



Options for Green Jobs in Bangladesh: Overview of Sectors

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Defination of Green Jobs

- “Green jobs” does not lend itself to a precise definition but includes **the direct employment which reduces environmental impact ultimately to the levels that are sustainable.**

This includes jobs that;

- ☐ help to reduce the consumption of energy and raw materials,
- ☐ decarbonizes the economy,
- ☐ protect and restore ecosystems and biodiversity,
- ☐ minimize the production of waste and pollution.
- ☐ Promotes decent work

Green jobs are thus both environmentally sound and also ‘decent’ in social terms.

Definition of Decent Work

Decent work has been defined by ILO representatives from governments, employers and workers' organizations in over 180 countries as: 'decent and productive work in conditions of freedom, equity, security and human dignity'. Decent work combines adequate income from productive work with social security, respect for worker and social rights and the opportunity to voice and defend interests collectively.

“Decent work is relative and country-specific because countries differ socially and economically. None can aim for the same absolute conditions of work. Each country must set its own targets for decent work.”

Sources: ILO, *decent work*, Report of the Director-General, International Labour Conference, 87th Session, Geneva, 1999; ILO, *Reducing the decent work deficit: a global challenge*, Report of the Director-General, International Labour Conference, 89th Session, Geneva, 2001.

Definition of Decent Work

The following integrated agenda of policies and measures across four mutually reinforcing areas is required to achieve decent work goals:

1. Respect for and protection of basic human rights at work
2. Promotion and creation of opportunities for full productive and remunerative employment
3. Broad social protection
4. Sustained social dialogue among social partners: workers, employers and private business, and government

Definition of Decent Work

A universal social 'floor' applies to all countries, and includes respect for the following basic human rights:

- Freedom of association and the effective recognition of collective bargaining rights ;
- Elimination of all forms of forced or compulsory labour;
- Effective abolition of child labour and the right of children to learn and develop rather than work; and
- Elimination of discrimination in respect of employment and occupation.

Gaps between people's decent work aspirations and reality exist everywhere. The challenge is to reduce these gaps. Progress towards decent work should be the central goal of all economic and social policies and strategies.

Decent work can be assessed and measured using 10 broad Indicators

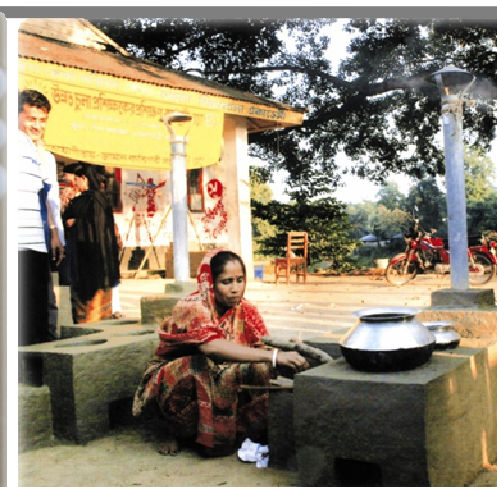
1. **Employment opportunities:** All persons (women and men) who want work should be able to find work, and the decision to work should be voluntary, in accordance with the minimum age of access to employment.
2. **Unforced paid work:** Work should be freely chosen and not forced on individuals. Certain forms of work are completely unacceptable (e.g. bonded labour, slave labour, and child labour). Workers should have the freedom to join workers' organizations.
3. **Adequate earnings and productive work:** Workers must have acceptable livelihoods including remuneration for all work carried out. Remuneration — especially in the case of wage workers—should correspond to a fair and living wage. Work for equal value should ensure equal pay.
4. **Fair and equal treatment in employment:** Fair and equitable treatment and opportunity *at work* (coinciding with absence of discrimination) and *in access to work* on grounds of sex, national origin, race, and age (coinciding with absence of harassment on these same grounds).
5. **Decent work hours:** Working time arrangements concerning daily and weekly working hours, regular and overtime work, and breaks and rest periods should reflect fair and acceptable practices, and be compatible with social and family life. Work intensity leading to excessive hours threatens physical and mental health, and interferes with the balance between work and family.

Decent work can be assessed and measured using 10 broad Indicators

6. **Fair balance of work and family life:** Workers with family responsibilities (those with young children or elderly and sick family to care for) should be able to exercise their right to engage in work if they wish to, without being subject to discrimination. Family responsibilities fall most heavily on women.
7. **Safe work environment:** The physical work environment should avoid extreme conditions (heat, dust, noise, workload, etc.) and ensure a safe working environment with appropriate prevention of work-related accidents, injuries, and occupational diseases.
8. **Stability and security of work:** This recognises workers' needs to limit insecurity associated with the possible loss of work and livelihood.
9. **Social protection:** Work conditions should be conducive to safeguarding health, pensions, and livelihoods and provide adequate financial and other protection in the event of work-related injuries or health-related contingencies.
10. **Social dialogue and workplace relations:** Workers should be treated with respect at work, and should be able to voice concerns and participate in decision-making about working conditions. Workers' freedom to organize and collectively represent their interests is an essential ingredient of ensuring dignity.

Potential Sectors for **Green Jobs (Bangladesh)**

Sector	Activities for Green Job
Agriculture	• Soil conservation • Water efficiency in Irrigation • Organic farming (tea cultivation already started in Bangladesh) • Reducing distance between farm and market
Forestry	• Reforestation and afforestation • Sustainable forestry management by community • Halting of deforestation
Energy	• Renewable Energy (solar, biogas, improved stove, biomass) • Manufacturing of energy efficient appliances such as CFL, efficient air conditions etc.



Potential Sectors for **Green Jobs** (Bangladesh)

Sector	Activities for Green Job
Transport	• Fuel switching in vehicles (petrol, diesel to CNG) • Use of hybrid or fuel efficient vehicles • Mass transit • Bus rapid transit (BRT)- modal shift, • Car Pooling
Construction	• Cement factory (energy efficiency) • Brick Manufacturing (energy efficiency) • Concrete Blocks • Green Building/Energy efficient Buildings



Potential Sectors for **Green Jobs (Bangladesh)**

Sector	Activities for Green Job
Manufacturing	• Pollution control technologies such as ETP • Energy and materials efficiency
Waste Management	• Recycling of municipal organic and inorganic waste (composting, biogas, biogas to energy, RDF etc, plastic waste recycling) • Recycling of lead acid battery • Extended producer responsibility (product take back and remanufacturing)



Sector Wise Distribution of **Green Jobs in Bangladesh** (**Estimated by Waste Concern, 2009, for ILO**)

SI .	Sector	Green Jobs (numbers)
1	Agriculture & Forestry	8725
2	Transportation	147987
3	Manufacturing (energy Efficiency, Brick Klins)	11,081
4	Renewable Energy	14966
5	Waste Recycling (compost, production, sales and distribution)	29942
6	Building Construction	536,000
	Total	748,701

Sector Wise Distribution of **Green Jobs in Bangladesh** (**Estimated by GHK Consultants for ILO, 2010**)

	Core environment- related jobs	Green jobs
Sustainable agriculture	41,548	n.p. Not possible to estimate
Sustainable and participatory forestry	28,813	n.p.
Sustainable energy	18,823	18,823
Waste management and recycling	189,180	n.p.
Collection purification and distribution of water	8,441	n.a.
Climate adaptation activities	1,726,755	n.p.
Manufacturing and energy efficiency	10,934	10,934
Sustainable transportation	178,510	178,510
Sustainable construction	1,340,000	536,000 – 670,000 ^a
Total	3,543,004	811,268

Employment Creation

- As per Bangladesh Bureau of Statistics (BBS) Labour 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.

Constraints and Challenges

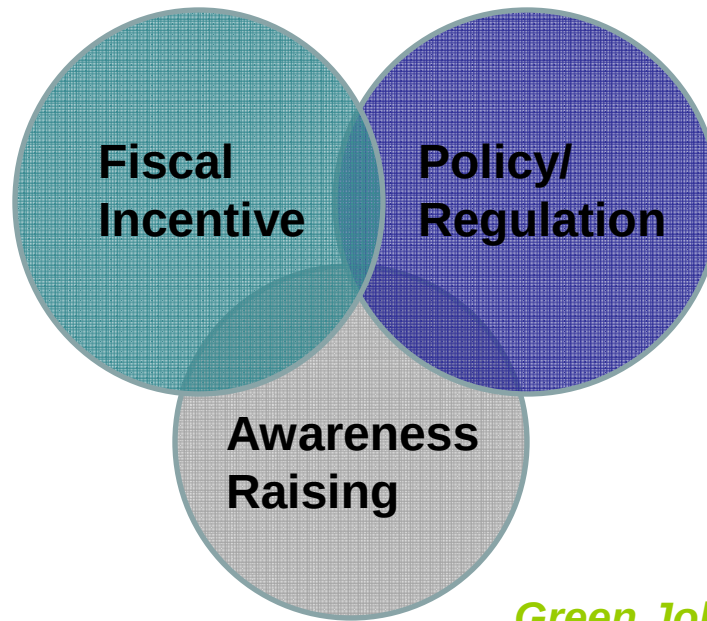
- ✓ Lack of awareness and capacity building to understand the concept of Green Jobs.
- ✓ Insufficient incentives & promotional measures.
- ✓ Inadequate research and development initiatives; and
- ✓ Insufficient Public Private Partnerships.

National Laws and Policies

- ❑ The National Environment Policy, 1992 and Implementation Programme
- ❑ The National Energy Policy, 1996
- ❑ The Draft Renewable Energy Policy
- ❑ The National Agriculture Policy and Pesticide Rules
- ❑ Fertilizer Act 2006 (includes organic fertilizer)
- ❑ The National Conservation Strategy
- ❑ The National Biodiversity Strategy and Action Plan
- ❑ The National Environment Management Action Plan (NEMAP), 1995
- ❑ The Environment Conservation Act (ECA), 1995 and its subsequent amendments
- ❑ The Environment Conservation Rules (ECR), 1997 and its subsequent amendments
- ❑ The Environment Court Act, 2000 and its subsequent amendments
- ❑ Ozone Depleting Substances (Control) Rules 2004
- ❑ A Gazette Notification under ECA on recycling of Lead Acid Battery
- ❑ National CDM Strategy 2003
- ❑ Poverty Reduction Strategy Paper (PRSP)
- ❑ Bangladesh Labor Act 2006
- ❑ National 3 R Strategy for waste sector
- ❑ Draft National Urban Policy
- ❑ Draft Solid Waste Management Rules 2010
- ❑ Draft Industrial Policy 2010

Initial review under this study finds that most of the these policies are addressing the issues of pollution control, sustainable environment, renewable energy, sustainable agriculture, green house gas mitigation etc., occupational health and safety, wages etc with no direct link green jobs.

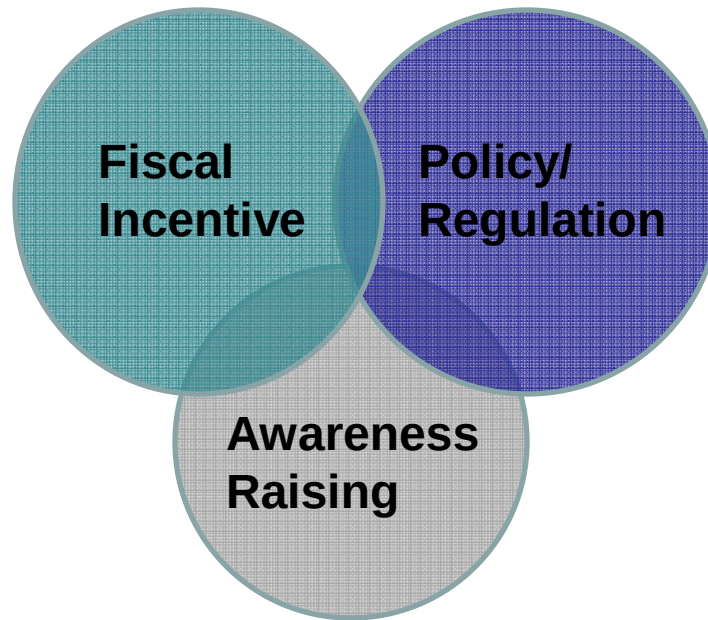
Way Forward to Promote Green Jobs



Green Job is private sector driven

- **Tax holiday for industries needs to be harmonized**
 - for Waste Sector 5-7 years
 - for Energy 15 years
- **Import duty/VAT**
 - There is upto 7.5% import duty for capital machinery along with VAT.
- **Access to Financing**
 - Lower interest rate compared to commercial rate

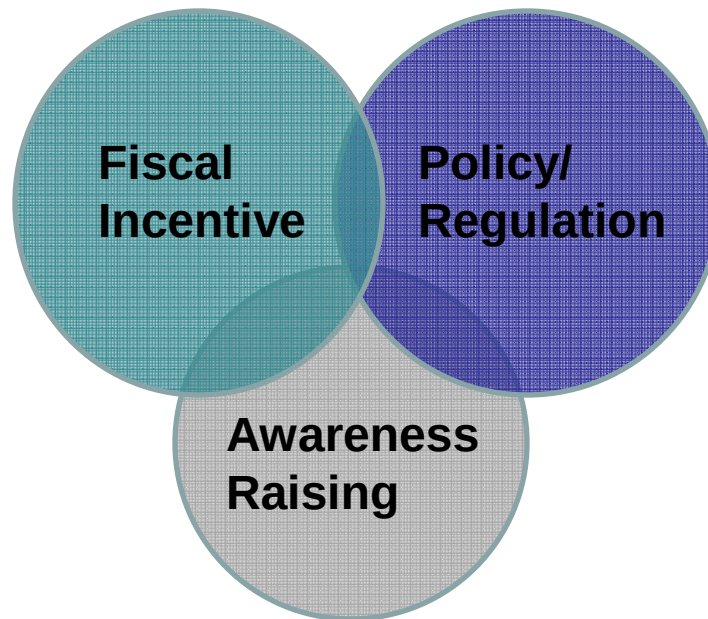
Policy and Regulatory Issues



Policy/ Regulation

- ☐ Government should fix rate for purchase of electricity from commercial electricity producer using renewable energy.
- ☐ Incentives for marketing of green products (lack of level playing field is present, for example chemical fertilizer is heavily subsidized but organic compost fertilizer has no subsidies)
- ☐ Purchase of green products by government.

Awareness Raising



Awareness Raising

- Sufficient baseline information including inventory on Green Jobs and Regular Update of Inventor
- Capacity building and training.
- Promotion of cleaner technologies including R & D.
- Measures to include existing informal sector operators .
- Promotion of Public-Private Partnerships.
- Mobilization of resources (CDM, GoB and others).
- Target setting for increased Green Jobs.

Thanks

Preliminary Sectors Identified Under this Study

	SECTORS	PROJECTS/PROGRAMMES	INVOLVED ORGANIZATION/ENTERPRISES
1	Transportation	CNG use as fuel	• RPGCL • Dept. of Explosive, GOB • BERC • BRTA • Importers
			• Conversion & filling station owners
2	Agriculture & Forestry	Nursery	Nursery Association
		Organic Tea	Kazi & Kazi Tea
3	Waste Recycling	Composting of Organic Municipal Waste	Waste Concern
		Lead acid Battery recycling	Informal sector
		Municipal solid waste recycling	Informal sector
4	Electricity, gas, water	Renewable energy	Rahimafrooz
		Solar Power generation	Grameen Shakti
		Biogas	BCSIR
		Biomass	Dreams Power Ltd
		Electricity generation from Rice husk	
5	Manufacturing	Green technology	Energy Pac
		Compact Fluorescent Lamp	

Source: Field Survey by Waste Concern (July 2008)

General Profile of Industries **Creating Green Jobs**



Industry	Surveyed organization	Production Capacity	Number of beneficiaries	Number of green jobs created
Transportation	Bangladesh CNG Filling Station & Conversion Workshop Owners Association (250 filling station, 121 conversion centres)	32 filling stations /yr 14333 vehicles /yr (estimated from the average of 2002-2007 data)	Users of 137987 vehicles	147987

Source: Field Survey by Waste Concern (July 2008)

General Profile of Industries **Creating Green Jobs**



Industry	Surveyed organization	Production Capacity	Number of beneficiaries	Number of green jobs created
Agriculture & Forestry	Kazi & Kazi Tea	2,30,000 kg (40% increase rate)	0.84% of local consumers (27.5 million kg tea consumed locally)	725
	National Nursery Consortium	1,50,00,000 Saplings/year	-	8000

Source: Field Survey by Waste Concern (July 2008)

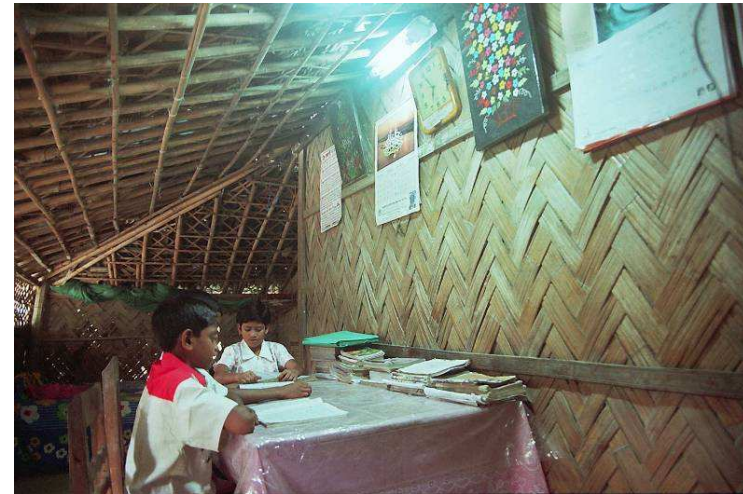
General Profile of Industries **Creating Green Jobs**



Industry	Surveyed organization	Production Capacity	Number of beneficiaries	Number of green jobs created
Electricity	Dreams Power Ltd (biomass generated electricity production & distribution)	300 KW	500 households	22
	Grameen Shakti (Solar Home Systems & Improved cooked stove)	32MW/yr.	1500000	2500

Source: Field Survey by Waste Concern (July 2008)

General Profile of Industries **Creating Green Jobs**



continued.

Industry	Surveyed organization	Number of beneficiaries (HHs)	Number of green jobs created
Electricity	IFRD,BCSIR (Biogas plant &stove)	3,73,889	11994
	Rahimafrooz (solar power generation)	30,000	450

Source: Field Survey by Waste Concern (July 2008)

General Profile of Industries **Creating Green Jobs**



Industry	Surveyed organization	Production Capacity	Number of green jobs created
Manufacturing	Energy Pac	CFL 20,00,000 Pcs EB 10,00,000 Pcs	147

Source: Field Survey by Waste Concern (July 2008)

General Profile of Industries **Creating Green Jobs**



Industry	Surveyed organization/ industries	Production Capacity	Number of beneficiaries	Number of green jobs created
Waste recycling	Waste Concern (ACI, Baraka, dealers) Others (waste collection, composting, marketing and distribution)	16425 tons/year compost produced	4,50,000	1150 28, 792
	Plastic Recycling Industries (informal sector)	244833 tons/year recycled resin processed	-	22792
	Used Lead Acid Battery recycling (Informal Sector)	6000 tons/year lead recycling from used lead acid battery	-	5000

Source: Field Survey by Waste Concern (July 2008)

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)

Source: Field Survey by Waste Concern (July 2008)