ASIAN DECENT WORK DECADE 2006 2015

International Labour Organization

ILO Research Conference: Green Jobs for Asia and the Pacific
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Conference Summary

Opening Session

Mr Hirohiko Izumida, Governor of Niigata Prefecture, Japan opened the Session by welcoming the participants to Niigata and thanking them for attending what he believed to be a very timely meeting on environmentally-sustainable jobs. The effects of climate change have been felt on an increasing basis across Niigata Prefecture. Niigata Prefecture is largely an agricultural center and therefore is very dependent on rainfall; rain patterns have been markedly changing. In addition, local businesses continue to have an impact upon the environment, most particularly fisheries. Fish stocks have been reported to be in decline, with yields of tuna significantly lower than average. Niigata Prefecture supports the ILO Green Jobs Initiative as it presents a strategy to tackle the multiple environmental and economic challenges faced by the local labour market. With the Japanese birth rate declining, Mr Izumida indicated that the Prefecture must place importance on maintaining healthy levels of employment that ensure safe working conditions and livelihoods and best provide for local families.

Mr Akira Shinoda, Mayor of the city of Niigata, discussed how the rise in temporary workers in the Japanese labour market resulting from increasing competitiveness and globalization has brought challenges for decent work. Niigata City government is attempting to revitalize the regional business market by attracting firms to establish themselves in the City of Niigata. The City is also very concerned about the environment, trying to introduce clean modes of energy such as compressed natural gas to drive this development. Recycling is also a priority, and Niigata is scaling-up its municipal waste management programme.

Mr Raymond Torres, Director of the ILO's International Institute for Labour Studies (IILS) emphasized that while climate change, environmental degradation, rising sea levels, and food shortages are acknowledged as global challenges, the focus has been primarily on the environment, calling for more integrated approach which also integrates economic and social concerns. Mr Torres explained that addressing climate change is important to the world of work for several reasons. Firstly, the labour market has a critical role in the development of environmental solutions. Enterprises and workers can lead the way in the design of innovative products and services to halt climate change; however considerable adjustments will be required in order to facilitate this. Secondly, because carbon emissions must be comprehensively regulated to forestall the extreme consequences of climate change, it is crucial to take into account the employment implications of government and market-based mechanisms used to control emissions. Issues of competitiveness, such as "environmental spillover effects" as determined by these policies will need to be closely examined. Lastly, both developed and developing countries are responsible for addressing climate change, and doing so presents many business opportunities in the form of green jobs. Mr Torres conveyed his hope that the Conference will be used to identify existing knowledge gaps and provide a clear way forward.

Mr Olivier Deleuze, Chief of UNEP's Major Groups and Stakeholders Branch, Division of Regional Cooperation expressed optimism that the G8 has begun addressing climate change, which indicates that developed economies are serious about exploring coordinated strategies to environmental concerns. The challenge is to create a business environment that provides clear incentives for ecological investments. In tackling climate change, issues of equity also arise.

Carbon emissions are produced both by developed and developing economies: is any one country more entitled to pollute the other? Mr Deleuze emphasized that a shared objective of all countries should be to highlight the social dimension of climate change in order to advance alliances for action.

Mr Kazumi Matsui, Assistant Minister for International Affairs of Japan's Ministry of Health, Labour and Welfare stressed that the technical issues concerning the relationship between climate and labour have become too important to ignore. While it is necessary to adapt to climate change, mitigating its impact is more important. In this context, the Japanese Government positively supports the ILO Green Jobs Initiative, recognizing that efforts to realize green jobs— jobs which can contribute to sustainable economic growth and raise the living standards of people who live below the poverty line— need to be strengthened. Mr Matsui remarked that the upcoming G8 Ministerial Meeting in the City of Niigata will provide the first opportunity to discuss the influence of the environment on labour policy, and expressed confidence that the outcomes of the Conference would enable the ILO to refer pragmatic suggestions to the Meeting. In closing, Mr Matsui offered his wish that the outcomes of the Conference would provide input to the Japanese Government on its efforts towards achieving the 'Asian Decent Work Decade'.

Ms Sachiko Yamamoto, Director of ILO's Regional Office for Asia and the Pacific welcomed the participants and thanked the Government of Niigata Prefecture and the City of Niigata for graciously hosting the meeting. Ms Yamamoto discussed the development of the Green Jobs Initiative, underlining how it seeks to promote employment which is productive and equitable, ensures fundamental rights, such as representation and voice of workers, and provides safe working conditions for all. Asia is home to some 60 per cent of the world's total labour force and three-fourths of the world's poor living on less than two US dollars a day, and its workers are increasingly vulnerable to new environmental and health risks. Ms Yamamoto emphasized that both developed and developing countries have "common but differentiated responsibilities" in addressing the environment. Adapting to and arresting climate change and other negative environmental impacts will require shifting to new patterns of production and consumption, bringing just transitions in labour markets and in the way people earn their livelihoods. Realizing opportunities for green jobs will require deliberate action and policies for energy efficiency, sustainable enterprises, low-carbon economies and environmental stewardship. Strategies for enhanced social protection, skills development and employment promotion must also be developed to guide the transition. Because this will require the active participation of workers, employers and governments to develop solutions resting on the promotion of mechanisms for social dialogue, the ILO has a unique role to play in assisting the process. Progress has been made: the ILO has designed a framework for the promotion of sustainable enterprises with its tripartite partners to provide detailed guidance on what constitutes a conductive environment for green enterprise, which has been supported by governments, the International Organisation of Employers and the International Trade Union Confederation. Ms Yamamoto concluded by expressing her hope the sharing of research and practical experience at the Conference would help clarify existing knowledge gaps towards extract lessons for input into potential ILO policy and pilot activities conducted in partnership with relevant organizations.

Overview Session: *Sustainable Development and Green Jobs*

With economic output nearly twice the world average, the Asia-Pacific region is growing at a phenomenal pace, yet economic, social and increasingly critical environmental challenges stand in the way of long-term sustainability. Given Asia's geography, climate change and other environmental deficits pose risks for heavily-populated areas such as developing country mega-deltas and small island states. The economic sectors most dependent on the weather, such as **agriculture** and **tourism**, are likely to be most affected along with settlements and industry located in coastal and river flood plains as well as other areas prone to storms. As such workers and enterprises will be required to adopt more sustainable practices to prevent unnecessary losses. The creation of Green Jobs— defined as decent work in economic sectors and activities, which reduce their environmental impact with the aim of achieving environmentally, economically and socially sustainable enterprises and economies— will be essential to the

successful implementation of strategies used to address these issues. It is expected that both job gains and losses will occur in many sectors in the move towards eco-efficiency and effectiveness. New jobs will be ***created*** as well as ***substituted***, ***eliminated***, and ***redefined***. While the number green jobs which are created are expected to account for only for a small percentage of total employment, linkages with other enterprises will be substantial— inducing new jobs in the shift towards more environmentally-friendly modes of production.

High potential sectors for green jobs include:

- buildings and construction;
- industry and transport;
- renewable energy/energy efficiency;
- recycling and waste management; and
- sustainable agriculture and forestry.

Indonesia has the fastest growing rate of carbon emissions among all countries. Energy consumption is growing nearly as fast as GDP and emissions are rising exponentially. Reducing emissions requires coordinated action across many sectors. To this end Indonesia is working to lower its carbon intensity while maintaining acceptable levels of macro and sectoral growth. The Government of Indonesia is currently working to develop a climate change mitigation and adaptation strategy, raising awareness to facilitate an informed consensus on how to properly finance carbon-reduction efforts.

There exists very limited data on how the transition to a low-carbon economy will ultimately affect the labour market. While estimates indicate a likely net gain of jobs, the opportunities arising from shifting to new forms of production is presently not well understood. Green jobs can be typologized as "shades" of green: some sectors hold more employment potential than others, varying between countries. In this context there exist both drivers and obstacles to the realization of green jobs.

Effective labour policy represents an important driver in changing the content of jobs, the way work is performed and the skills of workers to ensure they become more environmentally sustainable. Legislation to reduce the absolute number of working hours has potential to encourage more sustainable production. The design of policies will require examining the role of skills sets as they apply to the workplace. Formulating training policies which encourage the development of intermediaries—work agents who can identify opportunities for greater efficiency in the workplace— is one possible option.

Preparing workers for the changes involved in transitioning to a low-carbon economy will be a major task for governments, for unions, and for industries. Trade unions have also been recognized as a major group in the United Nations Framework Convention on Climate Change (UNFCCC).

The European Trade Union Confederation (ETUC) conducted a 2007 study to how social policy should respond to the anticipated impact climate change will have on employment.

Recommendations from the study include:

- In regards to the anticipation of changes, jobs and skills needs must be properly identified. Policy makers and social partners should conduct "foresight exercises" in order to best identify the sectoral shifts associated with adapting and mitigating climate change.
- Human capital must be developed and improved so that workers are able meet labour market demands for new skills. The design of new training tools and methodologies will be required. Displaced workers in sectors which are negatively impacted must be provided assistance in making a "just transition" towards new types of employment.
- Building consensus among social partners will be crucial to address and manage climate change at the enterprise level.

The rich discussion that followed highlighted several key issues. There was a clear consensus that the current era signifies a great transformation for economies, and that policy decisions must reconsider economic development strategies to ensure they are more socially and environmentally sustainable.

In this connection it was agreed that the definition of green jobs has profound implications for how issues will be addressed in the future. Accordingly, one point of contention raised in discussion concerned the seeming disparity between concepts of Decent Work and Green Jobs. A number of participants expressed support for broadly defining green jobs to include all types of environmental employment, regardless of the conditions under which they are performed. The failure of this view to account for the social costs of some environmentally-friendly jobs, such as recycling activities where workers lack proper health and safety provisions, was addressed. Jobs must meet the economic, social and environmental criterion of sustainable development for them to be considered as both green and decent.

In terms of the numbers of green jobs created, participants agreed that while it is likely that while only a small percentage of direct jobs will be produced from the development of new technologies, there will be much larger employment effects arising from their installation, operation and maintenance. There is currently a lack of policy coherence on the sharing of environmental technology, which is highly expensive and located primarily in developed countries. Intellectual property rights and protectionist trade barriers are restricting the transfer and implementation of technology between countries.

These factors highlight the need for better research into the sectors where jobs can be generated in more environmentally-efficient processes, particularly among the rural poor in developing countries, where there exists a high potential for employment. Research and collection of case studies will help policymakers to develop and upgrade benchmarks. Education tools and materials must also be developed on green jobs for policymakers so that concrete conclusions may be drawn. In this regard green jobs can be considered a policy unifier, outlining a role for ILO to document and sponsor new initiatives to inform future interventions.

Session I: *Government Policies to Address Environmental Concerns and Promote Green Jobs*

Environmental policies aimed at lowering carbon emissions can have both positive and negative implications for employment. Green policy instruments include *command and control legislation*, *green taxes*, *tradable permits* and *subsidies* for emission reductions. Green taxes and tradable permits are the most effective strategy to achieve environmental targets at minimum cost. However, one notable caveat of carbon taxes is that they may bring about only a small job dividend: increasing energy costs affects production, raising the costs of labour and lowering investments in employment. An as of yet unexplored strategy is the **revenue-neutral tax reform** scheme, which works towards a reduction in labour taxes in conjunction with a rise in carbon tax to achieve a **double dividend**: a decrease in emissions levels and an increase in overall employment.

In the case of Germany, a green tax was introduced, leading to higher energy and fuel costs; these tax revenues were compensated by a decrease in social contribution rates (public pensions). While this measure imposed a ceiling on the total tax burden in an effort to not excessively burden firms and consumers, it was not able to produce sufficient tax revenues or generate a very large job dividend. A lesson which can be drawn from the German model is that green policies that generate public revenues are preferable to other environmental tax instruments that do not raise public revenues. Levies should be imposed on what is undesirable—in this case carbon emissions, as opposed to what is— labour— for environmental policy instruments to maximize their societal benefits.

With the encouragement of Government, many economic activities have been implemented in Sri Lanka in areas of renewable energy, waste management, and eco-tourism. However, there is currently a lack of reliable and accurate information on the numbers, wages, working conditions

of individuals employed in these activities. As such there is an urgent need for research to evaluate employment trends to identify whether they meet the standard of Decent Work.

Climate change is a threat to economic stability, and therefore it is the Government's responsibility to reduce emissions through the funding of appropriate economic policies. Adapting to climate change will require the right mix of government policies to **facilitate environmental investments**, **promote green jobs**, **develop relevant skills**, **design new technology**, and use **taxes** to better control emissions. Policies must be part of a long-term strategy in order to be truly effective. Options with the most direct impact are fiscal mechanisms (carbon taxes) and market mechanisms (emissions trading). In addition, strategies to reduce carbon emissions in developed and developing countries may not be applied in the same manner because economic sectors are arranged differently—one size doesn't necessarily fit all.

Plenary discussion highlighted the key issues involved in the development of effective policy instruments to lower resource intensity and promote green jobs. A general agreement was reached that although there are a number of policy options available to facilitate reductions in carbon emissions, there is as of yet no agreement on which strategy is most effective, or what approach is most conducive to the development of green jobs. As strategies will differ according to circumstances, there is a need to evaluate the effects of various policies on the labour market in order to determine what works from what doesn't, particularly in the context of the developing countries. For example, carbon tax policies may be very difficult to implement as many developing countries do not have the institutional capacity or economic flexibility in which to do so. In addition, because of large percentages of low-income workers, many within the informal economy, the collection of public revenues presents a challenge. A full range of policy tools must be carefully evaluated before the dismissal of any one option.

Session II: ***Low Carbon Economies and the Labour Market: Renewables and Energy Efficiency***

Two types of country approaches towards lowering carbon emissions were highlighted in discussing national-level efforts to address climate change and promote green jobs:

- **Type A** countries place a priority on economic development by utilizing less energy and lowering their level of emissions while taking care to prevent job losses and protect workers.
- **Type B** countries aim to accelerate economic growth, eradicate poverty, create more jobs, and regenerate natural resources by harnessing greater sources of energy with a dual aim to reduce emissions.

Some rapidly-industrializing countries, such as China and India, can be considered a combination of both of these types.

Changes in the labour market aimed at encouraging the creation green jobs will be driven by different factors: these include **technological innovation**, **investment**, **profit seeking**, **regulation**, and **public works**, including **infrastructure** and **upgrading**. However, the working definition of green jobs requires further clarification. One the one hand, green jobs can be understood as "green enterprises", or businesses that deliver goods and services which do not adversely affect the environment, generating sustainable livelihoods in the process. On the other hand, the work processes of preexisting jobs can also be redesigned to be more environmentally efficient, or more "green". Policies should focus on greening the manufacturing, maintenance and value chain process as well as encouraging the growth of new green jobs.

The importance in many countries of linking job creation to poverty reduction and environmental protection was stressed. Many examples were given documenting the success of approaches targeting the informal economy and empowering local communities in types of employment linked to the environment, where energy security, environment protection, and rural development are made commensurate goals.

Several notable examples illustrated the employment potential involved in utilizing renewable energy resources. Jobs in green energy jobs provide employment while enhancing the energy security of vulnerable populations. **Microcredit** services have shown great success in allowing rural communities access locally appropriate green technologies (solar, biogas and organic fertilizer) to promote income generation projects, bridging the gap between their limited investment capacity and the high up front costs involved in starting a small enterprise. The environmentally-focused microfinance arm of Grameen Bank, Grameen Shakti, supports such projects— demonstrating the benefit of utilizing clean and accessible technology to generate positive outcomes in the labour market. Rural women in particular are benefiting from these new ventures.

It is also important to address environmental employment issues as they relate urban centers and in this context construction and its high contribution to carbon emissions was examined**.** To this effect the **maintenance** and **refurbishment** of buildings, such as retrofitting structures to make them more energy efficient, shows significant potential in terms of job creation. The need for more case study research was suggested in this area, particularly within developing countries.

The business perspective was highlighted through the example of Canon, which is striving to design its products as more energy efficient and less materials-intensive. It was noted that some companies will enjoy first mover advantages by seizing opportunities in environmentally sustainable business practices. In this regard, factors such as consumer market demands, regulation and incentives can be considered important influences.

Discussion reviewed the aforementioned environmentally-friendly practices, highlighting the importance of the local context to their success and the potential for replication. A need for proper documentation of case studies was emphasized.

A primary issue which emerged in discussion was whether decentralizing economic activities can be considered key to the successful implementation of a green jobs employment strategy. Failures in past efforts aimed at generating employment were attributed to lack of innovation, over-centralization, and an absence of institutions in which to encourage pro-poor employment, such as entrepreneurship, alongside macroeconomic growth models. To support and expand the local development of green jobs, a strategic business and financing model was described, integrating **equity investments** and **carbon finance**, **credit**, **capacity building** and **partnerships**; ideas on how to scale up programs and sustain them via **innovation** and **network enablers** were also discussed.

Within the discussion on converting climate challenges to opportunities, it was generally agreed that climate change is already occurring and its impacts are unavoidable. Within this context, it was noted that both mitigation and adaptation are global challenges which require global actions and in this regard the Bali roadmap was referenced. It is expected that opportunities will further emerge as discussions on this subject become more comprehensive, particularly on issues involving the transfer of technology, and new financial resources and funds available for collaboration on mitigating carbon emissions.

Session III: *Employment in a Circular Economy: Recycling and Waste Management*

Recycling and waste management activities comprise significant sources of employment— particularly in the developing world— but are often characterized by low quality jobs rather than of decent work. While current economic development is putting severe pressure on resources, reflected in both escalating commodity prices, exhaustion of some natural resources and widespread pollution, advanced recycling schemes have the potential to translate into opportunities for more and better jobs in support of sustainable development goals.

An overview presentation on the e-waste recycling industry in China illustrated some of the key challenges involved in approaching environmental employment from a decent work perspective. **E-waste** is defined by UNEP as a generic term encompassing various forms of electrical and electronic equipment (EEE) such as old, end-of-life electronic appliances which has ceased to be of any value to their owners. Although e-waste presents a significant source of reclaimable

materials, the improper handing, dismantling and disposal of e-waste has shown to pose serious health and environmental risks.

China's e-waste recycling sector is largely defined by informal, low-quality jobs: workers involved in these activities are described to have little professional training, are without a social safety net, and lack an appropriate participation mechanism in which to voice their grievances. A vast number of small firms operating in this field do so outside of government regulations, making it possible for rudimentary recycling practices to pollute the environment and endanger the health of unprotected workers.

China's demand for electronics and electrical equipment has increased dramatically in recent years, contributing to a rise in transboundary flows of e-waste throughout the country. While China has recently passed stricter environmental and labour regulations aimed at better managing the control of e-waste, the employment implications involved in recycling these materials can prove instructive to other countries in the region.

Discussion elaborated on several innovative solid waste management (SWM) programs implemented by countries in the region as they were introduced by panel speakers. These initiatives were notable in their efforts to define win-win approaches to poverty alleviation through environmental improvement measures.

The City of San Fernando, Philippines, has coordinated several environmentally-focused development projects with the use of local resources, and has conducted a series of SWM capacity building trainings for municipal waste management engineers in an attempt to discourage scavenging.

A changing lifestyle brought about by increased urbanization and affluence has led to more acute waste problems in Malaysia; the rapid growth of municipal solid wastes is becoming an increasing concern. SWM has been addressed by policy, exampled by Malaysia's *2005 National Strategic Plan* and the *Solid Waste and Public Cleansing Management Bill* passed by Parliament in 2007, which has worked to develop comprehensive mechanisms for waste reduction, reuse and recycling. In the future, Malaysia aims to increase its targets for recycling with a view to enhance market penetration for recycled goods and urban green enterprise.

A high percentage of containers from the Pacific Islands imported by New Zealand were found to be contaminated with biological agents, posing a significant biosecurity risk to the New Zealand economy, which is largely dependent on its agricultural exports. Produce from the Islands frequently had to be either dumped or subject to refumigation, which proved to be time consuming and financially prohibitive. In response, New Zealand implemented its Equivalent Quarantine Program 2 (EQ2) in three Pacific Island ports. Port land was acquired, facilities built and people trained to carry out an invasive species management program. Pacific Islanders were trained in proper occupational safety and health practices, particularly in the use of baits and chemicals; provisions were made for safe storage and containment of chemical run-off to manage environmental hazards. The program was shown to dramatically reduce contamination while providing employment in environmentally-sustainable activities.

Session IV: *Green Jobs in Natural Resource Management and Environmental Protection*

Natural resources are essential for the production of food, renewable energy and raw material. They also constitute the support system for human life on earth. The rehabilitation, protection and sustainable management of natural resources will become more critical as populations and per capita economic output continue to rise. This session considered the potential for employment, income and rural poverty defined by different environmental pathways to development.

A high percentage of inhabitants in the Asia-Pacific region are located along coastal areas, which in addition to being a critical habitat for biodiversity, remains vital to peoples' livelihoods and the delivery of necessary goods and services. Coastal areas are particularly vulnerable to climate

change and rising sea-levels. Human-caused factors attributed to overdevelopment include erosion and destruction of underwater ecosystems. Taken together these challenges underline the need for more sustainable management of coastal resources in Asia.

Coastal tourism accounts for a major source of employment in Asia which stands to be greatly affected by environmental changes— such as floods and erratic weather patterns. In this regard policy measures such as **environmental taxes**, **designating marine protected areas**, and **eco-labeling** beaches have shown to be successful both in raising awareness and in mitigating damage. Similarly, sustainable ecotourism is a sector with a high potential for green jobs working towards the protection and rehabilitation of coastal resources.

Characterized by rapid economic growth and high population density, in global terms Asia possesses the most limited ecological carrying capacity: more than anywhere else, the sum total of Asia's human activities is exceeding what can be naturally supported by the region's environment. This "**ecological deficit**" underscores the need to pursue economic growth which is compatible with environmental sustainability.

UNESCAP's Green Growth model emphasizes a shift from a "quantity of growth" to a "quality of growth" paradigm. As market prices do not adequately reflect environmental externalities such as pollution and waste, Green Growth encourages governments to assign a market value to the efficient use of resources in order to pursue environmentally sustainable economic goals.

In this connection, **Payments for Environmental Services** (PES) is an investment concept which seeks to add economic value to the conservation and management of natural resources. The aim of PES is to create new opportunities for economic growth while providing qualitative and quantitative returns on investments. PES works to ensure planning and policy facilitates better linkages between supply and demand of environmental utilities. Through PES, beneficiaries compensate suppliers for the delivery of an ecosystem service; one example might be local government which rewards community members for employing sustainable land management practices.

Parallel Working Groups Session

Following the overview session and four technical sessions, the research conference continued its work in two working groups. The aim was to enable participants to reflect in smaller groups on key issues, challenges and opportunities that had been raised during the first two days of the research conference.

- The first working group focused on identifying ***research priorities and knowledge development*** needed to address to support ***government policies on green jobs***.
- The second working group considered innovative approaches at ***sectoral***, ***local*** and ***enterprise level*** in selected fields.

In both groups, participants also shared experiences, knowledge and examples of good initiatives in framing a few desired outcomes which can support the ILO and other partner institutions in the formulation of operational programmes and research initiatives on green jobs in the Asia-Pacific region. In the plenary session, the two working groups presented their main findings and recommendations, followed by productive discussion.

The first working group paid particular attention to the interrelation between the environmental, economic and social dimensions of climate change and to relevant public policies to address the challenges and seize opportunities for the promotion of environmentally-friendly decent jobs. The group presentation underlined that government policies must take into consideration the sustainable development of the Asia-Pacific region. Global and national responses will lead to a major transformation of production and consumption patterns which will prove to have profound impact on labour markets, livelihoods and social development. There was agreement that if used effectively, government policies can ensure not only more, but better jobs will result from the transition to an environmentally-friendly economy. Greener enterprises and green jobs

are an indispensable part of the solutions of environmental problems. This is often overlooked in environmental policy debates.

The group agreed that employment policies are critical for a smooth "just transition" to greener economy and society. When drafting employment policies, governments will have to consider the major structural and technological transformations needed to move towards greener jobs. Environmental legislation must also be designed in ways which consider the implications for the labour market. This transition cannot be achieved without developing the necessary skills and without enterprises and workers prepared to adopt new technologies. Health and safety regulations could also contribute to creating incentives for firms to move to greener production. And as most of the changes will take place at the workplace, building capacity for trade unions and employers to be able to find negotiated solutions is essential. The group also considered options, including **green taxes**, **tradable emission schemes**, **reform of subsidies**, **public procurement**, and **incentives** for new technology that could increase the employment impact of environmental-friendly policies and called for policy coherence for tangible impact.

Important issues raised in discussion concerned ways of maintaining equity between countries to best ensure the environment is regarded as a global, public good. Greater attention must be placed on trafficking of environmentally-hazardous wastes from developed to developing countries. Exploring different pathways for the transfer of environmental technology must also be a key focus of future agreements.

In addressing these challenges, suggestions for the potential future role of ILO included:

- to carry out detailed analysis of the different green job policy planks and their interactions;
- to assist in data collection and design of methodologies for assessing job impacts;
- to estimate the employment potential of different projects;
- to facilitate best practices; and
- to promote discussion on policy coherence to achieve both environmental objectives and decent work.

The second working group explored good practices and innovative approaches in the areas of *Renewables and Energy Efficiency*, *Circular Economy*, and *Natural Resource Management* at the sectoral, local and enterprise level. The group sought to identify sectors and approaches offering the greatest opportunities for synergies between environmental protection and socio-economic development, highlighting the specific issues and conditions involved in scaling-up and/or transferring these practices and distinguishing where the ILO and its constituents might play a potential role.

The group recommended that the ILO should take a sectoral approach in its own work on green jobs, and it should concentrate on sharing lessons learned as well as supporting partnership building and innovative pilot projects across the region. The recommendations also included the documentation of good practices through case studies and feeding this information into scenario building and policy formulation. Another recommendation called for the establishment of a "green jobs network and community of practice", which could help pool knowledge and experience and support learning across the region. Participants also emphasized the need for dialogue with the social partners and other stakeholders to generate strong commitment in the region for green jobs.

During the discussion, the conference participants shared a broad range of national and local initiatives, based on public, private, bi- and tripartite and community-based initiatives, which might be considered for case study research and possible replication. The discussion showed strong support for recommendations presented by the working groups for follow-up action and many participants offered their help and participation.

Based on the deliberations the group identified some priority sectors for policy and practical action. These include buildings, agriculture, energy efficiency (especially renewable energy) and

waste management. ***Construction***, ***agriculture***, ***energy efficiency***, ***forestry***, and ***transport*** were highlighted as priority areas for action.

The construction sector provides blatant examples of jobs that are neither decent nor green: many show very little compliance with quality, environmental standards and employment regulations. In this regard, green building interventions have the greatest likelihood for success if employment is addressed directly on-site, particularly among micro/small enterprises. It was indicated that an effective approach might be to identify points in the value chain (specific to each country/context) to ensure maximum benefits are derived both in reducing emissions and identifying opportunities for green jobs. Renovation and refurbishment of buildings have significant potential to be upscaled by this type of approach. Procurement policies enacted by governments would have considerable influence on greening of jobs in the sector: for example, registering construction in tradable carbon emission schemes would help to improve job quality and provide incentive to new enterprises.

It was suggested that future interventions targeting agriculture be broadened to address for all aspects of the agriprocessing cycle: this would include all farming practices involved as well as secondary employment linked to emerging services. The strong linkage between energy generation and agriculture was emphasized. The group noted that energy efficiency-related jobs would be created in many sectors of the economy, which was viewed as a future enabler of growth. As there was a general agreement that the potential for green jobs in energy efficiency-related occupations was currently not well understood, employment in renewable energy was proposed to be incorporated as a sub-set of this field.

Examining the employment potential of reforestation activities, the group recommended that frame of enquiry into the forestry sector be expanded to include natural resource management— such as community forest management— as this is believed to comprise large numbers of skill based green jobs. It was conveyed that countries which have highly restrictive forest management policies also would have very limited job creation potential.

There was a general agreement that the transport sector would continue to grow at a very fast pace in Asia. However, the group expressed concern over the quality of these jobs. Subcontracting to vendors is thought to be a common occurrence in this sector, which might prove a challenge to enforcing regulations. Measures suggested by the group included working on product standards, contracting guidelines and regulations, as well as engaging local transport unions to assist in implementing them.

Roundtable: *Environmentally-friendly Policies and International Competition*

Using an open format, the Roundtable addressed issues on the demand, costs, competitive advantage and role of markets in meeting environmental-friendly objectives. Within this context, the roles of domestic and international policy were discussed.

From a developing country perspective, the move to environmentally friendly development is considered to be a necessity; for example. Indonesia needs to shift away from an oil based economy. In this move opportunities need to be seized, such as how to invigorate agriculture; but it must be recognized that some costs are unavoidable, and that some adaptation will be necessary.

Many pointed out that it was hard to reach generalized conclusions on these issues. However there was evidence that demonstrated a competitive advantage of creating new markets. The European experience shows that a high level of competitiveness can be consistent with high levels of regulation, without unduly affecting employment levels. Internationally, many underscored the importance of regulation of international trade through environmental standards.

There was overall agreement that pursuit of environmentally-friendly development opens new markets, but the question remains- what happens to existing markets? There will be a high cost

to those industries who do not change or who have high energy costs. Many industries are already involved in off-shoring their activities, and some panelists felt that the increased regulation of carbon emissions will perpetuate these spill-over effects. A strong view emerged that this emphasizes the need for a global agreement. Until that time a compensation mechanism will be needed to allow time for adaptation.

As seen from the business perspective, the scope of the problem is confounded by the impact of carbon taxes. The burden is going to fall disproportionately on certain industries. Developing countries host a higher percentage of these industries than developed countries. Overall, policy must address sectors with high trade exposure with an emphasis on helping local producers. Options could include anti- environmental dumping policy and tariff rate protection, within limits set by multilateral agreements, to help support local industries.

On adaptation, the business premise is that businesses and markets will adapt and consumers' attitudes will change. The issue is *how to adapt*. A green tax could accelerate adaptation but encourage off-shoring. Adaptation without excessive regulation is the preferred option. This, however, argues against the need for a separate global agreement.

The Roundtable considered how to avoid impeding the competitiveness of developing countries and ensure that their needs are being taken into account. Developing countries must also invest and make a first step in areas of energy efficiency, and emissions reduction. Conditionality will continue to be debated and developing countries are seen as the losers. However, industrialized countries also do not want to lose. In this regard the ecological footprint of developed countries should be made known to display how much they have contributed to environment degradation.

It was agreed there was need for further research on the advantages and disadvantages that can be gained from various regulations, as to be able to know who stands the most to lose. In this regard it should be studied whether investment follows low level of environmental regulations.

On the issue of global climate change, it was felt that more needs to be done than solely looking at factors of cost. There are lessons to be learned and experiences to be shared: including a need to measure and limit carbon emissions at all levels, from the household to the general environment. The ILO and its constituents have a role to play.

While the international nature of the threat is recognized, national, regional and international development agendas should also include climate change in their purview. Policy coherence will not come easy – it will take time and must be championed by highest levels of Government with directives to ministries. Culture and national identity must be taken into account and should not be compromised. It was agreed that strategies should be guided by national determination in accordance with international targets.

Labour market planning is essential. Further research needs to be conducted to determine who will be disenfranchised from climate change and how exactly they will they be protected. There is a scope for developing countries to partner with developed countries to better facilitate the transfer of technology to address climate change. Labour policies need to recognize the degree to which migration is driven by environmental changes.

International cooperation in the area of promoting green jobs is important and should be further developed through continued multilateral agreements. The ILO needs to be more involved in deliberations to promote equity, avoid the risk of protecting trade for the environment, and prevent social issues from being ignored.

Other areas identified for further study and follow up included:

- sector specific targeting;
- examining the feasibility of international instruments in areas such as emissions control and green taxes;
- documenting lessons for capital markets and credit markets;
- defining the manner and context in which technology transfer should be addressed;

- raising awareness about the magnitude and costs of environmental dumping.

Addressing climate change will be a policy challenge which will require extensive public investment. However, these costs are viewed as manageable compared to the consequences of inaction.

Closing Session: *Summary and key emerging points for the G8*

Conclusions of the Conference underlined the importance of putting the inter-relations between the environmental, economic and social dimensions of sustainable development on the political map through the promotion of green jobs. Sustainable growth strategies in the Asia-Pacific region and global and national responses to climate change forecast major transformations in production and consumption patterns. These will have a profound impact on labour markets, livelihoods and social development. Heretofore very little attention has been focused on the social implications of environmental policy making.

Addressing environmental degradation and arresting climate change will require a new approach to development, and green jobs are an indispensible part of the solution. More and better employment and income opportunities can be generated in the process by actively promoting green jobs. Green jobs can effectively tackle poverty while working to protect the environment, ensuring that UN Millenium Development Goals 1 and 7 are made compatible with eachother.

Ensuring the commitment of employers and workers will be essential to the implementation of policies aimed at promoting greener pathways to development. Major contributions in efforts to reduce greenhouse gas emissions and protect the environment will derive from modifying sectoral and workplace arrangements to ensure eco-efficiency targets are met. New skills training approaches must be developed to assist enterprises and workers adopt new technologies and work practices. Skills shortages are a bottleneck for a transition to cleaner production in many parts of the world. Economic sectors and individual enterprises can make a major contribution to reducing emissions of greenhouse gases and reducing the environmental footprint generally through labour-management initiatives to green workplaces. Social dialogue mechanisms must be in place to facilitate "just transitions" for workers affected by these changes, both by training in new skills and guaranteeing continued access to social protection.

The impacts of climate change are forseeable; the labour market implications associated with the transition to a green economy can also be anticipated. The effects of climate change on national economies, individual sectors and regions are relatively well understood. Policies to mitigate climate change and to reduce emissions are being designed over the next 18 months and can factor in the threats and opportunities they pose for labour markets. To this end, it is crucial and urgent to anticipate labour market implications of climate change itself as well as of policies for adaptation and mitigation. Particular attention needs to be paid to skills needs and to sectoral shifts. Research and analysis must continue to support the design of coherent policies, which will take committment at the highest political level.

Equity will also be a key issue for a future international agreement on climate change. This concerns both the sense of a fair sharing of burden and of access to opportunity with countries and between countries particularly with regard to climate talks, the relative prices being set, industrial policies key decisions about technology transfer, financial flows and investments. Social dialogue can assist developing countries and emerging economies to foster South-South cooperation to design and implement pathways towards clean development with more and better jobs.

Next steps: Key research issues and moving the agenda forward

ILO intends to develop methodologies to factor employment into national plans and programmes for adaptation to climate change. In line with this work ILO plans to assist its constituents in defining criteria and indicators on economic, social and environmental sustainability to monitor policy impacts and to certify products for marketing and trade. Further

tools will be developed with a view to assist policy formulation and implementation through active macro-economic and sectoral assessments of potential green jobs creation. As it continues to define best practices in the field, ILO will document case studies focusing on the role of social dialogue in promoting green jobs, aimed at strengthening discussions on policy coherence in support of cleaner development pathways.

On behalf of all participants, the ILO thanks the Government of Japan for hosting the Conference and looks forward to continuing its work with Japan on the Green Jobs Initiative in the future. ILO also sincerely thanks all participants for their input which will contribute to the development of its regional strategy on Green Jobs, part of the ILO's wider Decent Work Agenda defining the Asian Decent Work Decade (2006-2015).