

Payments for Environmental Services

There's an old idiom that 'one man's meat is another's poison'. Fortunately not everyone has the same tastes, so some products are highly sought by some individuals, or some societies, but considered of little value by others. Products are valued by the level of demand in relation to scarcity; what is treasured in one location, like water in a desert, may be taken for granted in the wet tropics. Many products experience steady price trends, others fluctuate heavily, depending for example upon weather conditions, availability of substitutes, new technology, or speculative pressures. Sometimes values change overnight, particularly during crises, such as vanilla's price hike following Madagascan cyclones, or collapse, as with kina shells in PNG's Highlands, when coastal access was opened during colonial times. A desperate king reputedly said, whilst seeking to flee the battlefield, "my kingdom for a horse". Markets are increasingly globalised as awareness grows, fashions spread and supply-lines improve, providing European households, for example, access to tropical fruits or PNG diving holidays in mid-winter.

Economic growth and the growth of trade and markets have provided the driving force for improved economic opportunities worldwide, although the benefits have been distributed very unevenly, between and within countries. Population growth and increased per capita demand, including globalised markets, have brought with them major associated costs, particularly upon the natural environment, resulting from the increased consumption of natural resources, pollution, including emission of greenhouse gases. We have been progressively eliminating the planet's other species, which have evolved over hundreds of millions of years, latterly at an alarming pace. We have threatened major eco-systems and food-sources, particularly in recent decades, such as fish stocks, or fertile agricultural land which has become unusable from salinisation or sometimes human-induced drought. Much of our growth has been based upon exploiting non-renewable (and often highly polluting) energy sources, formed over 300 million years ago from trees (coal) and marine life (plankton – converting to oil and natural gas). Relatively easy to extract and utilise as fuel, known supplies are being exhausted rapidly and the emissions, particularly from products such as coal and bunker oil have been long recognised.

Against that, humans have been very innovative in meeting our needs; developing technologies to increase yields (green revolution), address chronic health conditions, reclaim land, and tackling resource and pollution issues, such as recycling water, and addressing smog and acid rain. Technology advances rapidly where adequate resources are committed, and where markets demand. History is scattered with successes and failures of markets and human behaviour. Major market crashes (as of 2008) result from inadequate or misread information, with greed and self-interest often over-riding clear warnings. Depleted cod stocks, drained inland waters, like the Aral Sea or Murray-Darling basin, point to market and policy failures, with history's incessant wars highlighting failures of dialogue and reconciliation.

Humans are motivated spontaneously by individual self-interest, but group and government, especially multinational, reactions are slower. What's sometimes termed "**Tragedy of the Commons**" is where everyone (farmers, fishermen or hunters) act independently in self-interest but ultimately destroying the limited natural resource upon which they all depend. Addressing major shared global challenges such as

climate change, watershed management and protection of our natural environment and biodiversity, requires prompt and cooperative international and domestic action, which must be market driven, as well as utilising effective regulatory powers. It must also meet broad-based development needs, particularly in developing countries, whilst restraining excessive per-capita consumption and waste, and unsustainable levels of population growth.

Traditionally governments and communities sought to change public or business behaviour, including effluent control, safeguarding habitats and stocks, or restraining over-consumption, through regulations or taxes. Restrictions are therefore placed upon use of various chemicals, harvests and by-catch, land-use, with areas set aside as protected areas, such as National Parks. This can be effective in some circumstances, and regulations certainly play an essential role. Governments rarely lead, but are pushed by innovators and pressure groups, whilst needing adequate popular mandate, particularly for major policies reforms with significant cost implications, as with application of an Australian emission control policy, with clear costs upon powerful vested interests. Such major policy measures, however, have to be adequate (or they're of no value) and effective, which invariably means hurting some industry, but designed to effect positive innovation.

Another, market mechanism, which complements use of taxation to influence markets, is application of subsidies and payments. Payments for Eco-system or Environmental Services (PES) have long been applied in developed countries and now being used in developing countries. The EU, for example, paid farmers to "set aside" land, and not use it for production, hence helping maintain producer prices. Latterly the EU has used funds more constructively to enable farmers also to use that land for more valuable purposes, such as conservation, forestry or recreation, rather than simply 'set-aside'.

PES have been used with mixed success, particularly in South America, but also elsewhere, notably for watershed management, forest protection and biodiversity conservation and latterly also for reducing carbon emissions. There are some apparent success stories occurring with PES, and lessons being learnt for applying them effectively, although clearly, what works in one country is not necessarily directly applicable elsewhere.

State-owned protected areas, like National Parks, have little application in PNG, as most land belongs to customary resource owners. Nearly all current 'protected areas' comprise Wildlife Management Areas, under the Fauna (Protection and Control) Act. They are largely intended to stop neighbours hunting on a tribe's Customary land, rather than providing protection from major resource development/exploitation. PNG's resource allocation and oversight laws, such as for forestry, lack rigour, with market pressures upon some landowner, political and administrative leaders encouraging processes to be widely circumvented.

Apart from corruption, there are clearly sound market reasons why landowners allocate land for commercial forestry or agriculture, where developers are interested and available. They may be disappointed with the performance from some developers and limited lasting community benefits, but with the lack of government services and limited economic opportunities, many resource owners readily seek out any developer

ready to offer some benefits, including entry into the world of consumer goods. Indeed agriculture, but also sustainable forestry comprise essential components of PNG's current and future land-use.

There's recently been great publicity over "carbon cowboys" and dubious officials exploiting gullible landowners in PNG for bogus registration fees, or under questionable contract purportedly from the Office of Climate Change. There have also been warnings against exploitation, and directions that only the Climate Office can issue approvals (although it has no mandate), and that no carbon trading is permissible under the voluntary market, and only under the UN-REDD (Reduced Emissions from Deforestation and Degradation) mechanism proposed for Copenhagen in December.

Many contrary and dogged views are being expressed. We should avoid taking intransigent positions. Payments for Eco-systems Services have sound potential. If society values a service, such as a habitat protection, whether safeguarding water supplies, rainforest and its biodiversity and/or for carbon storage role, this is as valid as paying farmers for crops produced on that land. The market mechanisms are not yet well developed, as for buying mineral or agricultural products, but the private voluntary carbon market is providing valuable experience for a larger prospective official market (e.g. the community-controlled 'Juma Sustainable Development Reserve Project' in the Amazonas State of Brazil, using the REDD approach), whilst other existing PES schemes are also making an impact.

Valid PES schemes require rigorous processes to validate landowners and approvals, starting with legitimate ILGs. Clear processes and their application are essential if PNG is to both attract long term financing for PES (knowing that the landowners will honour their agreement, under contract law or other Statute), but also ensure landowners are not widely cheated, undermining all confidence in the mechanism from the start.

Unlike minerals, the trees (and presumably carbon within it) are legally the property of the landowners, including the right to trade subject to the provisions under the *Forestry Act*. If landowners currently have options to log or convert to agriculture, they should also be allowed to opt for leaving their land intact, and receive PES, including under the voluntary market carbon market, from international conservation support initiatives (e.g. Princes Rainforest Fund) and/or prospective UN REDD+ (including conservation). It's unfortunate that former Forest Minister, Pruaitch, blocked major GEF funding for supporting forest development options, which could have piloted some PES schemes with landowners earlier this decade (under the aborted FCP).

The State should facilitate policies to safeguard the credibility of the PES market, using existing and prospective mechanisms, but with a transparent and credible oversight process (excluding principals of past misdemeanours and financing scams). There are many who believe that its credibility would be badly undermined if managed by the State, but a purely market mechanism would also be subject to wide abuse. Credible provision of valid baseline data and oversight is required, utilising an independent organisation authorised but not controlled by the State. Conceivably it could be existing organisations, such as the Forest Authority (but only once substantially refocused and reformed) and without handling the funds, which could

perhaps by reputable financial institutions, including possibly a reinforced Conservation Trust Fund.

17% of global greenhouse gas emission purportedly stems from global deforestation and degradation. PNG contains one of the world's major tropical rainforests, amongst other rich natural resources. It also houses a major portion of global biodiversity. There may now be mechanisms to capitalise on this asset, safeguard the resource whilst providing a steady, if modest, landowner income and development option. The country would be foolish to be sidelined from this opportunity, and potentially jeopardise the resource under pressure from other potentially less-sustainable land-use options (and forfeit opportunities to resource owners), as a result of infighting and failure to agree on credible and transparent mechanisms. It's now time for all parties to put their heads together and cooperate to pilot PES schemes and provide the country with a credible opportunity to participate in future international mechanisms, whilst ejecting those pursuing narrow vested interests. Realistically, this is not a substitute for firm emission controls, notably in developed and emerging markets, remaining subject to leakage, including fire and weak oversight, but it can provide diverse global and local environmental benefits.

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3th October 2009