

Prepared for the Regional Round Table on "From Development Aid to Economic Cooperation: Converging Paths to Environmental Sustainability in Asia", 5-7 July 2001, Melaka, Malaysia, organized by the Asian and Pacific Development Centre (APDC), in partnership with the State Government of Melaka (SGM), Malaysia and the Nordic Institute of Asian Studies (NIAS) and sponsored by the European Commission through the Regional Institute of Environmental Technology (RIET) and the Economic Planning Unit of the Prime Minister's Department, Government of Malaysia

Environment and Poverty: Interconnections and Trade-Offs

Isagani R. Serrano
Vice-President
Philippine Rural Reconstruction Movement

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Introduction

IN CURRENT DEVELOPMENT DISCOURSES IT'S rather odd to find any discussion about poverty minus the environment or about nature without people. This is one consequence of the 1992 Rio Earth Summit, which officially blessed the concept of sustainable development. Yet even prior to 1992, poverty and environment, and how they feed on each other to produce both commonly desired or unwanted development outcomes, have figured prominently in honest-to-goodness policy debates and development action.

But note a difference. Then, the times being dominated by social activism of the '60s and the '70s, discourses were more about social injustice than on poverty as such. Poverty was framed within the justice question. Now, poverty seems to be the main frame of reference. It's getting hyped as though it's equivalent to inequality or inequity. Which may be partly right but could suggest a

tricky proposition. And that is, that its reduction or total eradication by economic growth, as demonstrated in parts of East Asia, for example, could be tantamount to economic justice or justice for all of society where such dramatic feat has been accomplished. Yet, also precisely to avoid such conclusion, or fallacy if you will, poverty is now framed more broadly to encompass many dimensions, including governance and environment.

This paper seeks to examine the complex interplay of environment and poverty in the context of Asia-Pacific development, past and future. In teasing out such interplay the paper also seeks to avoid a common pitfall: blaming the poor for environmental decay or demonizing affluence as the root cause while absolving the poor of any responsibility. As well, the paper will try to help identify possible approaches to better integrate efforts at the national and international level to address the twin challenges of poverty reduction and environmental protection.

With declining ODA and rising private flows, can developing Asian countries deliver on their commitment to reduce poverty while restoring the health of seriously degraded though still diverse Asian environments? Considering that this implies consistent high economic growth, can these countries reduce absolute poverty by half come 2015, as promised, without contributing to greater losses in biodiversity and further destabilization of the global climate system?

It may not be too much to say that if sustainability can be achieved in the Asia-Pacific region it can become a reality for all of humanity.

But first, where are we at, exactly?

Counting the poor

The Asia-Pacific region entered the 21st century having the lion's share, 75 % or about 900 million of the world's 1.2 billion poorest of the poor. The numbers are derived from the most common international measure—those living on a dollar a day or less. Already that's twice as many poor people as in the rest of the developing world. If measured from two dollars a day, the region's poor and massive underclass come up to about 2 billion, a third of humanity.

South Asia is home to 522 million of these poorest people. China has 213 million. The rest are spread across East and Central Asia and the Pacific island-nations. You will probably not find them in Japan, Singapore, Taiwan, South Korea, and Malaysia. The poor aborigines of



Australia and the Maoris of New Zealand might not be exactly the absolute poor that you see elsewhere in the region.

Though poverty remains as massive a decade ago as now, its incidence has improved slightly on the aggregate. The main reason, Asia's population grew from 2.8 billion in 1990 to 3.3 billion in 2000.

Return of poverty in countries where it had been licked previously also happened as a result of the 1997 Asian crisis. Thailand was well on the way to eradicating it when the financial crisis struck. Indonesia had reduced it to a dramatic low of 15 or less percent before the crisis. Poverty has grown and deepened in the Philippines. Economic liberalization and lack of economic growth in transition countries, like Mongolia, Lao PDR, Cambodia, except perhaps Vietnam, also added to the number of poor in the region.

But up close and behind the numbers

How does a poor Mara, Abdul, Prakash, or Amanah make a dollar a day and spend it? How do they each live their everyday? How are they valued in their societies?

Consider the many dimensions of poverty. According to the World Development Report 2000/2001, referring to Nobel laureate Amartya Sen, "poor people live without fundamental freedoms of action and choice that the better-off take for granted. They often lack adequate food and shelter, education and health, deprivations that keep them from leading the kind of life that everyone values. They also face extreme vulnerability to ill-health, economic dislocation, and natural disasters. And they are often exposed to ill treatment by institutions of the state and society and are powerless to influence key decisions affecting their lives."

We are talking here of millions upon millions of underfed, poorly sheltered, poorly educated, ignored, humiliated, excluded, and extremely vulnerable souls who will probably die without visiting places other than where they were born.

They live in the slums of Calcutta, Bombay, Dhaka, Jakarta and Manila. They are in factories and surrounding communities, in mining districts, in and around export processing enclaves. They drink contaminated water. They have no toilets or sewers. They eke out a living from what odd jobs they can grab on a day to day basis. Their everyday is literally a hand-to-mouth existence.



In Manila a village of some 50,000 people was born and for a long while thrived on a mountain of garbage disposed by Metro Manilans who could not handle their waste in their own backyards. These poor people live on tin and board huts or whatever scrap material they could scrounge around to build makeshift shelters. They buy their water from poor water vendors who in turn collect and buy or steal water elsewhere. Men, women, but especially children and young out-of-school among them, would each make their measly pesos scavenging, sorting out garbage for selling to recycling companies. In mid-2000 this mountain of garbage collapsed after two days of heavy rains and fire, burying more than 200 residents.

Majority of the poorest still live in rural Asia. They may be found in western China, in the drylands of India, in the slopes of the Himalayas, along coastal communities stretching from northern China down to the small island-states of the Pacific. They live and work in unproductive farmlands of Mongolia, Pakistan, the interiors of India and China.

In these rural societies, they are likely to be landless or small farmers who are heavily indebted to big landlords and farm traders. They are small fishers who compete with big commercial fishers in overfished and polluted fishing grounds. They are the growing upland dwellers who have been pushed out of the lowlands.

They are the indigenous peoples hunting and gathering forest products and saving eroding uplands and what was once virgin forests now clear cut by timber companies. Or they could also be slash-and-burn farmers, small loggers and fuelwood gatherers, and charcoal makers, all exacting their own demands on nature in order to survive.

They are the untouchables or outcasts and the tribals of India. They are the Muslims in southern Philippines.

There's also a gender dimension to this poverty condition. Majority of the poorest are women and girls who suffer much more than their male counterparts. These women manage cash-strapped households, rear children, gather water and firewood. Much of what they do are unpaid, unrecognized, discounted. They are usually the last to be hired into what usually is an unfairly paid job and first to get thrown out come economic crunch. They often have to put up with different forms of harassment and humiliation at home, at work, in the neighborhood.



Poverty of the region's environment

Asia and the Pacific, the so-called growth center of the world in the closing years of the exiting century and at the entry of the new millennium, is fast transforming into an environmental nightmare. Its farmlands and forestlands, surface and ground water, forests, seas and oceans are being drained of resources and poisoned in a big way. This home of the world's biodiversity has suffered tremendous losses of its plant and animal species. Its atmosphere, now choking in pollution, is contributing hugely to the destabilization of the global climate system.

It shows in land use

We see environmental degradation first in the status and trends of land use (Box 1). The region's forests has been converted massively into croplands, though land availability per person is still 0.15 ha against the world's average of 0.24 ha. Soil degradation, in differing extent of severity, now covers 851 million ha or 25% of the region's land area. Asia's land surface is already 46% dry (1,977 million ha) and its deserts continue to expand affecting more than 500 million of its people. The yearly economic loss due to land degradation comes up to US\$10 billion in South Asia, US\$700 million in Northeast Asia, US\$130 million in Australia, and about 3 per cent of the national income of all countries in central Asia.



Box 1. Status and trends of land use

- The land-use pattern in the region has undergone a major change over the years, with a sharp increase in cropland area but a marked decline in forest, indicating mass conversion of forests into cropland.
- In spite of cropland expansion per capita, land availability in the region is only about 0.15 ha compared to the world's average of 0.24 ha.
- The growing pressure on land has resulted in the degradation of 851 million ha, amounting to about 25 per cent of the region's land.
- Degradation of cropland appears to be most extensive, amounting to more than 33 per cent, followed by forest land (about 25 per cent) and pasture (about 20 per cent).
- Some 13 % of the affected area has suffered severe degradation, while 25 per cent is moderately degraded and 62 per cent is slightly degraded.
- Water erosion is the most pervasive cause of land degradation, affecting between 50 and 70 per cent of all degraded land in the region.
- Erosion by wind has affected about 20 per cent of the degraded land and is most common in the arid and semi-arid lands of South and Central Asia, China and Australia.
- Within the physical degradation category, waterlogging and salinization as well as aridification are the main sub-types.

Box 1. Status and trends of land use

- Asia has 1,977 million ha of drylands (46 per cent of the continent's total surface area), of which more than 50 per cent is suffering from desertification.
- The area worst affected by desertification is Central Asia (>60 per cent) followed by South Asia (>50 per cent) and North-East Asia (-30 per cent).
- The Aral Sea basin is the largest area on earth affected by human-induced desertification, which extends over an area of nearly 2 million km². It has affected vegetation cover (accounting for some 70 per cent of degraded land), and caused salinization of 14 per cent of irrigated farmland and water erosion in 6 per cent of the area.
- More than 500 million Asians are directly or indirectly affected by desertification.
- The annual economic loss due to land degradation has been estimated at .US\$ 10 billion in South Asia, US\$ 700 million in North-East Asia, US\$ 130 million in Australia, and about 3 per cent of the national income of all the Central Asian States.
- Grave economic effects from further soil degradation can be expected in areas with high population growth rates (even those with a low base), where the use of technology for more intensive, sustainable soil management is still unknown, and where unfavourable economic policies and incentives undermine farm investment.

Source: UNESCAP & ADB, State of the Environment in Asia and the Pacific 2000.

Fast disappearing Asian forests

In the world's tropical regions, Asia and the Pacific shows the highest rate of deforestation, the fastest rate of commercial logging and the highest rate of fuelwood removal. The major causes of forest cover loss are attributed to the expansion of farming, large economic development programs involving resettlement, agriculture, and infrastructure. Add to this overharvesting for industrial use and fuelwood, pollution and extreme climate events like storms.

Box 2. Status and trends in forest areas

- Asia and the Pacific account for 15 per cent of global forests availability in the region is only one quarter of ha per capita.
- South-East Asia has the largest forest area (202 million ha), followed by North-East Asia (182 million ha).
- Indonesia, Malaysia, Papua New Guinea, and the Russian Federation have the major portion of the regions remaining frontier/ natural forests.
- Countries that have lost much of the frontier/ natural forest include Australia, Bangladesh, Bhutan, Cambodia, China, India, the Lao People's Democratic Republic, Malaysia, Myanmar, New Zealand, Sri Lanka, and Viet Nam.



Box 2. Status and trends in forest areas

- Fifty per cent of the region's forest area has already vanished and another 750,000 ha are being lost each year.
- Among the tropical regions of the world, Asia and the Pacific has the highest rate of deforestation (1.2 per cent annually), the fastest rate of commercial logging and highest rate of fuelwood removal.
- The average loss of forest area in the region from 1961 to 1995 is estimated to have been 1.6 million ha per year (about the size of Cambodia); the biggest loss of forest area is occurring in South-East Asia.
- The major causes of change in forest cover in the region appear to be the expansion of agriculture and large economic development programmes involving resettlement, agriculture and infrastructure.
- Other causes of deforestation include overharvesting for industrial use and fuelwood, pollution, and extreme climate events such as storms.
- In recent years, fires have caused serious damage to forests in the region. In 1997, wildfires raged in Australia, Indonesia, Mongolia, Papua New Guinea, and the Russian Federation, and in 1998, in Indonesia and the Russian Federation.
- The region produced about 1.2 million m³ of roundwood in 1995, constituting about one third of global wood production.
- Demands for fuelwood are exceedingly high in the region, and 75 per cent of the total roundwood production was used for fuel.
- Over the past 25 years, production and consumption of industrial wood products in Asia and the Pacific have expanded by more than one and a half times, making the region a dominant consumer of wood products.
- The use of non-wood forest products is also on the increase. It is estimated that 80 per cent of the population of the developing world use non-wood forest products to meet some of their health and nutritional needs.

Source: UNESCAP & ADB, State of the Environment in Asia and the Pacific 2000

The coming water crisis

As Michael Parfit said in National Geographic special edition on water (1993), "Like good health, we ignore water when we have it. But, like health, when water is threatened, it's the only thing that matters".

Asia and the Pacific may still be more than 50 per cent wet but it's been losing its water resources fast due to ever rising demands of its growing population, agriculture, industry, and homes. Water for irrigation accounts for the largest withdrawals from both surface and ground water. Excessive abstraction of groundwater has been depleting aquifers, lowering water tables, and inducing sea water and salt intrusion. One outstanding example is the shrinking of the Aral Sea by 40 per cent from its 1960 level. Degradation through pollution of river systems, lakes, wetlands and marshes have aggravated overextraction.



Box 3. Status and trends in inland water resources

- The per capita freshwater resources in Asia and the Pacific are the lowest among the regions of the world.
- Per capita water resources are declining further with increases in population, and their future availability will depend on the population size as well as other factors such as potential climate change.
- It is estimated that between 1950 and 1995 water use in Asia increased by almost 300 per cent, and about 12 per cent of the regional renewable water resources are now withdrawn annually for various uses.
- The annual withdrawal of water of agriculture (84 per cent) is far more than that for industrial (10 per cent) and domestic (6 per cent) purposes.
- Irrigation remains by far the largest consumptive use of water in Asia and the Pacific, accounting for 60 to 90 per cent of annual water withdrawals in most countries of the region.
- With the continuing expansions of national economies, the competition for, and conflicts over, water are increasing between various sectors.
- Being relatively clean, ground water is the most popular source for domestic supplies in the region accounting for 50 per cent of the present requirements.
- Singapore and Maldives are already water scarce with water resources of <1,000 m³ per capita, while the Republic of Korea is under water stress at <1,600 m³ per capita. The northern plains of China and the Aral Sea basin in Central Asia are also experiencing acute shortages of fresh water shortages are also being experienced by some island countries in the Pacific.
- Distribution losses in major irrigated areas of the region are very high, and only about 40 per cent of the water taken into the major distribution networks reaches the fields.
- Over-abstraction of water from underground sources has resulted in aquifer depletion, land subsidence or sea water/ saline intrusion in several countries of the region.
- A glaring example of over-abstraction of water from surface sources is the Aral Sea, which has shrunk to more than 40 per cent of its original size since 1960.
- The water crisis is aggravated by degradation, which can be gauged by the fact that the median faecal coliform count in Asia's rivers is 50 times higher than World Health Organization (WHO) guidelines.
- Levels of suspended solids in Asia's rivers have almost quadrupled since the late 1970s, and the rivers of the region contain typically four times the world average and 20 times the OECD levels.
- Biological oxygen demand (BOD) in Asian rivers is 1.4 times the world average.
- Asia's rivers contain three times as many bacteria from human waste (faecal coliform) as the world average, and more than 10 times the level given in OECD guidelines.



- Improvement in the state of water quality in some countries such as Australia, China, Japan, the Republic of Korea and Singapore has been observed because of the various initiatives undertaken to halt the pollution of water bodies in those countries in recent years.

Source: UNESCAP & ADB, State of the Environment in Asia and the Pacific 2000

Blue turns black and gives fish no more

The coastal and marine environments of Asia and the Pacific are being stressed by ever growing demands for fish and marine resources, for expansion of industry, tourism and human settlements. Open access to these supposedly common property resources is rapidly transforming the region's coasts and seas into a classic tragedy of the commons.

Box 4. Status and trends in coastal and marine environments

- The marine and coastal environments in Asia and the Pacific provide 55 per cent of the world fish catch.
- The region also accounts for 87 per cent of the total world production from marine aquaculture, which has also affected coastal habitats through reclamation as well as deteriorated water quality as a result of pollution.
- Over 75 per cent of the world's coral reefs are located in Asia and the Pacific; if properly managed, on average this can yield 15 tons of fish and other seafood per km² annually.
- Mangroves are also abundant, with more than 40 per cent of the world's currently estimated 18 million ha of mangrove forest occurring in South and South-east Asia alone.
- More than 4 billion tons of oil and 5.8 trillion m³ of natural gas reserves have been found on the continental shelves of Asian Pacific countries.
- The rich marine environment in the region is subjected to great pressure through over-extraction of resources, enhanced pollution and physical alterations in coastal ecosystems.
- Over 60 per cent of Asia's mangrove forests have already been converted to aquaculture ponds.
- More than 80 per cent of coral reefs in South-East Asia are at risk and more than 50 per cent of these are at high risk. Similarly, 54 per cent of Indian Ocean and 41 per cent of Pacific Ocean reefs are at high or medium risk.
- A recent estimate found that the costs of destroying just 1 km of reef ranges from about US\$ 137,000 to almost US\$ 1.2 million over a 25-year period, when fishery, tourism, and protection values alone are considered.
- The perception of a free-for-all policy on ocean fisheries that characterized global politics for most of the previous century resulted in serious damage to ocean resources.
- Marine water quality monitoring is very rare in developing countries of the region, but where monitored as in China only 18.7 per cent of coastal waters meet Grade I water quality standards.



Box 4. Status and trends in coastal and marine environments

- Nutrients also constitute one of the major pollutants in many seas. Rivers in six countries alone deliver over 600,000 tons of nitrogen to coastal waters overlying the Sunda Shelf in the South China Sea. In addition, about 6 million tons of BOD are generated by seven countries bordering the South China Sea; only 11 per cent of that amount is occurring in Australia, China, Japan, the Republic of Korea, New Zealand and the Philippines.
- Toxic blooms wiped out US\$ 10 million worth of fish in 1997 and another US\$ 32 million worth of high-value fish in 1998 in Hongkong, China's mariculture industry.
- A red tide outbreak in Kerala, India, in 1997 forced the closure of shellfish beds, leaving nearly 1,000 families without work. In the same year, toxic algae wiped out more than US\$10 million worth of high-value fish in the mariculture industry of Hongkong, China.
- The suspended load (primarily silt) per km² of drainage basin in the region is three to eight times higher than the world average.
- The disruption and modification of habitats also damage the physical integrity of coastal ecosystems. Virtually all urban areas in the region have filled in coastal wetlands for development, and have built sea walls and wharfs for coastal shipping.

Source: UNESCAP & ADB, State of the Environment in Asia and the Pacific 2000

Once teeming with biodiversity

Asia and the Pacific is losing its biodiversity fast. Though the region is still the home of seven of the 17 mega-diversity nations (Australia, China, India, Indonesia, Malaysia, the Philippines, and Papua New Guinea) its plant and animal species are getting destroyed and threatened to be lost permanently. The obvious causes are clearcutting of forests and mangroves, diminishing agro-biodiversity, destruction of corals, overfishing. Not as obvious are the impacts of biotechnology, genetic modification and monoculturation.

Box 5. Status and trends of biodiversity loss

- Of the 17 mega-diversity nations in the world that correctly claim more than 67 per cent of the Earth's biological resources, seven (Australia, China, India, Indonesia, Malaysia, the Philippines and Papua New Guinea) are in Asia and the Pacific.
- South-East Asia has the highest plant diversity, particularly in its tropical forests, while Central Asia has the least plant diversity as a result of extensive habitat damage caused by human activities.
- Indonesia is in the five top countries of the world in plant diversity, with an estimated total of between 29,375 and 38,000 plant species.
- The rates of plant species endemism in the region range from 33 per cent in China to 92 per cent in Australia.



Box 5. Status and trends of biodiversity loss

- The South Pacific has the largest proportion of threatened plant (31 per cent) of the region, followed by the South Asia (17 per cent) subregion.
- Turkey has the highest percentage of threatened plant species among the countries of the region, estimated at 21 per cent, followed by French Polynesia (19.5 per cent).
- An estimated 900 avian species in Asia (roughly 30 per cent of the estimated global total), depend on tropical forests the loss of which could seriously affect the bird population.
- At least two out of every three bird species are in decline, although only about 11 per cent of all birds are already threatened with extinction.
- About 1,000 mammals in the region are threatened, with the largest number in South-East Asia (390), followed by South Asia (179).
- About 120 million ha of wetlands in the region are of international importance, of which >80 per cent are in just seven countries: Bangladesh, China, India, Indonesia, Myanmar, Papua New Guinea and Viet Nam.
- Over the centuries, vast wetland habitats in South Asia and East Asia have been converted into ricefields or drained for other forms of agriculture and human settlement. In some cases, those areas have been totally converted or destroyed (e.g., the Red River Delta in Viet Nam, the Sylhet Basin in Bangladesh and the central plains of India).
- The destruction of freshwater habitats and accompanying biodiversity loss is best illustrated by the Aral Sea where the number of nesting bird species in the delta of the Amudarya River has dropped from 319 to 168, while that of mammal species has declined from 70 to 30.
- At least 60 per cent of threatened freshwater fish species are in decline because of habitat alteration.
- Coral reefs are most threatened in South-East Asia where >80 per cent of the reefs are at risk, and >50 per cent are at high risk.
- Agro-biodiversity is diminishing so fast that there is a concern that crops may not be able to respond to future challenges of climate change or attacks by pesticide-resistant pests and diseases.
- In Indonesia alone, 1,500 local varieties of rice disappeared between 1975 and 1990, and nearly 75 per cent of the rice planted today has descended from a single maternal plant.
- Scientists have found that 86 per cent of the plants used by Samoan healers display significant biological activity when tested in the laboratory.

Source: UNESCAP & ADB, State of the Environment in Asia and the Pacific 2000



Expanding brown environment

Homo urbanus is the emerging Asian future. The region is fast urbanizing. Today, about 4 of 10 Asians live in cities. Some of the mega cities of the world—with 10 million or more inhabitants—are in this region. By 2020, 46 % or close to 2 billion of the projected 4.2 billion will live in Asian cities.

The world's two largest cities are Asian—Tokyo and Mumbai. Joining them are the mega or emerging mega cities of Osaka, Dhaka, Calcutta, New Delhi, Hyderabad, Lahore, Teheran, Shanghai, Beijing, Jakarta, Bangkok, Seoul, Taipei, Sydney, Manila, Kuala Lumpur. The number of Asian megacities increased from three in 1980 to 12 in 2000, and is projected to increase to 18 by 2015. Between 1980 and 2000, urban growth in India alone is said to have transformed 600,000 hectares of agricultural land to urban uses. Urban growth in the next 15 years will result in the expansion of built-up areas by one and half times, much of which due to encroachment into arable lands. In Asia's expanding car-oriented transport system, the number of motor vehicles has trebled or quadrupled in the last 10-15 years in many cities.

About 100 million of the world's people live without shelter. Many, many more—nearly half of humanity and over half of them women—suffer poor living conditions. We find them in slums and squatter settlements, condemned buildings, junkyards, pavements, shipping containers, along railroad tracks, river canals, streets and roadsides, in underground cellars, staircases, cardboard boxes, under tin and plastic overhangs, atop garbage dumpsites. More than 50 % of the population of Mumbai and New Delhi live in slums and squatter settlements.

We find the homeless and poorly sheltered millions everywhere else except in those places where you and me could appear in public without shame. And there are more of the same kind of people—their number growing by the day—who cannot face up to the public all because they don't have that one thing which represents their self-worth and dignity, a home they can call their own.

Rising urban pollution affects all city residents, but in different ways. The car-less poor are exposed more to the hazards caused by emissions from motor vehicles. The poor barely have access to safe drinking water yet the super rich in posh villages can afford to fill their swimming pools even in times of water crisis. Many common diseases afflicting the poor are due to drinking contaminated water.



Box 6. Status and trends of air pollution

- Twelve of the 15 cities in the world with the highest levels of SO₂ suspended particulate matter in the air are located in the Asian and Pacific region.
- Six of the 15 cities with the highest levels of SO₂ are also located in the region.
- The levels of TSP in several cities are three to four times higher than those recommended by WHO.
- Between 2 and 5 per cent of all deaths in urban areas in the developing world are due to high exposure to particulates.
- Damage from particulates and lead emissions in Jakarta alone indicate that the cost could be as high as US\$ 2.1 billion.
- About 1,400 deaths, 49,000 emergency room visits and 600 asthma attacks could be avoided each year in Jakarta alone, if particulate levels were to be brought down to WHO standards.
- In most countries of the region, where a large part of the population still depends on traditional biomass fuels for cooking and heating, indoor air pollution may be a larger health hazard than outdoor pollution.
- Incidents of haze (severe smoke pollution) have occurred from time to time in many parts of the region, but the worst episode occurred in South-East Asia during forest fires in 1997.
- Levels of total TSP in many countries exceeded national standards by 3-15 times in the peak air pollution period during the haze episodes.
- The economic costs associated with the haze in South-East Asia have been estimated at US\$ 6 billion. The losses included direct costs, such as losses to agriculture, as well as indirect costs such as medical expenses and declines in tourism.
- Acid rain is becoming a major concern in several parts of Asia, particularly in North-East Asia; at least two thirds of acid depositions are caused by coal-fired power plants and industrial sources, and the balance by transport, residential heating and cooking.
- Greenhouse gas emissions in developing countries of the region on a per capita basis are well below those of the industrial world; the average American accounts for 21 times as much carbon as the typical Indian.
- The Asian and Pacific region could be the worst hit in the event of climate change, which could cause a wide array of dislocations to human and natural systems. For example, a 0.25-metre rise in sea levels could destroy about half of the Asia's remaining wetlands.

Source: UNESCAP & ADB, *State of the Environment in Asia and the Pacific 2000*



UNEP Executive Director Klaus Topfer reminds us: “There could be no global environmental sustainability without the sustainability of human settlements, without overcoming divided cities, without secure tenure, without good urban governance, and without shelter for all.”

A future dominated by cities might be a good thing or at least not as bad as it is often painted to be. Like money, cities are one of the most creative of human inventions. They are the exchange spaces where people are linked by a dense network of homes, workshops, schools and cultural centers, hospitals and care centers, and other forms of human artifacts. Through such network people are enabled to facilitate sharing of information, build friendships and solidarity, trade goods and services, encounter distant diverse cultures without having to travel far.

Cities contribute to stabilizing the carrying capacity of a country. Imagine a future mega city like Metro Manila making space for more than 10 million Filipinos within just .002 per cent of the country's land area. Cities do the environment a great favor by accommodating so many in a small land area and freeing up a vast space for other human settlements, for food production, for natural resource protection.

Box 7. Status and trends in waste generation

- Municipal solid waste (MSW) generation rates in the region range from less than 0.45 kg/ capita/ day to >5 kg/ capita/ day. Depending on the status of economic development of each country.
- The high-income countries in Asia and the Pacific produce 1.1-5kg. solid waste/ capita/ day or more, followed by the middle-income countries at 0.52-1.0kg/ capita/ day and the low-income countries at 0.45-0.89 kg/ capita/ day/
- Urban residents in the region generate two to three times more solid waste than their rural counterparts.
- The MSW generated in the region is about 1.5 million metric tons per day.
- The ratio between municipal and industrial solid waste generation varies between countries at different stages of development and even between developing countries of the region. The ratio in China is 1:3, but much less in Bangladesh, Sri Lanka and Pakistan. In developed countries such as Australia and Japan, it is 1:8.
- Industrial solid waste generation in the region is about 2 million metric tons/ day.
- The compostable fraction in waste in the high-income countries ranges from 25 to 45 per cent; which is significantly lower than the 40-85 per cent in the middle and low-income countries of the region.



Box 7. Status and trends in waste generation

- As nations advance to higher stages of development and affluence, the proportion of non-compostable materials, such as plastics, metals and glass in their solid wastes increases, making disposal a more serious issues.
- On average only 50-70 per cent of waste in the municipal areas is collected and less than a quarter of that amount is properly disposed.
- The urban areas of Asia currently spend about US\$ 25 billion annually on solid waste management, however that figure will at least double by 2025.
- Collection constitutes 80 per cent of waste management costs in the low-income countries, while disposal accounts for more than 10 times the collection cost in the industrialized countries like Japan.
- Recycling in the developing countries relies largely on the informal collection of materials from waste by human scavengers or waste pickers.
- Overall resource recovery in the region grew from <10 per cent of all MSW in 1988 to 30 per cent in 1988.
- Two major issues associated with the growing amount of hazardous waste in the region are: control of transboundary movement; and safe disposal of waste from mushrooming small and medium sized industrial establishments.
- Industrialized nations sent a total of 3.5 million metric tons of hazardous waste or harmful trash to countries in the region from 1994 to 1997.

Source: UNESCAP & ADB, State of the Environment in Asia and the Pacific 2000

How inequality matters

The Economist (6/16-22/01) in its cover page asks "Does inequality matter?" According to this paper, that goes without saying. The question is how. How does inequality matter to society and the environment? How does the rich-poor divide impact on the environment?

The Economist's cover article explains in typically liberal "yes, but..." fashion how inequality by itself is not really the problem in societies that mind equality of opportunities more than equality of outcomes. According to the article, the problem is not that societies produce a Bill Gates or a Tiger Woods, it is that many societies and their governments do not provide equal chances for everyone.

Yes, but not quite. The price of a Gates or a Woods is how much society is willing to pay for their talents, real or imagined. But neither Bill or Tiger paid any royalties to their predecessors. The MS system does not count or pay the people from ancient to modern times who helped develop the science of computing. The Scots who invented golf have yet to collect what Tiger might owe them. Of course, these nouveau billionaires, like their old super rich counterparts, do



give to charity, to various UN causes, through their own foundations that help ease the conscience and avoid taxation at the same time.

This may seem stretching the point too much. No matter, the reason for high profiling such icons is simply to emphasize here that many of the battles around inequality are being fought around the issue of ownership and use of knowledge generated by so many, known and unknown. The same goes for battles over common property resources, patenting of life forms, biotechnology, genetic modification, and so on.

Equity or equality (in this case used interchangeably) is central to the concept and practice of sustainable development. Its dimensions include relations between and within nations, between men and women, between generations.

More and more Asians are joining the elite league of the world's super rich, as the global economy grew from \$6.3 trillion in 1950 to \$31 trillion in 1990 and to \$42 trillion at the turn of the 21st century (Worldwatch Institute, State of the World 2001). They are among the world's 7 million millionaires and 400 billionaires, coming from countries rich and poor (The Economist, 6/16-22/01).

Between countries inequality has continued to widen. The income gap between the fifth of the world's people living in the richest countries and the fifth in the poorest was 74 to 1 in 1997, up from 60 to 1 in 1990 and 30 to 1 in 1960. The richest 20% has 86% share of global GDP, the poorest 20% just one per cent. In shares of exports of goods and services, the richest 20% has 82% and the poorest 20% only one per cent. The richest 20% shares 68% of foreign direct investment, the poorest 20% one per cent. The richest 20% has 93.3% share of Internet users, the poorest 20% only 0.2% (UNDP HDR, 1999).

Inequality also expresses in ecological footprints. Considering their lifestyles—food, homes, education, health care, pensions, leisure, freedom of movement, and so on—the richest of this world must be consuming an excessive quantity of the world's resources and energy. They also generate much more wastes and emissions. In early 1990s, the Worldwatch Institute estimated that rich countries generated a high of over 20,000 kilograms per person as against about 180 kilograms for each person in Zaire. The calculation considered total energy consumption to maintain a certain lifestyle.

Poverty and affluence differentially affect the sustainability of development.



Despite their numbers the Asian poor contribute less to resource depletion and environmental pollution than all OECD countries do. By the way, this group of industrialized nations include four Asian countries—Japan, Australia, New Zealand, and only recently, South Korea—who have all committed to shift to cleaner production and to reduce their emissions to 1990 levels. Industrialized nations sent a total of 3.5 million metric tons of hazardous waste or harmful trash to countries in the region from 1994 to 1997 (see Box 7 p.14).

Not only are poor people and poor countries denied their just share of the world's wealth and knowledge. Even in the shit generated and let out to the environment, they can never be equal to the rich.

Around the time of the Earth Summit, scientists of the United Nations Environment Program (UNEP) calculated that each of us could only give out 1,500 kilograms of wastes in order to stabilize the global climate system. This assumed zero population growth and no more deforestation. Poor Asians and Africans had not even come up to that level while people in industrial societies were already thousands of times over the limit.

So, what now? Can the rich afford to come down closer to UNEP's limit by giving up on their disproportionate shares and unsustainable lifestyles? Or will they go about their ways as usual while trying to entice the poor to trade their underutilized 'right to the environment'? In other words, will carbon trading, among other market mechanisms of CO₂ reduction, do and get us by? Looking closely, these and other related questions are what underlie the difficult negotiations of now 200 plus multilateral environment agreements (MEAs), the Kyoto Protocol the latest among them.

Will our planet be better off or worse-off if the richest give up enough of their share of the 'good life' to enable over 2 billion poorest and not-so-poor to lift themselves up to the level of the world's middle class? Will the demands on our environment be lesser? Will restoration efforts come about with less hassles than we grapple with today?

Imagine a world freed from poverty. Imagine everyone enjoying his/her own home with all the modern amenities like a CFC-free fridge, a color TV/VCD set, a telephone or cellphone, a computer, a family car. Imagine also that he/she can freely go places and visit one other country at least once in his/her lifetime. The rising middle class of China now work in offices, eat fast food, watch color television, spend nightlife at karaoke/videoke bars, drive cars, use cellphones and surf the Internet. Ditto for some 400 million middle class of India.



How might that new world look like? Is it something that can be sustained, if it's worth sustaining at all? Is that what we really want? And *we* means everyone of the 3.3 billion Asians—from the Asian members of the world's exclusive billionaire boys club to the regularly fasting Muslim, Hindu, Buddhist and the HIV/AIDS victims in Bangkok—who value, believe, enjoy, think and do different things.

Growth-environment trade off

Where extreme poverty was dramatically reduced, if not totally eradicated, there is where you find environment in its worst state. The so-called miracle Asian economies of South Korea and Taiwan had demonstrated unprecedented growth in only three decades with dramatic positive and negative consequences. The sheer size of economic pie created caused the elimination of absolute poverty. But this also meant trading off freedom with bread, so to say. More, these high-flying economies have left an environmental wasteland whose full restoration, if at all possible, would require billions of taxpayers dollars.

Earlier Japan had shown the way to modernity. But it had to make a huge payback to its own environment. More, it had to appropriate the carrying capacity of other countries.

Consider what happened in Kitakyushu, for example. This city helped carry Japan to modernity and got devastated environmentally as a result. Now it has shifted to clean production and effective management of end-of-pipe problems. Overcast smog that used to turn the city's day into night is no more. The city's baywaters, whose marine life was totally gone in the glory years of industrial growth, is now teeming with edible fish. Kitakyushu has turned from brown to green, literally and figuratively.

Kitakyushu was held up as a model of environmental clean up and restoration during the 1992 Rio summit. But what made this amazing story possible? Obviously, a combination of factors. One is civic pressure and mobilization. Two, broad cross-sectoral cooperation, involving citizens, local and central government, industry, scientists and the academe. Three, huge government financing and budget allocation which, in a way, is a payback by all Japanese to their own city which suffered so much to lift their country on top of the modern world. But what's not being said also matter a lot. Japan was able to transfer its dirty, i.e., heavy & chemical industries elsewhere in Asia, in willing host countries which believed they needed this for their own development. As well, Japan, the second biggest economy in the world,



simply has so much money to buy the security in food of its people and machines through imports.

But how on earth could this be replicated? And where, outside of the US and other OECD countries? More important from the perspective of precautionary principle, is the Japanese example worth copying at all?

The new growth regions—China and India especially—may go the same way as did Japan in destroying their environments to develop in high fashion and just pay the heavy price later. Already, in rapid fashion these two giant and fast-growing economies are both contributing increasing levels of emission even as their lands, forests, and freshwater resources are already in advanced stages of degradation.

From Japan to the new and emerging high-growth economies, the story runs the same though repeated in different ways as dictated by country-specific conditions. They all have taken the path of growing now and paying later, not to mention compromising basic freedoms and human rights in the process. Can this pathway to progress be skipped and a bypass to sustainability created?

Strivings for sustainability

Their media one-liners capture everyone's dream. A world free of poverty, says the World Bank. An Asia free of poverty, says the Asian Development Bank (ADB). And when they say poverty-free, they also mean environmentally clean and healthy.

All UN member-countries of Asia and the Pacific participated in crafting the Rio Declaration, the Agenda 21, and related framework conventions and agreements on biodiversity, climate change, forests and desertification. They all have committed to translate these agreements into their own national sustainability plans and to implement these plans down the line. They have allocated resources. They have created mechanisms for broad citizen participation in designing, implementing, monitoring and evaluation of programs and projects. Come Rio+5 review, results and outcomes should already be showing at the local level.

In theory, that's the way it should be. The reality tells a different story.



Box 8. Status and trends in global and regional environmental issues.

- Commitments made at the United Nations Conference of Environment and Development (UNCED) have remained largely unfulfilled. Much more remains to be done in the areas of finance, technology transfer and capacity-building.
- The actual magnitude of official development assistance has been declining and the prospect for the reversal of the decreasing trend in official development assistance (ODA) is highly uncertain.
- The success of the implementation of the Montreal Protocol can be gauged from the fact that the production of chlorofluoro carbons (CFCs) and halons has declined by 86 per cent in the past 10 years; without the Protocol, by 2050 ozone depletion would have risen by 50 per cent in the northern hemisphere's mid-latitudes and 70 per cent in the southern hemisphere's mid-latitudes, about ten times the current levels.
- The most valuable contribution of the United Nations Framework Convention on Climate Change (UNFCCC) to environmental management is the reaffirmation of the precautionary principle and the principle of common but differentiated responsibility.
- The Kyoto Protocol is now central to the implementation of UNFCCC. While setting reduction targets, it also provides conceptual innovations in emission trading and clean development mechanisms (CDM).
- The most important and concrete outcome of the United Nations Convention of the Law of the Sea (UNCLOS) in 1999 was the Straddling Fish Stock Agreement.
- With expansion in the reach of the International Convention on the Prevention of Pollution from Shipping (IMARPOL), the International Maritime Organization (IMO) has reported a significant decrease in tanker operational pollution.
- The acceptance of the Convention on Biological Diversity (CBD) is remarkably high in the Asian and Pacific region (90 per cent), which is understandable because of its rich biodiversity.
- The percentage of ratification of the Basel Convention on Transboundary Movements of Hazardous Waste and Their Disposal is quite high in South, South-East and North-East Asia but low in the Pacific (25 per cent), as the latter subregion is already covered by the Waigani Convention.
- Regional and subregional cooperation provides opportunities for promoting environmental security and adopting a coordinated response to global initiatives, such as Agenda 21, and international environmental Conventions.

Source: UNESCAP & ADB, *State of the Environment in Asia and the Pacific 2000*



Ten years down the road from Rio, most indicators for achieving social and environmental justice in Asia and the Pacific are anything but encouraging. Poverty has grown and increasing severity is showing in its different dimensions. The rural poor find themselves grappling with falling incomes, loss of livelihoods and employment, and different forms of insecurity in face of more degraded farmlands, fisheries, forests, water resources and marine environments. The urban poor live in a region that's rapidly urbanizing, putting up with rising joblessness, homelessness, declining public services, and urban pollution. Biodiversity decline continues, and more sharply in many areas. By 2015, Asia and the Pacific might surpass the OECD countries in greenhouse gas emissions.

Asia's generally rapid economic development has not only failed to eradicate extreme poverty but also has come about at a high environmental cost. Poverty seems much easier to reproduce than to reduce. It takes a good deal of capital investment to create a job and only one crisis, as in 1997, to throw millions out of job. Resources are being depleted and degraded many times faster than they could be replaced or regenerated.

Ironically, we are here talking of a period that has seen environmental awareness at its highest levels in years. It is also the era of so-called people power and militant environmental activism. What went wrong? What's going right?

It's easy to say that politicians, policymakers, leaders of industry, not to mention other actors of civil society and ordinary citizens, do not really mean what they say. And that they just say one thing then do the opposite or carry on with development as usual in their daily lives. There should be more to it than just bad faith and word-action mismatch.

Do Asians know and value what they already have?

Prior to the Rio Earth Summit, there had been a long tradition of sustainable environmental practices in the region. China's full-cycle sustainable agriculture was already in place for five thousand years, or so some of its promoters claim. Agenda 21's chapter 14 on SARD (sustainable agriculture and rural development) was nothing new to the Chinese farmers. Small farmers from India, and elsewhere across the region's agrarian communities, had been breeding, conserving and reproducing seeds and animals for generations prior to the Green Revolution, the Bt-corn and GM-cows.



And more. Proven methods of irrigation and harnessing water resources had been sustaining farmlands and households for ages in Pakistan, in the Himalayan region, across the mountains, hills and slopes, and lowlands of the Asia-Pacific region. Local fishers along the long Asia-Pacific coastline had known long ago what it means to sustain fishing grounds or lose them to overfishing, pollution, use of destructive methods like active gears, dynamite and cyanide fishing.

These and many more examples have persisted at the margins of mainstream Asian development. The Conference of Asian Foundations and Organizations (CAFO) has documented 19 cases of exemplary practices on environment and sustainable development in seven Asian countries (*Pathways*, 2000). The cases (including that of Kitakyushu cited in this paper) cover diverse practices spanning the green, blue, and brown environments. Many more of the same stories of strivings for sustainability are being created everyday. There's plenty in the past and current practices to build on.

The contribution of local and indigenous knowledge to sustainability is now slowly gaining recognition in official development circles where once this was only heard from the voices of environmental activists. The generators of such knowledge, the indigenous peoples and local communities, are getting recognition by government and the ODA community. Community-based approaches to the management of natural resources are now widely adopted. The international aid community must find a way to compensate these people for protecting biodiversity and helping maintain the flow of ecological services for all of society, for you and me who find comfort and happiness in greener surroundings.

Tired and beaten issue, but still, inequality remains the most outstanding concern underlying sustainability. It must therefore be the main focus of local and international action.

What to make of globalization? Some good, a lot of bad, from the perspective of equality between and within nations and societies. Under both equal and monopolistic opportunities, products and services, money and technology are moving with ever less barriers across the globe than ever before. Labor should enjoy the same deal. It is no justification to say that people with bad motives would cross borders along with the good guys. Bad ideas, bad products and bad services are freely moving everywhere anyway. It seems that entry to Europe has become more restrictive than when there was yet no European Community to speak of.



The current process of globalization is enabling a broader, quicker and freer sharing of knowledge and new ideas. Equally it has also opened the door to monopoly ownership of knowledge through patents, royalties and franchises. As a counterpoint, piracy, duplication and inexpensive or even free sharing of software knowledge has also risen by way of protest or from sheer conviction that knowledge, hospitality, friendship, goodwill should be freely shared.

International action must address the widening rich-poor divide. Opening and adjusting national as well as local economies to the global trading system, which then and now has been dominated by rich nations and their global corporations, seems to have brought more harm than good to the poor. Unequal and deteriorating terms of trade is a killer. On balance, as most always, poor trading nations find themselves in deficit even though they have already bargained off their natural capital, their precious migrant labor, their food security right in their own farming communities.

Things cannot be left to equal opportunity when capacities and opportunities themselves are loaded against the poor and the weak. Something's got to give, and it must come from the side of the rich.

Debt relief, more than ODA, which has been declining anyway, should be made real for those already covered by the HIPC initiative but need to be expanded to include not-so poor but also heavily indebted countries. Setting conditionalities, e.g. good governance, is simply adding to the humiliation of countries that have been put down for so long.

But decline in ODA must be reversed and the leadership example of Nordic countries, like Norway, should be the norm. It's rather inconsistent to expect donations from a Ted Turner, Bill Gates or George Soros when rich countries themselves are hesitant to share wealth by way of meeting an ODA commitment they themselves made long ago. Contributions from philanthropy may as well be seen as mere additionality.

What can we realistically expect from big business? Talk of corporate social (and environmental) responsibility has been going around for sometime now. We see examples of corporations that treat their employees fairly or fire their workers 'softly' and give to charity. Others set up their own tax-sheltered foundations and hire staff to run environmental-social projects which often are also co-financed with ODA money. They go into habitat protection, waste recycling, and so on. How are they doing? Safe to say, it's a mixed



story out there. But if it's any guide, the Philippine Business for the Environment (an association of big and not-so-big corporations concerned about the environment) has defined its bottomline: the project should make money or they will drop it.

Resources (money and technology) for poverty and development and the environment have always been a core issue in UN summits and conferences.

Dedicating money for microfinance is a form of transfer but cannot replace losses in export earnings or gains in debt service relief or increases in ODA, especially untied ODA. Microcredit, a form of microfinance, does work and indeed helps the enterprising poor who hardly have access to capital. As a form of rich-to-poor transfer, it might be marginal since the poor themselves, from way back when, have been mobilizing their little savings to finance their own efforts to create and sustain their own livelihoods. Ironically, such financing and the kind of activities they fund seem so vulnerable in times when big banks and big finance are shaking, like in the 1997 Asian crisis.

Success stories in microfinancing have been told many times over (e.g. Grameen Bank, BRAC, PROSHIKA, etc. in Bangladesh, SEWA in India). There are many more though less known initiatives (e.g. New Rural Bank of San Leonardo in the Philippines, Bina Swadaya in Indonesia, etc.) which tell of how incubating microenterprises are enabled to graduate into small and medium enterprises (SMEs). That way they become relatively more viable and less vulnerable to external economic shocks.

The poor need capacity building, so goes the new buzzword. Training in social and development enterprise are being run by NGOs, especially those involved in microfinance. A masteral program in this area is also being pioneered by the Asian Institute of Management (AIM), an institution training top corporate and NGO executives in Asia.

Endowments created out of debt swaps, as in the case of Philippine debt to Swiss banks, have been generating revenues to finance small and medium enterprises designed and run by the poor communities themselves. A good example is the funding of an eco-enterprise producing and marketing coconut-based, anti soil erosion nets—a good alternative to other products based on non-renewable materials.

It's a good sign that George Soros has agreed to the Tobin tax as a form of regulating runaway international currency speculation. Some



controls must be used to tame the deadly money game. This is not simply about big money players gambling among themselves. They are gambling with our lives when their money make big claims on real goods and services, on our natural resources. The example shown by Malaysia in regulating hot and volatile money should be worth replicating Asia-wide.

What can be expected from the promised peace dividends? As inequalities worsen, expect more social disorders, more environmental conflicts, more trade and armed conflicts among nations. But this can not justify retracting commitment to disarmament, especially that involving weapons of mass destruction, which is long overdue, anyway.

Can asset distribution be skipped? Somewhat banished or sidelined from development discourse at some point, land reform has again appeared at center stage. The landless poor and their allied social movements won't let the issue go away unresolved. It is also a good sign that even the World Bank and the ADB, both not funding any land transfer, seem to be looking for ways to change or get around their own policies.

One dramatic act of redistribution worth considering: dedicating government budget and ODA transfers wholly to social and environmental programs and preventing that these be used as direct or indirect subsidies to the rich. Once realized, the gain in resources would far exceed the minimum target of the 20:20 compact (20% of ODA matched by 20% of national budget dedicated to poverty and social development) proposed by the UNDP in the 1995 Copenhagen Social Summit.

Have we been listening enough to what the poor themselves got to say about their own poverty and the state of our environments? Or have we even tried asking them what they want, how they want to be helped by others, how they want to do things?

Governance in many countries of Asia and the Pacific has yet to deal squarely and fairly with citizen participation. The Asian Environment Outlook 2001 (AEO), launched in June 2001 by the ADB, cited a set of governance problems: excessive reliance on centralized, top-down approaches; inadequate participation of civil society; absence of political will; weak enforcement; corruption; limited funding; absence of enabling macroeconomic environment resulting in market distortions and disincentives to private enterprise. These are tired and long-standing issues of governance reforms in the region,



matters of utmost importance in poverty reduction and environment protection that are taken for granted in Europe.

The countries and peoples of Asia and the Pacific, with international support, can redress outstanding inequalities, bridge rich-poor, gender, ethnic, religious, and racial divides, and reverse environmental decline. When that happens, they can proudly say they have done their share in advancing world development toward the path of sustainability.

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Philippine Rural Reconstruction Movement
Conrado Benitez Institute for Sustainability



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About the author

Isagani R. Serrano is Senior Vice President and Board Member of the Philippine Rural Reconstruction Movement (PRRM). He's written for CIVICUS the following: *Civil Society in the Asia-Pacific*, 1994; *Humanity In Trouble But Hopeful* in CITIZENS, 1995; *Profile: Philippines* for CIVIC INDEX, 1997; *Coming Apart, Coming Together* in Civil Society at the Turn of the Millennium, 1999; *A Global Citizens' Commitment*, 1999. A community organizer, educator, writer, guitarist, 'farmer', and political prisoner for seven years during martial law in the Philippines. Trained in education and literature, community organization and development management. Holds a Master of Science in Environment & Development Education (MSc in EE/DE) from the South Bank University-London.



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Conrado Benitez Institute for Sustainability