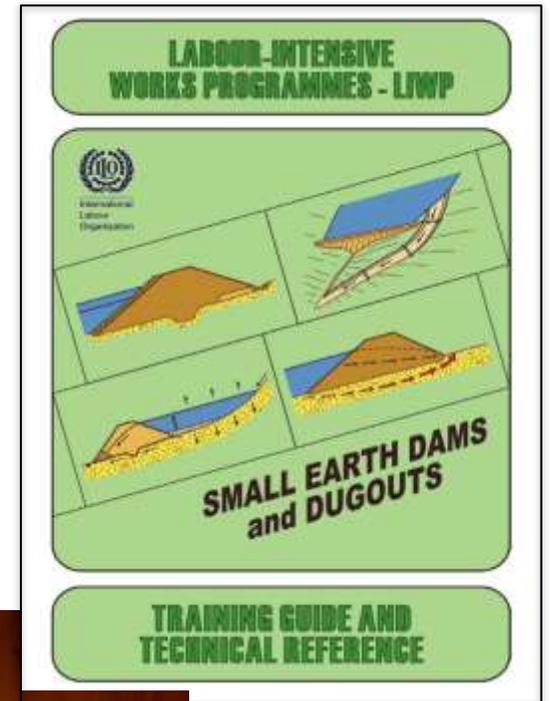
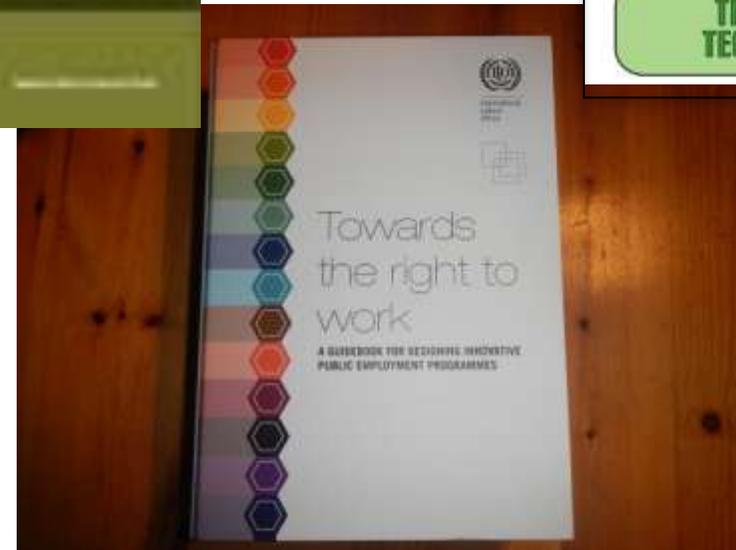
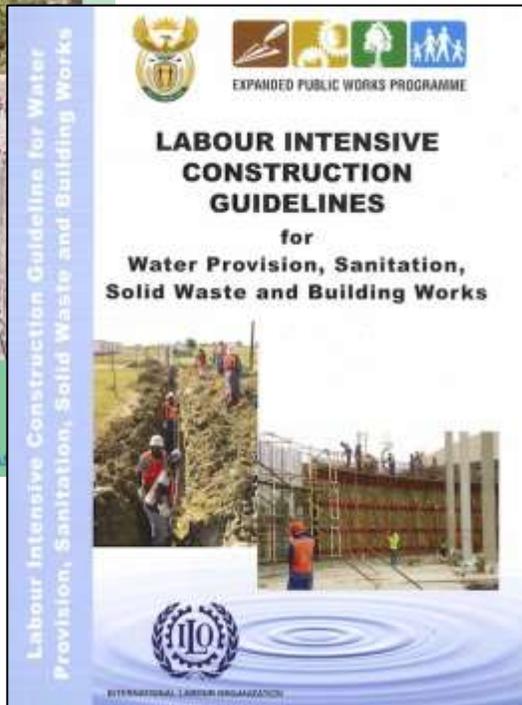
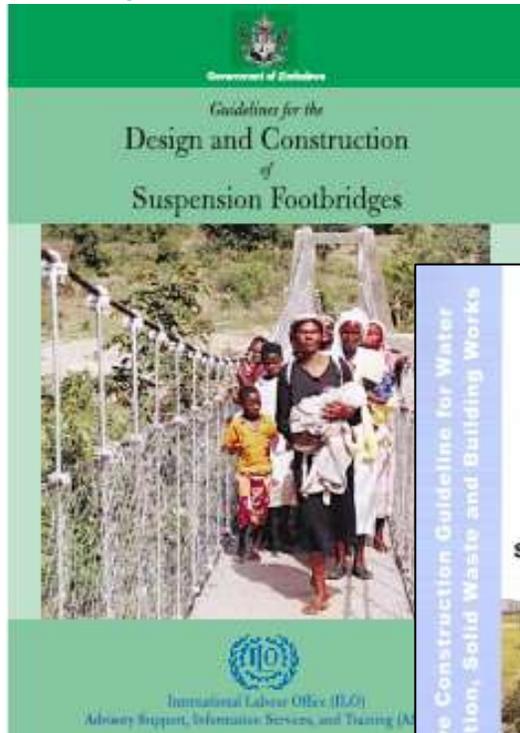


EMPLOYMENT PROMOTION THROUGH **SUSTAINABLE ENERGY**

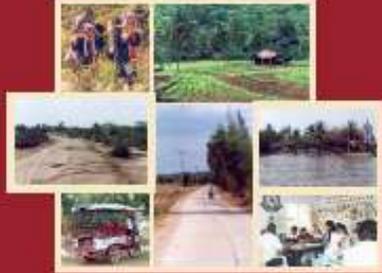
Mito Tsukamoto
Sr. Specialist, Employment Intensive
Investment Programme (EIIP)
International Labour Office (ILO)
tsukamoto@ilo.org

ILO'S EMPLOYMENT INTENSIVE INVESTMENT PROGRAMME (EIIP)



Improving Access in Rural Areas

Guidelines for
Integrated Rural Accessibility Planning



Chris Donnges



International Labour Organization



Building Local Government Capacity for Rural Infrastructure Works

Geoff Edmonds
Bjorn Johannessen



International Labour Organisation



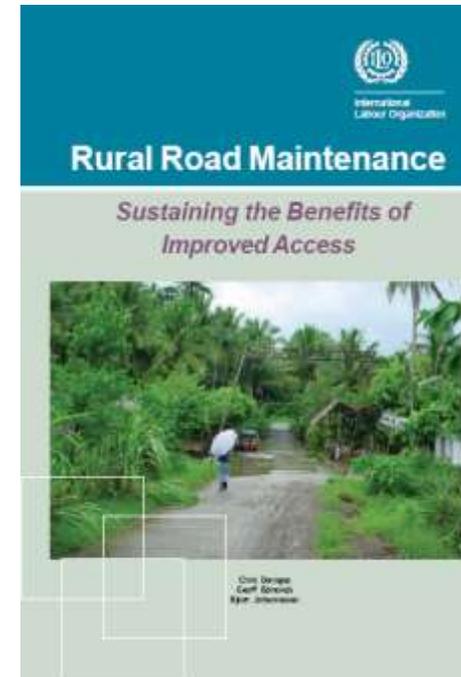
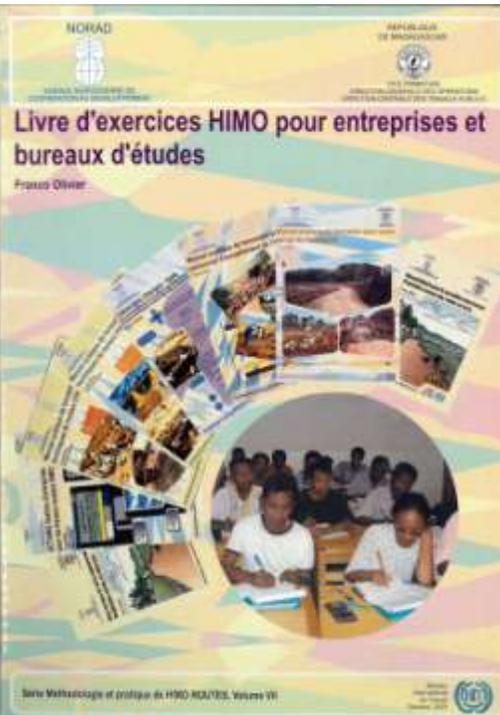
International
Labour
Organization

BUILDING RURAL ROADS



Bjorn Johannessen

Regional Office for Asia and Pacific





PROMOTING INCLUSIVE LOW-CARBON, CLIMATE RESILIENT ECONOMIES IN SETTING THE PATHWAY TO SUSTAINABLE DEVELOPMENT

Paris Agreement - “Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities”

- 1. Environmental** - climate change resilience, low-emission development, natural resource management and rehabilitation, stable natural environment and lasting biodiversity
- 2. Economic** – jobs and income security, viable enterprises and economic sectors
- 3. Social** – decent work, poverty eradication, social inclusion and investment in people

RECAP: KEY MESSAGES



**DIVERSIFY
RISKS**

Climate action offers opportunities for decent work and social inclusion through:

- **Job creation and alternative livelihoods**
- **New enterprises in the selling of green products and services**
- **Greener workplaces, appropriate technologies**
 - **Climate resilient infrastructure**
 - **Capacity building and employability**

Unabated environmental challenges risks compromising the ability to reach Goal 8 due to:

- **Job losses**
- **Damage to infrastructure and business assets**
- **Impacts on productivity (e.g. food security)**
 - **Impacts on OSH**
 - **Forced migration**
- **Increased Inequalities**

RISKS

GOOD NEWS OR BAD NEWS?



“1.3 million workers in the coal industry and 500,000 in steel will be cut. The employees would be reallocated”.

(Source: Bloomberg, 29 February 2016, quoting Minister Yin Weimin for Human Resources Development and Social Security)



TYPE OF CHANGES IN LABOUR MARKETS

EFFECT	EXAMPLE
New job creation	Renewable energy sector; energy performance service companies; mobility services; green works
Elimination	Some types of mining Packaging (materials discouraged or banned)
Substitution	Shifting from fossil fuels to RE&EE, automobiles to mass transit, waste disposal to recycling, primary metals production to secondary production, use of employment intensive appropriate technologies over capital intensive
Transformation	Existing jobs greened along with changed workplace practices and methods, including on farms. Supply-chain effects outside green (e.g. steel for wind turbines) Climate resilient natural and physical infrastructure, more productive lands, better water management



GREEN JOBS ARE ALSO DECENT JOBS



Respect of ILO International Labour Standards



Equal opportunities, freely chosen, productive and gainful



Min wages, social protection floor, occupational safety and health



Freedom of association and collective bargaining

Gender equality

Non discrimination



TRIPARTITE AGREEMENT

Policy Framework for managing a Just Transition for All – Guidelines adopted by ILO GB and its 187 members covering 9 key policy areas

“Employers believe that proactively addressing higher energy efficiency and environmental issues of resource use...helps to enable long-term sustainable growth”...**Employers**

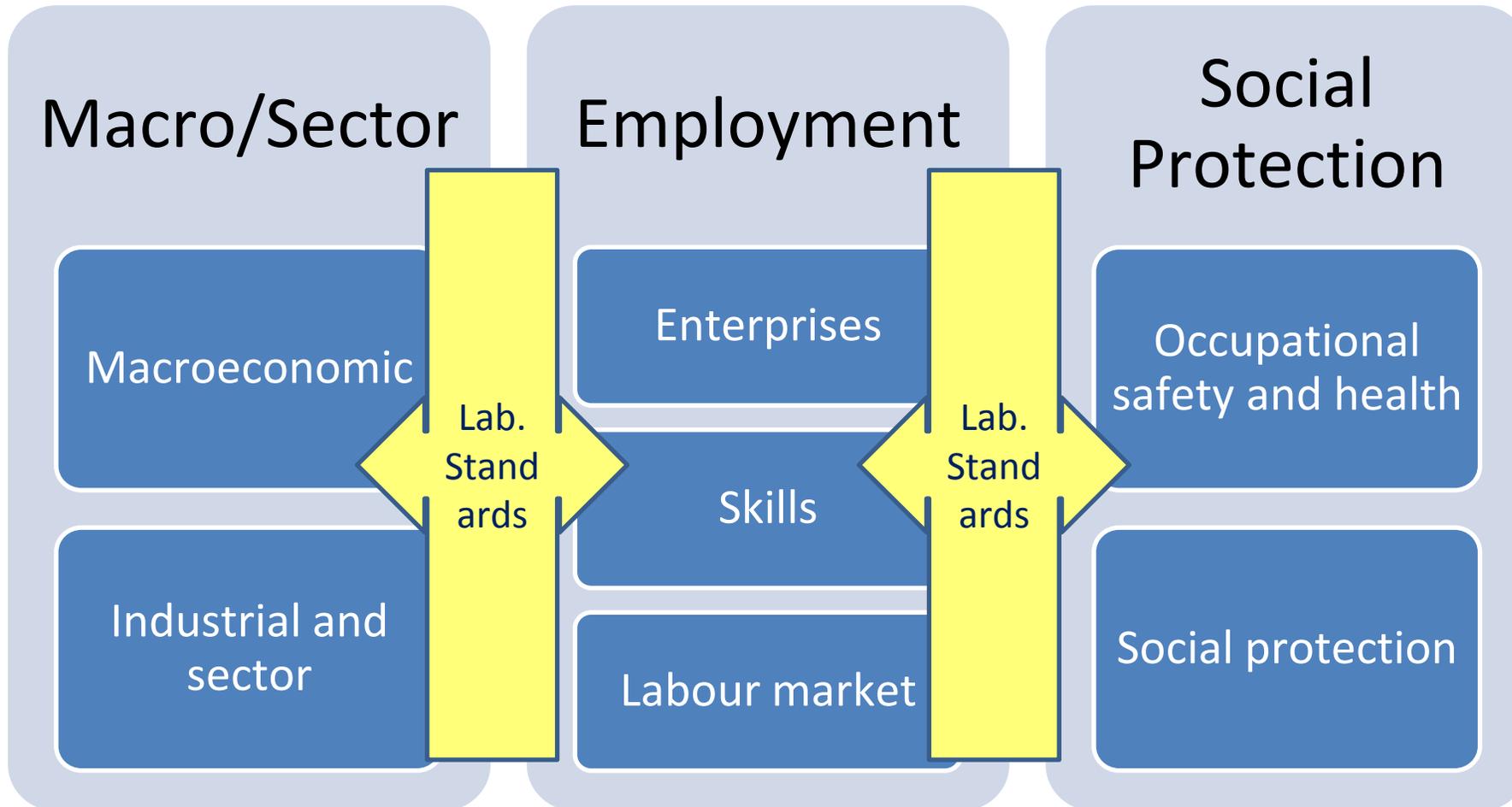
“The transition has to create green and decent jobs and should not make workers the variable of adjustment. The world needs an ambitious transition towards environmental sustainability and workers want it to be a just transition”...**Workers**

GUIDELINES FOR A JUST TRANSITION FOR ALL



1. Policy coherence and effective institutional arrangements

2. Social Dialogue



EMPLOYMENT IMPACT OF EIB INFRASTRUCTURE INVESTMENTS IN MPC



Countries : Egypt, Jordan, Morocco and Tunisia

Sectors: Transport, Energy, Sanitation and Environment

Objective: to provide an in-depth analysis of the different employment outcomes of EIB-financed investment projects in different key infrastructure sectors and to recommend how to better assess (ex-ante) and monitor employment outcomes in future investments.

- *How many direct jobs are created during construction, operation and maintenance?*
- *Who gets the jobs?*
- *What kinds of jobs are created?*
- *Do the jobs go where they are most needed?*





IMPACTS ANALYSED: PRODUCTION, INCOME & EMPLOYMENT



Immediate impact

Increased local employment (skill development, enterprise development) in sector of public investment



Indirect impact

Through the supplier chain of production through higher local demand for supply of materials



Induced impact

More people working stimulates consumption, leads to a boost to the local economy and to higher tax collection and promotes income growth and poverty reduction



ENERGY SECTOR

The **Solar Plant in Ouarzazate in Morocco** is the first of a series of projects aiming to install 2GW of new solar capacity in Morocco by 2020. This project entails the development and construction of a 500 MW power plant.

The **Power Station Sousse C in Tunisia** involves the construction and operation of a dual-fuel (gas as main fuel and gasoil as reserve/emergency) power generation plant. It consists of a single-shaft Combined Cycle Power Turbine unit of 400MW. An international consortium and 46 different local sub-contractors undertook the construction work.

The **Tafila Wind Farm in Jordan** entails the development, construction and operation of a 117 MW wind farm equipped with 38 turbines with a unit capacity of 3.075 MW. The project was just starting up at the time of the study; therefore, employment data were not available at the time of the assessment.

The **Giza North Power Plant** with an overall generation capacity of 2,250 MW is an important addition to the capacity of Egypt's power system. The project, which uses natural gas as the principal fuel in Combined Cycle Gas Turbine technology, is both technically and environmentally advanced and uses the most-efficient fossil-fuel electricity generation technologies commercially available today at the needed scale.

The **Egypt Power Transmission Project** comprises a multi-component investment program for transmission infrastructure (10 transmission lines, 1 underground cable, 10 substations and 22 additional transformers). The investments are expected to contribute to the provision of a reliable electricity supply for the increasing demand of the country, in part connecting new wind energy generation facilities to the grid and enabling future interconnections to neighbouring country networks (notably to Saudi Arabia and Gaza).



FINDINGS

JOBS CREATED

- **Infrastructure work has potential to generate large numbers of jobs, but the results suggest that the estimates of direct employment created through the assessed projects were lower than expected in general**
- **Cost of employment varies considerably between projects: roads, sanitation most jobs per EUR invested. In environment, alternative fuels.**
- **Limited monitoring and reporting of employment data**

CHARACTERISTICS OF JOBS

- **70% of employees are labourers**
- **Equal share of skilled and unskilled**
- **Most employees were men, with the exception of Ouarzazate solar plant project**





FINDINGS

TYPES OF JOBS

- **Equal split between permanent and temporary jobs in construction.** Energy projects showed high % of temporary labourers.
- **Labour work not considered attractive** Large influx of migrant labourers. In Morocco, Tunisia and Egypt with the exception of the highly specialized jobs, all jobs are taken by nationals.
- **Health and safety in place,** but lack of qualified health and safety supervisors
- Consideration for **longer-term maintenance employment.** Roads, sanitation more, RE and wind farms less.

FILLING OF JOBS

- **Youth not sufficiently targeted**
- **Labour demand and supply do not match.** Lack of skilled labour such as technicians, electricians, carpenters, masons and bar-benders. Lack of cultural value.
- **Labourers are hired from the local areas,** but women feel lack of security and poor strata not targeted

BEFORE



AFTER





RENEWABLE ENERGY TECHNOLOGIES AND EMPLOYMENT INTENSIVE POTENTIAL IN RURAL AREAS

Energy technology	Equipment	Employment Potential
Solar energy	Portable solar lights (pico solar); solar panels (solar home systems); solar pumps	<ul style="list-style-type: none">• Distribution and retailing of solar lanterns / panels, and of accessories (batteries, light bulbs, phone-chargers)• Installation of solar panels, pumps• Financing (microcredit operations)• Maintenance and repair• Decommissioning/recycling of solar equipment
Traditional biomass	Fuelwood; charcoal	<ul style="list-style-type: none">• Growing/cultivating forests• Gathering of wood and agricultural/forestry wastes• Production of charcoal• Distribution and sales

RENEWABLE ENERGY TECHNOLOGIES AND EMPLOYMENT POTENTIAL IN RURAL AREAS



Energy technology	Equipment	Employment Potential
Modern bioenergy	<p>Biodiesel;</p> <p>Biomass heating and power;</p> <p>Biogas</p>	<ul style="list-style-type: none"> • Cultivation and harvesting of feedstock; gathering of agricultural / forestry wastes; processing of materials • Construction of biomass plants, biogas digesters (masonry, pipe-laying, etc.) • Operations and maintenance • Distribution of fuels • Manufacturing of improved cookstoves
Hydropower	Small- or pico-scale dams	<ul style="list-style-type: none"> • Construction of dam, penstocks, watermills • Manufacturing or assembly of turbines and other equipment • Operations and maintenance
Wind power	Small- or pico-scale turbines	<ul style="list-style-type: none"> • Import, assembly, sales of turbines • Site preparation and installation • Operations and maintenance

INDIA MGNREGA BAREFOOT TECHNICIANS

- Largest **anti poverty** programme in the world
- **Rights-based** universal access - guaranteeing 100 days of employment for rural HH
- **Environmental works** : water conservation and harvesting, irrigation canals and channels, plantations, roads and community infrastructure
- Addressing challenges in **durable assets** due to lack of technical personnel in rural areas
- Identification of (youth) junior level technical assistance to provide technical services to create durable assets, looking after 1-3 Gram Panchayats - employability





SKILLS DEVELOPMENT, EDUCATION AND TRAINING

Ensuring adequate skills at all levels to promote the greening of economies and to facilitate a just transition

- ✓ Matching supply and demand for skills through skills needs assessments and anticipation;
- ✓ Engaging in social dialogue for responsive training systems;
- ✓ Reviewing occupational profiles and training programmes;
- ✓ Promoting equal access to opportunities for skills acquisition and recognition for all;
- ✓ Promoting work-based learning and practical experience
- ✓ National certification schemes

