Introduction to Green Jobs Concepts

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Why do we need Green Jobs?
1. The two challenges of the 21st century

- Green jobs address the two defining challenges of the 21st century
  - Averting dangerous climate change and environmental degradation
  - Pressing need to deliver social development and decent work for all
The employment and social challenge

- Unemployed: 205 million globally, 83 m in Asia-Pacific
  - Of these, nearly 40 per cent are between 15 and 24 years of age
- One in five workers in extreme poverty (< $1.25/day)
  - Two-thirds of these workers in A-P
- World’s working age population to grow from 4.5 billion in 2010 to 5.2 b in 2025
  - Asia home to 300 m of these 700 m additional workers
- Only one in five working-age population have access to comprehensive social protection systems
The environmental challenge

- Climate change – sea level rise, increase in extreme weather events (storms, floods, droughts, water fall patterns, etc)
  - (World population 1 bn 1900 – 9 bn 2050?)
- No access to potable water: nearly 900 million people
- No access to reliable energy: 3 billion households
- Nearly \( \frac{3}{4} \) of world’s poorest depend on environment as a significant part of their daily livelihood

Environmental challenges have an far-reaching implications in terms of livelihoods and labour market dynamics
Responding to these challenges requires a far-reaching transformation to the way we produce, consume and earn a living.

Green jobs will be a key element of this shift to a more sustainable low carbon development path.
Responding to these challenges

- Previously, the focus of international discussions have been on environment and the economy without addressing employment.
- The Green Jobs Initiative addresses a missing link in the UN’s approach to sustainable development.
- Green jobs Initiative will address the social and employment dimension of environmental policies in the context of sustainable development and poverty eradication, in particular climate change policies,
Green jobs are defined by the ILO/UNEP as:

“decent work in environment-related sectors which reduce negative environmental impacts, ultimately resulting in levels that are sustainable”.

• This includes jobs that work towards protecting ecosystems and biodiversity, adapting to climate change, reducing energy, materials and water consumption, de-carbonizing the economy and minimising/eliminating all forms of waste and pollution.”
What do we mean by green?

- Green jobs contribute directly to reducing the environmental impacts of the economy
  - By enhancing green sectors (Green Jobs in renewable energy, pollution control, forestry, mass transport, eco-tourism…)
  - Improving the environmental performance of existing sectors (Greener Jobs in manufacturing, construction, tourism…)
  - Adapting to the effects of climate change (Green Jobs to build climate resilient infrastructure…)
What are green jobs?

Green Jobs = Environmentally Sustainable + Decent

GREEN

Activities that are environmentally sustainable

- Low-carbon (mitigation)
- Climate resilient (adaptation)
- Environmentally-friendly (minimizing waste and pollution, protecting biodiversity...)

JOBS

Decent work is defined by the ILO as:

“Opportunities for women and men to obtain productive work in conditions of freedom, equity, security and human dignity”
The ILO’s Decent Work Agenda provides a framework with four strategic objectives:

1. **Fundamental principles and rights at work and labour standards**

2. **Employment and income opportunities** - opportunities for work that is productive and delivers a fair income

3. **Health and Safety and Security in the workplace**

4. **Social protection schemes for workers** e.g. maternity benefits, pensions, etc.

5. **Social dialogue and tripartism** - freedom for people to express their concerns and participate in decisions that affect their lives. Including fundamental principles related to freedom of association, the right to organize and collective bargaining.
Decent work

Green jobs can help improve labour conditions for rural workers

Rural labour markets often face substantial decent work deficits due to

- high levels of informal work
- casual employment
- self-employment
- migration flows
- poor working conditions
- limited coverage by labour regulations and social protection schemes.
Decent work

Employment

• A fair income that ensures a decent livelihood
• Equal treatment and opportunities for all
• Good working conditions
• Health and safety in the workplace
• Access to meaningful and productive work
• Prospects for personal development
Decent work

Workers’ rights

• Freedom to organise
• Freedom of expression that both women and men are able to participate in decisions that affect their own lives
• The right to bargain collectively
• Freedom from discrimination
• Freedom from forced labour
• Freedom from child labour
• Legal recognition and access to a legal system
A multi-dimensional dynamic concept

- A Green Job in country A is not necessarily a Green Job in country B
- A green job today will not necessarily be a green job tomorrow

Because there are very few internationally agreed environmental standards
Green jobs and climate change

Green jobs ensure the impacts of climate change and green growth development on employment is positive because:

- **Additional jobs will be created**
  Example: Manufacturing of pollution control devices

- **Employment will be substituted**
  Example: From fossil fuel production to renewables

- **Jobs may be eliminated**
  Example: iron + steel, extraction,

- **Existing jobs will be transformed**
  Example: Building & construction

**Green jobs is a multi-dimensional dynamic concept**
Sectors that can create new green jobs

- Renewable energy
- Energy Storage: Batteries & Systems
- Energy Efficiency
- Construction & Green Buildings
- Sustainable Transport
- Sustainable agriculture
- Biofuels
- Greening Cities/urban areas
- Carbon Capture and Storage
- Sustainable Forestry
- Research & Development
- Carbon Markets: Trading & projects,
- Green Finance/green accounting
- Climate change adaptation
- Ecosystem restoration
- Sustainable Coastal Management
- Public-sector/Government
- Consulting services
- Recycling & waste management
- Non-profit sector (NGOs)
Examples of potential green jobs

- Mangrove planter
- Mechanic for CNG propelled buses
- Manufacturer of fuel efficient car
- Sustainable farmer (resource management, carbon capture)
- Farmer in agro-forestry
- E-Waste collector
- Architects and engineers designing renewable technologies and energy efficiency products

Need to look at:
- environmental impact
- decent work element
## 4. Estimating green jobs

**Bangladesh – 3.5 million existing core env-related jobs**

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Core env-related jobs</th>
<th>Direct ‘Green’ jobs</th>
<th>Indirect jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable agriculture</td>
<td>41,548</td>
<td>n.a.*</td>
<td>47,482</td>
</tr>
<tr>
<td>Sustainable and participatory forestry</td>
<td>28,813</td>
<td>n.a.</td>
<td>28,121</td>
</tr>
<tr>
<td>Sustainable energy</td>
<td>18,823</td>
<td>18,823</td>
<td>50,561</td>
</tr>
<tr>
<td>Waste management and recycling</td>
<td>189,180</td>
<td>n.a.</td>
<td>212,753</td>
</tr>
<tr>
<td>Collection purification/distribution of water</td>
<td>8,441</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Climate adaptation activities</td>
<td>1,726,755</td>
<td>616,052</td>
<td>967,849</td>
</tr>
<tr>
<td>Manufacturing and energy efficiency</td>
<td>10,934</td>
<td>10,934</td>
<td>21,472</td>
</tr>
<tr>
<td>Sustainable transportation</td>
<td>178,510</td>
<td>178,510</td>
<td>54,049</td>
</tr>
<tr>
<td>Sustainable construction</td>
<td>1,340,000</td>
<td>536,000 – 1,416,364</td>
<td>670,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,543,004</strong></td>
<td><strong>1,427,319</strong></td>
<td><strong>2,798,651</strong></td>
</tr>
</tbody>
</table>

GHK Consulting 2010

*n.a. – not available*
4. Estimating green jobs

Bangladesh – 3.5 million existing core env-related jobs

• 800,000 of these jobs can be considered “green jobs” as they meet decent work standards.
• Core environment-related jobs and green jobs account for nearly 7% and 2% respectively of total jobs (49.5 million) in the economy.
• Another 4 million jobs are indirectly supported as a result of these core environment-related and green jobs.
• Climate adaptation activities (62%) and sustainable construction (21%) account for most of the identified environment-related jobs

GHK Consulting 2010
*n.a. – not available
4. Estimating green jobs

United States (2010) = **3.1 million** green jobs in environmental goods and services

Brazil (2010) = **2.9 million** green jobs in sectors aimed at reducing environmental harm

E.U. (2010) = **14.6 million** green jobs ecosystem services and protecting biodiversity and rehabilitating natural resources

China (2010) = **1 million** green jobs in reforestation program

Global RE sector growing 21% a year = **5 million** green jobs

REDD+ ($30 billion) = **8 million** green jobs in reducing deforestation

GHK Consulting 2010

*n.a. – not available*
Green Jobs in Asia
Project Overview

• **Objective**
  To deepen ILO constituents understanding and commitments for the promotion of gender sensitive green jobs opportunities and a just transition for workers and employers towards a low-carbon, climate resilient, environmentally friendly development

• **Target Countries:** Bangladesh, Indonesia, Nepal, Philippines and Sri Lanka

• **Budget:** AUD 3 Million (August 2010 – June 2012)

• **Donor Agency:** Government of Australia
Green Jobs in Asia
Project Strategy

Capacity Development & Green Jobs Mapping
- Capacity development of constituents & partners for policy making and promotion of green job opportunities
- National information and data generation on environment-employment linkages and assessment of the potential for green jobs creation and decent work in identified sectors of the economy

Policy Support
- National employment and environment policies advocate promotion of green job opportunities (through Tripartite task force on green jobs, policy briefs, mainstreaming green jobs into national Labour, social and climate change policy)

Sector Intervention
- Improvement of working conditions and creation of green jobs opportunities to support job transformation in each country sector based programs:
  - Renewable Energy
  - Sustainable Tourism
  - Sustainable Construction
  - Solid Waste Management

Alignment to national development priorities (including employment and environment policies, DWCP)
Green Jobs in Asia
Project Components

**Objective 1:**
Increased access to data & info on green jobs, good practices and training

- National conference on green jobs
- Econometrics study on environment -employment -economy linkages
- Training/information program of ILO constituents & addressing particular needs of the social partners
- Regional knowledge portal
Objective 2: Green jobs mainstreamed in national policies

- Development plan and climate change strategy, set up task force on green jobs, greening labour strategies
- National policy briefs
- Mainstreaming green jobs into Decent Work CP
Objective 3: Strengthened framework for green jobs employment promotion in specific sectors in target countries

Bangladesh: Renewable energy

Indonesia: Sustainable tourism

Sri Lanka: Waste management

Philippines: Sustainable social housing construction
Green Jobs in Asia
Sectoral Project Overview: Bangladesh

• **Main Products:**
  – Solar Home System (SHS)

• **Scope:** Solar technicians/entrepreneurs

• **Target Areas:** Technical Training Centers in 10 rural areas

• **Main Partners:** ILO Constituents & Grameen Shakti/Bureau of Manpower, Employment and Training/Infrastructure Development Corporation Limited (IDCOL)

• **Strategic fit:**
  – Renewable Energy Policy (2008): development of renewable energy resources to meet 10% of the national demand for power by 2020
Green Jobs in Asia
Sectoral Project Overview: Sri Lanka

- **Main Products:**
  - Composting
  - Plastic recycling
- **Scope:** Solid waste management operators
- **Target Areas:** Western Province
- **Main Partners:** ILO Constituents & Ministry of Environment/ Western Province Solid Waste Management Authority/National Institute of Occupational Safety and Health
- **Strategic fit:**
  - National ‘Pilisaru Project’ to address solid waste management issues
  - Western Province Solid Waste Management covering 7 zones
  - The National Environment Action Plan for Haritha Lanka with its focus on waste management
Green Jobs in Asia
Sectoral Project Overview: Philippines

• **Main Products:**
  – Modified concrete hollow block for walling systems
  – Coco coir nets (erosion control)

• **Scope:** Green construction workers

• **Target Areas:** Montalban (Rodriguez, Rizal)

• **Main Partners:** ILO Constituents & National Housing Authority/Department of Labor and Employment/Local Government (Montalban, Rodriguez, Rizal)
  – Private sector: Philippine Green Building Council (PGBC)/BAIQUE Corporation, Inc.

• **Strategic fit:**
  – Philippine Development Plan for 2011-2016 (decent and affordable housing)
  – National Housing scheme with focus on construction of socialized housing
  – National Climate Change Action Plan (adaptive housing)
Green Business

The Greening of Business: CSR

Making the Environment a Business Opportunity

**Definition:** Green businesses are enterprises which consider environmental and social protection as an essential component of their long-term business objectives,
The key challenge for employers is how can businesses harness eco-efficiency and environmental protection as a driver of further business growth and environmental sustainability?

AND

How can the environment and eco-efficiency be viewed as a business opportunity, rather than an extra burden and cost?
Why should we encourage the Greening of Business?

• To promote greater environmental sustainability and inclusive sustainable development
• To reduce environmental degradation and to mitigate GHG emissions
• To reduce costs and maximize profits
• To use less energy and natural resources - Increased scarcity and volatile prices of raw materials
• Ensuring resources for long term profits
• To increase worker productivity
• To develop new kinds of products for domestic and international markets
• To deal with pressures from population growth
Climate Change RISKS for Business

- Direct impacts on facilities, infrastructure, equipment, employees
- Disruption of supply chains, damage, delays in electricity, water, transport
- New laws and regulations
- Loss of market share for products which exacerbate effects, boycotts, public opposition, difficult to find good employees
- Bankruptcy for inefficient companies
- Fall in demand for certain products
- Hard to find capital, loans, debt financing for companies at risk from climate change impacts or those who do not mitigate carbon emissions
Climate Change Opportunities for Business

• Companies can incorporate adaptation into their business models

• Companies can mitigate their carbon emissions = cost savings from improvements in energy efficiency/ resource use efficiency/ water efficiency

• Securing supply chains can build more collaborative partnerships with stakeholders

• Improved reputation and brand loyalty, more opportunities for CSR and helping society adapt

• New sustainable products and markets for climate adaptation and renewable energy

• Public-private partnerships with government
New Markets

- **Cleantech** – renewable energy, carbon capture, fuel cells, waste treatment, new batteries

- **Bioplastics** and other new sustainable materials

- Hybrid and electric cars/motorbikes

- Sustainable infrastructure

- Retrofitting and green buildings

- **Green Finance & Carbon markets** – CDM, VERs, green bonds, derivatives, exchange traded funds, equity funds, carbon brokerages, consultancies
Measuring criteria: The triple bottom line

• The **triple bottom line (3BL)** - People, Planet, Profit

A criteria for measuring organizational (and societal) success: Financial, ecological and social

> Triple bottom line accounting = to take into account *ecological* and *social* performance in addition to *financial* performance.

Requires companies to consider their responsibilities to all stakeholders and people influenced by their business activities, rather than solely to shareholders.
Examples of potential green jobs

Need to look at:

• environmental impact
• decent work element
India

- The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) – employment scheme focuses on conservation of resource bases in rural areas
  - Links policies for poverty alleviation and income security with climate change adaptation and investments in natural capital
  - Works are related to water, soil and land conservation activities such as recharging groundwater, reducing soil erosion, conserving biodiversity, reclaiming degraded lands and carbon sequestration
  - Provided income security and a social protection floor to approximately 54 million rural households
Solar Power India

• 600 MW solar power park in Gujarat feeds energy to the grid
• Joint project a collaboration between 21 different companies
• By 2020, clean energy will be one of the world’s biggest industries
South Korea

• The Four Major Rivers Restoration Project (2009)

• Part of governments Low Carbon Green Growth agenda

• Goal = water security, improve flood control measures, regenerate ecosystem vitality, new opportunities for rural economic development along the restored river routes.

• Created for 88,400 jobs (US$ 6.6 billion) for 2 years,

• Investments related to climate adaptation (eg. strengthening old levees, dredging sediment, expanding carbon sinks and flood monitoring technologies) mitigation: Photovoltaic and small hydropower power plants
Biogas Power Generation in Samoa

Trained villagers to build biogas digesters
Retrofitting Prefabricated Buildings
Mongolia

• Approximately 250,000 people (20% of the urban population) live in prefabricated buildings in Ulaanbaatar.

• 40% of the heating energy can be saved. A potential 60% or more is also possible with consumption-oriented heating tariffs.
Skyrise Greenery Program Singapore

• Urban greenery and ecology designed to enhance the urban living environment
• Reduces the need for air conditioners, saving energy and reducing GHG emissions.

![Skyrise Greenery Program Images]
China ACFTU: The Role of Trade Unions in Promoting Energy Efficiency

- Reducing emissions in the workplace and in advocating awareness and innovation about energy efficiency among workers.

- Training program to create 670,000 new energy efficiency inspectors.

- Ensuring workplaces and enterprises are compliant with environmental regulations.

- Rewards for innovative energy efficiency ideas; quiz and speech competitions; monthly energy reductions themed events and specific training programs for energy efficiency inspectors.

- ACFTU plans to build 800 new demonstration points and 50 female worker training and demonstration schools for green skill and re-skilling programs for laid-off and migrant workers.
• Green skills and accredited training to 10,000 young people (aged 17-24 years old) for employment in emerging green sectors.

• Integrated with variety of social protection policies

• Projects include; restoring degraded beaches, dunes, riverbanks, foreshores; land surveys and audits; building and repairing board walks; regeneration and replanting of degraded lands; wildlife and fish habitat protection; refurbishing public parks; building or repairing bikeways; landscaping gardens using native plants and work in recycling and waste management.
We need new ways of THINKING

• Future trends in manufacturing are new closed-looped practices, require manufacturers to collect used products and rebuild them using processed resources instead of using new raw resources and endlessly destroying our environment.

• Closed-looped business practices will help businesses to minimize waste and resource consumption, create jobs, and save the environment.

• A service economy is based on selling a service rather than having a customer buy a product.

• Customer will lease/rent the products, paying only for usage, and have the manufacture maintain it at no additional cost. When its old manufacturer will collect it and return to factory.

• The product, during its lifetime, would be constantly repaired, reused, and re-manufactured by the manufacture. Stahel called this process “cradle-to-cradle,” now also known as the “circular economy.”
We need new ways of THINKING

• The idea is to minimize resource usage and maximize the product’s durability.

• In the end, the customer has a high-quality product which will serve its purpose and last a long time.

• At the same time, this will create jobs, due to the required maintenance of the product, and conserve the environment, since the usage of virgin materials will be greatly reduced.

• The reuse of materials will significantly reduce energy consumption as ”three times as much energy is used to extract virgin or primary raw materials as is used to manufacture products from those materials.”
Closing Remarks

• Governments can only set the polices and targets for green growth
• Any change towards a greener economy and green jobs will depend on the private sector and companies to actually DO IT!
• Companies can become more profitable while helping protect the environment and helping society develop in a more inclusive and sustainable way (CSR)
• We can all work together to generate a better quality of life for all.
Thank you very much

For more information, please contact:

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