



The new industrial revolution making it sustainable

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Round table

Prosperity for the billions
in Asia and the Pacific:
green growth and poverty
reduction



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Prosperity for the billions in Asia and the Pacific: green growth and poverty reduction
Report

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Summary

The 2011 Asia and Pacific Round Table, *Prosperity for the billions in Asia and the Pacific: green growth and poverty reduction* discussed green growth, also called environmentally sustainable economic growth, and its influences on poverty reduction. The Round Table emphasized that poverty reduction should continue to be the overriding concern of green growth. The Asia Pacific has often been an exemplary region in green growth, but there remains much to do, both in the region and in the world.

Panellists agreed that in the Asia Pacific “factory of the world”, adaptation to energy efficiency and cleaner production are necessary to keep improving productivity and competitiveness and in turn reduce poverty.

Table 1: List of Participants

List of Participants (in speaking order)	Role and Organisation	Role at Round Table
Amita Misra	Director, Regional Programmes, UNIDO	Opening Remarks
Kandeh Yumkella	Director General, UNIDO	Opening Remarks
Tsutomu Osawa	Deputy Permanent Representative of Japan to UNIDO	Tokyo Green Industry Conference briefing
Heinz Leuenberger	Director of Environmental Management Branch, UNIDO	Tokyo Green Industry Conference briefing
Peggy Liu	Chairperson, Joint US-China Collaboration on Clean Energy (JUCCE)	Moderator
Hyun-Hoon Lee	Professor, Kwangwon National University Republic of Korea (ROK)	Keynote speaker
Ajay Shankar	Distinguished Fellow, The Energy and Resources Institute (TERI), India	Panellist
Nam Viyaketh	Minister of Industry and Commerce, Lao People's Democratic Republic	Panellist
K. M. Reyaul Hasanat	CEO Viyellatex Group, Bangladesh	Panellist
Michael Weinhold	Chief Technology Officer, Siemens Energy, Germany	Panellist
Werner Somweber	Regional Director for the East and Oceania, Chamber of Commerce, Austria	Comments
Thien Aung	Deputy Minister for Industry, Myanmar	Comments
Mohammad Yaar	Director General of Economic Affairs, Minister of Foreign Affairs, Afghanistan	Comments
Edward Clarence-Smith	UNIDO representative in China	Closing Statements

List of abbreviations

CTCN	Climate Technology Centre and Network
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
JUCCE	Joint US-China collaboration on Clean Energy
MBIs	Market-Based Instruments
NGO	Non-Government Organizations
Lao PDR	Lao People's Democratic Republic
PPP	Purchasing Power Parity
ODA	Overseas Development Aid
ROK	Republic of Korea
TEC	Technology Executive Committee
TERI	the Energy and Resources Institute
UK	United Kingdom
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization

Disclaimer

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Executive Summary

Introduction

The Round Table brought panellists from private, public and NGO sectors together and asked them how to achieve green growth while continuing to reduce poverty. The Round Table agreed that poverty reduction should be the overriding concern of green growth.

Asia and the Pacific context and green growth

Industry-led economic growth has lifted millions out of poverty in Asia and the Pacific within a short twenty years, as the issue paper illustrated. Industrial growth should continue to reduce the still high levels of poverty in the region. Panellists agreed that in the Asia and the Pacific ‘factory of the world’, adaptation to energy efficiency and cleaner production are necessary to keep improving productivity and competitiveness. It is also necessary to reduce the ecological deficit the region has been running, as demonstrated in the issue paper. Greener growth requires a new paradigm that harmonises green policies, economic growth and poverty reduction. Some at the Round Table called this tripartite notion *green inclusive growth*.

The Asia and the Pacific region’s ability to carry out reforms signalled at the Durban Conference (28 November 2011 to 11 December 2011) will depend on a number of factors including the scaling-up of existing green technologies in manufacturing and the right domestic policy climate to promote green growth. Significant internalizations of environmental costs in the future were emphasised at Durban. In the medium to long-term, said panellist, the prices of resources will climb because of worldwide demand, so companies that become efficient now will win out in the end.

Industrial Efficiency

Industrial efficiency is one moderate way the Round Table contributed to the discussion leading to Rio+20. The keynote speaker said actors of influence needed to encourage the separation of the idea that helping the environment increased costs. The wise use of resources, to increase businesses’ rates of return, will help integrate the environment with the economy. One could intervene in a country’s eco-efficiency and therefore in an economy’s sustainability through better technologies and industrial efficiency, as illustrated in Figure 1.

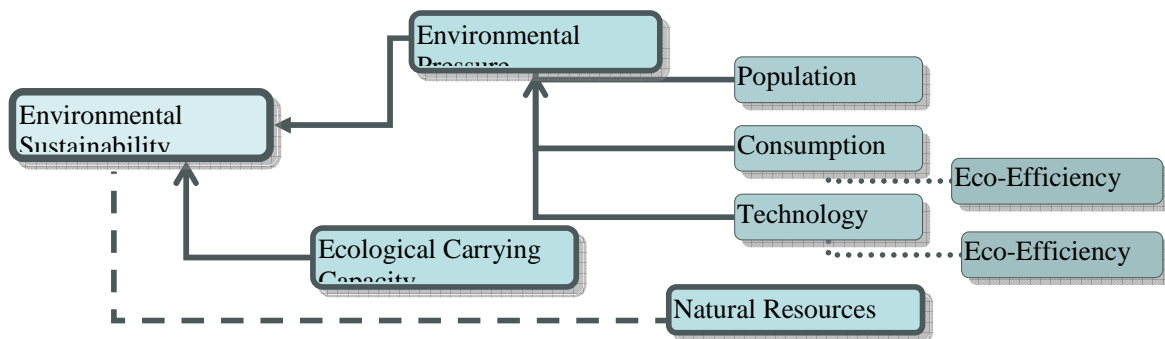


Figure 1: Determinates of environmental sustainability

Technology Transfer

The Round Table acknowledged the importance of technology transfer and summed it: “Innovation is now worldwide. There is no place for splendid isolation”. Technology education for the public and national governments is in tune with plans made at the Durban Climate Change Conference to ensure

the Technology Mechanism, a decision of COP 16 in Cancun, is operational in 2012. Within the region, technology transfer will establish ISOs and best practices and ensure Small and Medium-sized Enterprises (SMEs) are informed about greener and cheaper technologies.

2012 The year of sustainable energy for all

One way of ensuring the very poor, those living on less than US\$2 per day, are included in the benefits of economic growth is ensuring equality of access to things like education, water, social services and energy. In one panellist's opinion, the combination of solar energy plus locally available biomass, whether crop waste or fuel wood, creates, "a perfect fit at the local village level", between being green and alleviating poverty.

Distributed energy, said one panellist, was often a great deal cheaper than fossil fuel-run centralized energy, but government regulations about who can produce power and how they can produce power can be too stringent, adding costs and disincentives.

A technical expert for energy acknowledged the necessity of having a reliable, relatively large-scale power source in addition to distributed, small-scale power sources. However, scaling-up of projects is becoming especially practical now that prices for renewable energy technologies have dropped. Greening existing fossil-fuel power sources will also contribute to lowering carbon emissions.

Policy

The Round Table agreed that the region must continue to support favourable business environments that encourage technological improvement, competitiveness and efficiency. Market Based Instruments would be least damaging to industry, so long as international agreements ensure implementation coincides.

One audience member questioned the role of government in promoting green growth and the keynote speaker replied giving away green incentives or subsidising people directly was “not a good way to actually promote social equity because ...then the people have less incentive to work. [...instead some are promoting the provision of] equal opportunities instead of equalized outcomes” Another panellist added that, “intelligent State intervention can create the right externalities to drive inclusive growth as well as green growth”, supporting all three pillars of sustainable development.

One panellist suggested government could provide the right incentives for job creation by promoting agriculture and industrial processing or by building mills, and organizing space into economic zones. In doing so, Least Developed Countries can create more jobs for farmers and in time, encourage people to move and work in factories or industrial zones, lifting their incomes.

One of the reasons, a keynote speaker said, is that people regard the environment as a free good, and pricing mechanisms do not reflect real or environmental costs. A foreseeable result of environmental cost internalization would be the reduction of environmental damage. It would be in the interests of both sectors to improve water and energy efficiency. As with any consumption-based price increase though, blanket price-internalization could have a disproportionate impact on the poor.

The issue paper suggested that governments needed to bridge the gap between long-term social benefit and short-term commercial benefit in order to promote the active participation of the private sector in the area of environmental R&D.

Additionally, some on the panel argued governments could reduce or eliminate some environmentally harmful subsidies. In this case, removing such subsidies and/or the implementation of environmental taxes can yield both economic and environmental benefits. “Prices are quite low because of subsidies, the result being people over-use the resources so we have to make the price right—finally removing those double failures”

Introduction

The Asia and the Pacific Round Table, a side-event of the Fourteenth Session of the United Nations Industrial Development Organization's (UNIDOs) General Conference, took place on 29 November 2011 at the Vienna International Centre. Panellists from private, public and NGO sectors met to discuss how to achieve Prosperity for the billions in Asia and the Pacific with the twin aims of Green growth and Poverty reduction.

UNIDO decided to make this the focal point of the Asia and the Pacific Regional Round Table in the belief that the region could offer examples of green industry in action, while the large numbers of poor in the region demand poverty reduction through economic growth and productive work. Green growth is the way forward, but the contribution on the way to Rio+20 is that poverty reduction should continue to be the overriding aim of green industrialization.

This report conveys the results of the discussion about green industrialization and poverty. The first part draws on the issue paper and the Asia Pacific context. The second part presents the international deliberations around sustainable economic growth. The third section, including parts III, IV and V, outlines various strategies of green inclusive growth discussed at the Round Table including industrial efficiency, technology transfer and education as well as sustainable energy for all in 2012. The last part of the report presents various views on the policy discussion of green inclusive growth.

I. Asia and the Pacific: Poverty Reduction and Green Growth

The Round Table affirmed that industrialization is a significant way in which we can reduce poverty can be reduced and maintain the quality of life for the planet's seven billion people. Industry-led economic growth has lifted millions out of poverty in Asia and the Pacific within a short twenty years, as the issue paper illustrated (see Figure 2). Attractive business environment has enabled rapid economic growth and influxes of Foreign Direct Investment (FDI) in Asia and the Pacific. The challenge for the future is to maintain the same levels of industrial growth while mitigating environmental impact. As the issue paper outlined, the region requires a new growth paradigm that harmonises green growth and poverty reduction. The Round Table called this dual notion *green inclusive growth*.

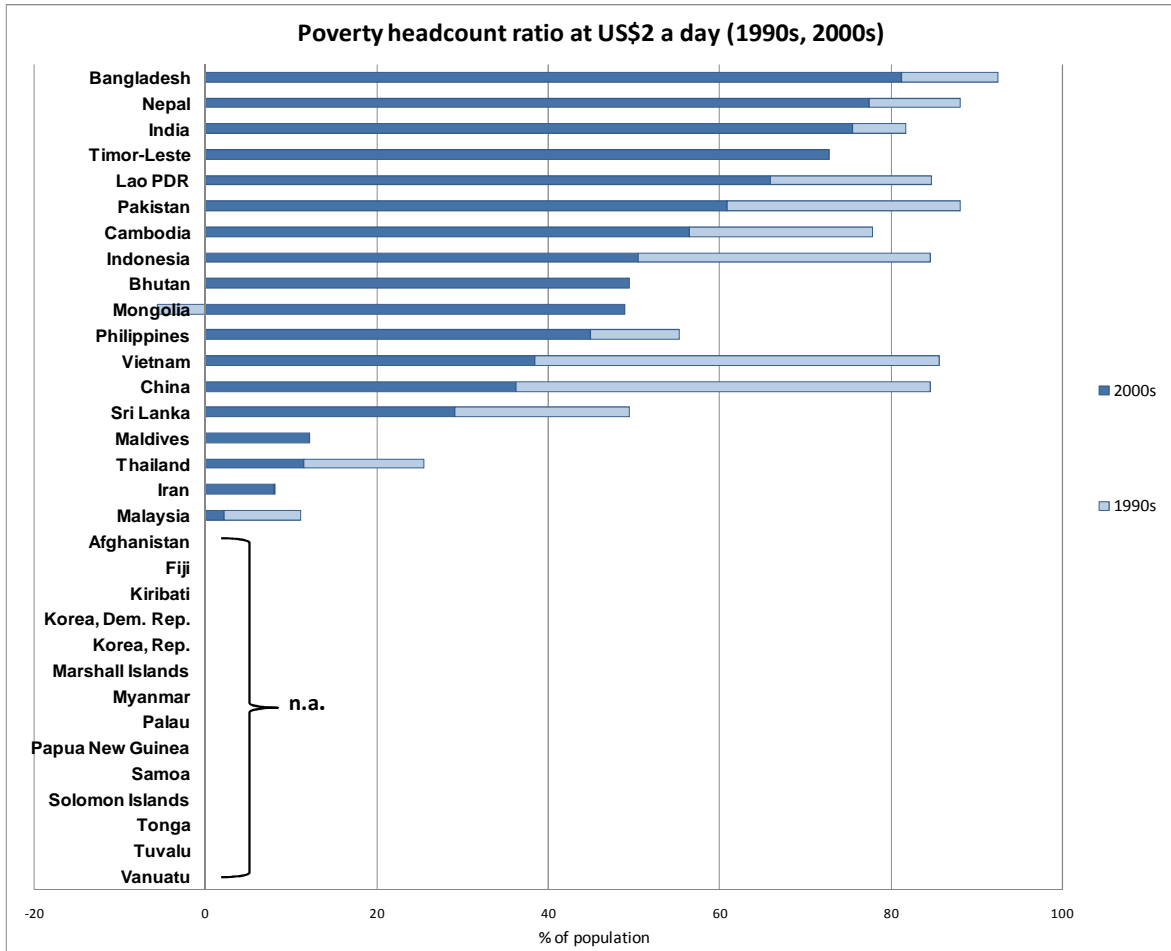


Figure 2: Poverty headcount ratio at less than US\$2 per day – comparison of the 1990s and 2000s¹

The region is home to two-thirds of a billion people who live on less than US\$2 per day. In this large and diverse region, the distribution of poverty (see Table 2) as well as the distribution of energy and water is uneven across the region.

¹ Source: All figures are adapted from the Issue Paper given at the conference: Hyun-Hoon Lee, “Towards Green Growth in Asia and the Pacific: Issue Paper presented at the Asia and Pacific Round Table”, UNIDO 14th Annual General Conference, November 29, (Vienna, 2011)

Table 2: Poverty rate in Asia and the Pacific by sub-region ²

Sub-Region	Percentage of people living in extreme poverty (less than US\$1.25 per day)
South and South-West Asia	36%
South- East Asia	21%
East and North-East Asia	13%
North and Central Asia	8.2%

Table 3: Asia and the Pacific and poverty, 2005³

Global Population	7,000,000,000
Global Poor	1,200,000,000
Total Population in Asia and the Pacific	3,818,471,420 (East Asia and the Pacific and South Asia combined)
Number of countries in Asia and the Pacific	43
Total poor in the Asia-Pacific	911,790,000 (East Asia and the Pacific and South Asia combined)
Population of LDC states in the Asia-Pacific	1,459,018,772

The Manila Declaration on Green Industry in Asia recognized that in Asia there are 1.5 billion people without access to basic sanitation, 700 million without access to safe drinking water, 800 million without access to electricity and 1.7 billion people relying on traditional biomass.⁴

In the Asia and the Pacific region, the overwhelming need to alleviate poverty is tempered by the knowledge that the region contains comparably fewer resources, especially arable land (Figure 2).

The region has been running an “ecological deficit” for the last few decades. That is, the region uses more resources, such as water and arable land, than it can sustain (Figure 3). The Round Table agreed that that failure to act would damage prospects for economic growth in the future.

² United Nations Social Economic and Social Commission for Asia and the Pacific (UNESCAP) *Statistical Yearbook for Asia and the Pacific 2011 'Poverty and Inequality'* (UNESCAP 2010)
<http://www.unescap.org/stat/data/syb2011/I-People/Income-poverty-and-inequality.asp>

³ Source: World Bank <http://data.worldbank.org/topic/poverty>

⁴ United Nations Industrial Development Organization (UNIDO), *Manila Declaration on Green Industry in Asia* (2009), 1
http://www.unido.org/fileadmin/user_media/Services/Green_Industry/Manila_declaration.pdf

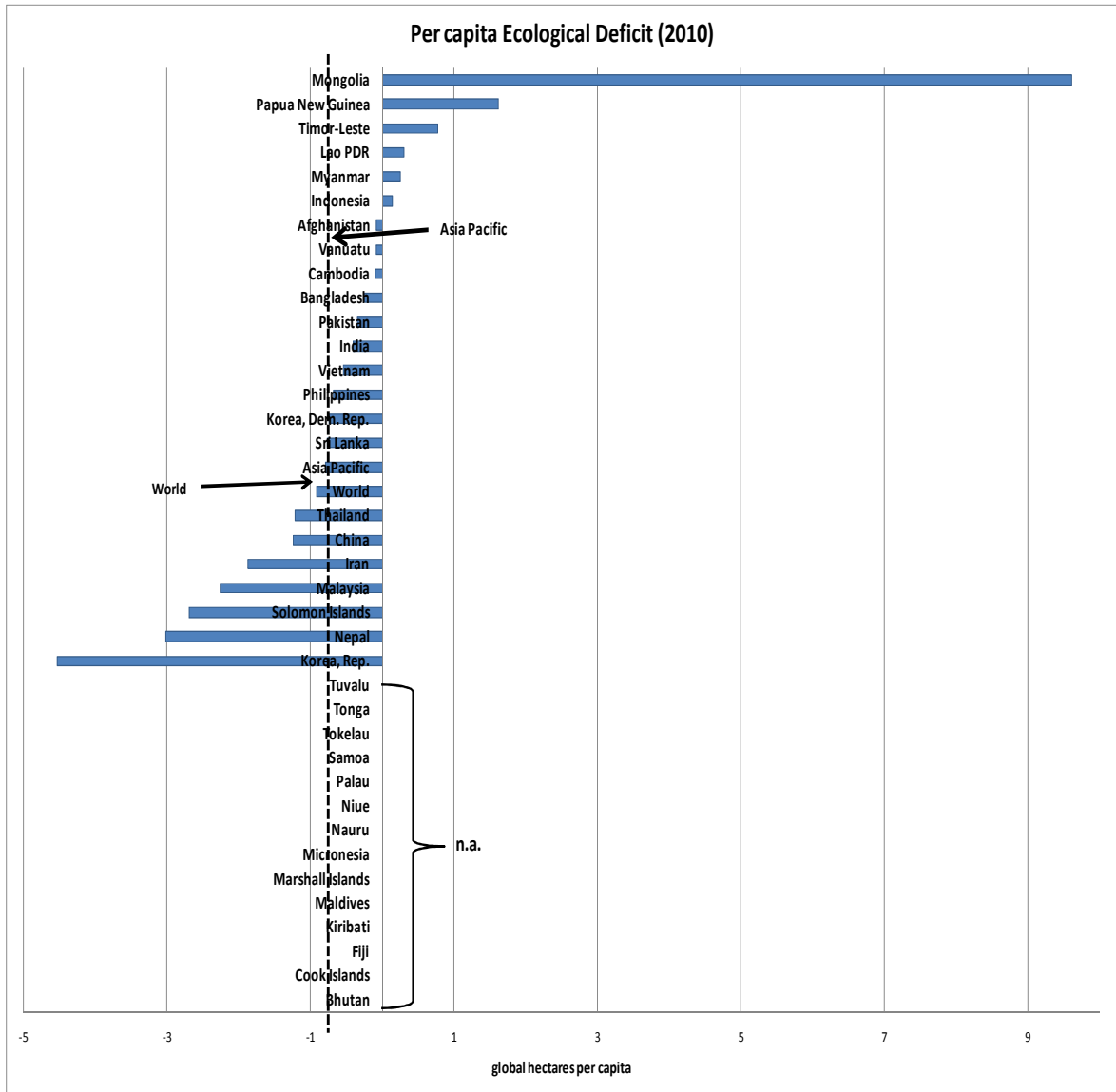


Figure 3: per capita ecological deficit 2010 in Asia and the Pacific

Rapid economic growth has placed enormous pressure on the ecological carrying capacity of the region. However, the issue paper and the Round Table agreed the region still required fast economic growth for the many people in the region still living below the global poverty line.

Therefore the region needs to embrace the new paradigm of environmentally sustainable inclusive economic growth or Green Growth (Figure 3).

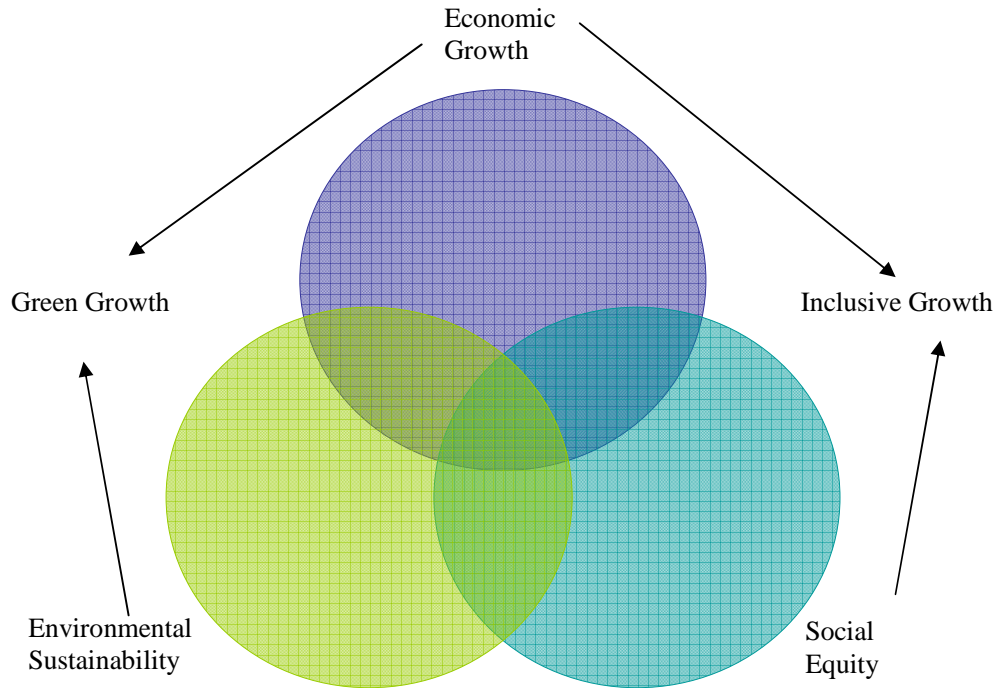


Figure 4: Two approaches to growth need to be used for sustainable development: Green Inclusive Growth

Green Growth, as a policy instrument, hopes to, “reconcile tensions between efforts to achieve two of the Millennium Development Goals, namely, poverty reduction and environmental sustainability”.⁵

...the traditional paths to economic growth will eventually lead everyone back to poverty – Edward Clarence Smith, UNIDO

Kandeh Yumkella, Director General of UNIDO, emphasized that Green Industry must continue to create jobs necessary for the prosperity of the world’s youth. Yumkella also said that innovation was coming from the Asia and Pacific Region already and therefore the discussions at the Round Table about how to grow green and inclusively are important for global discussions.

For one audience member, ‘prosperity for the youth’ was a salutary point. He agreed that green growth is important to the Asia and the Pacific Region, but argued that the speed of implementation will vary. For them the urgency was to lift the standard of living for the very poor first: to provide the necessities to their people. Indeed, in some LDCs, or conflict-affected zones, there was little to no

⁵ Lewis Akenji & UNESCAP “*Asia Pacific Outlook on Sustainable Consumption and Production policies: Background Paper for the 10th Annual Asia Pacific Roundtable for Sustainable production and Consumption, November 9-11 (UNESCAP, Yogyakarta: 2011), 7. Available at: http://www.the10thaprscp.com/10thAPRSCPBackgroundPaper_SCP-OUTLOOK-ASIA-PACIFIC.pdf*

industry to speak of that could be made greener. For that reason, the region had to accept that no one-size fits all policy could be applied.

Green growth is for middle-income countries. In poor countries, income must rise first – Mohammad Yaar, Director-General of Economic Affairs, Afghanistan

UNEP has recently argued in their report, 'Towards a green economy', that in the same way that green economy can be profitable, that it can also support LDC economies. Green economy, they argue, is not a "luxury only wealthy economies can afford".⁶ One panellist also mentioned that rising energy and resource costs meant that economies in Asia and the Pacific made green growth the cheaper option.

II. International context of green inclusive growth

Discussions of green and inclusive growth have a long context within Sustainable Development but the neologism 'Green Growth'. The Round Table on green growth and poverty reduction came at an important juncture, as 2012 will see deliberations at the Sustainable Development Conference in Rio de Janeiro, Brazil, also known as Rio+20 or the Earth Summit.

Rio+20 comes 20 years after the 1992 United Nations Framework Convention on Climate Change (UNFCCC). The convention stated that in order to reduce harm to the environment and raise the standard of living for many, economic growth must reduce poverty. However, this economic growth has to be greener and resource efficient where possible.⁷ Many governments of developing countries see the economic burden of such demands as unfair.

At the 2009 Climate Change Conference in Copenhagen, developing countries found negotiations for the Copenhagen accord needed to be more transparent and this delayed support of the Accord until 2010.

Many in the Asia and the Pacific region have embraced green growth in domestic economic policy as a way out of this conundrum and 'green growth' as a concept has moved into the mainstream from environmental economics. At the 2009 Manila Conference, many countries in the Asia and Pacific Region agreed to a broad-based programme with which they would green existing industries and create green industries,⁸ and this Round Table highlighted the twin aspects of green industries. Greening industry and creating green industries can be achieved by supporting cleaner production, creating green industries through research and development and an environment conducive to business, renewable energy in domestic and industrial use Regional cooperation and so on. UNIDO's previous round of discussions at the 2009 Asia and Pacific Round Table held in Vienna, asked "Is green industry the next engine of growth in Asia and the Pacific?" and discussed goal-setting,

⁶ United Nations Environment Programme (UNEP) "Towards a Green Economy: Introduction - Setting the stage for a green environment transition, (UNEP: 2011), 16. Available at: http://www.unep.org/greeneconomy/Portals/88/documents/ger/ger_final_dec_2011/1.0-Introduction.pdf

⁷ FCCC/INFORMAL/84 GE.05-62220 (E) 200705, (UNFCCC: 1992) available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>

⁸ The Manila Green Industry Declaration was agreed and endorsed by 21 Asian developing countries (Afghanistan, Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand, Timor-Leste and Viet Nam), the United Nations Industrial Development Organization (UNIDO), the United Nations Environment Programme (UNEP), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the International Labour Organization (ILO).

subsidies, trade caps and tariffs in following up the 2009 Manila conference. The 2011 Asia and Pacific Round Table confirmed that although signatories had made progress on these topics since the two meetings, more agreement was needed on appropriate policy approaches.

Tokyo Green Industry Conference participants reported that green industry now has the technology available to create economic, environmental and social benefits. The November 2011 conference displayed green technologies in an associated side event and many were impressed. Mr Leuenberger, head of UNIDO's Environmental Management Branch said, "the only thing that remains to be done now is scale the projects up", and, that this will not necessarily require more money, but rather a reorientation of existing funds.

Events at the 2011 Durban Conference (28 November 2011 – 11 December 2011) highlighted the leading role of the Asia and the Pacific region in international environment policy discussions. Despite continuing debates over developed countries' historical responsibility for climate change and the need for growth, emerging economies indicated their willingness to talk about a new climate change treaty after Kyoto. The Asia and Pacific region's ability to carry out reforms signalled at Durban will depend on a number of factors including the scaling-up of existing green technologies in manufacturing and the right domestic policy climate to promote green growth.

The two main themes of Rio+20 will be the Green Economy and the Institutional Framework for Sustainable Development. Regarding green economy, the keynote speaker at the Round Table suggested policy makers might move towards new frameworks other than GDP for measuring wealth that include environment and pollution in their calculations.

III. Resource efficient industry

One panellist from the private sector told the Round Table that water and energy efficiency can improve a business's bottom line and this is one way the Round Table can contribute to the discussion leading to Rio+20. The keynote speaker said that the concept of green industry needs to be disassociated from the idea that it decreases profitability. The environment and the economy need integrated in order to replace the belief, "that investment in the environment is a sunken cost and a burden on the economy and businesses". Rather, using resources wisely can increase a business' rate of return.

The issue paper explored how industrial efficiency can be green, profitable and good for the business. These are the key principles of green growth. Green growth hopes to reduce the overall impact of industry on the environment, which is necessary for the people of Asia and the Pacific to have a healthy and prosperous future. Industry efficiency through better technology was established as one way to intervene in a country's eco-efficiency and therefore in an economy's sustainability (see Figure 5).

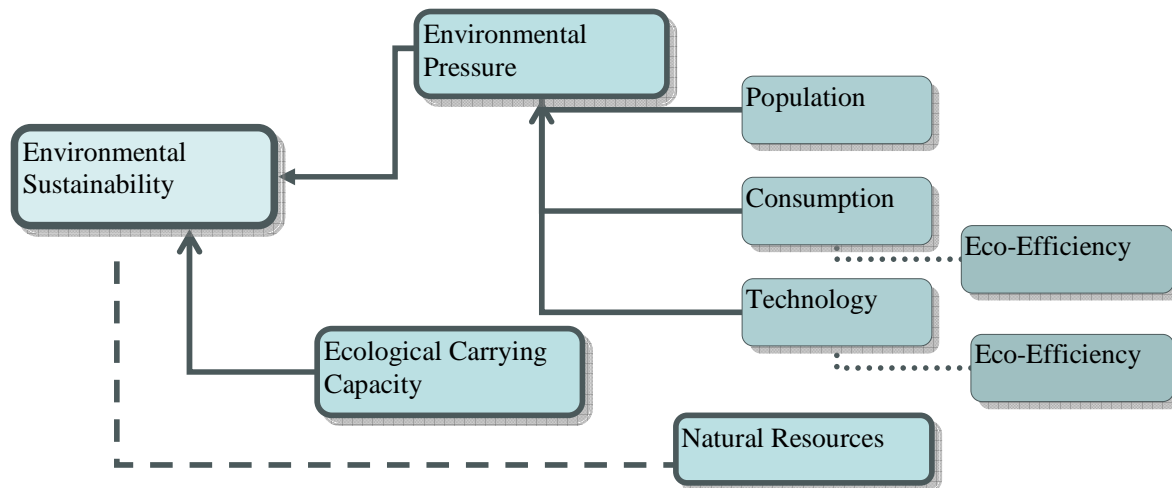


Figure 5: Determinates of environmental sustainability

At the Round Table, a clothing manufacturer in Bangladesh reported how water and energy efficiency have tangible and intangible benefits. Tangibly, it has been good for profits. Improving lighting, heating and cooling, and using energy efficient machines save entrepreneur’s money that they can reinvest in expansion thus creating more jobs.

Our initiative was not the sustainable initiative; it was a survival initiative – K.M. Reyaul Hasanat, CEO, Viyallatex Group

Lao PDR companies have been capitalizing on the practical benefits of efficient industry. One innovative private company has been using by-products from a cassava flour manufacturer to supply energy to the producer’s factory. The intangible benefits include green branding: customers increasingly purchase their products based on price *and* green reputation. One private-sector panellist said, being an environment-friendly company, “...gives me a marketing edge”.

In the medium to long-term, said one panellist, the prices of resources will climb because of global demand, so companies that become eco-efficient now will win in the end. This is becoming increasingly poignant with China, Australia and the Republic of Korea⁹ implementing ‘green’ policies like carbon trading schemes in 2015. The ability of the private sector and domestic carbon schemes to meet the costs of carbon reduction are doubtful argue some.¹⁰ Nonetheless, significant

⁹ ABC, ‘Australia not alone, as China and others plan for carbon trading schemes’ 21 July (Australian Broadcasting Corporation: Sydney: 2011) <http://www.radioaustralia.net.au/connectasia/stories/201107/s3274687.htm>

¹⁰ Climate Works and the European Climate Foundation, *Project Catalyst: Scaling up climate finance: Finance briefing paper*, (ClimateWorks, San Francisco: 2009), 4.

internalizations of environmental costs were also emphasised at the recent climate COP17 conference in Durban.

Water is becoming a scarce resource, especially in parts of the Asia and the Pacific where carrying capacity is limited. The Round Table discussed a number of both regulatory and market-driven ways to increase water efficiency. The representative from the private sector repeated his conviction that saving water saved his company money, especially at the basic level: re-condensing steam and putting the water back into circulation and reusing treated sewage water in latrines. Both this motivation to make profits and the motivation to conserve the environment spurred his water-saving measures—Mr Hasanat related that in Dhaka City their artesian water levels are dropping 10 feet a year.

In the public sector, India was working to improve their water efficiency because of the acknowledged nexus between food, water and energy. New farming technologies like moving away from flooding irrigation in wet rice production would allow water-poor countries to maintain food security. It would also conserve water resources for the future. For one delegate, “this kind of thing is what the next green revolution in India will be all about”.

Efficient use of water is as much of a challenge for us as efficient use of energy is - Ajay Shankar, TERI

The bottom-line benefits of cheap, renewable energy and water conservation were clear to both public and private-sector panellists. For many countries in Asia and the Pacific, where carrying capacity is already limited, cheap energy will ensure commercially viable industry and will guarantee jobs for future generations.

IV. Technology Transfer and Education

The Round Table acknowledged the vital importance of technology transfer. In a globalised world where the only way to grow is green, technology sharing is vital. One key result of the Round Table was the consensus that more needs to be done to educate the public about how they can grow green and inclusively. This is in tune with the plans made at the Durban Climate Change Conference to ensure the Technology Mechanism, a decision of COP 16 in Cancun, is up and running in 2012.¹¹ The Technology Mechanism comprises a Technology Executive Committee (TEC) and a Climate Technology Centre and Network (CTCN).

Innovation is now global. There is no place for splendid isolation – Michael Weinhold, Siemens

Technology transfer can make a difference in electricity storage and grid technologies. Profit-driven enterprises feel motivated to establish training institutes, like Siemens’ Renewable Innovation Centre, in the Asia and Pacific region for two main reasons. The first is to lock their brand into emerging markets and the second is to capitalize on the innovation within the market. Private sector South-South cooperation can also take place at trade forums and international settings like UNIDO, said one panellist, and would help to convince other people in the private sector to take up green policies.

Given the impetus behind the Technology Mechanism at COP17 in Durban, Asia and the Pacific will be well placed to contribute to South-South cooperation. Technology transfer will be vital, said the Round Table’s moderator, to find “solutions, trusted providers and financing” for green industrial growth. Technology transfer will also be important to establish ISOs and best practices and to help Small and Medium Entrepreneurs know what greener and cheaper technologies are available.

¹¹ For more information on Technology Mechanism, see: <http://unfccc.int/resource/docs/2011/cop17/eng/l03.pdf> , especially page 2

Education of the public is vital to making green growth inclusive. Education can come from schools, colleagues, through programmes and the workplace. K. M. Reyaul Hasanat told the panel that the savings they could make at the home by switching from incandescent lighting astounded employees of his company. Similarly, smokeless cooking technologies are saving households money as well as their environment in India.

V. 2012: The year of sustainable energy for all

The United Nations General Assembly has designated 2012 as the International Year of Sustainable Energy for All:

in recognition of the importance of energy access for sustainable economic development and supporting achievement of the Millennium Development Goals¹²

One way of ensuring the very poor, those living on less than US\$2 per day, are included in the benefits of economic growth and ensuring equality of access to things like education, water, social services and energy. The experts on the panel decided that a combination of different modes of sustainable energy production would enable 2012 to be the year of sustainable energy for all. In one panellist's opinion, the combination of solar plus locally available biomass, whether crop waste or fuel wood, creates "a perfect fit at the local village level" between being green and alleviating poverty. Through examples like these, the synergy between green technologies and poverty alleviation was made clear to the panel. Panellists could take away these lessons learned, most importantly that at the micro-level, green, growth and poverty alleviation are very compatible.

If you have access to lighting, you can read in the evening and the kids take a quantum leap into a better future – Ajay Shankar, TERI
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The panel discussed the "Lighting a billion lives programme" in India which provides solar lanterns to people in poor and remote communities. One person in the community is trained as a recharge supplier and sets up his small business recharging the lanterns. The lantern is a pro-poor green technology. For the children of the village it means they can study at night allowing equal access to education and giving them a fighting chance to change their lives.

Mr Weinhold acknowledged the necessity of having a reliable, relatively large-scale power source in addition to distributed, small-scale power sources. However, scaling-up of projects is becoming especially practical now that prices for some of renewable energy technologies have dropped. Greening existing fossil-fuel power sources will also contribute to lowering carbon emissions, he said.

As well as government provision of sustainable power for all, policy makers could consider the elimination of existing regulatory structures that hinder the uptake of green energy. Distributed energy, said one panellist, was often a great deal cheaper than fossil fuel-run centralized energy, but government regulations about who can produce power and how they can produce power can be too stringent, adding costs and disincentives. It was also suggested that green energy can fill the energy gap for those living in remote areas in developing countries. In India, households are using biomass for cooking, kerosene oil or firewood for lighting, some of which are not good for the environment. Therefore, governments can encourage the use of biomass efficiently at the village level, which produces approximately roughly three times more energy than traditional kerosene or firewood.

The effectiveness of subsidies was debated throughout the Round Table. Some argued, as in the case of the solar panel industry, subsidies in Europe have brought down the price and created a market,

¹² See <http://www.sustainableenergyforall.org/about>

allowing cheaper producers in China to make them and on-supply them to the lower end of the market. Weinhold suggested that subsidies were necessary in the first few years of renewable energy production. The panel was unanimously of the opinion that environmentally friendly industry and economic well-being are not contradictory.

VI. Policy

Can we bring all three pillars of sustainable development together? – Hyun-Hoon Lee, Professor, Kwangwon National University, Republic of Korea

Public and private synergies

As was asserted at the Round Table, economic growth has been responsible for the incredible rise in living standards witnessed in some parts of Asia. In facing a changing trade and natural environment, how can the region maintain growth that would enable further expansion of Asia and the Pacific's middle classes and elimination of extreme poverty in line with the Millennium Development Goals?

Everyone agreed that public and private sectors need to cooperate to achieve green inclusive growth. For this reason, the region must support favourable business environments that encourage technological improvement, competitiveness and efficiency. A productive industrial sector locks in foreign and domestic investment - vital to further growth and concomitant poverty reduction in Asia and the Pacific. The Round Table's issue paper asserted that one of the key strategies of green, inclusive growth was private-public partnerships. How can these be fostered: using market-based or regulatory instruments?

One audience member commented: "Green growth [...] has a lot of positive externalities and Professor Lee, as an economist, [knows] these activities that are associated with positive externalities, they are always under-supplied and over-demanded and this is a role for the state to subsidize such activities. The keynote speaker replied by saying that giving away green incentives or subsidising people directly was "not a good way to actually promote social equity because if we wanted to distribute everything equally then the people have less incentive to work. a concept with which we could provide some equal opportunities instead of equalized outcome". Another panellist added, "We do believe that intelligent State intervention can create the right externalities to drive inclusive growth as well as green growth".

The issue paper stated "there are policies and strategies that can create synergy between economic growth and environmental sustainability" and sometimes "regulations spur environmental innovations that strengthen the competitive position of firms and can offset the cost of regulatory compliance", although the real effects of compliance are disputed.¹³ In general, a mix of policies that were mutually supporting is the most effective method to encourage green growth.

In one country example, selective price setting of water and energy was a 'spur' to innovation. In India, industry's energy costs were increased, which in turn encouraged energy efficiency. Such efficiency allowed one steel producer to out-compete larger companies. Domestic consumers were not directly charged and that meant no extra burden was laid on the poor.

¹³ G. M Grossman & A. B. Krueger, "Environmental Impacts of a North American Free Trade Agreement", NBER Working Paper No. 3914, (Cambridge: National Bureau of Economic Research, 1991).

UNIDO's May 2011 publication, *Policies for Supporting Green Industry* recommends that policy frameworks, "should comprise a mix of market-based, regulatory, voluntary and information based instruments", with Market-Based Instruments being considered the "least cost" policy tools.¹⁴ The issue paper and some of the panellists agreed that these would be least damaging to industry profits, so long as such instruments were implemented across the board.

Jobs in Industry

The Round Table discussed two ways jobs can be created under the rubric of green industry. Firstly, as a panellist from Lao PDR said, his country is just beginning to urbanize and industrialize. Education will play a key role, in Lao PDR the older generation has "seen a lot of change and they learned from that and most of their children hunger for the chance to go to school. Laos tries to target rural people [helping them] move down to the city and moving far away of isolated areas", into areas of higher employment in emerging industries. Such movement gives much needed extra income to underemployed peasant farmers.

For the panellist from Lao PDR, it is the obligation of government to take measures to create more jobs. Lao PDR is trying to create more jobs by providing sustainable industrial development by promoting agriculture and industrial processing. They are building mills, industrial and processing zones, as well as organizing space into economic and provincial zones. In that way, as an LDC, they create more jobs for farmers and in time, encourage people to move and work in factories or industrial zones. On the one hand, LDCs needed to support and play an active role in markets and infrastructure; on the other hand, domestic income is limited. ODA and FDI would play a formative part in (green) job creation in the industrial sectors.

In higher income countries in the region, employment in the new green industries can create jobs. Innovation abounds in Asia and the Pacific, and as UNIDO Director-General discussed, the region needs to create new, young, enthusiastic entrepreneurs, and the green industry is a good area for doing this. The issue paper noted that recent trends towards green consumerism provide the private sector with a good business opportunity. A firm that innovates new 'green products' and new 'green technologies' before others do so, will be in a position to enjoy a competitive advantage. Some firms are actively exploiting these new opportunities and are promoting environmental marketing. The environment should no longer be seen as an extra cost but rather as a new business opportunity.

Infrastructure investment and subsidies

How are the problem of positive externalities and the role of State handled so that the Government or the State could either subsidize or prepare the favourable conditions for the kind of green growth that we are looking for without a prominent role for the Government? – Mohammed Yaar, Director General of Economic Affairs, Minister of Foreign Affairs, Afghanistan

One area where there was continued debate was the role government needed to take in order to encourage green inclusive growth. The Round Table discussed governments' roles as enforcer or enabler of green industry; the role of international organizations in regional decision-making and capacity building; subsidies; research and development and job creation. This discussion is particularly pertinent to Asia and the Pacific region when examining reactions to the 2008/2009 Global Financial Crisis. Many governments in the region included a green element in their fiscal

¹⁴ H. Leuenberger & R. Maplesden *UNIDO Green Industry: Policies for supporting green industry*, (UNIDO, Vienna: 2011), 11. Available at: http://www.unido.org/fileadmin/user_media/Services/Green_Industry/web_policies_green_industry.pdf

responses. Growth-promoting governments are key enablers for successfully achieving green growth and poverty reduction. Dynamism of investors and creativity of entrepreneurs need to be encouraged to trigger start-ups, promote innovative technologies and business models, and expand internationally competitive businesses to attain green growth.

Conversely, excessive incentives to the private sector would require higher government revenue, thus competing with the private sector over limited financial resources, and misguiding investors in targeting potentially temporary sectors. As the keynote speaker mentioned, if just one country were to introduce green taxes, domestic companies would be worried about losing their competitiveness. In that way, green taxes could result in the flight of capital and productive activities to green tax havens.

One of the fundamental reasons for environmental problems, Lee continued, is that people regard the environment as a free good, and pricing mechanisms do not reflect real or environmental costs. A foreseeable result of environmental cost internalization would be the increasing number of private-public synergies as it would be in the interests of both sectors to improve eco-efficiency. As with any consumption based price increase though, blanket price internalization could have a disproportionate impact on the poor.

Another panellist suggested that over time market processes would internalise prices, as some countries “catch up” to OECD countries in terms of energy use: “clearly natural resources, whether it is energy, whether it is water, whether it is mineral resources, are all going to be severely constrained and will experience price pressure upwards”. For this panellist, medium and long-term competitiveness in industry is about being ecologically and environmentally efficient.

Additionally, Lee argued and others in the panel concurred that subsidies on environmentally harmful subsidies could be reduced or eliminated. The issue points to problems with “extensive use of subsidies that encourage the use of coal, electricity, pesticides, and irrigation and promote expansion of grazing and timber extraction on public lands. Such subsidies are common in Asia and the Pacific. Relatively low taxes on products such as detergents, fertilizers, batteries, pesticides and large-size cars are another example of government failure”. In this case, removing such subsidies and the implementation of environmental taxes can yield both economic and environmental benefits. “Prices are quite low because of subsidies, the result being people over-use the resources so we have to make the price right finally removing those double failures”. In other words, subsidies cost the government money and these in turn cost the environment and limit competitiveness. Although the Round Table welcomed this idea in principal, some argued that some developing countries would find this difficult to implement without greater external financial support. After numerous discussions in Manila, Tokyo and elsewhere, a large number of countries are making moves to eliminate some of these subsidies as part of their green industrializations policies. Panellists at the Round Table argued that this is an area that can be effectively dealt with at the public level and more progress will be made before Rio+20 next year.

The issue paper suggested that governments need to bridge the gap between long-term social benefit and short-term commercial benefit in order to promote the active participation of the private sector in the area of environmental R&D. The introduction of incentives for R&D in green technology (green free trade zones, for example) and removal of constraints to R&D were discussed.

Conclusions

There were two main threads of discussion at the 2011 Round Table: poverty reduction and the role of government and the private sector in green growth. These were not clearly resolved; however, some important points were made.

Regarding poverty reduction, the Round Table agreed that growth was necessary for countries in Asia and the Pacific. They also agreed that making that growth green need to be a priority. Green growth is an achievable goal; one that should develop according the domestic needs and abilities of individual

countries. Green growth policies and regulations need comprehensive calculation of costs and benefits before implementation, particularly in LCDs.

The issue paper established that in the past, green growth and inclusive growth have been seen as contradictory and approached separately. The issue paper argued that Market Based Instruments would allow the creation of synergies between the public and private sectors. Cost internalization would allow green growth to evolve naturally and reduce contradictory aspects of green, inclusive growth. The Round Table agreed that introduction of MBIs in the region should be agreed on among countries to prevent undesirable effects and MBIs should not prevent developing and least developed economies from growing. Ways to implement green inclusive growth in the area of policy formulation are not yet fixed. A universal green growth policy is not applicable in the region and each country should be able to adapt green growth to meet their circumstances. Green growth, especially in regards to industrial efficiency, had great potential to be profitable for the private sector in the region.

It was generally agreed that the removal of environmentally harmful subsidies, in combination with price internalization, is a step in the right direction. Some countries in Asia and the Pacific have already benefited from increased efficiency and cost savings by reducing certain types of energy subsidies to industry. For others, there will need to be outside financing to catalyze changes in energy and other environmentally damaging subsidies to alleviate any negative effects they might have on growth and poverty reduction.

Sustainable energy for all in 2012 was found to be one area where green growth and poverty reduction had a natural synergy, particularly at the local level. Providing renewable energy sources in geographically remote and poor areas can give some opportunities to break the cycle of poverty with education. These sorts of results with green technology at the micro-level are encouraging. Speakers also asserted that technology transfer and development will be vital in the shift to green growth, which had particular relevance to provide sustainable energy to all in 2012.

It was also established that efficient use of resources in industry allowed a business to both be greener and more profitable. The challenge facing policy makers is to create an environment where efficiency and green technology uptake is rewarded without inhibiting growth. This was demonstrated in examples from Asia and the Pacific region, and these examples will certainly contribute in a moderate way to outcomes at Rio+20.

“We do believe that intelligent State intervention can create the right externalities to drive inclusive growth as well as green growth”.

A mix of policies that were mutually supporting was considered the most effective method to encourage green growth.