

*EMP/POLICY Knowledge-Sharing Workshop
Geneva, 19-22 September 2011*



**Tools and methodologies for assessing
the employment potential of
infrastructure investments**



TABLE OF CONTENT

- **EIA Guide**
- **Presentation of EIA tools**
- **Three DySAM applications:** Fiscal Stimulus, Trade & Environment
- **How:** to construct a DySAM
- **Use and scope**
- **Value added and challenges**

EIA Guide - Content

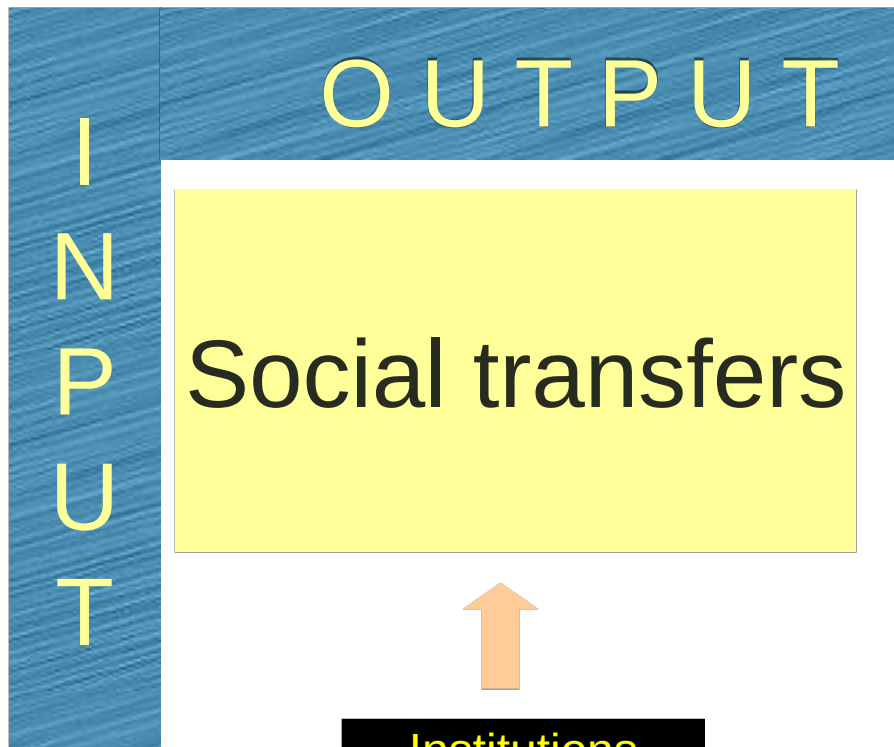
- Purpose and coverage of employment impact assessment tools
- Institutionalization of employment in Public Investment Programmes
- Overview of Project Evaluation Tools (M&E)
- EIA tools at the macro level: I-O, SAM, DySAM
- Data requirement (& other practical issues)



Forthcoming

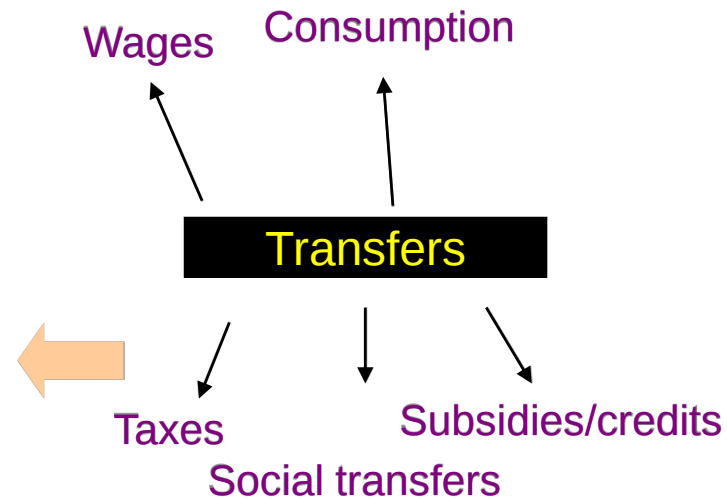
Production

SAM



Institutions

Enterprises Households Government



(Green) DySAM

Time dimension
2005, 2006, 2007

Expansion



Monetary
values

Employment satellite

CO2 emissions

Real values

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INPUT-OUTPUT

- + Social transfers of /between economic actors: Government, Enterprises, Households --- **full socio-economic circle**
- + Satellite accounts: Employment, Environment

SAM

- + Time dimension (incl. Up-dating years)
- + Simple economic modelling

DYSAM

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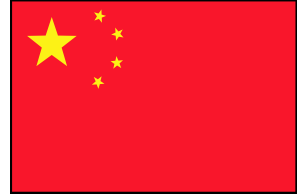
Indonesia: Fiscal stimulus package

1. Direct impact of tax cuts on the poor & indirect impact through consumption of tax payers and subsequent job creation were modest, much less effective than infrastructure investment
2. Infrastructure investment pushed up GDP by 0.27 per cent and generated about 290,000 jobs (5000 more applying a full time equivalent)
3. Jobs went mostly to male workers and new jobs were dominantly (59 per cent) created in the rural area
4. High income effect of labour-based infrastructure





Indonesia-China: Trade and employment



- **Construction:**

Combine DySAM with small economic model (SMART): Calculate output changes

- **Results**

- Small net job losses as a result of a free trade agreement (excl. Investment)
- Major winner (& loser): agriculture (e.g. palmoil)
- Major loser: manufacturing (e.g. textile): urban population, female, young workers





Mozambique: Deforestation and employment

- Analysis of CO_2 emissions: Households = strongest emitters of CO_2 (76 %) through the consumption of solid biomass - firewood
- Proposed strategy to reconcile environmental and employment issues:
 - 1) Sustainable forest management
 - 2) installation of solar panels:

To 1) Reduce CO_2 emissions by reversing deforestation & create new jobs for low skilled: labour intensive & high income effect

To 2) Replace solid biomass consumption with solar energy, thus creating jobs for low skilled and skilled workers: higher economic multiplier

- **Environment:** Less vulnerable to natural disasters, less CO_2 emission
- **Socio-economic:** New sources of income & employment, more Inclusive and pro-poor growth

How: to construct a DySAM

- Create or adjust an existing SAM
 - Data collection: Input-output, national accounts, financial and budget data, LFS, HS
 - Data balancing and consistency
- Construct a Dy(namic) SAM

Existing static SAM transformed into a dynamic SAM by linking the structure of the static SAM to a dynamic macro-meso control framework
- Extension
 - Creation of satellite accounts: Employment, environment
- Expansion
 - Disaggregate existing SAM to include different technology choices (e.g. labour-based road construction)

Use and scope

1. Simulation of future policies, programmes, investments or potential events such as economic crisis, free trade agreements or natural disasters
2. Evaluation of the effectiveness of past policies, programmes, investments or the effect of above mentioned events

Comparison of policy options, incl. technology choices, to identify the most appropriate option

An example of Public Investment

1 billion of monetary unit can be invested either on:

1. Capital-intensive road construction
2. Semi-mechanical road construction
3. Labour-intensive road construction



	Commodities	Activities	Factors of production	Institutions: Gov., companies, households	Investment	Rest of world	Total
Commodities e.g. LI road construction							
Activities							
Factors of production							
Institutions							
Investment							
Rest of world							
Total							

Employment account after simulation (incl. multipliers)

		CI Road	Semi-mechanical	LI Road
	Male	8	9	18
Rural	Female	2	16	12
	Total	10	25	30
	Male	14	11	12
Urban	Female	6	9	8
	Total	20	20	20
16-29 years		20	20	30
> 29 years		10	25	20
Total		30	45	50

Or the other way around: calculating back from target

		Scenario?
	male	
rural		
	female	
	total	
	male	
urban		
	female	
	total	
16-29 years		1 Million
Over 29 years		
Total		



	Billion Unit
CI road	1.5
Semi-mechanical	1.7
LI road	1.4

What is the most (cost-) effective and environmentally sound public spending to create 1 million jobs for youth?

Value added

- Better understanding of the inter-relations between investments at macro level, their impact at the sectoral level and on (groups) of workers/households
- Time-dimension
- Up-dating mechanism
- Simple economic model, mostly based on real data
- Includes technology choice
- Rich employment information:
 - Direct, indirect, income & economic wide effect
 - Target groups: age, sex, rural/urban, skill, income, etc.
- Relatively easy to use

TRANSPARENCY-SIMPLICITY-REALITY

CHALLENGES

- Data requirement
- Technical expertise

BROADEN

- ✓ Social protection
- ✓ Youth employment
- ✓ « Green issues »
- ✓ Provincial/local level
- ✓ Child labour
- ✓ Financial instruments

DEEPEN

- ✓ Further include simple economic modelling (e.g. investment & labour demand function)
- ✓ Improve accuracy of model (e.g. series of SAM included)
- ✓ Combination with economic models



Thank you

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