs are carcinogenic and NO_x cause respiratory, ocular and cardiovascular problems. In OECD countries, emissions of all three are falling, thanks largely to catalytic converters in motor vehicles, but worldwide their emissions are expected to increase, reflecting rising car use and poorer technology in developing countries.



When sunlight acts on NO_x and VOCs the result is photochemical smog. Ground-level ozone is the main constituent of this nasty cocktail and transport is the main contributor. It harms almost all biological tissue, damaging plants and penetrating deep into the respiratory tracts of animals. Smog also contains ultrafine particulate matter, some carcinogenic, of which diesel engines are the main source. Little wonder that several government agencies in North America and Europe classify diesel exhaust as a carcinogen. In North America, smog is believed responsible for 10-20% of hospital admissions for respiratory complaints in the summer months.

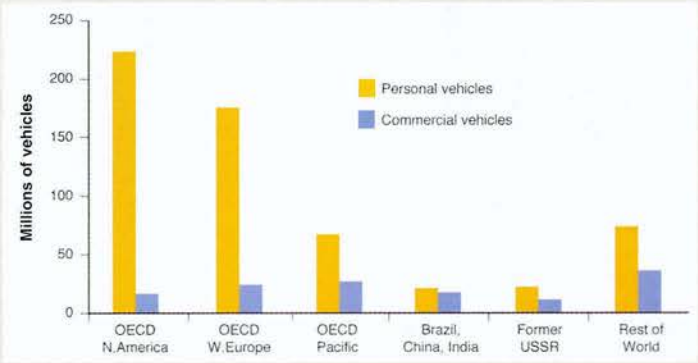
People in cities are vulnerable to these pollutants, but perhaps none more so than drivers themselves. In fact, many studies have found that pollution levels inside vehicles are much higher than ambient levels, and even higher than the levels to which nearby cyclists and pedestrians are exposed. Children may suffer more than many, in particular those being driven to and from school.

Road kill

If only the problems were just atmospheric. Unfortunately, polluted air is not the only source of transport-related health risks. Road injuries are a major public health issue, too. According to one Harvard study, road traffic injuries are the 10th leading cause of death worldwide – about a million a year, with about 85% of those in developing countries – and the ninth leading cause of disability-adjusted life years lost. Though car safety has improved over the years, 125,000 people die every year on the roads of OECD countries. That's one road crash death every four minutes.

Driving force

Global motorised road-vehicle stock, 1998



Source: FT Automotive

Noise from the likes of jetliners and trucks is also a problem that is increasingly recognised as a health risk. Moderate automotive traffic at a distance of 30 metres rates about 50 decibels, heavier traffic about 70dB. The World Health Organization recommends less than 45dB for productive sleep. Continued exposure to noise levels above 65dB presents a serious health hazard and increases the risk of cardiovascular diseases and mortality; levels above 85dB cause hearing loss. Again, children and people that live near highways appear to be particularly vulnerable. But there are stress-related risks from noise too.

Land mark

A car commercial on French television shows a man running around hugging and shaking hands with road workers as they lay out fresh tarmac. He thanks them, joyfully, for creating the road on which he plans to try out his new car. The message is unusual, because while people are often encouraged to love their cars, even personalise them, not so for our roads. In fact, it has become politically fashionable for many to oppose everything from road widening to new road development. Yet, the very cities and towns we live in would not exist without roads. Roads are responsible for some great engineering achievements, from viaducts to tunnels. To some, they are possessed of aesthetic qualities, evoking images of evasion and dreams of the open road. But they are far from innocent landscape features.

Roads affect ecosystems, interfere with natural drainage and block species migration. Highways, ramps, car parks, but also train tracks and aircraft runways: all consume environmental capital.

Transport infrastructure, mainly roads, consumes about 40% of land in urban areas of the OECD (more in North America) and less than 10% in rural areas. The road network occupies 93% of the total area of land used for transport in the EU. Per passenger-kilometre travelled, railways require less than a third of the land taken by passenger cars, aviation even less.

Surprisingly, perhaps, the length of the total road network per capita has changed little since 1975; indeed, it has fallen in several countries. However, surface area has risen sharply, since the extent of motorways, tollways and other restricted roads has increased dramatically. These wider roads require displacement of some 130 times more matter (land, concrete, gravel, sand, tar, etc.) than other roads.

Aviation is the fastest growing mode for the movement of both people and freight, so its global warming effect may exceed that of trucks or cars by 2030.

Sprawl is a related problem. In the US between 1982 and 1992, the amount of land dedicated to urban uses increased from 210,000 to 260,000 square kilometres, 70% faster than the growth rate of nearby populations in urban regions. A particular feature of sprawl is the predominance of the private motor car. More fuel is used for transport as people drive around more. And that usually means a high land-take in terms of multi-laned highways, bypasses, driveways and other roads.

Guzzlers

About 20% of worldwide energy use is for transport, 30% in OECD countries. Almost all transport is fuelled by oil, which accounts for about 60% of total energy use. Transport is the main user of oil, accounting for some 60% of the amount extracted. The rest goes to heating of buildings and the production of items such as asphalt, plastics, detergents, fertilisers and medicines.

Not all of the oil consumed by transport is used for vehicle fuel, as some provides the energy for the production, maintenance and disposal of vehicles and infrastructure. Oil also goes into the plastics that form an increasing portion of vehicles, including, ironically, to reduce weight and improve vehicle efficiency. At odds with this, though, is the continuing tendency in some countries to buy larger, more powerful, cars, like Sports Utility Vehicles (SUVs), rather than smaller ones.

That means using more materials in construction. In fact, production of vehicles and transport infrastructure accounts for some 40% of consumption of major materials, including cement, steel and aluminium. Ores are another non-renewable input. Some common metals like iron and copper are recycled, but recycling becomes increasingly difficult as more sophisticated alloys and blends are used. Better substitutes will no doubt be developed, but their acceptance will take time.

The same goes for the development of alternative combustion fuels. There have been many false dawns and interesting experiments, but until a competitive alternative has emerged, hybrids offer a next best solution. Take diester, for instance; this is a mix of canola vegetable oil and diesel, which is being successfully

used in public buses in several French towns. But even canola production can entail serious soil depletion.

Transport economics

Transport's huge toll on public health and the environment can be evaluated. One recent study for the International Union of Railways puts the direct cost of this toll at 8% of GDP for OECD Europe. This includes accidents, noise, climate and pollution. It does not include congestion costs and indirect costs such as fuel supply, production of vehicles, etc. These could add another two percentage points. Road transport and aviation are primarily responsible; rail traffic contributes less than 1% of the social cost burden. The economy suffers, yet the economic consequences of all this are probably underestimated; for one thing, disposal and decommissioning of vehicles and infrastructure are also usually overlooked.

Can it go on? Probably not. Most of the trends are expected to worsen, certainly worldwide. Aviation activity, for instance, will rise faster than the other modes, perhaps as much as 600% more than in 1990. Trends like this put the long-term environmental sustainability of transport systems in serious doubt. Sooner or later, the market may react. But to reduce the costs, policymakers will have to take a lead and make it sooner. That means putting environmental and health criteria up-front. The EST guidelines can help to do this. Doing nothing is no longer an option. ■

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EST: blueprint for better transport

Can anything be done to tackle transport problems and steer them to a more manageable level? There has been no shortage of trying. Whether to curb pollution, discourage cars, boost public transport use, or simply reconquer civic space for cyclists and pedestrians, initiatives abound. Yet, the car remains triumphant. Ownership is climbing, and the pressure on local authorities to yield more space to the needs of the car is unyielding. As for aviation, high-speed trains in Europe and Asia show that rail can compete with short-haul flights, but long-haul air trips continue to rise.

A wider strategy is needed to tackle transport problems, one that leads to a significant, though feasible, shift in behaviour. That is precisely what the OECD's Environmentally Sustainable Transport (EST) guidelines aim to provide. These have been developed since the mid-1990s and were adopted by OECD governments in 2001. That means the world's 30 most transport-intensive countries acknowledged that it was time to make transport more sustainable.

The aim of EST is to ensure a high level of mobility for passenger and freight and allow transport to develop within the limits set by nature: that is, protecting health by reducing pollution and noise, respecting natural resource limits, and not worsening climate change or stratospheric ozone depletion. Under EST guidelines, CO_2 emissions from transport would fall by 50% globally (80% in the OECD area) from 1990 to 2030. For this, the energy used to fuel the transport system would have to be virtually carbon-free. There would be similar declines in major air pollutants like nitrogen dioxide and sulphur dioxide, reducing acidification and photochemical smog. Fewer particulates would make air healthier to breathe and smaller, quieter engines would cut noise pollution. Land-take would also be driven back or green spaces restored, so helping to safeguard biodiversity and preventing costly sprawl.

EST combines a mix of measures – mobility management policies, incentives and technology. So, while car ownership would decrease, mobility would rise by over 20% compared with 1990 levels. There would be integrated transport services combining different modes; more cars would run on, say, fuel cells rather than petrol. Smaller or lower-powered vehicles would take over in urban areas. Non-motorised transport, like walking and cycling, would be encouraged for short trips. Load management for freight would be more efficiently managed to reduce frequency of trips, much of it would travel by rail and hydrogen would be used as fuel. Innovative public transport combining mass transit and individual vehicles, including taxis and rented cars, would be developed. Long-distance air travel for business purposes would be greatly reduced, with more use of videoconferencing and other information technologies.

All of this may sound highly altruistic, but EST makes economic sense too, certainly compared with the present situation (see main article). According to this strategy, EST's initiatives would generate not only a net benefit for the environment and quality of life, but a decrease of some 45% in the financial costs imposed on society by transport over the period to 2030.

The main problem is not EST itself, but for governments to adopt consistent and focused policies and a determination to see action through. Emission limits, fiscal incentives, tradeable permits (see article, page 38), planning, infrastructure investments in new areas like broadband, and education: the assault would be on all fronts. The market would follow at first, though eventually take the lead by innovating new products of its own, as it is already doing with carbon-neutral electric scooters and smarter telecommunications.

EST is attainable, but applying it would be tough going. People often insist that they depend on their car to get around, to shop, to bring the kids to school. Whether public transport works well or not, the same argument is heard. Perhaps a new, cleaner, quieter technology will come along to give the car some respite. However, even then, impacts of car driving, like fatalities, injury and land-take would have to be addressed. Technology will help, but it is not enough. What is clear is that transport systems based on mechanised, fossil-fuel transport are unsustainable. Our policymakers and leaders will sooner or later have to bite lip and act – the EST guidelines will assist them in this endeavour.

- See the EST guidelines at www.oecd.org/env/transport, "documentation, guidelines".

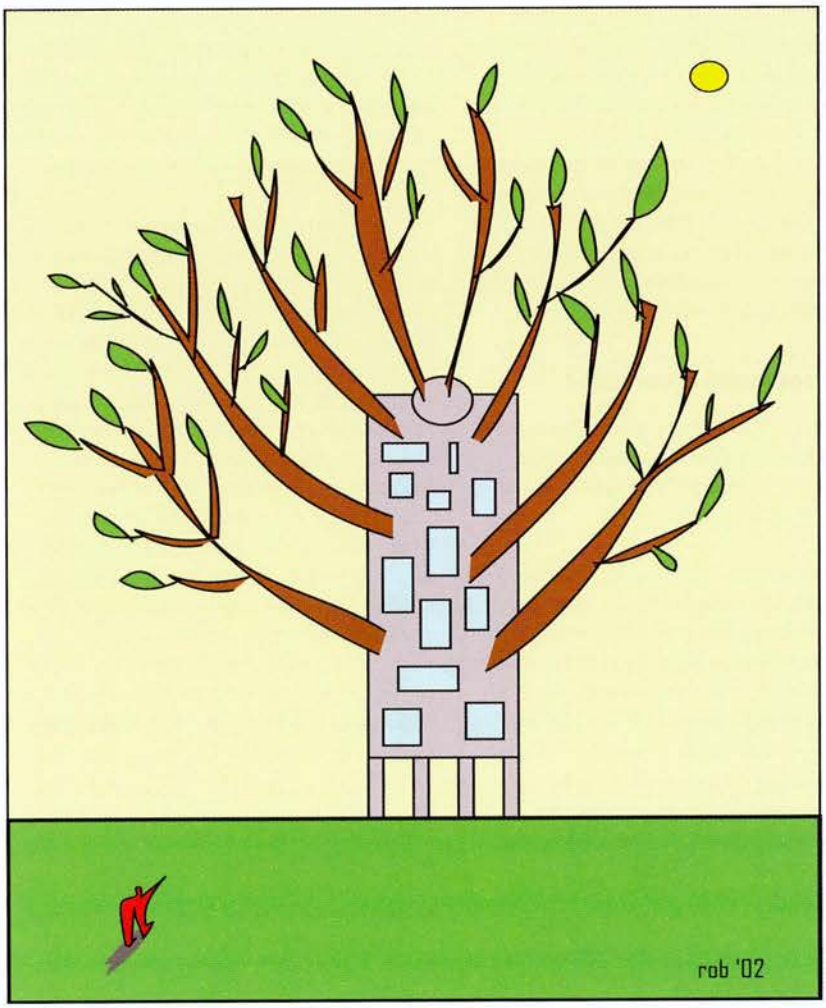
Sustainable buildings

Takahiko Hasegawa, OECD Territorial Development Service

Buildings consume as much energy as transport. It is high time we integrated them firmly into any sustainable development equation.

Le Corbusier, the great (though controversial) European urban planner and architect, argued that buildings were machines, to perform a task and to be disposed of when no longer up-to-date. He once famously quipped: why should we leave our buildings to our heirs, since we do not bequeath them our bodies?

But we do inherit buildings, and what we build we pass on to our heirs. "Sustainable building" refers to the economic, social and environmental impact of buildings and building activities. Over half of the world's population lives in urban areas. Houses, factories and offices in cities, towns and villages have to be heated, lit, cleaned, managed, maintained, renovated, rebuilt or conserved. Buildings consume. They use energy, whether for office equipment, televisions or electric lighting, and so burn fuel, from wood to mined fuel. This contributes to greenhouse gases, while refrigeration adds to ozone production.



The operation of buildings accounts for 25-40% of final energy consumption in the OECD area. This is comparable with transport. And this does not even count the energy consumed for manufacturing building materials, etc. Construction of buildings and infrastructure could be responsible for up to half of all material used in some OECD countries. And then there is the waste that has to be managed and minimised. Safety is another building concern, as disasters like earthquakes in Japan, Turkey and elsewhere cruelly remind us. This means setting standards and responsibilities that apply throughout the buildings' lifetimes.

Air quality is another building concern and a health one too. Most people spend as much as 90% of their time indoors. From birth, through school, work, rest and play, indoor space and air quality is influenced by buildings and affect our health. This is another good reason why public policy should seek to influence building norms and objectives, not to mention reducing the environmental burden.

One problem is that the building sector is unique. Indeed, it is many things together: water supply, heavy materials, excavation. And houses have different demands than hospitals, schools or offices. Buildings are expected to satisfy a wide variety of demands, such as protection from weather; thermal and noise comfort; safety from fire and other hazards; supply of quality water, etc. But these demands sometimes contradict each other. For instance, insulation work to improve heating efficiency in offices during the oil crisis in the 1970s also led to worsening air quality and a rise in related health problems from formaldehyde, a chemical found in pressed wood and insulation foam that causes irritation and dizziness.

Moreover, buildings are fixed capital: the French call them immobile capital, as distinct from mobile types, like money and equity. They are a form of

Many large-scale contractors are investing in environmental technologies, but not so the smaller builders that make up most of the building trade. Therein lies a question: how to spread the technology and know-how that is available, and actually apply it.

investment, vehicles of value and products of exchange, though fixed in physical space during their entire lifetimes. They are a key part of the urban engine of capitalism. One problem is that while buildings can inject value into land, they can also fall apart from negligence, reducing their own value and that of those around them. Buildings require maintenance, upgrading or demolition. They can, in short, be a planning headache.

Clearly, environmental policy instruments that have been successful in other sectors cannot always be applied to buildings. Take-back programmes of the type used for beverage containers would probably not work, for instance. It would be unrealistic to oblige designers or contractors to take any responsibility for, say, demolition decades ahead. Can we really know how long a building will last? The Eiffel tower was built a century ago as a temporary structure for a world fair but still stands robust. The Great Pyramids have lasted an eternity, but will Pei's glass pyramids in the Louvre?

Policymakers are starting to pay attention. In 2000, the first international conference on sustainable building (called SB2000) was held in Maastricht. A second conference (SB2002) will be held in Oslo, Norway, this September. European housing ministers from east and west held a "sustainable housing" meeting in Brussels in July.

The OECD is in fact one of the few international organisations that attempts to look at sustainable building from a policy point of view, for instance, at how energy efficiency might be improved to reduce cost and CO_2 emissions, or how to reduce material pressure on gravels, sands and forests, etc. Will this new interest lead anywhere? And will sustainable development hinder or help the industry? After all, traditionally government policies aimed to stimulate building as a source of jobs and growth.

Yet, in some ways, the building lobby appears to be leading the way, in renewable energy installations, for instance (see article on renewable energy, page 41). But while many large-scale contractors are investing in environmental technologies for a growing market, not so the smaller builders that in fact make up most of the building trade. These are very slow to adopt new technology and simply insisting through regulation would either put them out of business or drive them into the underground economy. That would mean substandard, even dangerous, buildings, particularly in lower income countries or towns. Therein lies a major public question: how to spread the technology and know-how that is available and actually apply it.

Several governments have tried and these conferences will hopefully help. As ever, there is the question of expense. Apartment blocks have been built with energy-efficient design, complete with solar panels and smart technology to control appliances. But their initial cost has often put them out of reach of all but a well-off few. This may change as technology costs fall (see article on renewable energy, page 41). Already in California, prices of solar-powered houses are falling fast.

Some concrete examples

Architects can show us the possibilities, but policymakers can do a lot to promote the adoption of available technologies in as many building types as possible.

Take environmental labelling for instance. This may seem like a curious idea for buildings, yet the UK's Building Research Establishment has put such schemes in place for new buildings (mainly offices). It evaluates a wide range of environmental characteristics of buildings. The scheme is now in use in a quarter of all new office buildings in the UK. Data is still preliminary, though it suggests that the average energy efficiency of buildings using it is higher than other buildings.

In 2001 Japan introduced a new voluntary labelling scheme too, this time for housing. Now, potential buyers can easily understand which building has which level of energy efficiency. Given Japan's earthquake risks, robustness and durability are assessed too. The new scheme has already been used for more than 70,000 housing units.

Energy auditing is another measure. The Dutch Energy Performance Advice scheme is a good example of this, aiming to reduce energy use in existing buildings by some 3 Mt of carbon by 2008-2012. Under the scheme, technical experts check dwellings and make concrete proposals on upgrading energy efficiency.

Denmark is perhaps the most advanced country in this area, with their obligatory Energy Labelling. When someone wishes to sell a house in Denmark, they must have the efficiency of the house checked and provide a report to buyers as a condition of sale.

Water-saving initiatives exist too. In the US, several cities, including New York, introduced new 1.6 gallon per flush toilets in the 1990s to replace the old 3-5 gallon per flush models. Public authorities led the drive and some 25 million new units were installed in homes and offices by the end of the decade. The result has been a sharp drop in water consumption.

A more common initiative is the landfill tax, the aim this time to encourage better recycling of building materials. Again, Denmark and the Netherlands are leaders in this area: their recycling rate of construction and demolition waste has already reached 90%, thanks in part to the landfill tax. These low-grade recycled materials are not used in building construction, though, but in road foundations and for landscaping golf courses, etc. For building construction, technological improvements would be needed to increase the high-grade recycling such as the use of recycled aggregates in concrete, and to improve the flow of these goods throughout the sector.

Perhaps that is the next step: knocking down buildings, recycling them and resurrecting them. What would Le Corbusier say about that? ■

Reference

- OECD (2002), *Design of Sustainable Building Policies*, OECD, Paris.
- See www.oecd.org/env, under "documentation, other".
- See www.uswaternews.com/archives/arcconserv/8newstu5.html

Bye-bye, Miss American Pie

Douglas Worth, Secretary-General, Business and Industry Advisory Committee to the OECD

It is all very well to talk about regulation and responsibility, but we should not lose sight of the importance of growth. Nor its ingredients.

"Bye-bye, Miss American Pie" may be how critics see the woes of the US economy right now, but was the longest boom in recent history really just pie in the sky? Pie can be confused with motherliness and apples and its homely connotations may be a clue to why politicians are so fond of wanting to slice it up and share it around. Indeed, ugly battles are fought in legislatures all over the world regarding what public priorities should receive the largest pieces.

The pie can be an unhelpful metaphor because it is essentially limited to a fixed-size dish. Yet, my government friends, my anxious prime ministers, remember this: the pie can be grown. Everything that governments do should be aimed at increasing the size of the pie. Let's call it economic growth. It's essential. Without it, the number of funded public priorities will go down and the number of hungry mouths will not. If someone comes to you and says, "hey, we've got to slow down economic activity and sacrifice some growth for this priority or that priority", say no.

Not that I think you have not got the message. After all, the work of the OECD, IMF and the like already emphasises the building of frameworks and warns against protectionism and industrial policy meddling. But, no sooner do we leave

ambitious pie-growing meetings in Lisbon and Kananaskis than we hear calls for stepping up regulatory grip and government intervention in the name of progress. The prize is a growing pie, so keep your eye on it.

Growing the pie is largely a matter of using market forces to expand product and service offerings in such a fashion that existing markets are not just enlarged but new markets are created. Personal computers, cell phones, Internet auctions are all expansions of existing markets, but the technologies and operational innovations that underpin them have enabled entrepreneurs to offer services and create products never previously contemplated.

Ah yes, sounds familiar, you may say, a recipe for more dot.com bubbles and unworkable business plans. But I would caution you not to underestimate those who failed the first time around. Successful invention is the result of persistent failure. Never have we seen so many inventing at the same time. Those bright, well-educated entrepreneurs who took a fall in the information technology downturn will pop up again. Many of them will invent alone or join larger firms and exploit the potential of their new enabling technologies.

Now remember, in this endeavour you will find yourselves working closely with private sector chefs. After all, that's the real economy of shared responsibility. Indeed, the discipline of the kitchen is a common set of principles or guidelines, including OECD Guidelines on Multinational Enterprises, between the public and private sectors that both will apply to the whole pie. Let's call it sustainable cookery. We must find ways to maximise broad distribution of the pie with as many bites as possible for as many people as possible. And we must achieve all of this without wearing down the kitchen. This is not accomplished by miracles but master chefs.

Even master chefs have to work together, in trust, keeping a close eye on the ingredients so that nothing unhealthy or unsavoury is added by either side. The market will eventually punish any misdeed, of course. It always does. The environment will punish excess too. But we should never let it go that far.

The OECD, the IMF and the like already emphasise frameworks and warn against protectionism and meddling. But no sooner do we leave ambitious meetings in Lisbon and Kananaskis than we hear calls for stepping up regulatory grip and government intervention in the name of progress.

Governments should get back to the basic ingredients in the mix. Nurture the expansion of your capital markets. Let domestic and international funds mingle. Shake up your educational establishment to provide the required skills and better prepare students for today's jobs. Shorten the bureaucratic time between innovation and the marketplace and don't let fresh ideas go stale. Make it easier to create, and terminate, a business.

Make sure that your recipe is clear. This means a single government vision and programme. If your ministers each require a different sized oven, demand that the temperature or ingredients be adjusted, otherwise you will just have a messy kitchen without the growth. At the end of the day, it's thousands of private sector players that you are asking to be the bakers, and they are all customers, suppliers, shareholders, creditors and consumers.

Don't get in the way of competition; foster it. Make it possible for your bakers to scan the world for ingredients. This lowers costs and heightens quality, with strong multiplier effects that will give consistency to the whole pie.

Lastly, please, as master chef, do not restrict the ingredients to the familiar and comfortable and overlook new possibilities or experiments. Change is yeast, and you will have to exercise your leadership skills to the maximum to push the timid forward and the obstructive back.

If you do all this, we can all look forward to the chime of millions of oven timers as the global pie rises. ■

Tax environment

Whether it be a tax on plastic bags or an increased levy on petrol for cars, consumer spending that damages the environment can be discouraged by taxing the goods and services on offer to raise the price. Such taxes have proved effective in OECD countries, but there are fears that higher costs to producers will reduce international competitiveness and have a possible regressive impact on domestic income distribution because poorer households will pay a higher proportion of their income than rich ones.

These tricky questions were on the agenda when tax and environment experts, non-government organisations and the public gathered in Berlin on 27 June for a conference on environmental fiscal reform organised by the OECD and the German government.

"In a market economy, prices and taxes are the quintessential steering signal," Germany's federal environment minister, Jürgen Trittin, said in his opening address. "We will only achieve a self-perpetuating dynamic process moving in the right direction if the taxes and subsidies system and if prices reflect ecological realities and ecological common sense."

The German government's efforts to encourage people to switch to train travel for longer journeys, for instance, will not work if flying is cheaper. Winning consumers over is a challenge: Susan Scott, of the Economic and Social Research Institute of Dublin, noted that when Ireland introduced the plastic bag tax, brochures were distributed in supermarkets pointing out that consumers could easily avoid paying the tax by using other re-usable bags.

Mr Trittin argued that far from harming competitiveness, environmental fiscal reform leads to international competitive advantages and distributes costs more fairly between large and small consumers of natural resources. According to the minister, Germany produces a third of the world's wind-generated electricity and is Europe's leader in solar power, partly due to massive incentives to switch to ecological energy sources. The aim is not to produce endless subsidies, though, but to reach mass production and so lower prices, Mr Trittin said.

A discussion paper prepared for the meeting, based on the OECD's report *Environmentally Related Taxes in OECD countries: Issues and Strategies*, suggested solutions, such as meeting competitiveness concerns by ensuring that environmentally-related taxes were partly or entirely channelled back to the affected firms. ■

- For more details and papers from the conference: www.oecd.org/environment

NEPAD: A new partnership for Africa's development

Ministers from Algeria, Egypt, Nigeria, Senegal, and South Africa were guests of honour at the OECD ministerial council in Paris on 16 May, 2002 when they met to discuss financing development in general and ways forward for OECD – NEPAD co-operation in particular. All agreed that NEPAD was a promising initiative that had to be advanced. Several areas were considered, including:

- Enhancing African participation in existing OECD Global Forums and other outreach activities in areas such as investment, trade, good governance, the reinforcement of statistical capacities and sustainable development;
- Exchanging views and experience on peer review mechanisms and the requirements necessary for African countries to apply them effectively;
- Consulting in a spirit of mutual trust and partnership on best development practices, aid effectiveness and on development benefits of trade, investment, good governance and approaches to sustainable development.

The OECD is working closely with other international bodies also involved with NEPAD to avoid duplication of effort and improve results. ■

For safer transport

International measures to combat terrorism in transport since 11 September 2001 have tended to focus on planes and ships, but governments also need to pay attention to the terrorism risks on roads and railways, European transport ministers said. A declaration adopted by the European Council of Ministers of Transport (ECMT) at their annual meeting in Bucharest in May also said arrangements for transport security should avoid inconsistent security requirements between different types of transport.

A report to ministers on transport security stressed the need for better co-ordination between different modes of transport and between different countries. Ministers asked the ECMT to find ways to combine increased efficiency and security in the transport system with measures to combat terrorism. They suggested examining effective ways of tracking goods along the whole transport chain to avoid inconsistent security requirements. Ministers also agreed to share experiences and best practice in transport security and counter-terrorism.

Road safety was also on the agenda, and it was pointed out that over 50,000 lives could be saved on European roads if all countries were able to match the performance of the countries with the best road safety records. Ministers noted a report on *Recent Trends in Road Accidents and Policy Issues*, which recommended setting up targets for road safety improvement, including a reduction of 50% in the number of deaths in road crashes for all ECMT countries over the next 10 years.

Ministers also noted a report which proposes a package of measures to promote a sustainable balance between inland transport modes, adopted a resolution on developing European railways and discussed a report on developing inland waterways.

Malta became the 42nd member of the ECMT at the Bucharest meeting. ■

- For more on the meeting and the ECMT: www.oecd.org/cem/

Fundamental sense

OECD Forum 2002 – Taking Care of the Fundamentals: Security, Equity, Education and Growth. Paris, 13-15 May 2002

The divide between rich and poor remains the major potential source of structural instability and insecurity that could upset the balance of our globalised world. This was a key message that Annemie Neyts-Uyttebroeck, Belgian secretary of state for foreign affairs, carried from the OECD Forum 2002 to the annual OECD ministerial council in Paris in May. In addition to these security issues, the Forum offered an arena for government, civil society, academia and business to debate together the questions of equity, education and growth over two days of discussion that fed into the OECD ministerial meeting.

US First Lady Laura Bush, in a keynote address, argued that education is fundamental to all four of the Forum's themes, and the cornerstone of development and economic growth. More than 1,200 people attended this year's Forum, the third such public debate organised by the OECD. More than 70 countries were represented, and speakers included some 20 ministers from OECD countries and beyond, heads and senior figures from international agencies such as UNICEF and the WTO, several Nobel laureates, some 20 business and labour leaders and representatives of two dozen civil society organisations, from Amnesty International to the Worldwide Fund for Nature (WWF).

Opening the Forum, the OECD's secretary-general, Donald Johnston, emphasised this unique opportunity for civil society to influence the deliberations of those charged with the creation and application of public policy. His words were echoed in the final ministerial communiqué later that week. Mr Johnston stressed that "nobody has a monopoly on the ideas needed to face today's challenges" and if governments needed input from civil society, civil society also needs support from governments to achieve its objectives.

During 30 sessions over almost three days, some 150 speakers addressed issues ranging from trade to nuclear energy, education to corporate ethics, development to security issues such as money laundering and transport. The Forum also launched its first student essay competition, the eight winners of which where flown to Paris to speak at one of the Forum's opening sessions. ■

- The *OECD Observer* prepared summaries of each session of the Forum, available on the Forum's website: www.oecd.org/Forum2002

Public against terrorist financing

Can the public help in the fight against terrorist financing? This is the hope of the FATF as it reviews its Forty Recommendations, the global anti-money laundering standard, to bring them up to date as an effective tool in combating money laundering and terrorist financing and is inviting public comment on the proposed changes. These are focused on three key areas: customer identification, suspicious transaction reporting and proper supervision; information on the true beneficial owners of corporate entities; and the use by criminals of non-financial businesses and professions such as lawyers in laundering funds.

The FATF has long been been concerned about the lack of information about the persons that are the true owners and controllers of assets derived from criminal activity. More recently, various types of corporate entities (companies, trusts, foundations etc) were found to have been used in financing terrorist activity. The FATF is proposing changes to address these gaps. Other businesses that are liable to misuse for money laundering and terrorist financing, like casinos, dealers in real estate, lawyers and investment advisors, are to be given extra attention by the OECD-based body. ■

- The consultation paper is available at www.fatf-gafi.org/40RecsReview_en.htm/ and comments are invited by 31 August, 2002.

Blueprint for open government

Open government is fine in theory, but does not always happen in practice. One reason is the persistent difficulty of involving civil society in developing open government systems that really work. This was just one of the messages of a two-day international roundtable on building open government in southeast Europe, held in Ljubljana, Slovenia, in May.

More than 80 participants from 16 OECD countries and 12 central and southeastern European countries discussed how to develop the framework of laws, institutions, methods and partnerships to build open government. The emphasis was on government involvement and a key attraction of the roundtable was a "tools fair" where methods of achieving open government were put on display and explained.

The event was co-organised by the OECD, the Slovenian government, the World Bank Institute and the Open Society Institute. Proceedings from the roundtable will be published later in the year, and several NGOs who took part will disseminate the main conclusions online in their local languages. ■

- For more information on the Roundtable contact joanne.caddy@oecd.org
- For more on the OECD's work on public governance: www.oecd.org/governance

Slovak Republic joins NEA

The Slovak Republic joined the OECD Nuclear Energy Agency (NEA) in June, taking the number of members to 28. Nuclear power provides some 53% of the Slovak Republic's electricity and the Republic, which joined the OECD in 2000, has established modern nuclear laws and regulations as well as an independent nuclear safety and regulatory authority.

The Slovak Republic is the third Central European country to join the NEA after the Czech Republic and Hungary. ■

- For more on the NEA: www.nea.fr

OECD Ministerial Council 2002
Partnership for growth and development

Highlights of the communiqué issued by OECD ministers on 17 May 2002 after their two-day annual council in Paris.

- For the complete text, consult: www.oecd.org/

Economic outlook and recovery: Despite a promising outlook, risks and uncertainties remain. Ministers will take advantage of the recovery to strengthen fiscal positions and continue structural reforms, creating an environment where economic efficiency, higher employment, and improved living standards are more likely.

Employment: Ministers asked the OECD for more monitoring of members' implementation of the OECD Growth Study and to assess the Jobs Strategy. The OECD should continue to analyse the economic and social impact of migration. Ministers suggested a meeting of labour ministers in 2003.

The fight against terrorism: Ministers will implement necessary security policies without undermining open, competitive markets and while safeguarding human rights and democratic values. The OECD will continue to monitor the economic effects of terrorism and the economic policy response. Ministers asked for OECD policy analysis and recommendations on terrorism risks for insurance and the respective roles of the insurance industry, financial markets and governments. Ministers encouraged the OECD to promote implementation of the revised OECD Guidelines for the Security of Information Systems.

Governance: The assessment of the OECD Principles of Corporate Governance will be brought forward from 2005 to 2004. Ministers encouraged the OECD and the Financial Action Task Force (FATF) to strengthen their co-operation. They urged all countries to implement quickly the FATF Special Recommendations on Terrorist Financing. They will urge parties to the OECD Anti-Bribery Convention to enforce it rigorously. They reiterated the principle of openness of the Convention to non-signatories. Ministers agreed to promote the OECD Guidelines for Multinational Enterprises.

Harmful tax practices: Ministers welcomed commitments by 31 jurisdictions to transparency and effective exchange of information for tax purposes, and encouraged those on the list of Uncooperative Tax Havens to make similar commitments. Ministers encouraged international institutions to work together to help jurisdictions implement their commitments. Ministers looked forward to further improvements in exchange of information between tax authorities.

Doha Development Agenda: Ministers will make significant progress on all elements of the Doha Development Agenda to create the conditions for a successful WTO ministerial meeting in Mexico in September 2003. Ministers will work together on progressive liberalisation of market access, on strengthening WTO rules and disciplines and on facilitating the negotiating process on investment, competition, trade facilitation and transparency in government procurement. Ministers want to contribute to the new ILO World Commission on the Social Dimension of Globalisation. Ministers asked the OECD to work with the WTO to build its country file database as soon as possible.

Steel: Structural adjustment policies in this sector must be pursued vigorously. Work on steel under the auspices of the OECD has focussed on issues related to eliminating inefficient excess capacity worldwide, and strengthening disciplines on market-distorting measures and industry practices. Ministers expected further progress by the end of 2002.

Shipbuilding: Ministers support recent efforts in the OECD towards broad-based international negotiations on a new shipbuilding agreement to bring about normal competitive conditions in the world shipbuilding industry.

From Monterrey to Johannesburg and beyond – the OECD's role: Poverty reduction and sustainable development are an urgent priority. Ministers will build on the Monterrey Consensus on financing for development to support a comprehensive approach to the internationally agreed goals of the Millennium Declaration. They welcomed the New Partnership for Africa's Development (NEPAD) and looked forward to further dialogue to determine how best to co-operate to advance it. They encouraged the vital contribution of the private sector to development, and will address the need for technical assistance and capacity building to improve the investment climate in developing and transition economies. Ministers issued a separate statement on "OECD Action for a Shared Development Agenda" outlining the OECD's role. This includes encouraging policy coherence for development; supporting developing countries' governance capacity; improving aid effectiveness and ensuring adequate aid volume; and strengthening partnerships and accountability.

Sustainable development summit: The OECD Report to the World Summit on Sustainable Development (WSSD) illustrates OECD countries' responsibility and capacity to contribute to sustainable development and poverty reduction by enhancing economic growth, promoting human and social development and protecting the environment. Ministers will strengthen co-operation with non-OECD countries to promote good governance and effective policies. They recognised the important role of the private sector and of civil society. They asked the OECD to monitor progress across all three dimensions of sustainable development: economic growth, human and social development and the environment. ■

Calendar of forthcoming events

Please note that many of the meetings mentioned are not open to the public or media and are listed as a guide only. All meetings are in Paris unless otherwise stated. For further information, consult the OECD website at www.oecd.org, under "key upcoming events", which is updated weekly.

AUGUST – SOME HIGHLIGHTS

26-27 **Public-Private Sector Dialogue for Strengthening Trade Capacity Building**, regional workshop organised by the OECD Development Centre, the Development Assistance Committee (DAC) and the United Nations Economic Commission for Africa. Mombasa, Kenya.

26/8-4/9 **Sustainable Development**, World Summit in Johannesburg, South Africa.

SEPTEMBER

11-12 **Donor Good Practices**, workshop to examine best practices in aid, organised by DAC and Birmingham University.

16 **Implementing the DAC Guidelines on Poverty Reduction**, joint meeting with experts from the Development Co-operation Directorate (DCD) and the Trade Union Advisory Committee (TUAC), organised by the Labour/Management Programme.

16-17 **Policy Frameworks for the Knowledge-Based Economy: ICTs, Innovation and Human Resources**, global forum organised by the Directorate for Science, Technology and Industry (STI) Working Party on the Information Economy. Brasilia, Brazil.

16-18 **Incentives and Accountability: Instruments of Change in Higher Education**, conference organised by the Programme on Institutional Management in Higher Education of the Directorate for Education, Employment, Labour and Social Affairs (ELS).

18 **Access to Health Care in an Ageing Society**, joint meeting with experts from ELS and the Business and Industry Advisory Committee to the OECD (BIAC), organised by the Labour/Management Programme.

19-20 **Tax Treaties and Transfer Pricing**, global forum organised by the Directorate for Financial, Fiscal, and Enterprise Affairs (DAF).

25 Parliamentary Assembly of the **Council of Europe**. Strasbourg, France.

25-27 **The Measurement of Social Capital**, conference organised by the Centre for Educational Research and Innovation (CERI) and the British Office for National Statistics. London, UK.

28-29 **IMF/World Bank annual meeting**. Washington, DC, US.

30-1/10 **Global Trading**, workshop organised by the CATEP (Concerted Action on Tradeable Permits). Kiel Institute for World Economics, Kiel, Germany.

OCTOBER

3 **Innovation, Change and Partnerships**, second Quality Conference for Public Administrations in the European Union, organised by the Danish Ministry of Finance. Copenhagen, Denmark.

6-9 **Biotechnology for Infectious Disease: Addressing the Global Needs**, workshop organised by STI and the Environment Directorate, and sponsored by the Government of Portugal. Lisbon, Portugal.

9-11 **FATF**, first plenary meeting of FATF-XIV.

10-11 **Science Policies for Economies in Transition**, a Global Research Village conference organised by STI.

14-16 **Clean Russia 2002: International Exhibition and Conference on Waste Management** – problems and solutions of the 21st Century. Moscow, Russia.

16 **World Food Day**. Rome, Italy.

16-18 **Knowledge in a World of Risk: A Compass Towards New Prosperity**, World Knowledge Forum. Seoul, Korea.

22 **DAC aid peer review of the United States**.

27-30 **Small Business, Big Markets, One World – 29th International Small Business Congress**, hosted by the Royal Dutch Association of Small and Medium Sized Enterprises, MKB-Nederland. Amsterdam, the Netherlands.

NOVEMBER

3-5 **Fourth Asia Development Forum**, with a focus on placing trade on the development agenda, organised by the Asian Development Bank. Seoul, Republic of Korea.

4 **Quality Assurance and Proficiency Schemes for Molecular Genetic Testing**, experts meeting organised by STI.

7-8 **Environmentally Harmful Subsidies**, workshop organised by the Environment Directorate and the Directorate for Food, Agriculture and Fisheries.

12 **Improving the Prospects for Older People in the Labour Market**, joint meeting with experts from ELS, TUAC, and BIAC, organised by the Labour/Management Programme.

Education: the door of hope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Laura Bush, First Lady of the United States, was the keynote speaker at OECD Forum 2002 on 14 May. The theme of Forum 2002 was taking care of the fundamentals: security, equity, education and growth. All four are important, Mrs Bush told a packed audience that included many high-level guests, but all four hinge on one: education. The following two short extracts are from the First Lady's speech, the full version of which can be found at www.oecd.org/forum2002

"First and foremost, we must teach all the world's children to respect human life – their own life, and the life of others. Every parent, every teacher, every leader has a responsibility to condemn the terrible tragedy of children blowing themselves up to kill others.

Education can help children see beyond a world of hate and hopelessness. With education comes greater self-respect, and respect for others. With education comes greater understanding and tolerance. Education also invites greater equity, because it gives our children the tools they need to succeed in today's global economy. And education fuels growth, because it unleashes individual creativity and provides the skilled workforce essential to growth and development." (...)

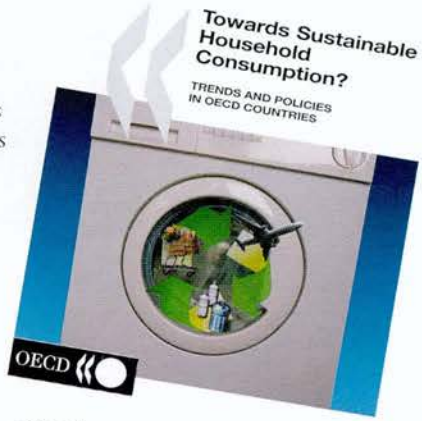
"There is no better example of governments, businesses and individuals working together than the effort now underway in Afghanistan, a country that is now rebuilding – and realising unprecedented opportunity – thanks to efforts led by the United Nations, the United States, the new Afghan government, and our coalition partners around the world.

Prosperity cannot follow peace without educated women and children. When citizens are educated, and especially when women are educated, people's lives improve in significant other ways as well. For example, improvements in women's education have contributed the most by far to the total decline in child malnutrition; and mothers with a secondary education have children with mortality rates nearly 36% lower than mothers with only a primary school education.

In March, the boys and girls of Afghanistan went to school, many of the young girls for the first time in their lives. The world watched as teachers took their long-vacant places and students opened their books for their first lessons." ■

Dealing with wretched excess

Towards Sustainable Household Consumption? Trends and Policies in OECD Countries



The impact of households on air and water pollution, waste generation and climate change has worsened over the last three decades and, without radical change, are expected to intensify even more in the next 20 years, according to this OECD report.

Consider these figures: energy use in OECD countries grew by 36% from 1973-1998 and is expected to grow another 35% by 2020 despite efficiency gains; municipal waste is projected to grow by 43% in the same period, from 540 to 700 million tonnes per year; and technological innovations, which have reduced the energy and material intensity of many consumer goods, have been offset by the booming increase in the excess of goods and services that are consumed and discarded.

How can governments reverse these trends, and help households develop less polluting, less material-intensive lifestyles? Surely without change, sustainable development will be out of reach. They could use taxes, yet many environmentally related taxes are already paid by households on the purchase or use of motor vehicles and fuels.

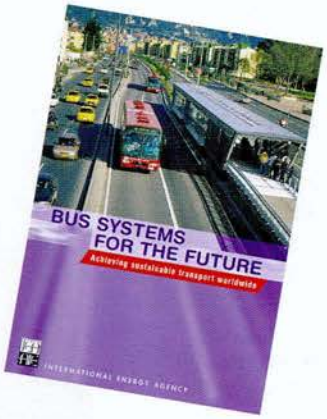
Could governments influence consumer tastes and preferences or lean on economic instruments or advertising to push consumers to more sustainable practices?

This report urges better regulatory standards and integrating policies in such areas as land-use, infrastructure investment and macroeconomic policies.

Slowing down the spiralling interaction of consumption and production will depend not only on consumers, but also on co-operation from government and business, to reduce the "wretched excess" from our consumer culture. ■

Better bus systems improve cities

Bus Systems for the Future: Achieving Sustainable Transport Worldwide



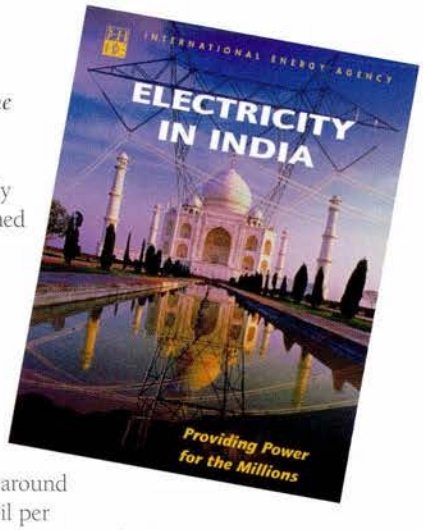
By 2020 transport will account for more than half the world's oil demand, and will generate nearly a quarter of the world's energy-related CO_2 emissions. According to projections in this book from the International Energy Agency, a sister organisation of the OECD, the rate of increase in transportation oil use is expected to be three times higher in developing countries than in the OECD, though the latter will still account for the lion's share of emissions. Cities worldwide face enormous transport problems as populations grow and vehicle ownership rises too, generating gridlock, sprawl, heavy oil consumption and persistent air pollution. The authors argue that better systems, like Bus Rapid Transit, incorporating new system design and modern technologies, can help save some of the oil, as well as help urban transportation to work better.

Compared to cities dominated by small private vehicles, those with well-designed bus systems have much less traffic congestion, lower pollutant and CO_2 emissions, and offer better mobility for residents. How to get people to use buses is a challenge. Discouraging car use with penalising taxes or higher parking fees might work, but to coax drivers out of their cars, public transport has to be worth it. Dedicated bus lanes have already been successfully introduced in cities such as London and Sydney. There are costs of course, like policing, but the reward is higher mobility. Add on services that inform waiting passengers when buses will arrive, "smart card" ticketing systems to allow easier transfers between routes and metro systems, and buses can become more attractive.

But technicalities like this are only part of the problem. Cities that spread out, like Los Angeles or Sao Paolo, present a different challenge to high density urban centres like New York or Paris. Yet, real opportunities lie in developing countries. Latin American cities, such as Curitiba and Bogota, that have developed BRT systems, report much lower traffic congestion, and bus operators that even make a profit.

Making progress will be hard, though. Many will argue that owning a car is an insurance against the risk of strikes. It is also a form of personal space. On the other hand can societies give no choice but to own a car (see article on Transport, page 43)? What this report shows is that not investing in public transit is unsustainable. ■

Indian power



Electricity in India: Providing Power for the Millions

India's electricity supply industry is mainly owned and operated by the public sector, and is currently running a growing risk of bankruptcy. While India is the third-largest producer of hard coal after China and the US, it imports around 1.4 million barrels of oil per day, 60% of its total needs. According to the US Energy Information Administration, India has a shortfall of roughly 13,000 megawatts of electricity.

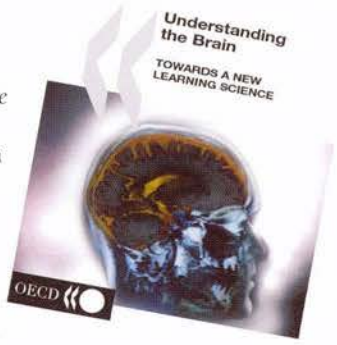
Most of the problems of the Indian power sector arise from the present retail pricing system and from the fact that too little of it is actually paid for by the user. Out of total electricity generated, only 55% is billed and 41% is regularly paid for. Electricity is either stolen, not billed, or electricity bills are not paid. This amounts to a mass of implicit subsidy.

Under-pricing is also a problem, as current retail prices of electricity represent less than 75% of real average costs. This has created a serious impediment to investments in the sector at a time when India desperately needs them. Just before its collapse, Enron was the largest American private investor in India. But it gave up on its 65% interest in Dabhol Power Company in Maharashtra after finding it impossible to get paid for power produced.

Looking ahead, India's crude oil imports are projected to reach 5 million barrels per day in 2020, which is more than 60% of current Saudi Arabian oil production. Energy and electricity will be required for a population that exceeded one billion in 2000 and to fuel an economy that grew at an average annual rate of 7% from 1993-1997.

The difference in this report from others by the IEA is that active government intervention is recommended to help prepare the way for an India-wide free power market. For the moment, no such market exists in India. Only the central government can create the conditions for it to emerge, by inducing the states to reform their bankrupt utilities, encouraging trade among states, and promoting an environment that will attract investment from home and abroad. ■

Smarter minds



Understanding the Brain: Towards a New Learning Science

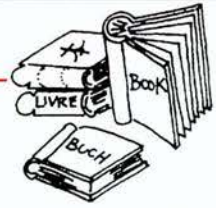
It shouldn't take a brain surgeon to figure out why some people can't read. But teachers and policymakers now concede that it might help to consult one. Three years ago, OECD's Centre for Educational Research and Innovations (CERI) launched a project on "Learning Science and Brain Research" that brings the hardware of brain science to bear on the software of learning. Neuroscientists, policymakers and educators are now all looking hard at questions like the use of mental imagery in learning and the role of age-related deterioration of brain cells.

They have also shattered some myths in doing so. For instance, it is generally asserted by non-specialists that the left hemisphere of the brain is used for logic and coding for verbal information, while the right hemisphere is the creative one and codes for visual information. In fact, while certain tasks such as face recognition and speech production belong primarily to one hemisphere, most thinking requires both hemispheres to work in parallel.

Common knowledge asserts that our brain loses 100,000 neurons every day. That belief has also been re-examined, with one study showing that the number of total neurons in each area of the cerebral cortex is not dependent on age. Instead, with ageing the number of large neurons shrink and smaller neurons increase. This could cause some decrease in the number of synapses, but while this may effect the speed of thought, it doesn't reduce intelligence.

In one Japanese study on adults 25 to 83 years old, no age-related differences were found in fluency, originality of thought, productivity and application of creative ability. Besides, emerging data show that physical fitness and learning can contribute to improvements in the management or control of mental processes. Learning actually modifies the brain physically by increasing the growth of new connections among neurons. This brain plasticity is an exciting find for cognitive scientists.

Educational policy could learn from this and improve too. If a reading anomaly has been detected in the brain, it may be treated in the classroom. In fact, many scientists predict that the study and treatment of dyslexia will be one of the major success stories of cognitive neuroscience in the near future. Who knows, maybe a visit to the neurologist will one day be as common as a dental check-up. ■



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See article.

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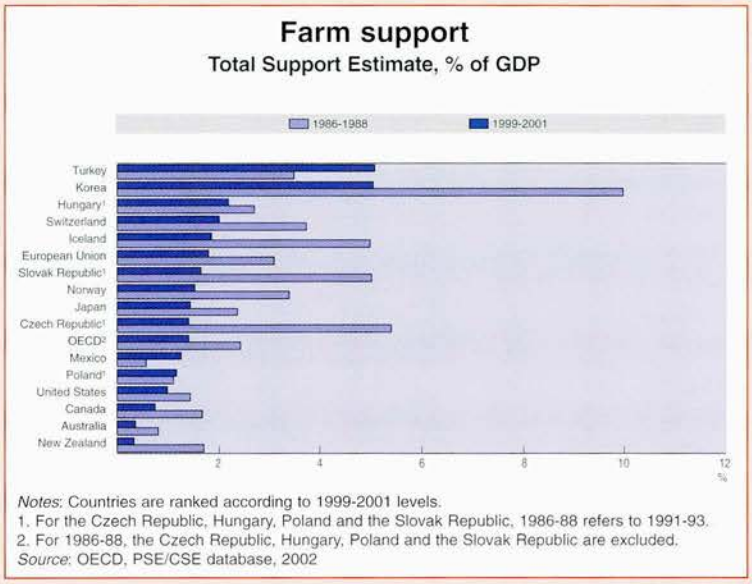
How green is farm support?



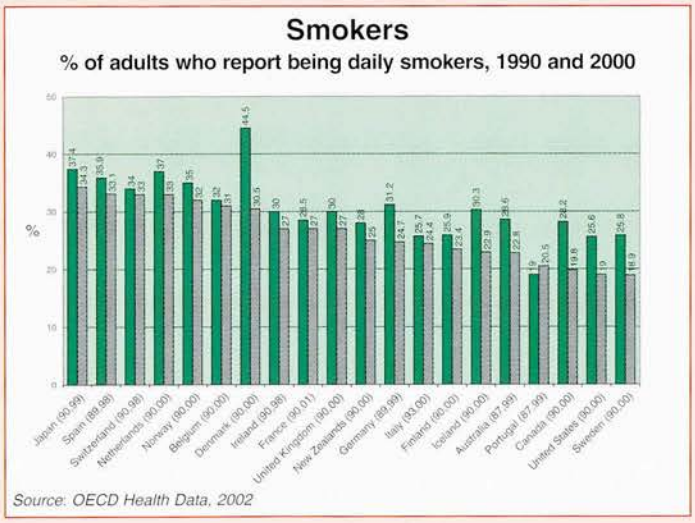
Notes: Countries are ranked according to 1999-2001 levels.
1. For the Czech Republic, Hungary, Poland and the Slovak Republic, 1986-88 refers to 1991-93.
2. For 1986-88, the Czech Republic, Hungary, Poland and the Slovak Republic are excluded.
Source: OECD, PSE/CSE database, 2002

Overall support to agriculture in OECD countries fell slightly in 2001, which could help reduce pressure on the environment, but generally agricultural policy reform has been slow, variable and insufficient, the latest report on *Agricultural Policies in OECD Countries: Monitoring and Evaluation 2002* found. Several countries introduced new measures to address environmental concerns in 2001, including setting environmental targets, reducing pollution or encouraging more sustainable agricultural production. Australia and the European Union announced goals for biodiversity conservation, while measures to reduce pesticide levels were introduced in Denmark, France and the Netherlands. The Czech Republic, Norway and Switzerland meanwhile increased spending to encourage organic farming. Much environmental spending is in the form of payments to farmers in return for changing production methods to reduce environmental damage or to remunerate them for providing environmental services. Such payments account for most of support classified as "measures of payments based on input constraint", which rose to 3% of total support to farmers in 1999-2001 from 1% in 1986-1988.

Still, support to agricultural producers accounted for 31% of total farm receipts in the OECD area in 2001, compared with 32% in 2000 and 38% in 1986-88. Three-quarters of support to producers in OECD countries distort production and trade, and prices received by farmers in 2001 were still on average 31% above world prices, shielding farmers in many countries from world prices, although the difference is lower than a 58% gap in the mid-1980s. Total support to agriculture in 2001 came to US$311 billion, or 1.3% of GDP, compared with an average 2.3% in 1986-1988. Significant differences remain across countries and commodities. Producer support levels range from 1% of farm receipts in New Zealand to some 60% or more in Japan or Switzerland. Producer support is 21% of farm receipts in the US and 35% in the EU. ■

- *Agricultural Policies in OECD Countries: Monitoring and Evaluation 2002*
- *OECD Agricultural Outlook 2002* (see News brief, page 5).

Unsustainable habits



Source: OECD Health Data, 2002

Cigarette smoking has fallen sharply across OECD countries in the past 40 years, as governments waged health campaigns and raised taxes on tobacco to discourage the habit. Sweden can claim the lowest smoking rate among OECD countries, with 18.9% of the population admitting to being regular smokers in 2000, down from 25.8% in 1990, followed by the US with 19.0%, down from 25.6% a decade earlier. The Japanese can meanwhile claim the dubious distinction of being the heaviest smokers, with 34.3% of people taking a puff daily in 1999, just slightly lower than 37% in 1990, figures in the latest edition of *OECD Health Data* show. But if US residents have been smoking less they have also been eating more, with the health data reporting that 26% of the population suffer from obesity, the highest recorded among OECD countries. The heavier-smoking Dutch, on the other hand, have an obesity level of just 8.7%. This coincidence should not be seen as a recommendation to "weight-challenged" people to take up smoking in a bid to shed some kilos, since both excess weight and cigarettes are associated with serious health risks and high medical costs. One notable difference between them, though, is that while cigarette packs usually carry health warnings, unhealthy foods do not. ■

- *OECD Health Data 2002*, a CD-ROM of health and health-related statistics for OECD countries which comes complete with the capacity to download regular updates online.

Indicators

	Gross Domestic Product			Leading Indicator			Consumer Price Index		
	period	% change from previous period	year	*period*	% change from previous period	year	*period*	% change from previous period	year
MEMBERS									
Australia	*Q1 02*	0.9	4.2	*May 02*	0.4	8.1	*Q1 02*	0.9	2.9
Austria	*Q1 02*	0.5	-0.2	*Apr. 02*	1.0	2.4	*May 02*	0.3	1.9
Belgium	*Q4 01*	-0.4	-0.7	*May 02*	2.8	6.7	*May 02*	0.2	1.3
Canada	*Q1 02*	1.5	2.1	*May 02*	0.1	8.6	*May 02*	0.2	1.0
Czech Republic	*Q1 02*	..	2.5		..	..	*May 02*	-0.1	2.5
Denmark	*Q1 02*	0.2	1.1	*May 02*	1.6	8.1	*May 02*	0.1	2.1
Finland	*Q1 02*	-0.6	-1.9	*Jan. 02*	-0.5	0.7	*May 02*	0.2	1.3
France	*Q1 02*	0.4	0.3	*May 02*	0.1	-0.2	*May 02*	0.1	1.4
Germany	*Q1 02*	0.2	-0.2	*May 02*	0.5	0.3	*May 02*	0.0	1.1
Greece	*2000*	..	4.3	*Apr. 02*	0.5	4.0	*May 02*	-0.1	3.4
Hungary	*2000*	..	5.2		..	..	*May 02*	0.5	5.6
Iceland	*2001*	..	3.0		..	..	*May 02*	-0.2	5.7
Ireland	*2001*	..	5.8	*Apr. 02*	0.1	1.6	*May 02*	0.5	4.7
Italy	*Q1 02*	0.2	0.1	*May 02*	0.3	3.0	*Jun. 02*	0.1	2.2
Japan	*Q1 02*	1.4	-1.6	*May 02*	0.2	2.5	*May 02*	0.3	-0.9
Korea	*Q1 02*	1.8	5.0		..	..	*Jun. 02*	-0.1	2.6
Luxembourg	*2001*	..	3.5	*May 02*	2.5	6.3	*May 02*	0.3	1.9
Mexico	*Q1 02*	0.6	-0.4	*May 02*	-0.7	6.9	*May 02*	0.2	4.7
Netherlands	*Q1 02*	0.0	0.1	*May 02*	0.4	2.8	*May 02*	0.0	3.3
New Zealand	*Q1 02*	1.4	4.7		..	..	*Q1 02*	0.6	2.6
Norway	*Q4 01*	0.2	1.8	*Apr. 02*	0.2	0.3	*May 02*	0.3	0.4
Poland	*2000*	..	4.0		..	..	*May 02*	-0.2	1.8
Portugal	*Q4 01*	0.4	1.0	*Apr. 02*	1.5	2.9	*May 02*	0.6	3.3
Slovak Republic	*Q1 02*	..	3.9		..	..	*May 02*	0.2	3.2
Spain	*Q1 02*	0.5	2.0	*May 02*	1.0	1.5	*May 02*	0.4	3.5
Sweden	*Q1 02*	0.3	0.8	*Apr. 02*	0.0	3.5	*May 02*	0.3	1.8
Switzerland	*Q1 02*	0.2	0.2	*May 02*	0.2	-0.4	*Jun. 02*	-0.1	0.3
Turkey	*Q1 02*	..	2.3		..	..	*Jun. 02*	0.6	42.6
United Kingdom	*Q1 02*	0.1	1.1	*May 02*	0.9	3.6	*May 02*	0.3	1.1
United States	*Q1 02*	1.5	1.7	*May 02*	0.2	1.9	*May 02*	0.0	1.2
Euro area	*Q1 02*	0.2	0.1	*May 02*	0.5	1.7	*May 02*	0.2	2.0
NON-MEMBERS					**Retail sales**				
Brazil		..	..		..	..	*May 02*	0.2	7.8
Bulgaria	*Q3 01*	1.2	4.6	*Apr. 02*	-1.8	3.5	*May 02*	-2.1	6.9
China		..	..		..	..		..	..
Estonia	*Q4 01*	1.3	5.8	*Apr. 02*	2.6	17.1	*May 02*	0.2	4.1
Indonesia	*Q3 01*	-0.9	3.6		..	..	*May 02*	0.8	12.9
Latvia	*Q4 01*	3.6	6.3	*Apr. 02*	-2.6	15.7	*May 02*	0.1	2.0
Lithuania	*Q1 02*	0.2	4.0	*Mar. 02*	2.9	10.8	*May 02*	-0.3	0.5
Romania	*2000*	..	1.6		..	..	*Apr. 02*	2.0	27.1
Russian Federation	*2000*	..	8.4	*Jul. 01*	5.3	17.2	*Apr. 02*	1.2	16.3
Slovenia	*Q1 02*	1.6	3.7		..	..	*May 02*	0.3	7.5
South Africa	*Q1 02*	0.8	2.1	*Mar. 02*	-0.2	6.2	*May 02*	0.8	8.4
Ukraine		..	..	*Feb. 02*	-3.5	16.8	*Mar. 02*	-0.7	2.2

Definitions & notes

Gross Domestic Product: Volume series; seasonally adjusted except for Czech Republic, Slovak Republic, Poland and Turkey. Data for the Euro area supplied by Eurostat.

Leading Indicators: A composite indicator based on other indicators of economic activity (qualitative opinions on production or employment, housing permits, financial or monetary series,etc.), which signals cyclical movements in industrial production from six to nine months in advance.

Consumer Price Index: Measures changes in average retail prices of a fixed basket of goods and services. HICP for Euro area.

Current Balance			Unemployment Rate			Interest Rate			
period	current period	same period last year	*period*	current period	same period last year	*period*	current period	same period last year	MEMBERS
Q1 02	-2.86	-2.44	*May 02*	6.3	6.8	*May 02*	4.84	4.89	Australia
Q4 01	-0.56	-0.95	*May 02*	4.1	3.5	*	..	..	Austria
Q4 01	2.31	2.32	*May 02*	6.8	6.6	*	..	..	Belgium
Q1 02	3.74	8.54	*May 02*	7.7	7.0	*Jun. 02*	2.76	4.41	Canada
Q1 02	-0.35	-0.84	*Q1 02*	7.6	8.3	*Jun. 02*	3.78	5.09	Czech Republic
Q1 02	0.92	1.84	*May 02*	4.2	4.3	*May 02*	3.66	5.02	Denmark
Apr. 02	0.19	0.43	*May 02*	9.3	9.0	*	..	..	Finland
Apr. 02	1.09	-0.27	*May 02*	9.2	8.6	*	..	..	France
Q1 02	0.97	-0.20	*May 02*	8.1	7.7	*	..	..	Germany
Dec. 01	-0.87	-0.92		..	..	*	..	..	Greece
Apr. 02	-0.35	-0.18	*Q4 01*	5.8	6.2	*May 02*	8.49	11.10	Hungary
Q1 02	0.00	-0.20	*May 02*	2.2	1.4	*May 02*	8.70	11.12	Iceland
Q4 01	-0.31	-0.46	*May 02*	4.4	3.7	*	..	..	Ireland
Jan. 02	-0.93	-0.03	*Apr. 02*	9.0	9.5	*	..	..	Italy
Apr. 02	8.86	7.63	*May 02*	5.4	4.9	*Jun. 02*	0.03	0.03	Japan
Apr. 02	0.63	1.04	*May 02*	3.1	3.7	*May 02*	4.80	5.90	Korea
Q4 01	0.78	0.18	*May 02*	2.3	1.9	*	..	..	Luxembourg
Q1 02	-4.17	-4.77	*May 02*	2.7	2.4	*May 02*	6.69	12.61	Mexico
Q1 02	5.09	2.80	*Apr. 02*	2.6	2.2	*	..	..	Netherlands
Q1 02	-0.20	-0.47	*Q1 02*	5.3	5.4	*Jun. 02*	5.96	5.82	New Zealand
Q1 02	6.32	6.77	*Q1 02*	3.9	3.5	*May 02*	6.90	7.45	Norway
May 02	-0.60	-0.73	*May 02*	17.3	16.0	*May 02*	9.44	15.98	Poland
Q1 02	-2.35	-2.44	*May 02*	4.3	4.0	*	..	..	Portugal
Q1 02	-0.36	-0.35	*Q1 02*	19.4	19.7	*Mar. 02*	9.00	9.80	Slovak Republic
Mar. 02	-0.51	-0.86	*May 02*	11.4	10.6	*	..	..	Spain
Apr. 02	0.76	0.10	*May 02*	5.1	5.0	*Jun. 02*	4.28	4.17	Sweden
Q1 02	6.42	5.68	*May 02*	2.6	1.7	*May 02*	1.14	3.15	Switzerland
Q1 02	-0.05	-0.20	*Q1 02*	11.8	8.6	*Jun. 02*	48.00	63.00	Turkey
Q4 01	-10.93	-7.94	*Mar. 02*	5.1	4.9	*May 02*	4.08	5.17	United Kingdom
Q1 02	-112.49	-107.72	*May 02*	5.8	4.4	*Jun. 02*	1.81	3.74	United States
Apr. 02	-3.81	-3.57	*May 02*	8.3	8.0	*May 02*	3.47	4.64	Euro area
									NON-MEMBERS
May 02	-1.83	-2.18		..	..		..	..	Brazil
Mar. 02	-0.06	-0.05		..	..	*Apr. 02*	3.92	4.36	Bulgaria
2000	20.52	15.67		..	..		..	..	China
Apr. 02	-0.08	-0.06	*May 02*	5.8	6.3	*May 02*	7.17	6.10	Estonia
Q4 01	0.56	2.50		..	..	*May 02*	16.57	14.92	Indonesia
Apr. 02	-0.05	-0.04	*May 02*	7.9	7.8	*May 02*	9.20	11.50	Latvia
Q1 02	-0.10	-0.14	*May 02*	11.3	12.5	*May 02*	10.78	8.88	Lithuania
Mar. 02	-0.11	-0.07	*Apr. 02*	10.6	9.4	*Mar. 02*	33.40	49.90	Romania
Q3 01	7.58	10.54	*Dec. 01*	1.6	1.4	*Apr. 02*	13.50	10.30	Russian Federation
Apr. 02	0.00	-0.03	*Dec. 01*	11.6	11.8	*May 02*	8.87	11.36	Slovenia
Q1 02	1.18	1.04		..	..	*May 02*	11.38	10.36	South Africa
Q3 01	0.39	0.90	*Nov. 01*	4.7	5.2	*Apr. 02*	27.10	33.00	Ukraine

Current balance: Billion US dollars; seasonally adjusted except for Greece, Ireland, and listed non-member countries. Data for Poland are on a cash basis.

Unemployment Rate: Per cent of civilian labour force — standardised unemployment rate; national definitions for Iceland, Korea, Mexico, Poland, Switzerland and Turkey; seasonally adjusted apart from the Slovak Republic and Turkey.

Interest Rate: Three months, except for Turkey (overnight interbank rate). Euro area rate is applicable for the 12 Euro area countries. * Refer to Euro area.
Source: Main Economic Indicators, July 2002; Quarterly National Accounts database.

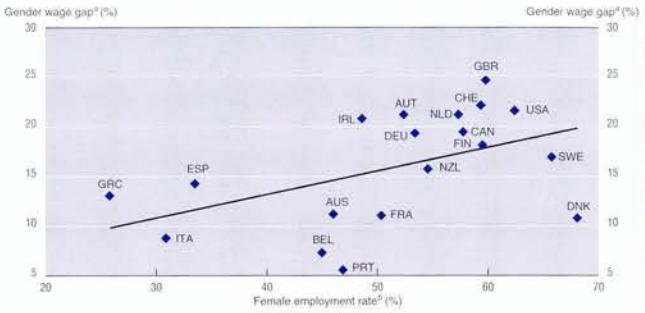
Lower-paid women

The number of women going out to work has risen in most OECD countries in recent years and their wages have risen too. But no matter how the gender wage gap is measured, women's hourly earnings are still below those received by men in all countries, averaging 84% of male wages, or a wage gap of 16 percentage points, the latest *OECD Employment Outlook* found.

Women in Portugal come closest to equal pay with their male counterparts, with a wage gap of just 5 percentage points, while those in the United Kingdom have the widest gap, with women's wages at 75% of their male counterparts' salaries. The gap exacerbates the fact that even if they were on the same hourly rate, many women would take home less pay than men anyway, as they are more likely to do part-time work or work shorter full-time hours.

Still, the proportion of women in work has risen in the past two decades in all OECD countries and in some, such as Denmark and Sweden, nearly as many women as men are in employment. But as the chart shows, countries with higher female employment rates also have wider wage gaps. This is because women with a university education tend to work in all countries, but less educated women work in large numbers only in countries where the overall employment rate for women is high. Hence, in countries like Greece, Italy and Spain, where the share of women in employment is only about 30%, as many of those would be skilled workers, their pay gaps with men are narrower, all other things equal. By contrast, a higher proportion of female employment is low-skilled in the Nordic countries, the United Kingdom and the United States, causing the gender gap to be wider. ■

Higher employment, lower pay
The gender wage gap and women's employment
Persons aged 20 to 64 years



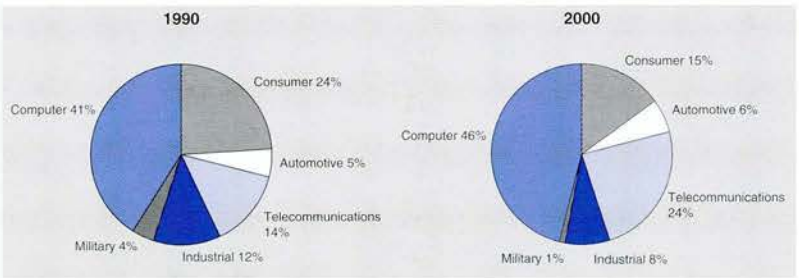
Notes:
a. Percentage difference between male and female average hourly wages.
b. Percentage share of women in wage and salary employment.
Source: OECD Employment Outlook, 2002

- *OECD Employment Outlook*, 2002.

Semiconductor slide

Semiconductors are the building blocks for the electronic revolution that we are living. But their production and use is largely driven by a limited range of electronic products such as PCs and mobile phones. If we can keep making faster, smaller and cheaper chips, we can produce better IT goods and services. Therein lies a problem: lately, falling demand led to oversupply in the semiconductor industry where rapid innovation is the key; stock goes out of date quickly, becoming virtually unusable. Hence the concern over the recent 31.2% fall in the value in 2001 of world semiconductor market, mirroring the decline in IT demand. In some ways, it is a reality check after a decade of compound annual growth of almost 10%. Much of the increase in semiconductor use between 1990 and 2000 was related to the explosion of the Internet and mobile phones. Computers are still the main end market for semiconductors, but their share has slipped to 41% of the total from 46%. The share of semiconductors going into the telecoms sector rose to 24% of the total in 2000, the latest *OECD Information Technology Outlook* says. Japan is the only region in which consumer electronics accounted for a sizeable share of the semiconductor market in 2001, at around 30%, while the share in Europe and the Americas was below 10%. But new growth in the game console market and the arrival of DVD and digital set-top boxes is expected to contribute to a recovery. ■

Semiconductor trends
World semiconductor market by application (end markets), 1990 and 2000



Source: OECD, based on WSTS, 2001

- See News briefs.
- *OECD Information Technology Outlook*, 2002.

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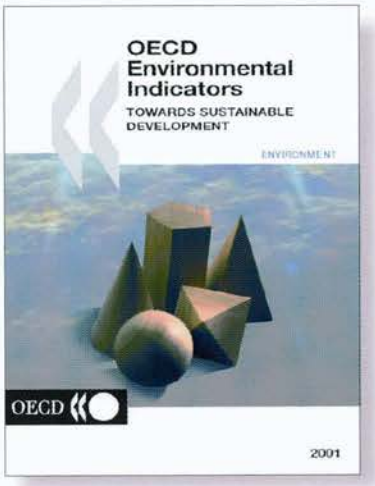

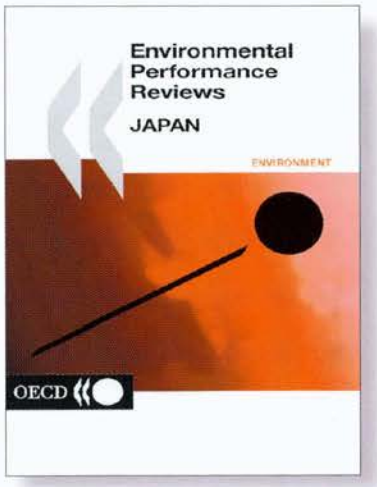

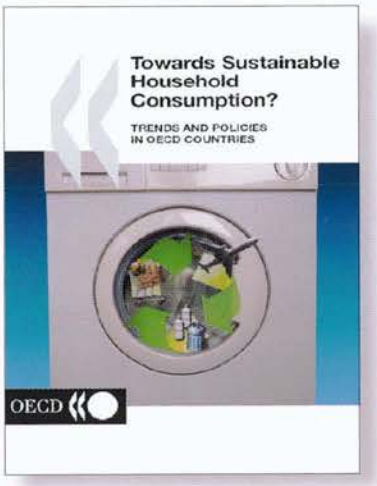

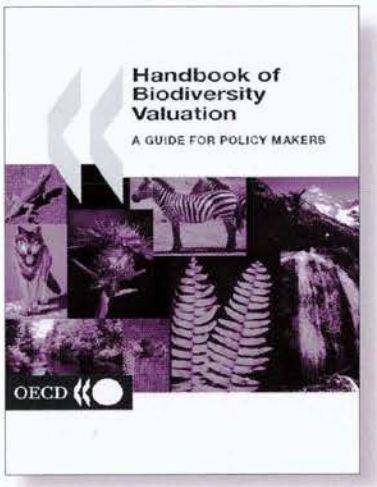

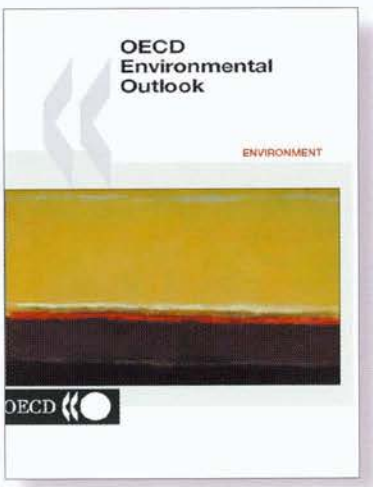

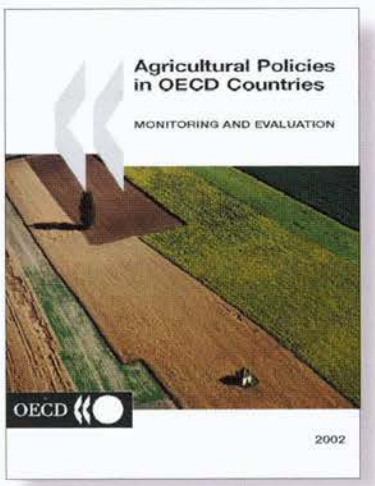

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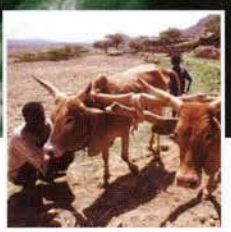
Invest in Africa's farmers for long term economic growth



If farming is the basis for rural livelihoods, should it not be the starting point for building a prosperous rural economy and the only sound base for building food security for the poor?

Start from where people are and build on what they have.

"My children have joined school. I have also started other business from the income I earn from my goats"
Mrs Kiros Demewoz , project beneficary, Tigray, Ethiopia

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