



Promoting Green Jobs: Experience in India on policy and project support

National Conference on Climate Change & Green Jobs
Kathmandu, 28 April 2011

Hideki Kagohashi, Enterprise Development Specialist
ILO-DWT for South Asia





Green Jobs: Meeting challenges of 21st century

- **Achieving economic and social development and environmental sustainability**
 - **Environmental:** climate-related disasters (262 mill), water shortages (1.8 mill), environmental refugees (50 mill), displacement by flooding (330 mill), food shortages (180 mill now+600 mill 2080), loss of biodiversity
 - **Social/decent work:** working poor (1.3 bill), unemployed (190 mill), young job seekers (500 mill), no access to social security (5.3 bill), food, shelter (1 bill), energy (1.6 bill)

**BUT WHY SHOULD
THEY COMPLAIN ??!
THIS TRULY IS
A GREEN JOB !**





Is this a green job?



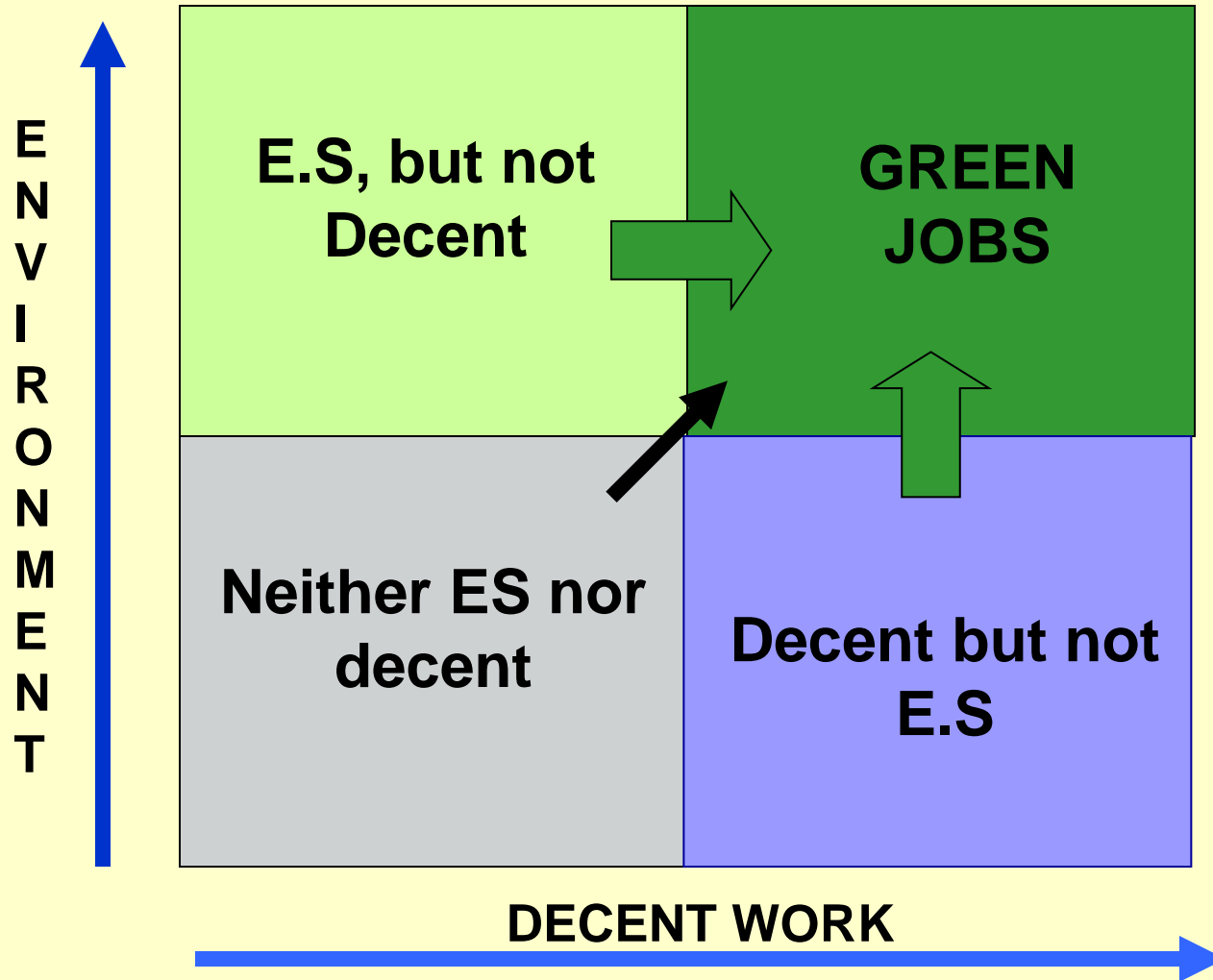


Is this a green job?





Green Jobs are Decent Jobs





GJ example: green & decent recycling





GJ is not just GHG reduction

- ✓ Avoid greenhouse gas emissions (decarbonize economies)
- ✓ Reduce consumption of energy and raw materials (dematerialize economies)
- ✓ Minimize waste and pollution
- ✓ Protect and restore ecosystems and environmental services
- ✓ Adapt to climate change

But, how will the
climate change
affect me in
Nepal?





Jobs - missing element in CC discourse

Energy security

Natural disaster

Pollution and
hazardous
waste

Rural
electrification

How do these impact on
labour market (i.e., my job)?

Energy
efficiency

Green &
responsible
value-chain

Clean
technologies

New green
businesses



Ex.) How many jobs will be affected if new policies change the course of urban air pollution?



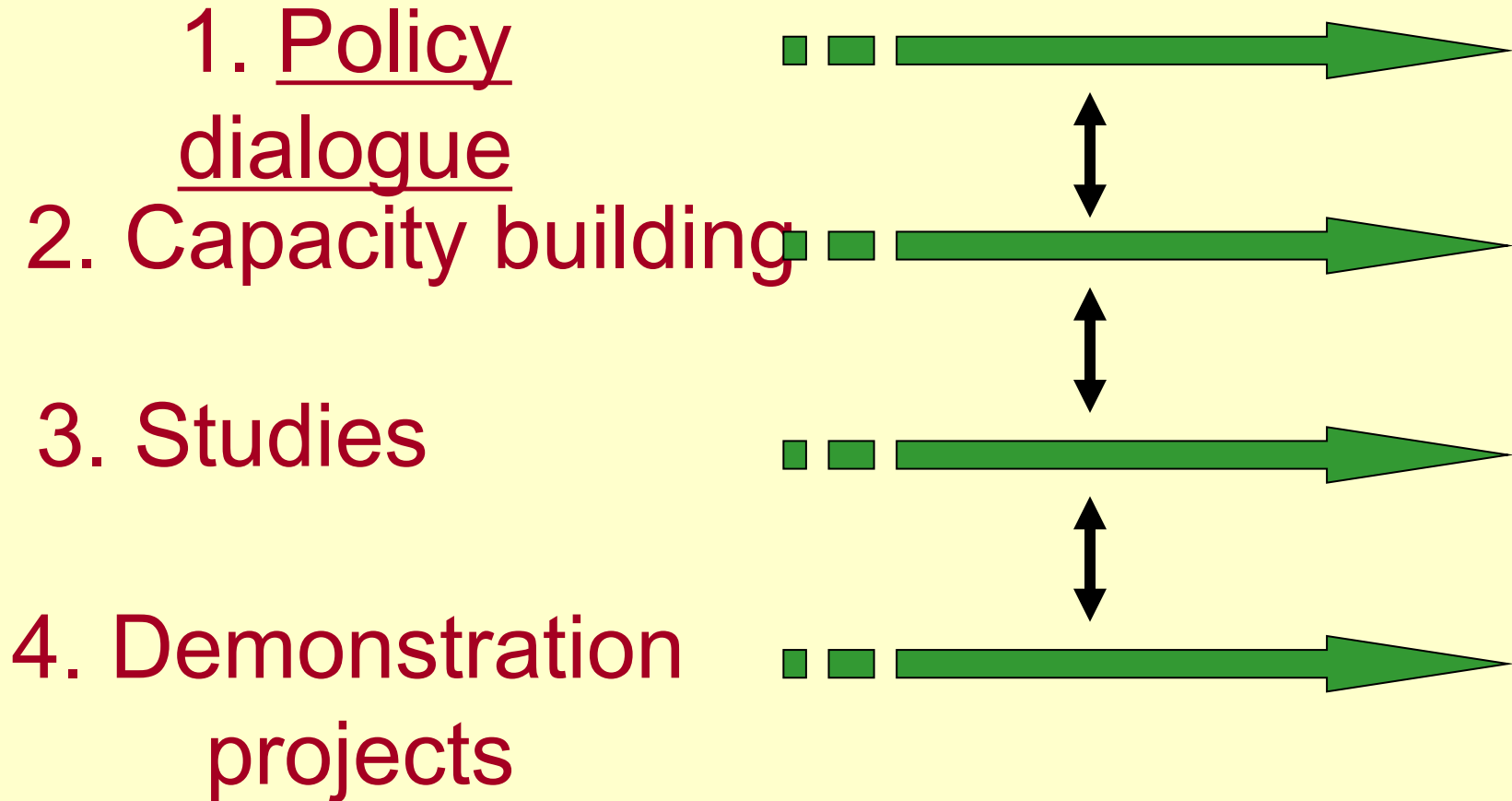


Good example in Nepal

- Bio-mass stove distributed more than 30,000 (National Agriculture and Environment Forum's estimate as of Mar. 2009)
 - Cleaner air at home compared to wood burning stove → reduce death by asthma and bronchitis
 - Improve thermal conversion efficiency
 - Mitigate the loss of trees (otherwise 10 million t/y)
- This is green & decent!
 - Potential for further job creation w/ business model enhancement and policy intervention



How GJ mainstreamed in India?



Mutual feedback critical for coherent policy development & implementation



1. Policy dialogue – before GJ

- Exec sponsorship from the Prime Minister
 - “Low carbon path to inclusive growth” as political mantra
 - National Action Plan on Climate Change (NAPCC) (prepared Jul. 2007, launched Jun. 2008)
 - Preparation of State Level Action Plan on CC (SAPCC) (presently being prepared)



Green Jobs introduced

- GJ policy mission (Dec. 2008)
- Formation of GJ task force led by MOLE (Jan.-Mar. 2009)
- Tripartite consultation w/ global GJ team (Mar. 2010)
- GJ national conference (Jun. 2010)
http://www.ilo.org/newdelhi/whatwedo/eventsandmeetings/lang--en/docName--WCMS_141501/index.htm
- Workshop on Preparation of State Level Action Plan on Climate Change (SAPCC) (Aug. 2010)
- 2nd meet of GJ task force (Jan. 2011)



8 Missions of National Action Plan on CC

Mission	Objective	Responsible Entity
<i>National Solar Mission</i>	<ul style="list-style-type: none"> • 20,000 MW of solar power by 2020 	Ministry of New & Renewable Energy
<i>National Mission for Enhanced Energy Efficiency</i>	<ul style="list-style-type: none"> • 10,000 MW of EE savings by 2020 	Ministry of Power
<i>National Mission for Sustainable Habitat</i>	<ul style="list-style-type: none"> • EE in residential and commercial buildings, public transport, Solid waste management 	Ministry of Urban Development
<i>National Water Mission</i>	<ul style="list-style-type: none"> • Water conservation, river basin management 	Ministry of Water Resources
<i>National Mission for Sustaining the Himalayan Ecosystem</i>	<ul style="list-style-type: none"> • Conservation and adaptation practices, glacial monitoring 	Ministry of Science & Technology
<i>National Mission for a Green India</i>	<ul style="list-style-type: none"> • 6 mn hectares of afforestation over degraded forest lands by the end of 12th Plan 	Ministry of Environment & Forests
<i>National Mission for Sustainable Agriculture</i>	<ul style="list-style-type: none"> • Drought proofing, risk management, agricultural research 	Ministry of Agriculture
<i>National Mission on Strategic Knowledge for Climate Change</i>	<ul style="list-style-type: none"> • Vulnerability assessment, Research & observation, data management 	Ministry of Science & Technology



State level actions

- In 2008, the state of **Himachal Pradesh** introduced a voluntary 'green tax' on vehicle-users to create a fund for combating climate change.
- The Chief Minister of the state of **Gujarat** announced in February 2009 the establishment of a special department to prepare a comprehensive policy on issues related to climate change and global warming.
- On August 20 2009, the government of **Maharashtra** approved the state's climate change action plan.
- Prime Minister Dr Manmohan Singh asked **all state** environment ministers to prepare state-level action plans on climate change (Aug. 2009) → Many plans are presently being formulated.



GJ contribution

- Importance of JOBS aspect in CC agenda understood and being discussed by key national and state level policymakers
- Ex.) Collaboration bet. MNRE & MOLE started to coordinate skills inputs to the National Solar Mission
- GJ becoming one of the issue areas to be included in the SAPCC



2. Capacity building

- Sharing GJ experiences through missions of specialists
- Turin and regional training of constituents
- In-country training & technical support to workshops organized by constituents
- GJ community of practice launched
- Support attendance at regional CC meetings



3. Studies

- Case study: A "Green" Value Chain Development Exercise in Jabalpur, India - [pdf 477 KB]
- NREGA - A review of decent work and green jobs in Kaimur district in Bihar - [pdf 3354 KB]
- Skills for green jobs in India - background country study - [pdf 8880 KB]

http://www.ilo.org/newdelhi/whatwedo/projects/lang--en/WCMS_123411/index.htm



Further studies

- Sector-wise GJ mapping exercise in selected states (to assist SAPCC)
- Project level assessment of GJ creation
- Update of the Green Value-Chain case to consolidate methodology
- Study on steel sector GJ as part of global study
- Further respond to the research needs of the central and state governments
 - Contribute to “Knowledge” mission through research



4. Demonstration projects

- Green value-chain pilot (1st case study done)
- FIP/SCORE with cleaner production (phase II project starting)
- Making MG-NREGA contribute to greener & more decent work (new)



Green VCD: From non-green and un-decent
To greener and decent work



24 11 2009



24 11 2009



The dairy industry in India

- Largest dairy sector of the world.
- Livestock is contributing about 22% to the agricultural GDP and about 5.5% to the national GDP (CSO, 2001).
- The livestock sector provides regular employment to 18.4 million people in principal/subsidiary status, constituting about 5% of the total workforce (GOI, 2002).
- Yield (kgs/animal/year) is still one of the lowest in the world - 1000 as against global average of 2100.
 - Room for improvement!



Biogas in India

- Population growth, reduced trees, fuel shortage in rural areas
- India's 300 million cattle produces billion tons of cow manure /y, $\frac{3}{4}$ of which is burned for heat and cooking purposes, leading to eye disease, lots of flies, loss of fertilizer resources.
- Cow dung emit methane, 20-25 times more global warming than CO₂.



Benefits of biogas system

1. Production of energy (heat, light, electricity).
2. Transformation of organic wastes into high quality fertilizer.
3. Improvement of hygienic conditions through reduction of pathogens, worm eggs and flies.
4. Reduction of workload, mainly for women, in firewood collection and cooking.
5. Environmental advantages through protection of forests, soil, water and air.
6. Global Environmental Benefits of Biogas Technology.

Each biogas plant can mitigate about five ton's of carbon dioxide equivalent per year (Winrock Nepal study)

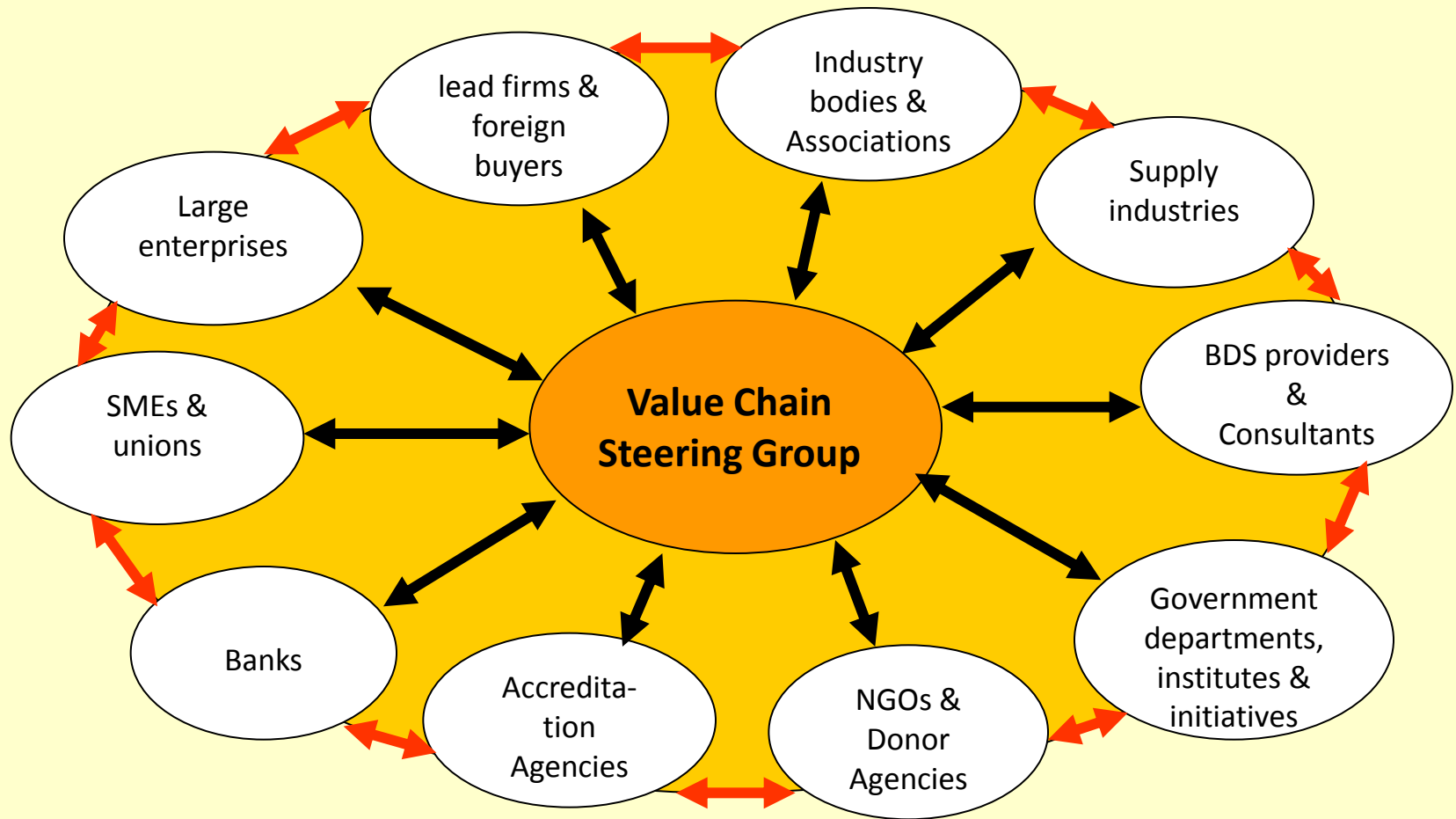


Initiatives under G-VCD

- **Facilitate dissemination of biogas technology at large scale firms**
 - Mitigate potential loss of income for cow dung women through a) alternative livelihood & b) enhanced access to social protection measures
- **Facilitate dissemination of biogas technology to small & medium dairy farms for the better utilization of cow dung**
 - Facilitate investment decision through investment simulation
 - Build supplementary income sources (e.g., green fodder, re-use of slurry for compost, calf rearing)
- **Facilitate dissemination of biogas based cook stove system to households for the better utilization of cow dung**
 - Problem solution kit to increase the success rate of



Most of the stakeholders identified and mobilized through VCD





Policy feedback expected

- **Feedback to subsidy policies to renewables re.: how to enhance the performance of on-going schemes; what market will take care and what government should intervene.**
- **Feedback to convergence of several policies, e.g., link between renewable schemes and NREGA, health policies, skills programmes, agriculture extension programmes, livelihood support programmes, access to finance policies and carbon finance opportunities.**



Key questions when designing pilot projects

- Who gain and who lose? (Just Transition)
- How far the market will take care?
- Is the incentive set right?
- What about the social side?
- What capacity could be built locally?
- Prospect to serve policy dialogue later on?



Green Jobs in the Local Economy – a scenario

Access to energy
for the poor

Grid extension

Area-wide collective options

HH level solutions



- repair & maintenance jobs
- some manufacturing jobs

Greener development of sectors
with vast informality

(**incl. green & conventional jobs**)

Agriculture

MSMEs

Waste mgt & Recycling

Building & Construction



**Induced
impact**



What we can do (1)

Access to (clean) energy
for the poor

Grid extension

Area-wide collective options

HH level solutions



- repair & maintenance jobs
- some manufacturing jobs

- We support:
 - gauging the labour market impact of selected energy projects and resulting skills gap
 - Value-chain and business model dev
- Partnership required
 - e.g., regulators, technology providers, training providers, financiers, market facilitators

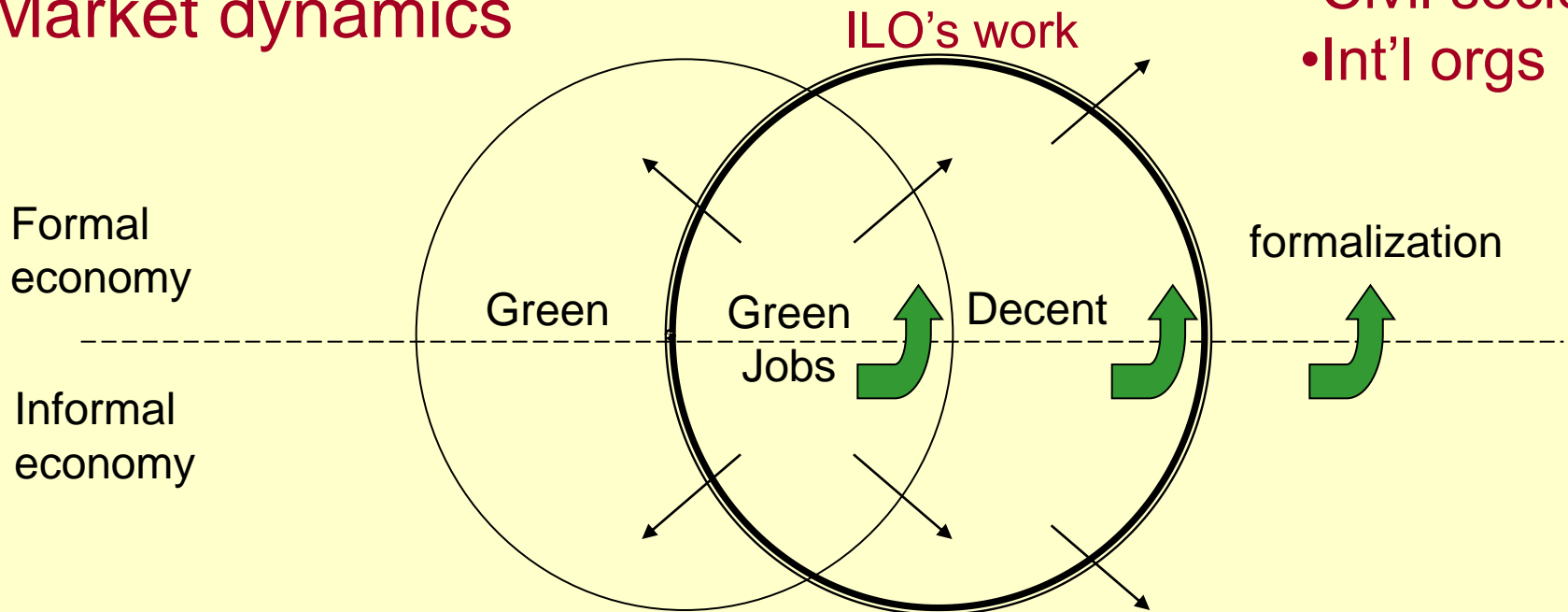


Informal economy & green jobs

Policy & regulatory environment

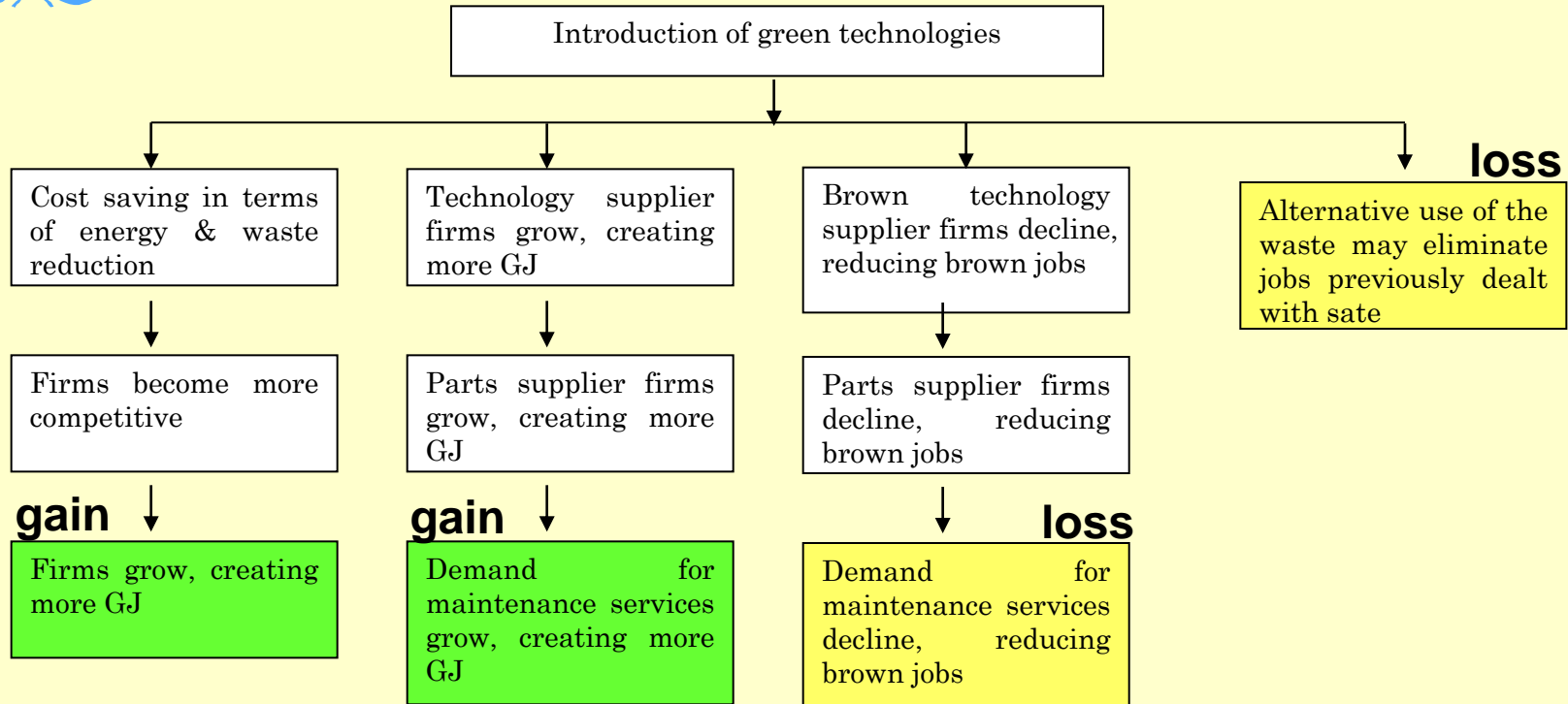
Market dynamics

- Key actors:
- Government
 - Workers
 - Employers
 - Civil society
 - Int'l orgs



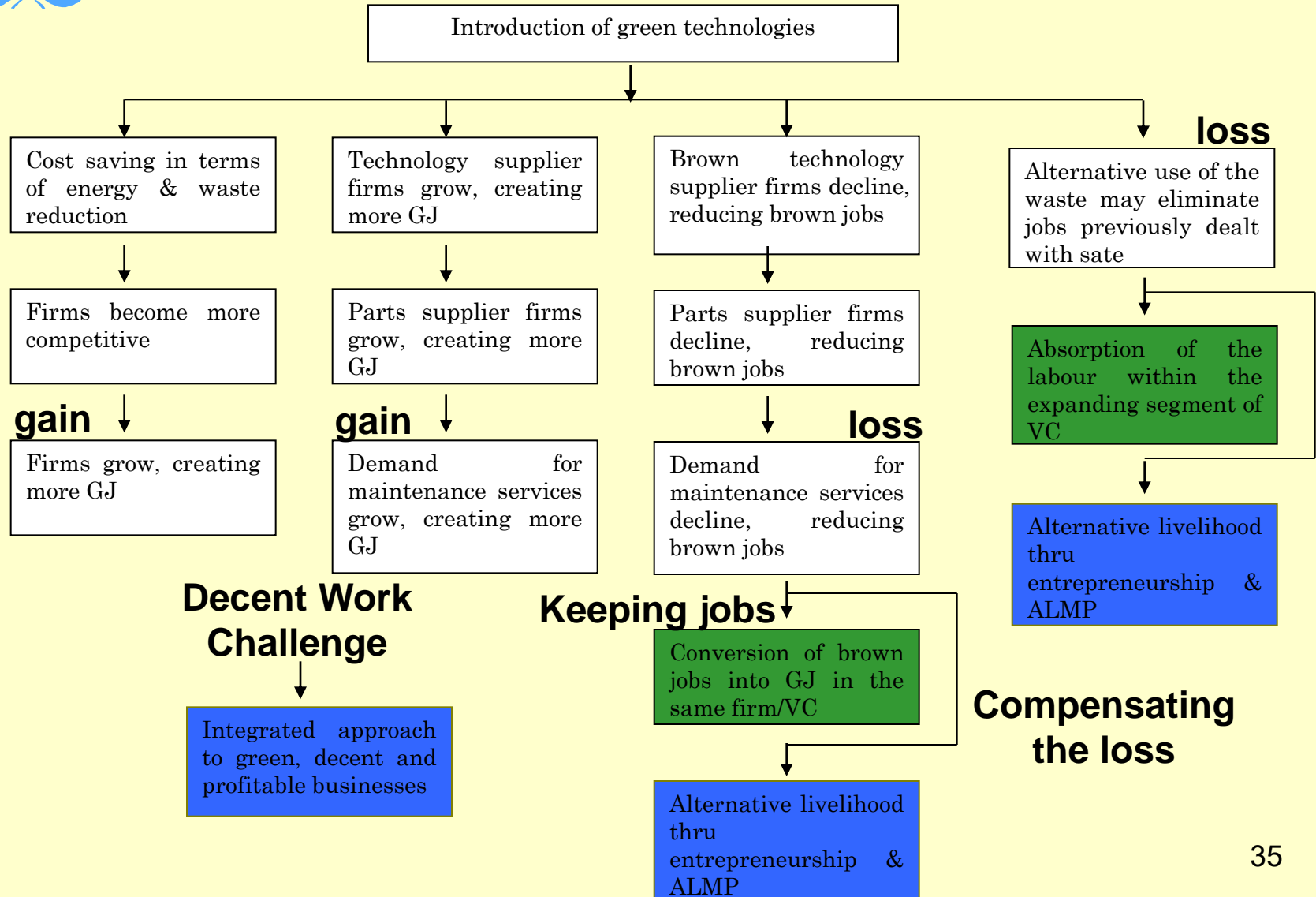


Jobs created or lost?





Jobs created or lost? How about quality?





Materialize the impact of access to energy into local economic develop ...

Access to (clean) energy
for the poor

Greener development of sectors
with vast informality



is NOT AUTOMATIC

- Calls for an integrated approach
- Need to work w/ various stakeholders
incl. convergence w/ gov prog/schemes



What we can do (2)

- ILO programmes & tools available:

Greener development of sectors with vast informality

- Local competitiveness & value chain tools
- Entrepreneurship, skills and MFI training
- Workplace enhancement & productivity prog.
- Support to expand social protection coverage
- Tools to address needs of vulnerable groups

Agriculture

MSMEs

Waste mgt & Recycling

Building & Construction



"Sustaining Competitive & Responsible Enterprises (SCoRE)"

SCoRE supports enterprises to strengthen collaboration and communication between managers and workers to:

- Boost quality and productivity
- Improve working conditions (HR, OSH etc)
- **Reduce environmental footprint** and ...
- ...make enterprises more competitive in national and global markets, thereby creating or protecting jobs in the economic crisis.



SCoRE - Safer working environments

before
↙
after





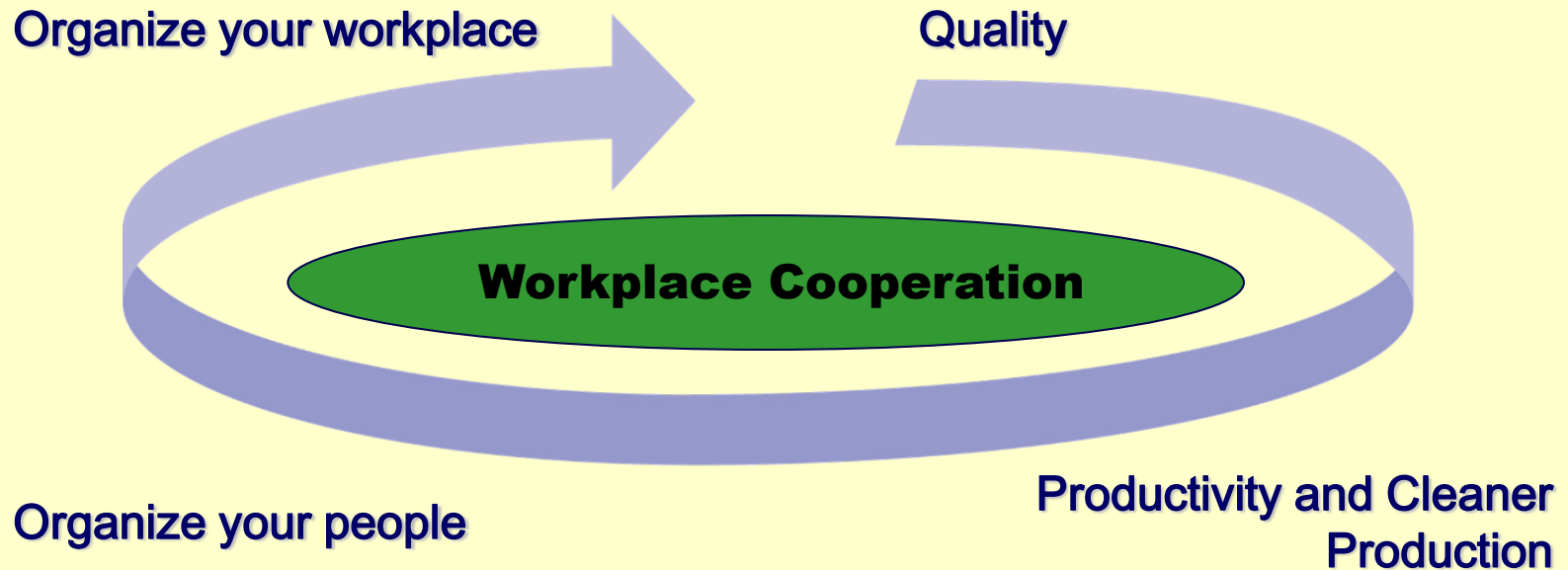
SCoRE - Higher productivity

before
after





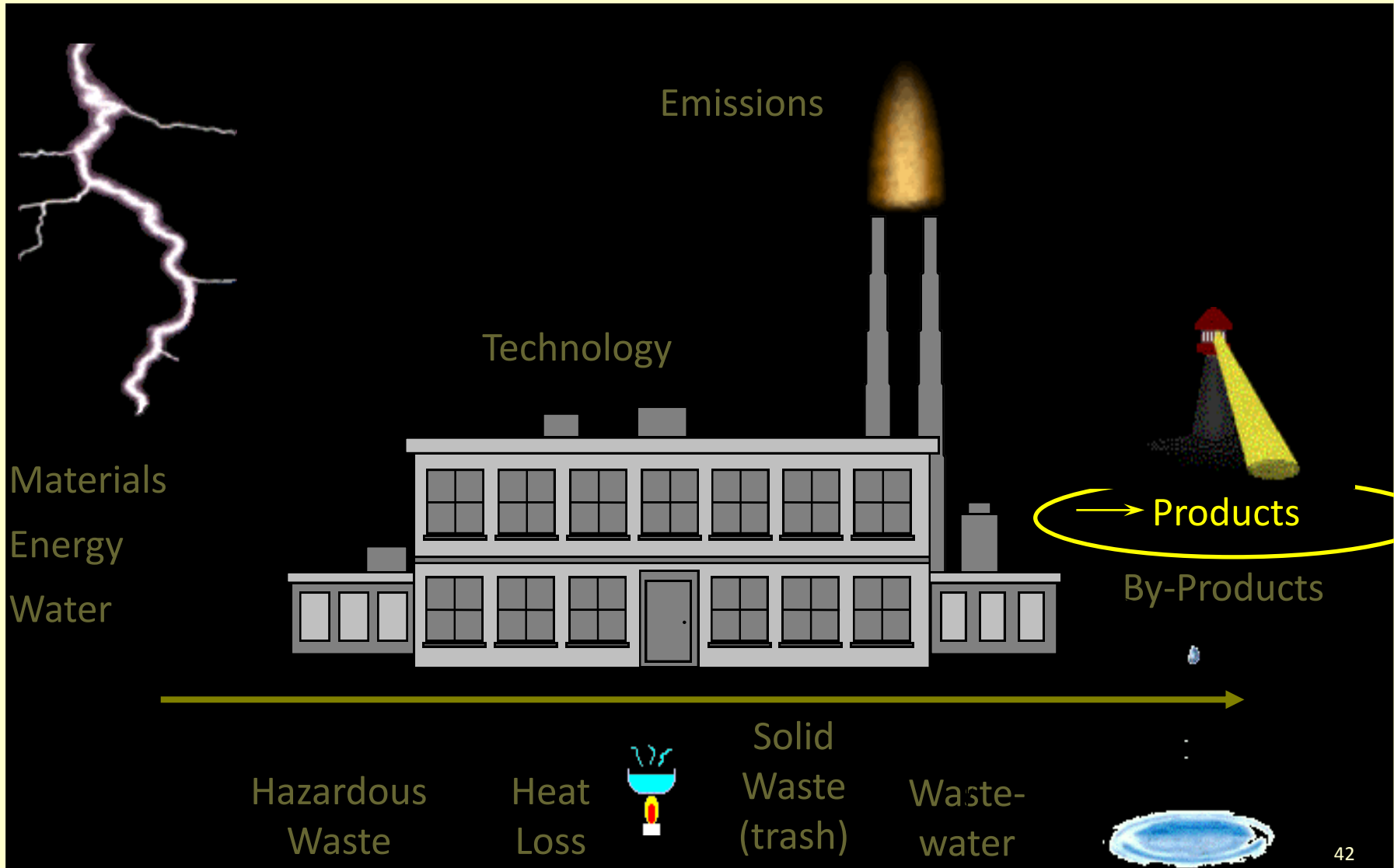
SCoRE makes enterprises more competitive in national & global markets



- Two day classroom training for managers and workers
- Local experts for organization and intensive follow-up
- Worker / Manager approach to continuous improvement



SCoRE's Cleaner production module in collaboration with UNIDO





Recommendations for policymakers

- **Win – win not by default, but by design**
- **Policies that work:**
 1. **Map** employment/income opportunities and risks
 2. **Start with low-hanging fruit**
 3. **Target:** youth, women, the poor, SMEs
 4. Engage stakeholders in **social dialogue**



Useful websites

- *Green Jobs India site:*
http://www.ilo.org/newdelhi/whatwedo/projects/lang--en/WCMS_123411/index.htm
- *Asia-Pacific Green Jobs site:*
http://www.ilo.org/asia/areas/lang--en/WCMS_DOC_ASI_ARE_GRE_EN/index.htm
- *ITC-Turin's Green Jobs training site:*
<http://greenjobs.itcilo.org/>
- *LED knowledge website:*
<http://www.ledknowledge.org/>
- *SCoRE programme site:*
http://www.ilo.org/empent/Whatwedo/Projects/lang--en/docName--WCMS_101367/index.htm