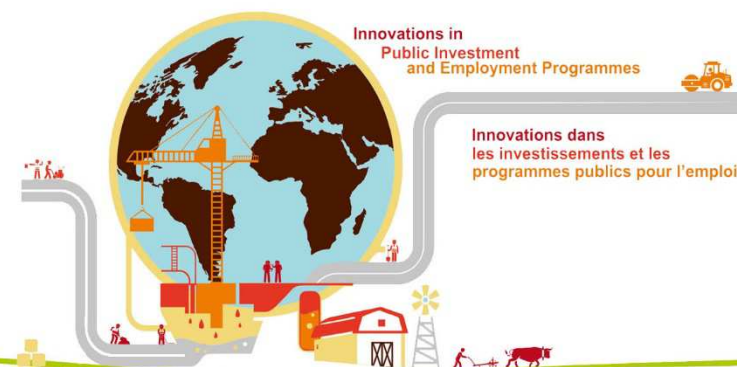


## SESSION 5

# DELIVERING DEVELOPMENT INFRASTRUCTURE

This session:

- Potential job creation
- Key issues to consider
- Employment effects



# Infrastructure- traditional focus of PEPs

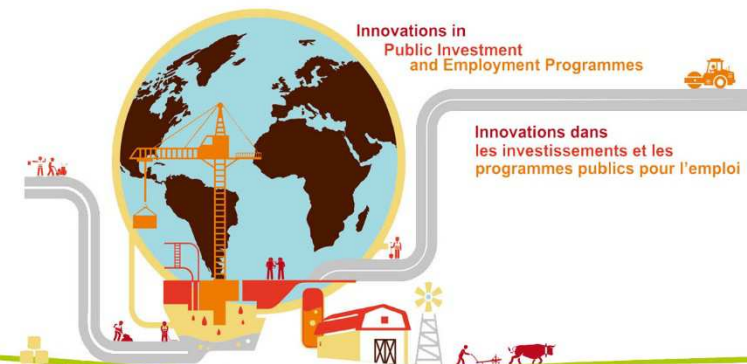
- demand from developing countries for infrastructure investment and maintenance amounts to US\$900 billion per annum, public funding accounting for 70–75%
- regular investment spending in infrastructure is widely used to expand demand and create and sustain jobs
- Use of labour intensive method is ideal for PEPs



# Rural road access



- 900 million rural dwellers without road access
- Only 30% of rural population in Sub-Saharan Africa has access
- And only 58% in South Asia

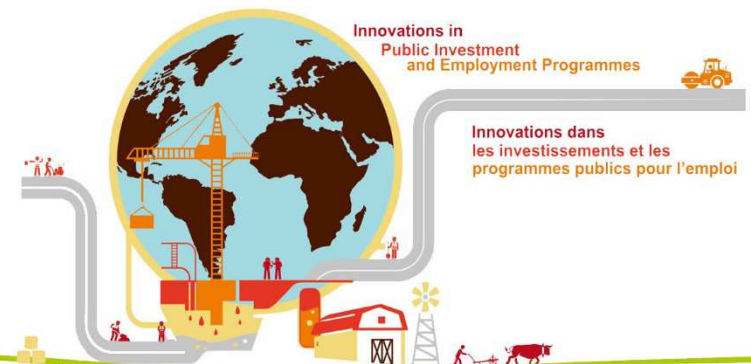




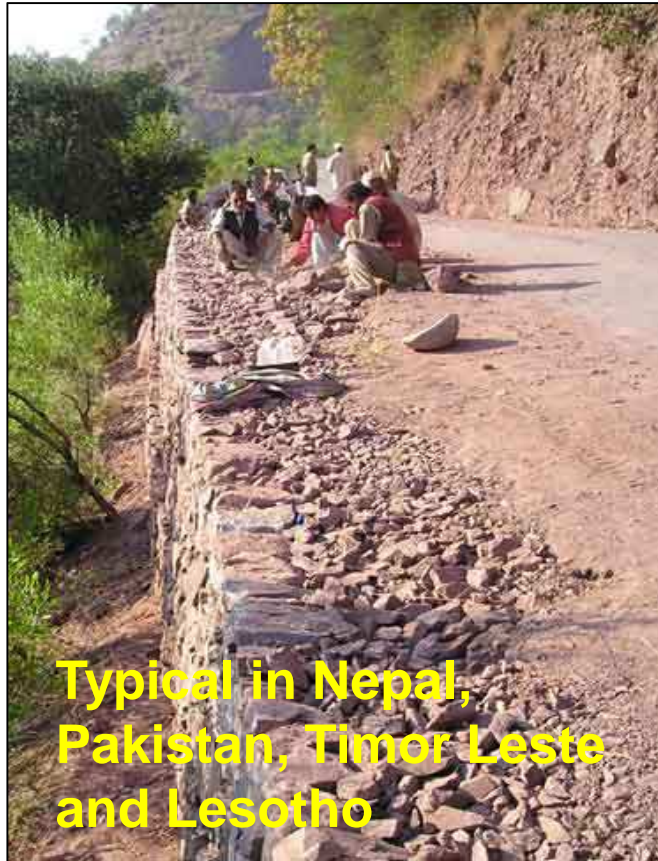
# Road works - Pavement



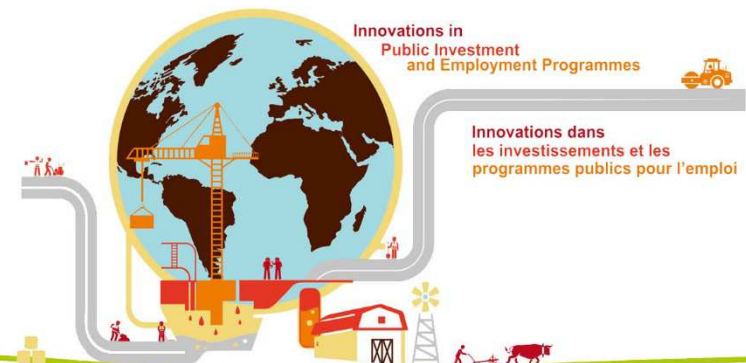
**Gravel works include excavation and loading, unloading and levelling works using labour**



# Stone masonry



Constitutes a  
third of total  
costs of road  
building in  
mountainous  
terrain





# Cobble stone paving

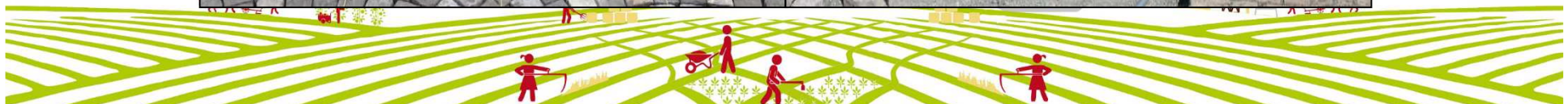
**Creates lot of jobs: 15,000 – 20,000 PD per km or about 2-3 PD per square meter (sqm)**



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# Irrigation

- Irrigation works involve significant amounts of earthwork, which can be carried out using manual labour
- Wages can be used for investing in improved farming practices
- Labour input on main canals from 2,500 to 5,000 workday per km
- Wages comprise over 50% of total costs





# Small earth dams



**Definition:**  
Dams built from locally available soils to a maximum height of 6 to 8 meters

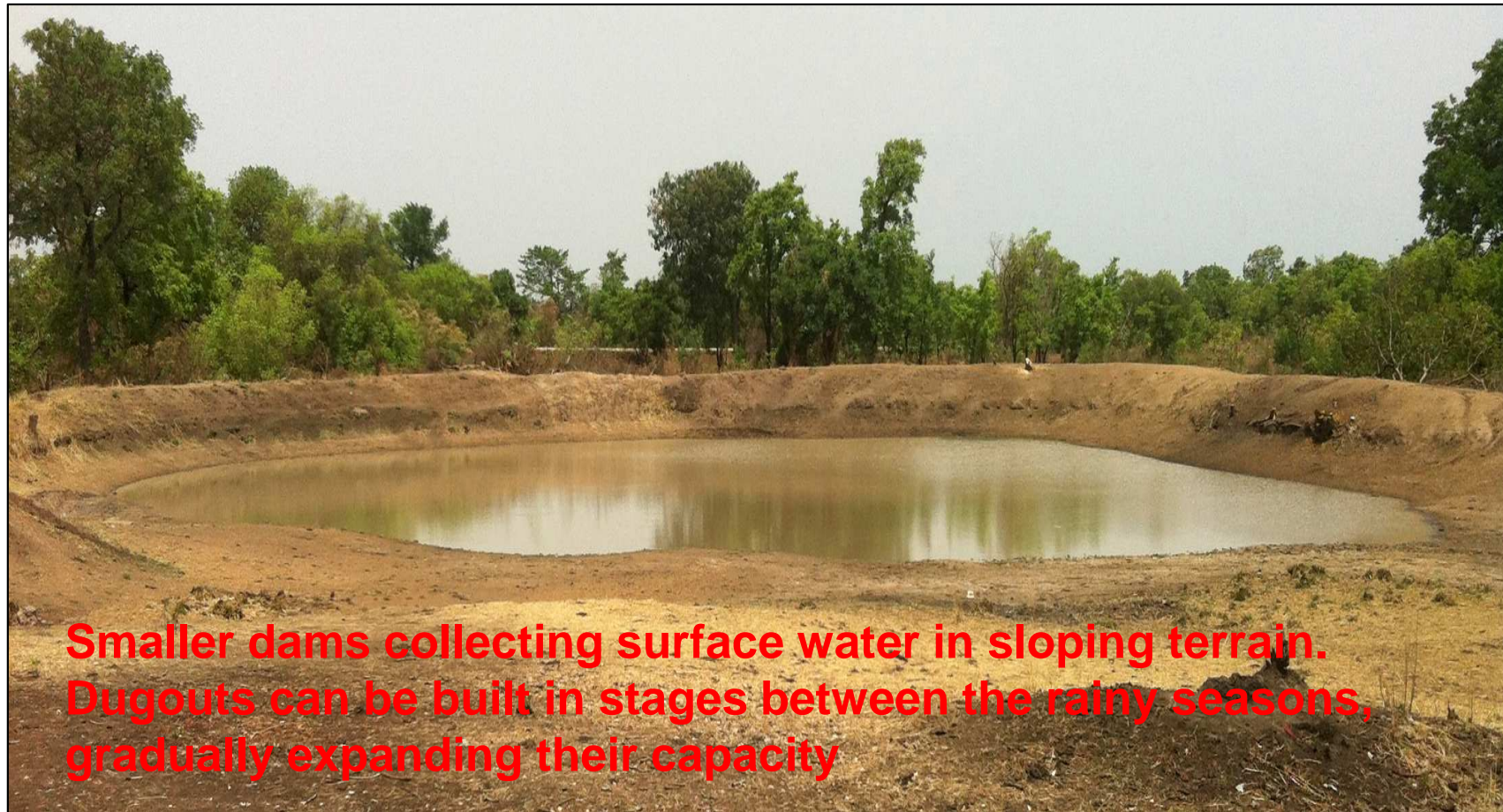


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## Key issues

- **Materials, tools, equipment**
- **Technical inputs: design, supervision**
- **Implementation technology**
- **Implementation modality**
- **Completion**
- **Productivity**
- **Maintenance**





# Materials, tools, equipment

- Is split between wages and non-wage costs appropriate for type of infrastructure?
- Logistics to have deliveries on time
- Proper and right amount of tools



## Technical inputs: design, supervision

- Proper designs?
- Engineers to supervise/ quality control?
- Skills of workers?
- Address on-site problems / issues
- Collaboration: PEP provides the workers- local government the technical capacity





# Task rates

<b>Routine road maintenance</b>	Cut grass /on verge/ side drains	m <sup>2</sup>	100 - 150	
	Clean culvert /inlet, outfall	m <sup>3</sup>	1.5 - 2.0	
	Clean side/mitre drains	m <sup>3</sup>	2.0 - 3.0	
	Repair side drain erosion	m <sup>3</sup>	3.0 - 5.0	
	Fill pot holes on carriageway	m <sup>3</sup>	2.0 - 3.0	Gravel roads
	Fill ruts/minor gullies on carriageway	m <sup>2</sup>	5.0 - 10	
	Grub edge/shoulder	m <sup>2</sup>	80 - 100	
	Repair shoulder erosion	m <sup>2</sup>	5.0 - 10	
	Repair culvert headwalls	No	Day work	



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# Design Issues

- **Selecting beneficiaries and targeting**
- **Deciding on the number of days of participation**
- **Maximizing employment potential**
- **Developing a mechanism for fund allocation**
- **Selection of infrastructure works**
- **Selection of procurement modalities**
- **Determine the wage level**
- **Promoting good working conditions**
- **Gender**
- **Skills training**
- **Designing M and E mechanism**





## Implementation technology

### Local resource-based (LRB) method

- Technologies make optimum and flexible use of local labour and locally available materials, skills and capacities as main resources, supported by the use of light equipment.
- Local resources may include labour, materials, skills, knowledge, technologies, contractors and service providers, institutions (local government authority, training centres, workers' organization, employers' organizations, non-government organizations, community-based organizations), tools and equipment, and social capital (traditional structures, solidarity and trust).



Source: ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).



## Local resource-based (LRB) method



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## Local resource-based (LRB) method

- 25%-70% more spent on wages
- 2-5 times more employment (including multiplier/spin-off effects)
- 10-30% more cost-effective
- Optimum use of locally available resources, supported with equipment
- No compromise on quality standards
- Improved income distribution
- More scope for local participation and inclusion of social protection measures (incl. application of decent work standards)
- More environmentally friendly
- More focus on local capacity development communities, public sector and private sector
- Stronger sense of local ownership



## Sectors with large potentials for LRB approaches

- Access infrastructures: low-volume rural roads (rehabilitation and maintenance) and footbridges



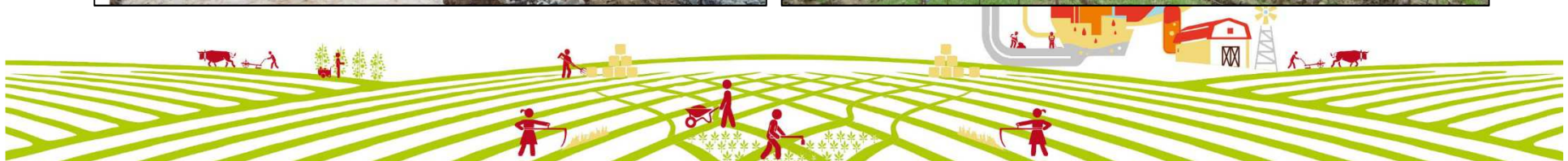


## Sectors with large potentials for LRB approaches

- Soil and water conservation: terracing, water harvesting, contour trenches and bunds, gully control check dams, gabion works



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## Sectors with large potentials for LRB approaches

- Forestry: afforestation, agro-forestry and bio-engineering stabilization works



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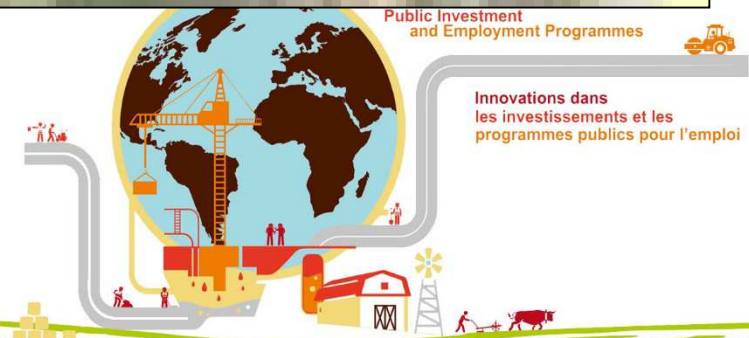
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## Sectors with large potentials for LRB approaches

- Community irrigation:  
gravity irrigation  
channels and intakes,  
night storage  
reservoirs, borehole  
irrigation



## Sectors with large potentials for LRB approaches

- Flood protection: embankments and dikes, water diversion structures, drainage works, river training works





## Sectors with large potentials for LRB approaches

- Small community infrastructure: water and sanitation, schools, health centers, fish ponds, etc.



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# Implementation modality

- **Implementation by the public sector.** Often referred to as “force account”, where the public agency takes on the responsibility to design, deliver, supervise, and manage the infrastructure works. During crisis situations, this method is the most preferred in implementing infrastructure works to respond to pressing needs in affected areas. However, this method does not support the use of local resource-based (LRB) approach.
- **Contracting the private sector.** In developing countries, public agencies often tap the private sector to implement the infrastructure works due to a lack of capacity to deliver. This method systematically uses the LBR approach.



Source: ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).





# Implementation modality

- Contracting by community-based organizations. This method is a widely applied LRB approach in infrastructure works. The process involves a registered community organization entering into a contractual arrangement with a public agency or a development agency to deliver an asset or a service. The process brings together communities with a need but with meager resources, and organizations or public agencies who have appropriate technical, financial, and organizational resources to meet that need through a contracting approach. As a community contractor, the CBO receives the funds, mobilizes community resources in a systematic and accountable manner, and fulfils its responsibilities described in the signed contract agreement.



Source: ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).



# Completion

- Can work demand be aligned to project need?
- What if material and budget runs out? Or labour days?
- Implementation delays?





# Productivity

- Need to be careful to ensure that a focus on productivity is maintained
- There is a contradiction in the sense that being unproductive creates more employment!



# Why is maintenance target of PEPs?

There is a huge demand on **all types of** infrastructure sector

Has the highest employment generation potential of any type of public works: LI rates in the order of 70-80%

Generates long-term/on-going employment

Requires low inputs of equipment and specialised skills

Some can be quite simple to meet required standards: i.e. (re)painting the local school

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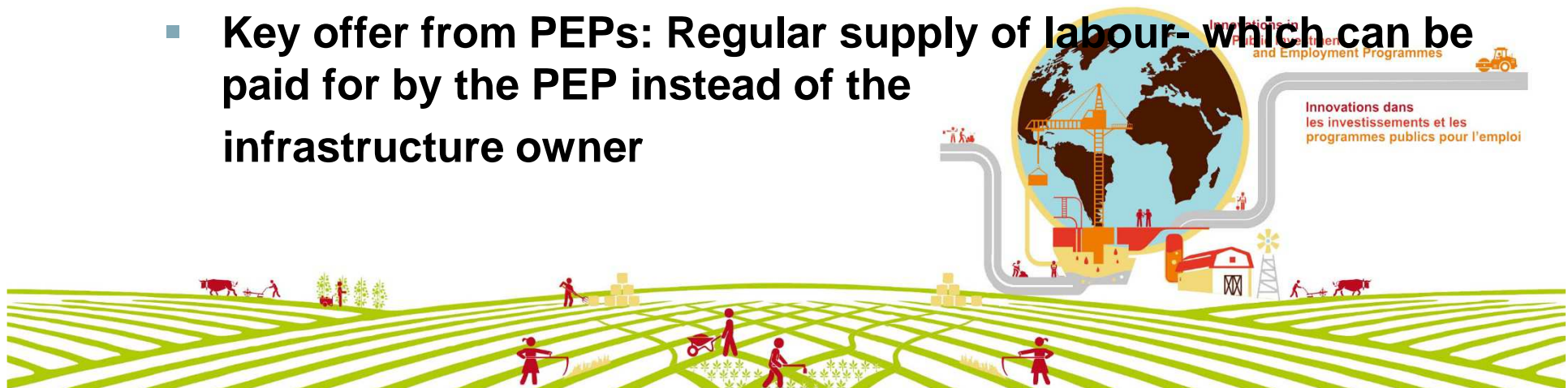




# Making PEP Infrastructure Work

## Collaboration and partnership

- **Ownership / responsibility:** Plan with structure of agency that is responsible so that they are part of planning and maintenance - **sustainability**
- **Technical inputs:** Ensure designs meet minimum standards are aligned with larger plans
- **Non-labour inputs:** Mobilize contributions, in particular material and equipment
- **Key offer from PEPs:** Regular supply of labour- which can be paid for by the PEP instead of the infrastructure owner



# Additional Employment Effects



### Direct impact

Increased local employment in sector of public investment



### Indirect impact

Through the supplier chain of production - 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

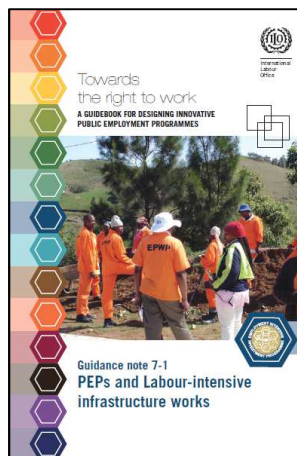
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## More information:



[https://www.ilo.org/global/topics/employment-intensive-investment/publications/WCMS\\_559286/lang--en/index.htm](https://www.ilo.org/global/topics/employment-intensive-investment/publications/WCMS_559286/lang--en/index.htm)



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