

# A green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Bangladesh?

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## Abstract

This paper justifies the necessitate for interpretive forms of economic study and then deals with their practical application in Bangladesh. At present green economy is the burning issue in Bangladesh. To create awareness and provide information about green economics this is the main theme of this paper. Convincing evidence for policymakers and business leaders to supply in clean technologies, renewable energy and natural infrastructure will be presented in the Green Economy Report (GER), a ground-breaking study being conducted as part of the Green Economy Initiative. Sustainable development has been the overarching goal of the international community since the UN Conference on Environment and Development (UNCED) in 1992. Amongst numerous commitments, the Conference called upon governments to develop national strategies for sustainable development, incorporating policy measures outlined in the Rio Declaration and Agenda 21. Despite the efforts of many governments around the world to implement such strategies as well as international cooperation to support national governments, there are continuing concerns over global economic and environmental developments in many countries. These have been intensified by recent prolonged global energy, food and financial crises, and underscored by continued warnings from global scientists that society is in danger of transgressing a number of planetary boundaries or ecological limits.

**Keywords:** Green Economy, Sustainable development, Poverty Eradication

## 1. INTRODUCTION

### 1.1 What is a Green Economy?

The green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. Green economy is an economy or economic development model based on sustainable development and knowledge of ecological economics.

At present world Green Economy can be thought as a substitute vision for growth and development; one that can generate growth and improvements in people's lives in ways reliable with sustainable development. A Green Economy endorses a triple bottom line: sustaining and advancing economic, environmental and social well-being. A Green Economy is one in which the vital links between economy, society, and environment are taken into account and in which the transformation of production processes, production and consumption patterns, while contributing to a reduction per unit in reduced waste, pollution, and the use of resources, materials, and energy, waste, and pollution emission will revitalize and diversify economies, create decent employment opportunities, promote sustainable trade, reduce poverty, and improve equity and income distribution.

A Green Economy can be defined as one that results in increased human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP 2011). A green economy is a vehicle to achieve sustainable development and eradicate poverty. For Africa, the green economy is an agenda for growth, poverty reduction and employment creation.

UNEP defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of

biodiversity and ecosystem services. These investments need to be catalysed and supported by targeted public expenditure, policy reforms and regulation changes. The development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits, especially for poor people whose livelihoods and security depend on nature. The concept of a “green economy” does not replace sustainable development, but there is now a growing recognition that achieving sustainability rests almost entirely on getting the economy right.

### **1.2 Why Green Economy:**

As a third world country like Bangladesh Green Economy is important. The resources are limited, A vast population, so it is tough to balance supply and demand. Also Green economy considerably has been reducing environmental risks and ecological scarcities. A green economy is low carbon, resource efficient, and socially inclusive. The main option is green economy sustain environment but accelerate development. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services.

## **2. HOW BE ABLE TO A GREEN ECONOMY CONTRIBUTE TO SUSTAINABLE DEVELOPMENT AND POVERTY ERADICATION IN BANGLADESH?**

On the way to Green Economy that means passageways to Sustainable Development and Poverty Eradication. Green Economy is very important for sustainable development. Green technology generates energy without non toxic, harmful by-products. Also Green economy suggests making alternative environment prone technology. Green economy helps reducing waste and pollution by changing patterns of production and consumption. For Green economy

We establish that there are different approaches, visions, models and tools existing to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its three dimensions which is our overarching goal. In this regard, we consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and it could provide options for policymaking but should not be a rigid set of rules. We emphasize that it should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth’s ecosystems.

**Why green economy very important in the world:** By 2030 in this world-

Global energy demand up by 45%

Oil price up to US\$180 per barrel (IEA)

GHG emissions up 45%

Global average temperature up 6°C

Sustained losses equivalent to 5-10% of Global GDP

Poor countries will suffer costs in Excess of 10% of their GDP (Stern)

1 billion people living on less than US\$1 a day and US\$3 billion Living on less than US\$2 a day by 2015 (ILO)

[Source: Prepared by Stern Review, from data frown from World Resources Institute Climate Analysis Indicators Tool (CAIT) on-line database version 3,0]

### 3. WHY GREEN ECONOMY IS NEEDED IN BANGLADESH?



Bangladesh is called Vatr desh or ebb-tide country. Day by day its sea level has been increasing. If world's carbon dioxide giving out is not controlled, then melting down of the pole also continues. For which our coastal area may go under water. This threat is the upcoming risk for Bangladesh.

Natural calamity is the familiar phenomenon In Bangladesh. Cyclones, excessive rain and floods occurring very commonly, which drastically flooded our land, paddy field and home land. So development procedure of Bangladesh hampered seriously. Droughts and river erosion also hinder our people and economy. Environmental degradation will accelerate these hazards. So to protect and save our economy and environment we need to emphasis on it. Bangladesh is one of the most vulnerable places to climate change. It is already knocking our door. In rainy season, it rains hardly but lately. In winter, cold is either less or short timed. Environmental contamination accelerates this change gradually. In this context if we can't handle this situation brightly, climate change will affect our agricultural production, specially our rice production and whole environmental situation, which will be an immense threat for our food security. Gas reserve of Bangladesh is 10.5 TCF (Trillion cubic Feet) as of 1996. After that year several TCF of natural gas have been added to this, but at the current rate (approximately 1000mmcf/d) of gas use in Bangladesh imply that, reserves would last next 40 to 42 year. If present use rate increase then it would last merely short time. (Data taken from wikipedia) So Bangladesh needs to find out alternative raw material for generating power. Solar power can be a good solution. It is environment friendly too.

However, preservation of ecosystems and biodiversity are the foundations of a sustainable growing economy. The development of the global economy is intricately linked to the environment. Economic activities also affect, and needs biodiversity. So we need to protect our ecosystem and biodiversity and need to invest in it.

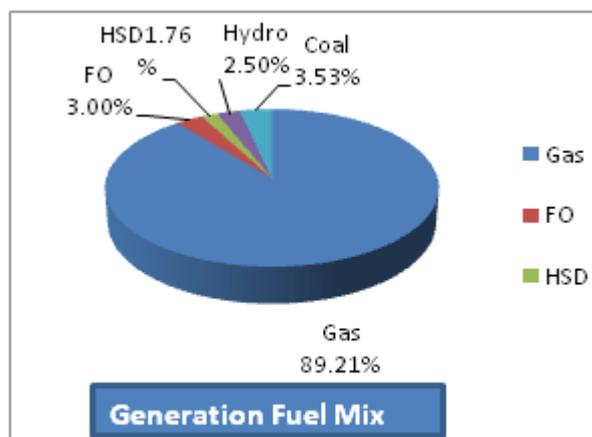
### 4. PATHWAYS TO A GREEN ECONOMY IN BANGLADESH:

Over the last two years, the concept of a "green economy" has moved into the mainstream media, planning commission, govt higher authorities.

#### Renewable energy in Bangladesh:

Green economy includes green energy generation based on renewable energy to substitute for fossil fuels and energy conservation for efficient energy use.

**Bangladesh– Wind and Tidal energy development** Currently the total demand for power in Bangladesh is about 5,500 MW (megawatts), while renewable energy covers only 30 MW of total



production of 3,525 MW, according to one approximation. This is very minimum ratio. Under the existing generation scenario renewable energy has a very small share to the total generation. However, under the changed perspective renewable energy would have a significant contribution given the global climate change scenario and carbon trading prospect. But govt have taken steps to increase production electricity from Tidal Wave and Wind Power.

Resources	Potential	Entities Involved
Solar	Enormous	Public and Private sector
Wind	Resource mapping required	Public sector / PPP
Hydro	Limited potential for micro or mini hydro (max. 5 MW). Est. hydro potential: approx. 500 MW	Mainly public entities
Domestic Biogas System	8.6 Million Cubic Meter of Biogas	Public and Private sector
Rice Husk based Biomass gasification Power Plant	300 MW considering 2 kg of husk consumption per kWh	Mainly private sector
Cattle waste based Biogas power plants	350 MW considering 0.752 m <sup>3</sup> of biogas consumption per kWh.	Mainly private sector

Other renewable energy sources include bio-fuels, gasohol, geothermal, river current, wave and tidal energy. Based on last 16 years wind speed records at 20m above the ground, assembled by the Bangladesh Meteorological Department, it is known that average wind-blow in many areas has been between 5.5 to 9.50 m/s almost throughout the year. This speed has been proved as appropriate for setting up commercial and non-commercial level wind power plants, power experts explained. Bangladesh has a long coastal belt of 740 kilometers and the coastal area. The normal tidal wave that rises and falls in the coastal region of Bangladesh is between two and eight meters. Some of the coastal areas are protected by embankment and sluice gates from flooding. Bangladesh has some large tidal sites and many channels of low tidal sites where barrages and sluice gates already exist. Analysis of given sites according to a report indicates that Sandwip has a very good prospect of tidal energy. The 5-metre tides experienced at Sandwip are ideally suitable.

Researchers say that Bangladesh may harness energy from tidal waves by application of two technologies: • Low head tidal movements (2-5 m head)

• Medium head tidal movements ( 5 m or over)

They argue that low head tidal movements could be applied in coastal areas, such as Khulna, Barisal, Bagerhat, Satkhira and Cox’s Bazar regions with sluice gates and levees. Since these areas are protected by embankments the infrastructure needed for sluice gates is already present in the region. Only “tidal wheel” in the sluice gates is necessary. The most favorable location of this type of technology is Sandwip Island where the mean spring tidal height is about 5.73 meters. The tides in Sandwip demonstrate 5- hour “in” and 7-hour “out” cycle. The installation of 75KW turbines, generating 80% of full capacity for 23 hours per day, according to a study by researchers at the International University of Chittagong, equates to the production of about 1,380KW-hr per day and the cost of the installation for one site is about Taka 3.5 million (US\$50,000).

Category	present Achievement	future target
SHS	45 MW	400MW
Other Solar PV applications including Solar Irrigation	1 MW	50MW
Wind Energy	2 MW	30MW
Biomass based electricity	<1 MW	25MW
Biogas based electricity	1 MW	25MW
<b>Total</b>	<b>50 MW</b>	

In line with the Government's Renewable Energy Policy, govt. has plan to develop at least 500 MW power from renewable energy by 2015.

### Renewable energy policy of Bangladesh

The renewable energy policy of Bangladesh is a set of policies and programs set by the Government of Bangladesh to reach national goals in the field of renewable energy in the country.

### Latest proposals in Renewable Energy:

1. PDB, REB and IDCOL are distributing Solar Home System (SHS) to the people living in the off-grid areas. IDCOL through different NGO has already distributed 1.0 million SHS throughout the country.
2. PDB has already installed nearly 11 KW solar power to the CHT area, nearly 230 W solar power in Angorpot and Dahagram Chitmahal Area and installed 115W at their office building.
3. Solar PV with capacity of 21.2 KW has been installed at the Hon'ble Prime Minister's office as a demonstration programme.
4. Nearly 10MW solar plant will be installed by PDB in Sarihabari (2-4 MW), Regional Training Office, Rajshahi (1 MW), Rajabarihat, Godagari (2-4 MW) in IPP model. Preparation of tender documents is underway.
5. Power plant in combination with 1MW solar hybrid system along with 5MW by diesel, will be set up in *Hatia* island. 5MW Solar PV plant will be installed in *Kaptai*. Some roads of six City Corporation areas will be replaced by Solar Street lights. Asian Development Bank (ADB) is supporting these projects.
6. REB has taken project for Solar Irrigation System. 40 irrigation pumps will be brought under solar power under this project.
7. PDB has undertaken a project in a remote area *Sullah* to provide 600kW solar power under Climate mitigation programme.
8. 100 MW of wind power will be generated in the off-shore area of *Anwara*, Chittagong in IPP model. PQ has already been prepared, tendering is under process.
9. Govt. has exempted income tax for next 5 years from commercial production from RE.
10. Bangladesh Govt takes initiatives with German,

Government has recently initiated 500MW solar power programme with the inspiration and support of ADB.

### Bangladesh – Ecosystem restoration:

Though for natural balance 25% forest is important. 10years ago there are 16% forest in Bangladesh, but now only 9% forest. Government now take initial steps to Over 25% of the Mau Forest cover has been lost to ecosystem encroachments threatening natural capital, biodiversity and livelihoods.

The value of the Mau forest complex to the economy, including tourism, hydro power, agriculture and the tea industry is estimated as much as US\$1.5 billion a year. A multi million refurbishment initiative to reverse trends of decades of deforestation started in 2010.

### **Restoration and Conservation of biodiversity in hills**

The vast hilly areas of Chittagong North Forest Division have been Underdeveloped for many years. Poor people of surrounding area collects fuel wood, leaf-litters, bamboos, broom grass and medicinal plants from the scrub forest. The Forest Department (FD) has been implementing the GOB funded 'Reforestation of Denuded Hills' project since 2000-01. The project intervention includes establishment of plantations, involving both short and long-rotation species, under participatory afforestation scheme. The major species of trees that are planted are: Akashmoni, Mangium and Hybrid Acacia as short-rotation (10-12 yrs) species and Garjan, Chapalish, Sil koroi, Chikrashi, Dhaki jam, Telshur, and Boilam as long-rotation species. The benefit sharing arrangement of the project includes 45% of the final tree harvest (also of thinning) for the participants, 45% for the Forest

Department and 10% for Tree Fund. The participants are organized into 10-15 member committees. The participants plant country bean and ginger under the young plantation (1-2 years), but there is no other provision for promoting alternative income generating (AIG) activities among the participants.

With a target to cover 5,000 ha of the denuded hills in the Chittagong North Forest Division in its first phase, the above project achieved 70 – 80% of the target. The second phase of the project is expected to start in the current (2007-08) fiscal year for another 5 years. Even the prospective second phase of the above project would not cumulatively cover 50% of the total area of denuded hills in the Chittagong North Forest Division. Moreover, many of the plantations have failed to survive after their initial establishment (as long as the project had close monitoring) due to alleged destruction by people. People set fire in the forest for raising sun grass and to get fertilizer (of ashes) effect in their crop field below the hill. They also do not like the hills to grow into forest harboring wildlife that damage their crops and poultry birds. The fire also occurs from careless disposal of burning cigarette butts by the forest going people.

### **Sustainable agriculture:**

Bangladesh is a predominantly farming-based economy. Once upon a time 80% peoples live on agriculture although this rate is decreasing but agriculture is the main wheel still at current. The sustainability of conventional agriculture in Bangladesh is under danger from the continuous degradation of land and water resources, and from declining yields due to indiscriminate use of agro-chemicals. Government is pursuing efforts to support sustainable agriculture with emphasis on better use of on-farm resources and the reduction of external inputs.

At present govt taken steps to construct dimensions of agricultural sustainability as productivity, environmental stability, and economical profitability, social and economic equity. Sustainability in Agricultural Production usually ensures Nutritional Food Security at individual and National levels.

This is through policies of plant breeding and quality seed use with adequate price support of the products. Basically the Plant Genetic Resources are building blocks for development of varieties that supports higher yields per unit of area, time, investment and quality as determined by using Simultaneous Selection cycles. These could be achieved through Conventional Plant Breeding using gene determination through Molecular tools including Biotechnology. Candidate variety thus developed will go through Participatory Plant Breeding as the final step of the development process. Adoption of technology by the farmer is more important than generation of the same through R&D activities in the fields of Agriculture. The problems are many, the public organizations alone has difficulties in developing appropriate technology for this vast industry of millions. So, the more the Public Private Partnership (PPP) becomes workable the more is the possibility of sustained growth and development in Agriculture. This system can support better production and marketing of quality

seeds, inputs and the product price. This is essential to keep the producers' investment undisturbed for increased production towards poverty reduction and hunger mitigation. Adequate science based Agricultural Education at University System is of primary requirement for the manpower development to lead agriculture. This can be done through appropriate planning and execution of research and development activities for improved livelihood to reduce poverty and hunger in Bangladesh.

### **Investing in the Green Economy**

The Green Economy statement will use economic analysis and modeling approaches to demonstrate that investment in 'green' economic, agricultural and industrial sectors can drive economic recovery and lead to future prosperity and job creation, while at the same time addressing global social and environmental challenges. It will make the case for a fairer and more sustainable inter-generational use of natural, human and economic capital to create and sustain human well-being.

The use of green technology showed a significant go up last year, covering some new areas from rural farming to city restaurants, corporate houses and government offices. Industry insiders said a fall in prices of green technology-based products on the global market caused by recession has attracted more entrepreneurs to such business, which ultimately pushed the growth up. Infrastructure Development Company Ltd (IDCOL), a major financier for green technology in Bangladesh, says it receives at least five new proposals for green technology-based business every day. Installation of solar home system increased to 17,000 month in 2008. Solar irrigation pumps, water pumps, telecom base stations, and solar panels were the major hit last year. Experts termed the trend as a 'hidden revolution'. However, they suggested introducing a monitoring system to make sure sustainability of such technology.

Some brick kilns also started using environment- friendly solutions to make bricks in 2009. Diamond Auto Bricks in Narayanganj had set up such a brick kiln. The new technology being used by Diamond Auto and the likes is Hybrid Hoffman Kiln (HHK) technology imported from China. A single kiln that runs on HHK technology will produce 15 by 5 produce 30 emission by 10 Around 4 billion bricks a year, and the number is increasing by 10 estate. United Nations Development Programme also took a project under which 31 brick kilns will initially be set up in different parts of the country. Telecom came to the forefront to go green in 2009. Bangladesh's largest mobile phone company Grameenphone is going for a transformation to become a 'green company' with a target to reduce 30 installing solar base stations. "We are all contributors to this global crisis and need to be part of the solution," said Oddvar Hesjedal, chief executive officer of Grameenphone. The major change in the green technology market is that the local firms are increasingly opting for new solutions. Grameen Shakti and Rahimafrooz are developing telecom base stations. Rahimafrooz also developed solar pumps. The Prime Minister Office installed a solar power system to encourage people to go for green energy amid acute power crisis. A similar move the Bangladesh Bank took in 2009 example for banks. Nando's, a restaurant in Dhaka, installed solar panel as backup. "Our plan was to use something environment- friendly as backup during power cut," said Abdur Rahim, director of Nando's. Saiful Haque, secretary of Bangladesh Solar Energy Society, said: "We should understand what we're going to face due to climate change. Green technology should replace the one that emits a huge carbon." He said sustainability of such technology is crucial for Bangladesh, and so the government should introduce a monitoring system.

### **The sectors being studied include:**

# Agriculture # Renewable energy # Buildings # Tourism # Cities # Transport # Fisheries # Waste management # Forests # Water # Industry

Corporate Social Responsibility, CSR, is a concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders on a voluntary basis, contributing to sustainable development goals. Essentially it is about how business takes account of its economic, social and environmental impacts in the way it operates – maximizing the benefits and minimizing the downsides. Sustainable development recognizes the need to preserve natural resources



for future generations. Environmental pollution resulting from economic development imposes significant losses on the public as natural resources grow increasingly scarce. Corporations which contribute to the scarcity of these resources have a responsibility to the future generations and CSR is one way of doing so. CSR is now a part of the Europe 2020 strategy for smart, sustainable and inclusive growth.

We suggest that a “blue–green revolution” of fish farming in rice fields can offer a solution to these problems. Because of its fertile soil and available water resources, Bangladesh is ranked 4th and 6th in global rice and fish (aquaculture) production, respectively (FAO). The following popper user interface control may not be accessible. Tab to the next button to revert the control to an accessible version. Bangladesh Bank is perhaps the only central bank which has issued an indicative guideline for Green Banking In country. This guideline was send at 27 February, 2011 to every commercial bank to implement. The guidelines intend to: ensure environment friendly business practices by banks and financial institutions of the country. Incorporate environmental risks into Core Risk Management (CRM). Promote sustainable financial and economic growth. As this guideline, the achievements are; 40 banks have formed Green Banking Unit, 29 banks have introduced Green Office Guide, Environmental Risk Rating has been done for 4 thousand and 394 projects; 271 billion taka has been disbursed for rated projects, 171 branches have been powered by solar energy, 2,567 branches have been facilitated with online coverage.

### **Greener Technology:**

In Bangladesh some NGOs, like Grameen Shakti, and companies like Infrastructure Development Company Ltd., (IDCOL), Industrial and Infrastructure Development Finance Company Ltd., (IIDFC) and others have been working to promote greener technologies.

With our gas reserve running out quickly, there is a necessity to find out some alternative raw material for power generation. Solar power is one of the solutions to the energy starved country, as it is environment friendly too. The state-run IDCOL has set a target of installing some 1.0 million SHS by 2012, while under its CDM project (POA), it would install a total of 30,000 SHS in the country. Thousands of workers and engineers have already been employed in this sector. Furthermore, this CDM project will help reduce a significant amount of CO<sub>2</sub> per annum and earn carbon revenue. IDCOL has financed biomass based power project too.

Gramin Shakti is a nonprofit organization pioneering solar systems for homes in Bangladesh. It is linked with micro credit lender Gramin Bank. Gramin Shakti provided small loan scheme to the villagers to buy solar home system. The Solar Home Systems (SHS) cost around \$135 and villagers can pay back amount in installments. Gramin Shakti aims to reach the targets of million SHS by 2015. Thus Gramin Shakti is in the forefront of pushing green



economy in Bangladesh. Bangladesh government takes step to improved solar cooking stoves. This plan already granted also started.

### **Solar Power Programme**

The long-term average Sunshine data indicates that the period of bright Sunshine hours in the coastal region of **Bangladesh varies from 3 to 11 hours daily. The global radiation varies from 3.8** These date indicate that there are good prospect for Solar thermal and Photovoltaic application in Bangladesh.

As part of the new generation expansion initiative in line with growing demand, Government has plan to enhance national power generation capacity to be 16000 MW by 2015. Expected generation from renewable sources should be then at least 800 MW as envisioned in National Renewable Energy Policy. However, estimated output per unit of renewable energy based installed capacity is far less than conventional power plants. Therefore, in order to achieve a dependable generation of 800 MW, installed capacity of renewable energy based power should be at least 1000-1200 MW. Moreover, considering a proven resources as of date, solar power should dominate in the renewable energy development initiative.

**Vision of Solar Power development through Asia Solar Energy Initiative (ASEI)** Meanwhile ADB has declared its vision 'Asia Energy Solar Initiative (ASEI)' to develop 3000 MW solar power in Asia and Pacific Region by 2013. ADB is also keen to provide support for renewable energy development in Bangladesh.

Asia Solar Energy Initiative (ASEI) was launched by Asian Development Bank (ADB) on May 2010 aiming to create a virtuous cycle of solar energy investments in the region toward achieving grid parity. ASEI has target to assist implementing 3000 MW of solar power in Asia and Pacific region by 2013. ADB together with its partners have introduced Asia Solar Energy Forum (ASEF) as part of boarder initiative to accelerate development of solar energy. During ASEF's inaugural meeting held in Manila on 5-6 July 2010, Hon'ble Adviser to the Prime Minister of Bangladesh Dr. Taufiq-e-Elahi (BB) envisioned to achieve 500 MW solar power development in Bangladesh through the initiative of ASEF launched by ADB.

### **Green jobs in Bangladesh:**

Specifically those that are in the clean energy industry have repeatedly been displayed as part of the solution to today's economic and environmental crises. Green jobs have the capacity to make available a passageway out of poverty for millions of underemployed and unemployed Bangladeshis. Besides, Bangladesh also currently has nearly 13 million unemployed job seekers. Shifting to a greener economy will provide an opportunity for job creation in all sectors and all companies. This, in turn, will mean revamping Bangladesh's education system to make it more practical and suit each industry. The current education system in India is often criticized for being too 'certificate oriented' rather than focusing on skill building – a reason why every year half a million youths graduate in Bangladesh, but only a few thousands possess specific skills to match the needs of the job market.

One example of this is Bangladesh's concrete waste management (SWM) sector. According to the Government of Bangladesh, urban Bangladesh produces over 15,000 mega tons of solid waste each day. Currently there is a nationwide attempt to better manage this waste and the government has roped in several private sector companies who have an impressive pool of SWM experts. On the national level, the whole effort is focused on keeping the country clean and green, while generating jobs. Yet, at ground level this has threatened the livelihood of at least 1.3 million poor people who make a living by recycling the waste, but are not recognized for their skills. **'Grameen shakti' a solar power company has created 1200 jobs in villages. Chittagong Development Authority (CDA), Khulna Development Authority (KDA), Rajdhanee Development Authority (RDA) have created 85 thousand jobs. 15 metro city in Bangladesh now ongoing recruitment Green jobs.**

As per Bangladesh Bureau of Statistics (BBS) Labor Force Survey 2005-06, total employed labor force is 47.4 million; Number the green jobs (estimated) in Bangladesh varies between 748,701- 811,268 which is 1.6 %- 1.72% of the total employed labor force.

### Waste recycling sector in Bangladesh. Contributions from Green Jobs: Examples

SL	Surveyed organization/ industries	Potential Impact
1	Plastic Recycling Industries	Process: 2,44,833 tons/year recycled resin Jobs Created: 22792 nos. Saving Foreign Currency: US\$ 350 million/year by avoiding import of virgin plastic resin
2	Used Lead Acid Battery by Informal Sector	Process:6000 tons/year (lead recycled from used lead acid battery) Jobs Created: 6000 nos. Saving Foreign Currency:US\$4.73 million/year By avoiding import of imported lead
3	Energy Pac	Energy Saved: lamp ensures 80% of energy saving Can Save: 960 MW electricity Nationally
4	Waste Concern	Process:700 tons/day organic waste process Produce: 50,000 tons/year compost production Green House Gas Reduced: 89,000 tons/year Saving DCC Expenditure: 36,500 tons per day saving of disposal cost at dumpsite by avoiding it (Within the year 2010)

### What does a Green Economy look like? International perception:

The adjustment to a Green Economy has a long way to go, but several countries are demonstrating leadership by adopting national "green growth" or "low carbon" economic strategies. And there are many examples of successful, large-scale programs that increase growth or productivity and do so in a sustainable approach. For example:

The **Republic of Korea** has adopted a national strategy and a five-year plan for green growth for the period 2009–2013, allocating 2 per cent of its gross domestic product to investment in several green sectors such as renewable energy, energy efficiency, clean technology and water. The government has also launched the

Global Green Growth Institute which aims to help countries (especially developing countries) develop green growth strategies.

In **Mexico City**, crippling congestion led to a major effort to promote Bus Rapid Transit (BRT), a sophisticated bus system that uses dedicated lanes on city streets. Significant public investment in the BRT has reduced commuting times and air pollution and improved access to public transit for those less able to afford private cars. This remarkable success is now being replicated in cities across Mexico and has led to investment from the federal government in urban public transit for the first time.

**China** now invests more than any other country in renewable energy. Its total installed wind capacity grew 64 percent in 2010. This growth is driven by a national policy that sees clean energy as a major market in the near future, and one in which China wants to gain a competitive edge.

**Namibia** is managing its natural resources to generate economic, social, and environmental benefits. Local communities across the country are granted the right to use and capitalize on the benefits of using wildlife and other natural resources within the boundaries of “communal conservancies.” With an economic incentive to sustainably manage these areas, food and employment is being provided for hundreds of thousands of Namibians in rural areas. More than half of the jobs are filled by women, and wildlife populations have increased.

Businesses are increasingly leading progress toward a Green Economy. For example, the carpet company **Interface FLOR** is improving its competitive positioning in this normally petroleum-intensive industry by focusing on how sustainability can enhance its business model. The company is working towards a closed loop system, meaning that its waste products are also its manufacturing inputs. Its company culture reinforces its goals – when employees know they are making a difference in the world, they tend to work harder and be better at their jobs, making the enterprise more productive. Interface’s CEO, Ray Anderson, has said “If we can do it, anyone can. And if anyone can, everyone can.”

#### **What are the challenges to a transition to a Green Economy, and what will make it possible?**

The principal challenge is how we move towards an economic system that will benefit more people over the long run. Transitioning to a Green Economy will necessitate a fundamental shift in thinking about growth and development, production of goods and services, and consumer habits. This transition will not happen solely because of better information on impacts, risks or good economic analysis; ultimately, it is about politics and changing the political economy of how big decisions are made.

The problem is vested interests. Those who benefit from the status quo are either overrepresented in or have greater access to institutions that manage natural resources and protect the environment. U.S. climate legislation, for example, was defeated in no small part by resistance from fossil-fuel based energy advocates. The following steps would help create a more level policy-making playing field:

**Increase public awareness and the case for change.** Greater visibility on the need for this transition can motivate voters and consumers - not just because of the costs but also the economic benefits generated by a Green Economy, such as new jobs and new markets. People will not adopt policies because they are green. They will do so when they believe it is in their interest.

**Promote new indicators that complement GDP.** Planning agencies and finance ministries should adopt a more diverse and representative set of economic indicators that focus less exclusively on growth and track the pace and progress of development.

**Open up government decision-making processes to the public and civil society.** This would help ensure policies are accountable to the public and not to vested and well-connected interests.

**Identify and take advantage of political leadership** when available as this will be crucial in order to limit the

undue influence of “dirty” economic holdouts.

### **Conclusion:**

In every environment related seminar, program, symposium, Earth Summit ‘Green economy and inclusive growth’ – the core agenda of these– is fast becoming a buzzword in Bangladesh. At a glance, Bangladesh has a great profile for building a low-carbon and green economy. Two decades after the Earth Summit in 1992, attempts to govern sustainable development, the global environment and manage the world economy without destabilizing crises, are hopelessly disconnected. Since the original Earth Summit conference we have lived with an economic model based on debt-fuelled over consumption that co-exists with vast levels of poverty and inequality. Comparable dynamics are visible in most economic sectors. Many working in the fields of environment and development now find that systematic problems require a systemic solution. Through a political process, economical hindrances, small economics Bangladesh has already begun to identify opportunities and challenges in the continent’s transition to a green economy.

The green economy offers opportunities for Bangladesh to attract investments in environmental assets and renewable energy, which will, in the long run, benefit development, reduce poverty and create employment. Investments, both from public and private sources, can be made in the areas of sustainable agriculture, fisheries and biodiversity management, as well as in technology, education and infrastructure. Efforts should be made to reallocate existing capital flows toward sustainable economic development. If transformed toward sustainability, the mining, energy and manufacturing sectors can be used by African countries as an engine for growth. It is essential that governments put the enabling policies and conditions for a green transformation into place. Trade policies can be used to improve African access to green technologies, and to assist African countries in gaining access to world markets for sustainable products. African governments can encourage the transition to a green economy through an overall policy framework, consisting of a coherent set of policies, regulations and standards. GREEN economy has ambivalent implications for Bangladesh. Some sectors such as forestry, tourism, transportation, and water resources management, could run well under the green economy framework. Conversely, we need to be cautious about implementing green economy principles in the agriculture sector since production may reduce initially and may create a temporary food crisis for a land deficit country like Bangladesh. It does not mean that we should continue with environmentally destructive agriculture, but that we should start green agriculture today, possibly in a limited scale which can be replicated on a wider scale in future. At the same time, we have to be careful about equity issues. The benefits generated from green economy should be distributed following the principle of equity and justice.

Although the green economy is a new concept, there are many examples of successful policies and initiatives across Africa in the areas of energy, agriculture and forestry, which prove that green economy-related action is already under way in several of these countries. These countries can share their experiences with other African countries; and Africa, as a whole, can engage in global processes with its own views, perspectives, lessons learned and experiences, including at the local level.

Finally, the concept of green economy does not say how increased production and efficiency will change the poverty situation in the world, or will ensure a more equitable distribution of wealth, education, and equity. Neither does it identify the relevant actors. So, it is understood that green economy seeks to perpetuate the economic system that – with its logic of unlimited growth on a finite planet – has almost led us to ecological and social collapse.

Ultimately, the Green Economy concept needs to look for other ways of accounting for costs in production and consumption based on the idea that the planet is finite, that development and the economic system are concepts that must be developed locally and nationally, and acknowledging that societies can live modestly, dignified, just and happy on the basis of the concept of "good living"

From my point of view, the better use of natural resources is a necessary, but not a sufficient condition to achieve sustainable development. The green economy concept should effectively pursue an idea of society's welfare that does not depend on a continuous increase of production and consumption. Focusing only on reducing carbon emissions and pollution without thinking of any change to the production-consumption status quo, equals thinking that everything is perfect and we only need to find the way to keep doing the same things, but in a less polluting way.

## REFERENCES

- African Development Bank. 2008. Review of the performance of the current fisheries and aquaculture portfolio: Review report, volume 1, Executive Summary. August 2008.
- African Development Bank. 2011. Framework document on the proposed African green fund. [www.unep.org/roa/amcen/Amcen\\_Events/4th\\_ss/Docs/AMCEN-SS4-REF-2.pdf](http://www.unep.org/roa/amcen/Amcen_Events/4th_ss/Docs/AMCEN-SS4-REF-2.pdf).
- African Development Bank, OECD and UNECA. 2010. African Economic Outlook 2010. Paris, OECD Publishing.
- Behrens, A., Giljum, S., Kovanda, J. and Niza, S. 2007. The Material Basis of the Global Economy: Worldwide Patterns of Natural Resource Extraction and their Implications for Sustainable Resource use Policies. *Ecological Economics* 64 (2): 444-453.
- Collier P., G. Conway and T. Venables. 2008. Climate Change and Africa. *Oxford Review of Economic Policy* 24 (2): 337-353.
- UNCTAD, 2010. The Least Developed Countries Report 2010: Towards a New International Development Architecture for LDCs. New York, Geneva. United Nations.
- UNCTAD. 2009. Economic Development in Africa Report 2009. New York, Geneva. United Nations. UNDP and WHO. 2009. The Energy Access Situation in Developing Countries, A Review Focusing on the Least Developed Countries and sub-Saharan Africa.
- UNDPI. 2008. Africa Renewal 22 (2). July 2008. United Nations Department of Public Information. UNECA. 2010. Financing for Development: A Progress Report on the Implementation of the Monterrey Consensus. Addis Ababa. UNECA.
- UNECA. 2011. Economic Report on Africa 2011: Growing Development in Africa – The Role of the State in Economic Transformation. Addis Ababa. UNECA.