Greening BUSINESS

Module 1: Introduction

This Green Growth path will familiarize participants with concepts for greening business by introducing a system of incentives, economic mechanisms and appropriate policies and regulations.

What is a Green Business?

Greening business and markets is one of the five paths of the Green Growth approach. By introducing legislation and encouraging companies to pursue the greening of their business practices governments can significantly contribute to the achievement of the Millennium Development Goals (MDGs), particularly in regards to poverty alleviation (goal 1) and to environmental sustainability (goal 7).

Green businesses are defined as enterprises which consider environmental protection as an essential component of their long-term business objectives, both by promoting ecologically efficient (eco-efficient) production activities and by marketing sustainable products and services. Almost all businesses have the potential for improvements both in efficiency and resource use, spurring greater environmental sustainability while reducing costs and maximising profits. By adopting a *whole-systems approach* to improvements in their business practices companies, both large and small, can make substantial savings, ultimately improving their competitiveness in markets at home and abroad.

Green Business: Enterprises which consider environmental protection as an essential component of their long-term business objectives.

Whole-Systems Approach: Viewing all parts of a system at once.

It is now becoming imperative for governments across the region to institute legislation and polices to encourage the greening of businesses. Resource scarcity, climate change and population growth pressures are compounding existing challenges to economic growth and poverty alleviation. The questions posed by the recent financial crisis highlight the pressures governments across the region face, namely; how can businesses harness eco-efficiency as a driver of economic growth and environmental sustainability and how can environment and eco-efficiency be presented as a business opportunity, rather than an extra burden and cost?

The Need for Greening Business in Asia and the Pacific:

The current economic system is being driven by the strive for economic efficiency in the use of resources, based on a market price that does not reflect the full costs of the processing of inputs (e.g. natural resources) and outputs (e.g. wastes, effluents, and emissions). Thus, there is a need to pursue ecological efficiency by internalizing the ecological costs of the use of natural resources into the prices of goods, making them subject to the workings of the market forces.

As long as the environmental and social costs remain outside the workings of market transactions, then economic distortions that have pushed the Earth into an ecological deficit will persist. As the eological deficit continues to deepen, the frequency and intensity of natural disasters have the potential to increase.

This vicious circle could be reversed by adopting the eco-efficiency principle in the economic processes. This strategy does not require huge additional costs and funding, since choosing, for example a more ecologically efficient mode of transport, such as railways, is going to bring about greater economic efficiency. This will cost less in the medium and long-term and will reduce congestions costs, which in some mega-cities reach a considerable percentage of the GDP.

At this juncture, there is great potential for the economies of the region to move away from the pursuit of the ever increasing quantity of economic growth and to focus efforts on improving the quality of economic growth. The past axiom of 'grow now - clean up later' is no longer an option.

Multinational Corporations (MNCs) as well as small and medium enterprises (SMEs) will have to improve the efficiency of their business practices, if they wish to remain competitive in the future. Governments must take the lead and encourage the greening of business throughout all levels of the economy, in order to 1) create an enabling environment for more *green jobs*, 2) support new markets for sustainable products, and 3) to reduce environmental degradation caused by business activities.

In Asia and the Pacific, business sustainability strategies are developing primarily due to pressures resulting from government policies, corporate image concerns and increased management awareness, as well as media pressure rather than consumer or non-governmental organization (NGO) pressures. One report notes that "corporate social responsibility is developing at an unprecedented speed in China" resulting in 18 reports published in 2006.

Greening business will involve multiple stakeholders as well as the business community. The active cooperation of local communities and civil society - harnessing support through public awareness campaigns - can foster more inclusive economic and social development based on local knowledge and traditional livelihoods.

Green Jobs: As defined by ILO, are positions that contribute substantially to preserving or restoring environmental quality.

Eco-efficiency: Emphasising the more efficient use of resources (materials, energy, water and land) to deliver goods and services that generate less waste and pollution, minimising environmental impacts and reducing social and economic costs.

Possible Measures for the Greening of Business

Reinvestment into Human and Natural Capital

Natural capital is both *ecosystem goods* (raw materials) that enterprises transform into value for humanity everyday (trees, fish, agricultural products, water and minerals) coupled with *ecosystem services* that make the Earth habitable; including cleansing the water and air, pollinating agricultural crops and storing nutrients in soils.

From the government perspective reinvesting in human and natural capital is a crucial public policy strategy for ensuring sustained prosperity and well being. Sustainable consumption and production practices provide the foundation for new competitive business models, which are essential for sustainable development and long-term profitability.

Ecosystem Goods: Raw materials that enterprises transform into value for humanity every day.

Human Capital: Refers to the capabilities of an individual, or group of individuals, specifically, the knowledge, training and skills that contribute to their level of productivity.

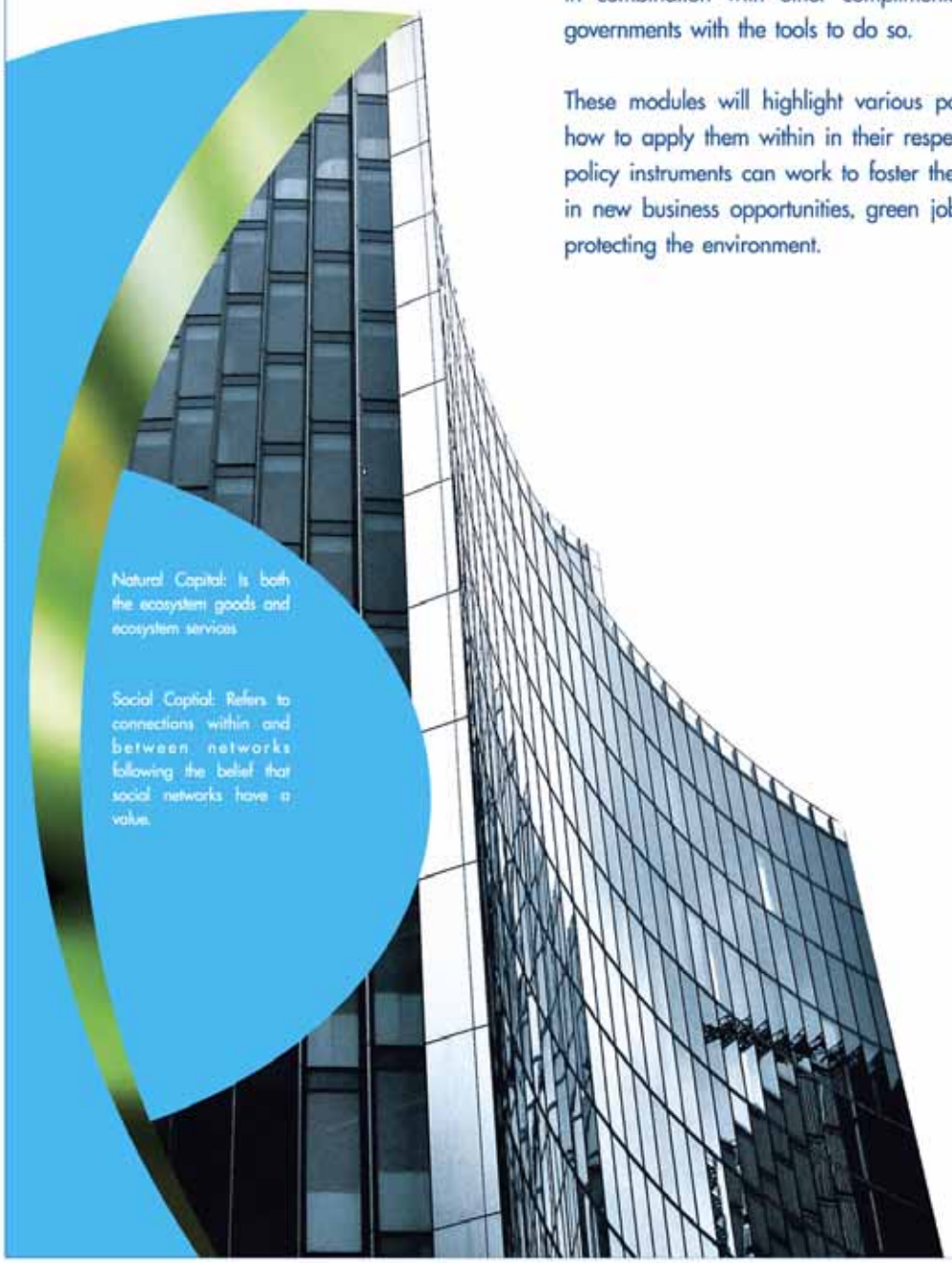
Social Capital

Sustainability for a businessperson has two meanings, both of which are important for the business in order to add shareholder/owner value and social value. The first meaning of "sustainability" is the traditional one: that the business-as-usual can endure over time. It is the desire of every business owner that the business is healthy, growing and enduring. This requires sustained competence in business basics: the global competitiveness of products and services, human productivity, sufficient capitalization and cash-flow management. A second meaning is the alignment of business operations with the sustainable development principle of not impoverishing the next generation by destroying social, human or natural capital.

In this light, *natural capital* and *social capital* are closely related, and policies that build or destroy one often build or destroy the other as well, especially in the long run. Building and preserving social capital, as well as human capital (that is, people's skills and education and family stability/health), not only allow people to prosper or at least survive, but also allow people to invest in natural capital rather than simply consume it.

The current capitalistic model in Asia and the Pacific region is designed around exports. Countries invested heavily in production, and as foreign reserves began to increase, further capital was invested towards improving production capabilities. Now, as demand is falling, the time has come to begin to reinvesting more heavily in natural and social capital. It is up to governments to support this reinvestment by correcting price signals to the market. Green tax and budget reform, in combination with other complimentary policy mixes, can provide governments with the tools to do so.

These modules will highlight various policy tools and guide users on how to apply them within in their respective countries. Utilizing these policy instruments can work to foster the greening of business, resulting in new business opportunities, green job creation, while simultaneously protecting the environment.



Natural Capital: Is both the ecosystem goods and ecosystem services

Social Capital: Refers to connections within and between networks following the belief that social networks have a value.

Module 2:
The Whole Systems Approach
towards *Greening Business*

Objectives of the module: *to familiarize participants with the whole systems approach towards sustainable consumption and production to enhance the competitiveness of companies.*

The competitive advantages of sustainability accrue through the greater efficiency of energy and materials, but equally, if not more so, from enhanced labour productivity. *The whole systems approach* can be defined as a way of viewing all parts of a system or process at once and analyzing how they interact and feed into each other. It is an approach to problem solving that views problems as parts of an overall system, rather than focusing on just one area. This holistic view encompasses all aspects of a system or process and can encourage creative and innovative solutions to individual problems.

This Module is arranged into three Subsections:

- Resource productivity and eco-efficiency
- Human productivity and culture
- Corporate social responsibility

Key Concepts:

- Eco-efficiency
- Energy productivity
- Sustainable agriculture
- Material productivity
- Biomimicry
- Human productivity

Natural capital is both the ecosystem goods (raw materials) that enterprises transform into value for humanity everyday (trees, fish, agricultural products, water and minerals), and the equally and perhaps more important ecosystem services that make Earth habitable by stabilizing the global climate, cleansing water and air, pollinating agricultural crops, storing nutrients in soils, and supporting spiritual values, cultures and recreation. Transforming business practices to restore, rather than destroy, investment in natural capital is a critical public policy strategy for sustained prosperity. Great opportunity lies in the sustainable production and consumption by nations and their enterprises, so that they can sustain economic growth while simultaneously prevent further environmental degradation.

In the context of improving the efficiency of how a product or service is created this approach can help identify areas of wastage of resources and needed improvements which will facilitate the shift towards greening business.

Resource productivity and eco-efficiency

Resource productivity, a component of eco-efficiency, is fundamental to greening business. If the production processes use fewer materials and less energy and water to produce the same amount of output, then in today's context of volatile energy and commodity prices the companies will be more resilient to change and therefore competitive. Eco-efficiency concepts should be applied to national, economy-wide development planning to de-link economic growth from negative environmental impacts and to improve the sustainability of economic growth patterns.

Critical aspects of eco-efficiency are:

- Reduction in the material intensity of goods or services;
- Reduction in the energy intensity of goods or services;
- Reduced dispersion of toxic materials;
- Improved use of recycling;
- Minimization of wastes and by-products;
- Maximum use of renewable resources;
- Greater durability of products;
- Increased service intensity of goods and services.

Resource Productivity: Involves maximising the amount of a good or service that can be obtained from the use of a given quantity of resources.

Resource productivity strategies used in or suggested for Asia-Pacific include:

Energy productivity

Governments can promote energy productivity through a variety of policy instruments. Market-based instruments (MBI) – such as broad-based energy and carbon taxes, auctionable cap-and-trade permit systems, and subsidies to incentivize the use or development of energy-efficient products and production processes – can work to this end. Command and control policies, for instance regulatory requirements for building energy certification and electrical-product labelling schemes, are excellent complimentary measures that can bundled with MBIs into a single instrument mix to address issues of energy productivity.

The greater use of renewable energy sources should be fostered through increased governmental support towards eco-efficient building and transportation system designs. Specifically, this should include government support for distributed energy systems, independent power production and sustainable building designs.

Nepal provides a good example with its subsidy package for renewable energy sources, which was developed in 2006, and includes (a) business tax exemptions, (b) subsidies for micro-hydro development, especially when part of integrated watershed management programmes, (c) subsidies for the home installation of photovoltaic (PV) electrical systems and efficient cooking stoves and (d) support for biogas projects (capturing energy from decomposing organic matter).

Sustainable agriculture/*silviculture*

This can be supported by rewarding, via fiscal policy, procurement processes that use the ISO 26000 social responsibility guidelines regarding social contracts, especially in rural areas. Support can also be provided to develop sustainable agriculture cooperatives, such as the organic market and green consumer movement supported by the Thai Health Promotion Fund and other community-supported agriculture ventures. Like all business development strategies, whole-systems approaches that assist small sustainable farms can be supported by consumer education, pricing policies and marketing support and relevant certification systems. Another new approach to agriculture in Thailand is Community Supported Agriculture (CSA). Local farmers are supported to produce organic food in ecologically sound agriculture systems and the consumers, as partners who invest in advance, share in the costs of production, harvest and underwrite crop failures. The benefits to consumers are access to safe, uncontaminated food, not infected by pesticides and less transport costs as food is grown locally. It also helps to build strong ties between the community and the farmers.

Material productivity

Increasing material productivity usually begins with the development of zero waste strategies. The implementation of such strategies can be supported by fiscal policy, in order to facilitate investments in developing material-use efficiency and recycling systems. Institutions also play a role in the provision of training/education to both businesses and consumers. The reward, on the business side, is a reduction in the costs of raw materials for manufacturing and waste disposal. Recent developments at Fuji Xerox in Japan have enabled them to produce products with zero landfill consequences and which are 99.97% recyclable. They have changed the design of the component parts to enable everything to be used again. Their main objective was to lower the environmental impact of a product after it had reached the end of its life-cycle. They have also established networks to collect old products and to recycle them back into the production process.

Silviculture: Refers to enhanced forestry management systems of growing and cultivating trees.

Eco-industrial development and circular economy systems

Placing complementary industries in close proximity can produce considerable cost reductions for all participants, because they can encourage the use of waste from one industrial operation/eco-industrial park as raw materials for another. However, such eco-industrial parks can be difficult to establish and therefore deserve particular public policy attention. One such park has been built by MAS Holdings in Sri Lanka to produce textiles for a British department store. Apart from creating employment for women and men, they also aim to 1) become completely carbon neutral, 2) reduce energy use by 25 per cent and waste in the production process by 20 per cent, 3) maximize the use of renewables, and 4) institute environmentally sustainable waste management. These cost savings can then be passed on to companies who choose to locate within the park.

Biomimicry-based design and production

This leading-edge practice can be facilitated by linking biological and chemical scientists with company engineers through systems such as that developed by the Biomimicry Guild in the U.S. In addition, increased *biomimicry* research at universities or Government research institutes can help a nation's businesses gain technological advantage over out dated 'business-as-usual' companies.

Biomimicry: As defined by the Biomimicry Institute, "is a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems."

Human productivity and culture

The social networks that facilitate sustainable business health are rapidly growing and are continually enhanced by public and private institutions such as the Bangladeshi Grameen Bank, NGO partnerships, and sustainability- oriented public programmes that administer soft loans and microfinancing to the rural polulation. These provide the Asian and Pacific region with substantial opportunities to synergize poverty reduction and environmental protection efforts. There has never been a better time for public policy managers to bring the magic of sustainable business prosperity to their stakeholders.

A sustainable company acquires human productivity and cultural advantages because the company's core values do not differ from those of its employees for sustainable economic prosperity. In other words, nobody wishes to leave the next generation worse off than the present one and people will be more motivated to work for organizations that support this. The 2007 Tandberg survey (of more than 16,000 people in 15 countries) found that globally 80 per cent of workers would prefer to work for companies with a "good reputation for environmental responsibility", with Australia and China in the top 4 countries at more than 84 per cent.

Human productivity strategies used in or suggested for the Asian and Pacific region include:

Worker family support, and individual and family health and safety:
These strategies include family care leave, wellness support, and affordable and healthy housing support. They also include workplace safety; such as zero injury and/or accident strategies that have been embraced by leading sustainability performance companies such as Vedior N.V. and DuPont.

Training/education programmes for workers and their families:
To develop a more skilled work force, governments can implement policies and reward programmes to reduce costs for adult education and training. As a result, a more skilled workforce will be able to serve the needs of diverse industries, as well as current employers. For example, in the Republic of Korea Yuhan-Kimberly has increased its support for lifelong learning for employees from 54 to over 300 hours per year since 1998. The in-house "learning cafeteria" of courses for knowledge workers is made up of 60% technical and vocational training and 40% social and leadership training. Governments can also ensure adequate support for distance learning opportunities for citizens, such as the College of Internet Distance Education of Assumption University in Thailand.

Sustainable production and consumption training/education: This supports sustainable economic development and enhances the competitive advantage of businesses. Governments can support non-profit sustainable consumption education organizations such as the ISO Committee on Consumer Policy that is based in Geneva with activities in 99 counties. Such consumer policy initiatives can involve the consumers actively in standards setting and promotion of companies that contribute to more community social and environmental progress.

Other important incentives for the more equitable treatment of workers include policy or taxation support for (a) employee ownership, (b) avoiding excessively high or excessively low compensation, (c) financial rewards for outstanding design through long-term royalties to designers (for example, building designers) whose designs exceed current standards and (d) service leases by businesses such that taxation is less when the manufacturer maintains ownership throughout the product's life cycle. This "service-leasing" strategy (also known as the solutions economy) stimulates sustainability performance because the manufacturer must pay for the operational and disposal costs of their products, which is a strong incentive for greener design.

Corporate social responsibility

Corporate responsibility has evolved to encompass accountability of a company's sustainability performance, now referred to as *corporate social responsibility (CSR)*. Governments have an interest in promoting corporate responsibility because it is key to sustained competitiveness in a globalizing economy, where increased access to informaton may require companies to maintain a good social and environmental track record.

Corporate social responsibility: Private sector responsibility for business's impact on the environment, communities, consumers and employees.

Corporate social responsibility strategies used in or suggested for Asia-Pacific include:

Transparency of business policies and ethics in business.
Full information disclosure for consumers is a basic economic tenet of successful markets. Ways to put this into practice include the public posting of employee/owner compensation, resource use, sustainability performance reporting and requiring privately held enterprises to publicly report their results in the same detail as publicly owned firms. In addition, the Carbon Disclosure project is an independent NGO, which collects the data on companies' carbon dioxide emissions. Moreover, many institutionalized investors are now demanding this kind of information before investing in companies.

Sustainability-based capitalization.
Investors and lenders often demand financial requirements from businesses that frequently influence the adoption of a short-term focus, rather than long-term strategic investments in sustainability-based competitiveness. Governments, particularly ministries of finance, need to examine lending and

business concepts and strategies can be developed through partnerships. An example is the work of the Association of Development Financing Institutions in Asia and the Pacific, which engages national financial regulatory bodies for the development of "green financial products" that support the creation and growth of sustainable (green) businesses.

Review Questions

1. What is natural capital?
2. What benefits can be gained from material productivity?
3. How can the whole systems approach be better communicated to business owners?

Further reading:

Prahalad, C. K., **The fortune at the bottom of the pyramid**, Wharton School Publishing, NJ, 2006.

Hargroves, K., & Smith M., **The Natural Advantage of Nations**, Earthscan, London, 2005

Hawken, P., Lovins A. and Lovins, L. H., **Natural Capitalism: Creating the next industrial revolution**, Little, Brown and Company, NY, 1999

Harvard Business Review, **Harvard Business Review on Green Business Strategy**, Harvard Business Publishing, 2007.

Module 3:
The Role of Government
in *Greening Business*

Objectives of the module: *to identify the policies and strategies available for governments to make the Greening of Business an integral component of economic and social development*

This module will introduce government policies and practices that can be used to strengthen existing green businesses, introduce new market reforms and help foster the transition towards sustainable companies.

This Module is arranged into five Subsections:

- Government Policies and Programmes
- Integrating Greening Business into Development Planning
- Institutional Mechanisms
- Greening Small and Medium Enterprises (SMEs)
- Awareness, Education and Knowledge Management

Key Concepts:

- Business Sustainability
- Green Public Procurement
- Environmentally Sound Technologies (EST transfer)
- Green Innovation
- Green SMEs
- Education and Knowledge Management

Green businesses are companies that contribute to a socially equitable and ecologically sustainable economy. Achieving ecologically efficient (eco-efficient) economic growth means rethinking the approach to managing environmental issues. Governments need to address how eco-efficiency can be harnessed as a driver for environmentally sustainable economic growth – Green Growth – and how environmental protection and ecological efficiency

can be presented as a driver of new business opportunities, rather than a burden and additional cost. The development of new business models and green markets can help identify opportunities for new industries and growth sectors redefining comparative advantages and encouraging further economic development. Consequently, one of the key overarching objectives of greening businesses is to ensure that the benefits of economic growth will be enhanced through sound and rational policies for the overall improvement in the quality of life of all the people in the region.

The key concepts highlighted in this module will attempt to address government interventions for developing a sustainable low carbon economy through the promotion and support of green business practices.

Government policies and programmes

By initiating an assessment of existing business trends and policies the government can begin to integrate green business practices into national economic development planning. The government can recognize eco-efficiency as a primary objective of economic growth and formulate a national road map towards integrating environmental sustainability into business practices.

Once the government road map has been finalized for greening the country's economy, existing public policies need to be studied and analyzed to examine their effectiveness. Any policies found to be contradictory should be eliminated. New policy directives should be effectively articulated to the business comunity. This may be achieved with the assistance of various business networks and associations. Furthermore, adopting public education campaigns can work to raise awareness and garner political acceptance.

Challenges

All organizations (for-profit businesses, non-profit enterprises and governments) face common challenges in implementing green business/sustainability strategies.
These challenges can be summarized as follows:

- Integrating sustainability concerns (long-term social and environmental responsibility) with revenue/profit goals and short-term financial challenges;
- Making "sustainability performance" everybody's job;
- Allocating the capital for both short-term (often "baby-step" and/or symbolic) successes and long-term sustainability performance investments;
- Creating an *organizational culture* that embraces and reinforces

sustainability values - usually within a socio-economic environment that has not done so;

- Convincing shareholders and other important stakeholders, including employees, that sustainability strategies are critical for the organization's future and are based on sound scientific/economic assessments of the future rather than a passing fad;
- Expanding sustainability strategies beyond operations under its direct control to the entire value chain;
- Creating sustainability management systems that add more value than their costs of development and implementation (often including third-party auditors).

These practices are often constrained by poor economic, institutional and legislative infrastructure (for example, inflexible regulatory systems not attuned to support sustainable business strategies).

Integrating green business into development planning

Government development policies focusing on poverty reduction can use greening business as an opportunity to create more employment opportunities for the poor and to empower women to participate in the country's economic and social development agenda. A paradigm shift is needed to synergize economic growth with environmental sustainability that will encourage more job opportunities (in the form of green jobs) for local people by introducing sustainable development practices.

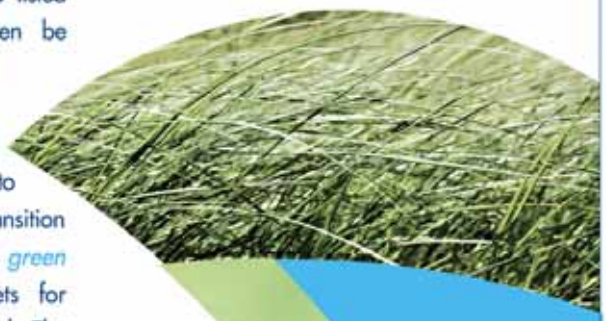
Renewable energy markets for example are expanding and have great potential to develop poor and remote rural communities in many developing countries. The major challenges are to develop the technologies and diffuse them at the grassroots level. For example, once Photovoltaic solar panels (PV panels) or wind turbines are installed, by either the government or by private agencies in the remote villages, they need to be maintained and repaired by local technicians. The government can provide technical education and training to local people to maintain the renewable energy devices, and through that, provide more opportunities for employment. Similarly, promoting rural and cottage industries by modernizing them with the latest technologies and business development practices can promote these low carbon emitting industries to grow and create business opportunities in the rural areas.

Fiscal Policy Tools

The use of fiscal instruments to encourage the greening of business is an important policy option for decision makers to facilitate the transition towards more eco-efficient and sustainable companies. They can be utilized to alter business cycles, price signals and economic growth. Examples of such policy options include government spending (e.g. public procurement and green subsidies), as well as green taxation.

Green Public Procurement

Green public procurement has been cited as one of the key governmental policies that can be used to encourage the greening of business. The government should select a strong lead agency to implement the changes and then introduce a standardized system of assessment. This would involve an assessment of the environmental impacts of a product at all stages of its *life cycle*, taking into account the environmental costs of securing raw materials, manufacturing, transporting, storing, handling, using and disposing of the product. The products which minimize environmental impacts should then be listed and disseminated. Government procurement officers can then be trained and educated about the new green procurement policies.



Government consumption can represent as much as 20 to 25 per cent of GDP. By encompassing sustainability criteria into public procurement it can provide substantial support for the transition towards greater sustainability. By actually encouraging *green procurement practices* in government activities, new markets for indigenous sustainable products and services can be developed. The inclusion of sustainability criteria in government procurement is a direct way to stimulate the market for environmental goods and services, which will develop both the domestic, as well as international markets for sustainable products and services.

Green Tax and Budget Reform

Green Tax and Budget Reform (GTBR) refers to a wide spectrum of fiscal pricing measures that have the potential to simultaneously increase revenue and foster Green Growth. More specifically, it entails 1) a shifting of the tax burden from traditional areas of taxation, such as income, savings, and capital gains, to environmentally relevant products and activities such as waste; and 2) the redirecting of subsidies from environmentally perverse activities towards activities that promote Green Growth and poverty reduction. The entire reform of the fiscal system is done with the aim of maintaining revenue neutrality: a net-zero increase in the level of taxation on the economy.

The private sector reacts directly to signals from the government. A tax on one input such as fuel, for example, can create a greater incentive for businesses to shift capital towards investments in fuel-efficient technological research. Innovations spawning from such research can result in the demand for and creation of new products, services and markets. Furthermore, reductions in corporate income tax, capital gains tax, and social security contributions of firms can reduce costs and improve competitiveness in global markets.

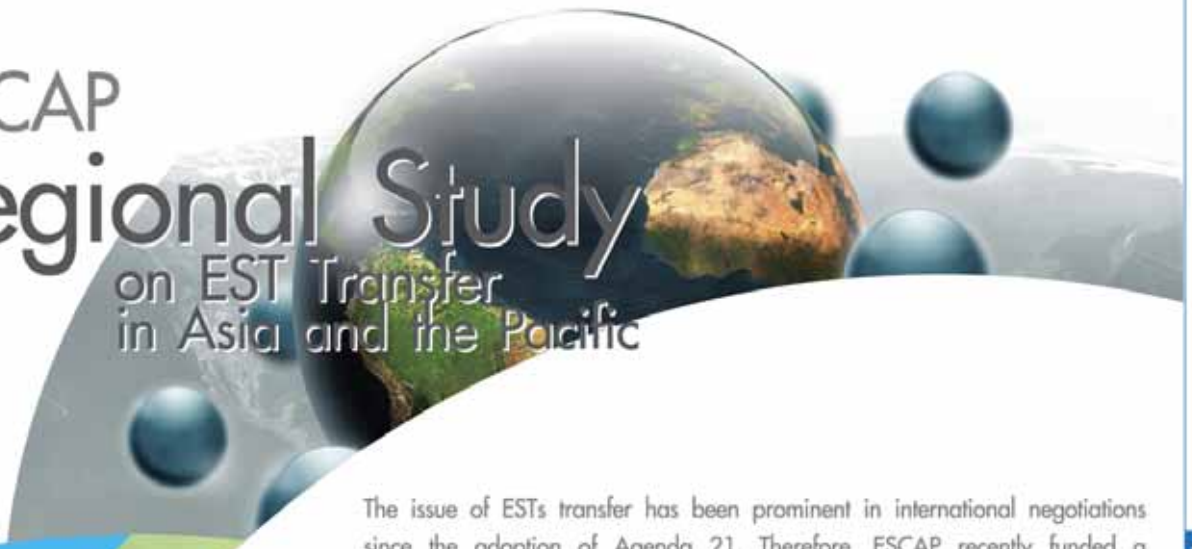
Institutional Mechanisms

It is important for governments across the Asia and Pacific region to create an enabling environment for *greening business*. This can be achieved by enhancing a country's institutional capacity for *green business* development, including promoting and funding research institutions and development programmes and by encouraging the transfer of *environmentally sound technologies (ESTs)*.

Technological innovations play a key role in the production and service sectors, while governments play a major role in EST development, transfer and commercialization. In the Asian and Pacific region, national and sub-national governments can assume multiple roles in fostering the transfer of ESTs, on their own or with involvement and support from international agencies, development banks and/or donor countries.

Case Study

ESCAP Regional Study on EST Transfer in Asia and the Pacific



The issue of ESTs transfer has been prominent in international negotiations since the adoption of Agenda 21. Therefore, ESCAP recently funded a regional study on publicly funded EST transfer to highlight possible policy interventions to accelerate the transfer of environmentally sound technologies.

The study identified some key challenges to technology transfer relating to the assessment and selection of ESTs and their adaption and replication. Multiple stakeholders have to play a role in facilitating successful technology transfer. As a policy maker and enabler for the development, selection, transfer and replication of ESTs, the government provides governance and oversight to the establishment and strengthening of national systems of innovation which increases the country's capacity to select, adopt, adapt and replicate transferred technologies. Technology transfers are influenced by 'national systems of innovation', which are the networks of institutions that initiate, modify, import and diffuse new technologies. 'National systems of innovation' reflect a complex mixture of institutions (e.g. educational, financial, legal, scientific and technological), public policies (taxation; import/export promotion; science, technology and innovation) and business and social relationships.

Businesses are the primary users of technology and can be actively encouraged to adopt ESTs using traditional environmental management strategies as well as with help with technology upgrading. Academia can contribute to knowledge and technology development but needs greater engagement with society while becoming more transparent and accountable.

Successful EST transfer will depend on strengthening the existing 'national systems of innovation' which remain weak in most parts of Asia-Pacific. Further collaborative initiatives to discuss and disseminate best practices access countries in the region will also help to mainstream the transfer.

Environmentally Sound Technologies (EST): Refers to a wide range of sustainable products, services, and processes that deliver essential needs with minimal ecological impact.

Forthcoming publication on the study outcomes is expected by July 2009. Please see www.greengrowth.org for more information

Recent analysis of the performance of such national systems in OECD countries has identified overarching policy strategies for their improved governance.

These include:

- Balancing imperatives (i.e. target the innovation system increasingly towards national priorities including sustainable development and mitigation and adaptation to climate change);
- Creating visions that can be communicated (i.e. providing long term visions on how a country aspires to develop);
- Developing appropriate knowledge bases;
- Developing a long term horizontal approach (with involvement of multiple sector ministries);
- Integrating learning into governance practices for the innovation system;
- Developing action plans, with measurable targets;
- Designing effective coordinating institutions; and
- Improving evaluation.

In Asia and Pacific countries, national institutions such as the National Innovation Agency (NIA) in Thailand provide an excellent example of the government's institutionalized interventions to promote and facilitate research and development for new technologies.

Case Study

The National Innovation Agency (NIA) Thailand

The establishment of the National Innovation Agency is considered an important "innovation" by the Thai Ministry of Science and Technology in changing the administrative course of the Innovation Development Fund (previously under the direction of the National Science and Technology Development Agency) and the Revolving Fund of Research and Technology Development (previously under the direction of the Office of the Permanent Secretary of the Ministry of Science and Technology). Because of their similar missions, the two funds were combined to create a nationally recognized agency to undertake and support innovation development. This increased the national competitiveness in strategic innovation which affects the productivity of the nation. The NIA functions as a central unit for coordinating, networking and partnering different organizations from various fields such as education, technology, finance or investment but mainly focuses on knowledge management to achieve innovation. Particularly to induce "innovation on Cluster Platform", which uses innovation as the principal tool in improving quality of life and as a driving tool for competitive economics. Over the past years, the NIA has tried to build a fully-efficient system to promote national innovation systems by providing both technical and financial supports to open business opportunities for the private sector.

As an investing partner in EST research & technology development as well as its commercialization, the government is often involved in co-financing the innovation process, as least indirectly through tax breaks and/or other incentives for the industry partner to undertake research. Public sector investments in partnership with private sector and academia can enhance ESTs development and transfer. Public sector spending can fund research infrastructure by providing funds for facilities and equipment at universities, public research institutes used for applied research, scholarships for able students undertaking research degrees and the funding of research brokerage initiatives. The government can also participate directly in the specific research/innovation project by co-funding the research costs (matching the industry investment) and by providing grant funding for trials and demonstration projects. The government will generally do this as part of its industrial policy to support national industries to compete in both the national and international markets.

There are thus considerable opportunities for governments to foster the development, adoption and replication of ESTs. Governments can also promote rural and cottage industries which are based on concepts of environmental sustainability and eco-friendly production. The One Village One Product project (OTOP) in Thailand provides a good example of the government promoting green business and creating green job opportunities for the rural poor.

Greening Small and Medium Enterprises (SMEs)

Small and medium scale enterprises play a major role in any country's economic development providing employment opportunities, promoting entrepreneurship and enhancing technical knowledge. Governments need to plan for and draft appropriate legislation which encourages creativity and innovations while ensuring greater environmental sustainability. This would lead to an increase in competitiveness and better profitability for businesses that improve their eco-efficiency and resource-use, resulting in increased market share, more jobs, economic prosperity and enhanced social well-being.

Governments can assist the SME sector with greening business by:

- The establishment of industrial estates for green SMEs, including the development of smart growth zones;
- Providing tax breaks as well as concessional finances for investments in new green technologies;
- Providing managerial and technical training to the SME work force;
- Assistance in the design, development and marketing of green products;
- Support for resource recovery parks;
- Establishing an information network for SMEs
- Help in adopting the whole systems approach to production.

Other possible measures the government could take to support SMEs include training staff in new green procurement strategies; developing local sustainable infrastructure (particularly public transport) while encouraging SMEs to relocate around the new developments; registering new green start-up companies and giving them extra assistance and guidance and support SMEs to conform to international standards regarding sustainability.

Case Study

SME Innovation Center (Indonesia)

Small and Medium Enterprises (SMEs) in Indonesia play a significant role in economic and social growth. The number of SME establishments in 2006 was 48.93 million or equal to 99.985 per cent of total enterprises in Indonesia. The SMEs contribution to GDP in 2006 was 53.28 per cent. The economic growth of Indonesia in 2006 was 5.48 per cent, whereas contribution of SMEs was equal to 3.06 per cent. However, the SMEs in Indonesia are lacking modernized technology and transfer facilities as well as having poor management skills. It is crucial for SMEs to observe reforms at the fore-front so the rest of the industrial sector in Indonesia can achieve developmental gains significantly. The policy makers in the country with the help of number of experts laid down an action plan to address critical issues for SME reforms as part of their national development policy.
The major critical issues to be addressed for SME are:

- Even though the SMEs play a very significant role in the national economical development, on technology and innovation they appear to be quite inefficient and less productive;
- The national mid-term development plan has set a good agenda and achievable goals, however it does not create a synergy between governments, research institutions and industries;
- Indonesia is rich in natural resources but the demographic challenges within the country make them insufficient if not used efficiently, thus improvements in eco-efficiency are a priority.

Following up on policy reform, the Indonesian Coordinator Minister for Economics has taken the initiative to set up the SME Innovation Center. The SME Innovation Center is charged with implementing its programmes, especially in support of technology-based micro, small, and medium enterprises (MSMEs). The center collaborates with all major research and development (R&D) institutions in Indonesia such as the Industry R&D of the Department of Industry, Department of Cooperatives and SMEs, the Agency for Assessment and Application of Technology (BPPT), Indonesian Institute of Sciences (LIPI), selected Universities across the country, and other intermediary institutions in Indonesia. Furthermore, the Coordinator Minister for Economy has also regulated a package of policies for empowering SMEs in marketing, legal regulations, human resource development, and funding allocations.

The SME Innovation Center will be the solution for some critical issues mentioned above. Besides this, the most important role of the SME Innovation Center is to become a platform for coordination and to create a synergy for the three components of innovation namely research institutes, industry and government ministries along with many various formal or informal organizations working in Indonesia. In addition, they will also provide information and databases required for SMEs and entrepreneurs. Some research institutes and universities will be appointed to be the center of excellence in the field of Science &Technology. Their tasks would be to develop scientific and technological solutions for SMEs and other industries.

Awareness, Education and Knowledge Management

Better education and public awareness campaigns are needed, particularly in developing countries. Environmental impacts can be reduced by the actions of a well informed public working through civil society groups.

Public access to environmental information has also been shown to have positive effects on corporate environmental performance. In the Republic of Korea and other Asian countries, research has shown that stock markets react strongly and positively to environmental information disclosure, providing evidence that a company with good environmental performance is also likely to sustain good economic performance. Environmental performance is becoming complimentary with good business practice and readiness for reaping the benefits of globalization.

Awareness, education and training on green business policies and practices can be enhanced by:

- Multilevel information centers/sources for green business firms, consumers, products and technologies;
- Voluntary agreements; and
- Disseminating good examples through information networks.

Civil society groups and business networks should be regularly involved with any changes made and continuously consulted to monitor the results. Often solutions to localized environmental problems can be found among the local populations.

Review Questions

1. In what ways can your country support enterprises to improve their efficiency and ability to compete both in national and international markets?
2. What are some of the challenges government officials face in promoting green procurement?
3. How can eco-efficient production processes be used in your country to widen the market for more green products and create new business opportunities?

Further readings:

Van Berkel, R. *Regional Study to Guide Policy Interventions for Enhancing the Development and Transfer of Publicly-Funded Environmentally Sound Technologies in Asia and Pacific Region*, United Nations Publications, Bangkok, Thailand, 2009

Hargroves, K., & Smith M., *The Natural Advantage of Nations*, Earthscan, London, 2005

Hawken, P., Lovins A. and Lovins, L. H., *Natural Capitalism: Creating the next industrial revolution*, Little, Brown and Company, NY, 1999

Module 5:
Social Entrepreneurship and Greening Business
in Developing Countries

Objectives of the Module: *to familiarize participants with how civil society and green businesses can collaborate to promote sustainable livelihoods and inclusive sustainable development.*

What is Social Entrepreneurship?

Public policy leaders in developing countries can create favourable policy environments for social entrepreneurship, which is especially important in rural and impoverished communities. Social enterprises can fill the gap between private sector interests (often short-term interests) and government programmes, which are usually underfunded in developing countries.

This Module is arranged into three Subsections:

- What is Social Entrepreneurship?
- Examples of Social Entrepreneurship
- Public Policy Support

Case studies:

- Grameen Shakti
- SEWA Nirman

A *social entrepreneur* is someone who recognizes a social problem and uses entrepreneurial principles to organize, create, and manage a venture to make social change. Whereas a *business entrepreneur typically measures performance in profit* and return, a *social entrepreneur assesses success in terms of the impact he/she has on society*. In fact, social entrepreneurship has its origins in Asia and in Asian cultural values of cooperation and sustainability. Social entrepreneurs are described by the Schwab Foundation for Social Entrepreneurship as combining the characteristics of successful businessman Richard Branson (of Virgin Group Ltd.) with those of the legendary Catholic saint and charity worker Mother Teresa. The Foundation's website states that a social entrepreneur is "a pragmatic visionary who achieves large-scale, systemic and sustainable social change through a new invention, a different approach, a more rigorous application of known technologies or strategies, or a combination of these with an emphasis on those who are marginalized or poor". While social entrepreneurs often work through nonprofits and citizen groups, many work in the private and governmental sectors as well.

Examples of Social Entrepreneurship

Outstanding examples of social entrepreneurship can be found throughout the Asian and Pacific region including: Grameen Bank and its subsidiaries (see below), Child Helpline International and other enterprises initiated by Ms. Jeroo Billimoria of India; fashion apparel retailer Fair Trade Company, begun by Ms. Safa Minney in 1991 in Japan, and the NGO Bhagwan Mahaveer Viklang Sahayata Samiti the Jaipur prosthetic foot producer, which serves 60,000 patients annually.

Case Study

Grameen Shakti

In 1976, Economist Mr. Muhammad Yunus, winner of the 2006 Nobel Peace Prize, began the Grameen Bank in his native Bangladesh. A source of lending to the poor, Grameen Bank was serving over 2 million borrowers and assisting in various intermediate-technology developments by 1994. In 2007, the total number of borrowers reached 7.34 million, of whom 97 per cent were women. The borrowers own 94 per cent of the Bank and the government the remaining 6 per cent. The loan recovery rate exceeds 98 per cent; all loans are from funds provided by members' deposits.

Mr. Yunus and his colleagues, such as Mr. Dipal Chandra Barua, are the most globally recognized champions for social entrepreneurship. Grameen Global Network now includes 17 companies that operate independently and 5 companies with financial ties to the Bank, including Grameen Shakti.

Mr. Barua, one of the original Grameen Bank employees, leads the Grameen Shakti enterprise, a growing Bangladesh enterprise whose mission is to empower rural people through access to green energy and income. Grameen Shakti provides rural people with solar PV electricity panels (solar home systems), biogas reactors and improved cooking stoves in order to meet the diversified needs of rural people through a whole-systems approach (that is, addressing both energy production and energy use). Grameen Shakti has already established 20 Grameen Technology Centers, staffed primarily by women engineers. Microloans to participating households help overcome the high initial costs of the energy systems, and the maximal use of locally made components also contributes to affordability. Through its 1,340 employees at 278 local offices, Grameen Shakti has already supported the installation of 100,000 solar home systems and 1,000 biogas plants that, together, generate 20 megawatt hours per day.

For those who need to support rebuilding efforts after a catastrophe, or who are struggling with other socio-economic challenges, Mr. Yunus advises the creation of a social businesses fund that allocates a portion of the fund for generating innovative ideas.

Source: Dipal Chandra Barua, Grameen Shakti, presentation at the ESCAP Third Green Growth Policy Dialogue: the Greening of business and the Environment as a Business Opportunity, Bangkok, 5-7 June 2007; <www.grameen-info.org>; and David Bornstein, The Price of a Dream: the Story of the Grameen Bank and the Idea That Is Helping the Poor to Change Their Lives (New York, Simon and Schuster, 1996).

The essence of social entrepreneurship support systems is collaboration based on the search for solutions. A leading example is "Health in Your Hands" a project of the Global-Public Private Partnership for Handwashing with Soap, which began in 2001. The partnership joins multiple corporate and international development agencies including the United Nations Children's Fund (UNICEF). Its Asian roots are in the government of the state of Kerala, in India, and the project now includes an initiative in Nepal.

It may appear that the government has a limited role in encouraging social entrepreneurs. As noted by the Mr. Ed Millband, Minister for the Third Sector, Government of the United Kingdom, "Government does not create the inspiration for social enterprise, but it can help or hinder what they do". However, a 2007 study of State-sponsored social enterprises in the United Kingdom found that, after initial difficulties involving "turf" and rigid government ideas about what needed to be done, two thirds of these enterprises had developed innovations and were financially sustainable after only two years.

Public Policy Support

Public policy support for social entrepreneurship ventures can include favourable regulatory and tax systems (especially non-profit taxation and donation rules), and a proactive attitude towards the development and execution of public private partnerships, including partnerships that may replace existing government services.

Social entrepreneurship support strategies are centered on the fundamentals of the "ecosystem for wealth creation" articulated by social entrepreneur expert Mr. C.K. Prahalad as follows:

- A market-oriented ecosystem that adapts and evolves and can be resilient and flexible;
- Education across all levels to foster responsible entrepreneurship;
- Reduction in the inequities in contracts due to asymmetries in (a) access to information, (b) choice of partners, (c) ability to enforce contracts and (d) social standing; and
- Building governance capabilities among the poor, in particular self-help groups such as those fostered by Grameen Bank and similar micro-lending organizations.

He notes that public policies for social entrepreneurship remained a fertile area for study and experimentation: "There have been few attempts to focus on the symbiotic nature of the relationships between various private sector and social institutional players that can lead to a rapid development of markets at the *Bottom of the Pyramid*."

Case Study

Sewa Nirman

The Self Employed Women Association (SEWA) was established in 1971 to provide support to the rural poor and urban women workers and is one of the biggest self earning women's trade unions in the Asia and the Pacific region with a membership of around five and half million today.

The initiative aims to provide job opportunities to the poor masons and artisans in a unified manner by following the fundamentals of sustainable livelihood practices. Nirman (literally means construction), was founded by poor construction workers, masons and artisans to organize work as a private company and to get the optimum benefits from their skills and labor. In 2001 a major earthquake occurred in Gujarat, India resulting in a high number of deaths with significant damage to houses and infrastructure. As a result many governmental as well as non governmental agencies like SEWA trained local masons for the reconstruction of a large number of buildings. Since few numbers of masons get formal training for masonry and building construction, there is a need to sustain the skills of the trained local masons as well as other craft-persons.

SEWA Nirman is undertaking training and building the capacities of the members by providing tools and equipment on loan for the rural entrepreneurs and artisans as well as providing training on the development and use of locally made eco-friendly construction materials.

The related SEWA Nirman Construction Workers Company also plans to partner with existing national, as well as international companies, so the skilled workers will get more job opportunities and fair labor wages.

For more information please email the SEWA Nirman project office: neetapatel@sewanirman.com

Review Questions

1. What are social entrepreneurs doing in your country?

2. Has your government provided any kind of policy or legal support to encourage social entrepreneurship?

3. Please list what kind of government and private sector initiatives can encourage social entrepreneurships.

Further readings:

Brinckerhoff, P., *Social Entrepreneurship: The Art of Mission-Based Venture Development*, John Wiley and Sons Inc. New York, 2000.

Prahalad, C. K., *The fortune at the bottom of the pyramid*, Wharton School Publishing, NJ, 2006.