



THE PIDA JOB CREATION TOOLKIT: DESIGNING A NEW STRATEGY, INTERVENTIONS, AND PLATFORM TO INCREASE AFRICAN JOBS



**Global Clearinghouse for Development Finance
(GlobalDF)**

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DISCUSSION AGENDA

- The Opportunity
- What is optimal Functionality and Content of Toolkit?
- What are the requirements of the Toolkit so it can be used to increase the number and quality of African Jobs?
- Next Steps

DISCUSSION AGENDA

- The Opportunity
 - PIDA Project Example
 - Discussion
 - Potential uses of Toolkit?
 - Current state and ideas on job maximization?

- What is optimal Functionality and Content of Toolkit?

- What are the requirements of the Toolkit so it can be used to increase the number and quality of African Jobs?

- Next Steps

Worldwide infrastructure is recognized as the backbone for job creation

- Not just Direct Jobs
 - Indirect Jobs (suppliers), Induced Jobs (generated by household spending by direct and indirect workers), Secondary Jobs (from spill-overs of project)
- The UN and OECD have standardized national data sets used to estimate job creation (National Input-Output Tables)
 - Often used by governments, multilaterals, and the private sector to obtain support for infrastructure projects
- Governments worldwide (including African countries) use procurement requirements and incentives to increase the impact on local employment
 - Quantity, quality, allocation between social groupings, etc.

THE OPPORTUNITY: INCREASE AFRICAN JOB CREATION FROM INFRASTRUCTURE (1/2)

- **Fundamental Reality: Infrastructure is the Backbone of Job Creation**
 - Transformative basis required for access to markets (local, national, regional, international)
 - Basis for creating global competitiveness - supply chains, competitive inputs, growth of SMEs
 - Precondition for economies of scale, regional economic clusters & trade
 - African has enormous pent-up demand so potential job creation impact huge

➔ Witness the preliminary job estimates for the five PIDA Priority Projects: Batoka Gorge over 2 mm job years, other 4 Priority PIDA Projects over 290,000 job years
- **Governments & Development Partners & Investors are converging on the same two investment criteria**
 - Bankability - financial, sustainability
 - Social Impact - job creation, local inclusion, enabling environments

➔ **Having job estimates can help secure technical support & finance**

THE OPPORTUNITY: INCREASE AFRICAN JOB CREATION FROM INFRASTRUCTURE (1/2)

- **Many potential African jobs are “outsourced” to non-African countries (“investment leakage”)**
 - DFIs and development partners often rely on international firms
 - Export Credit Agencies finance requires home country supply
 - Lack of African equipment suppliers and infrastructure professionals
- **Current difficulty of estimating jobs from African infrastructure projects**
 - Almost all African governments have not produced National Input-Output Tables that are needed to estimate jobs for infrastructure projects
 - To date there is no cost-effective mechanism to estimate jobs
- **Weakened ability of Project Owners and governments to argue the development impact of African infrastructure projects**

OPPORTUNITY → PIDA JOB CREATION TOOLKIT: *Enable Project Owners to estimate job creation and test alternative project design (inputs, source countries)*

ENVISIONED USE THE PIDA JOB CREATION TOOLKIT

- **Systematically Apply “Job Lens” to PIDA Projects**
 - The full jobs impact: direct, indirect, induced, and secondary jobs
 - See the number and quality of Africa jobs for each project phase
 - Project Preparation
 - Construction
 - Operation
 - Understand the secondary spillovers
 - Evaluate the implications of inputs and country sources
- **Potential Practical & Strategic Uses of Toolkit Job Estimates & Scenario Analysis**
 - Concrete Evidence of Development Impact → Increase bargaining power in negotiations with governments, development partners, contractors, and investors
 - Alternative Sourcing Scenarios → Obtain job implications of alternative project designs & sourcing strategies
 - Inform Planning → Assess impact on occupations, priority skills development, local content, industrial planning, and regional African sourcing

DISCUSSION: Other uses of Toolkit (for Project Owners, governments, RECs, private sector, etc)?

EXAMPLE: BGHES GENERATES AN ESTIMATED 2.1 MM JOB YEARS*

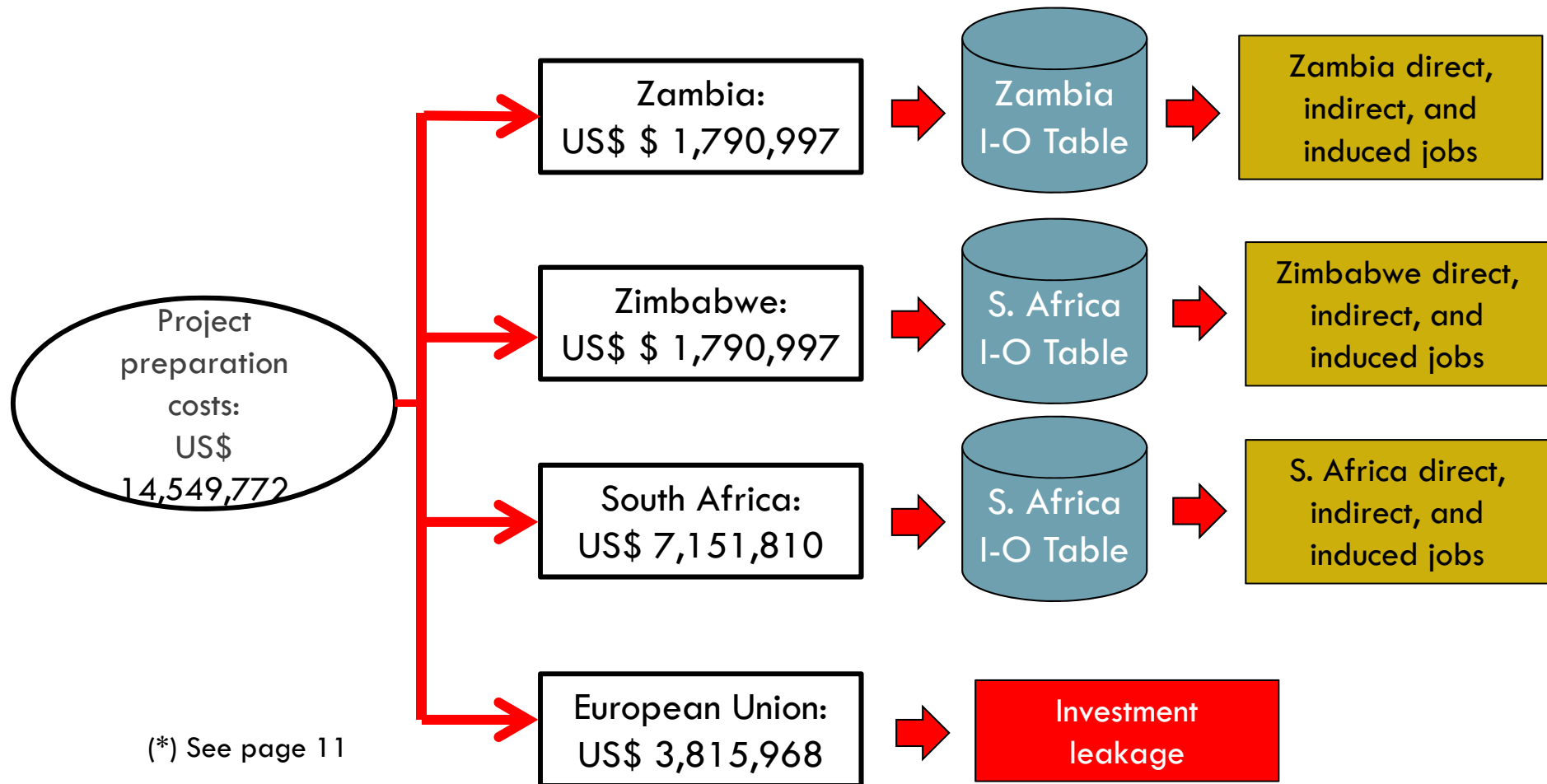
59,000 FROM PROJECT DEVELOPMENT, CONSTRUCTION, AND OPERATION
2 MILLION JOB YEARS FROM SECONDARY SPILL OVER EFFECTS ON ECONOMY

	Over Eleven Year Project Development Time		Annual over Project Useful Life		Total Over Project Useful Life		Total
	Project preparation	Construction	O&M	Secondary effects	O&M	Secondary effects	
Zambia	252	78,159	56	18,462	2,810	923,100	1,004,321
Zimbabwe	254	53,555	52	14,879	2,628	743,950	800,387
S. Africa	206	-	-	5,707	-	285,350	285,556
Other countries	-	-	-	905	-	45,100	45,100
Total	712	131,714	108	39,953	5,438	1,997,500	2,135,364

* Based on assumptions

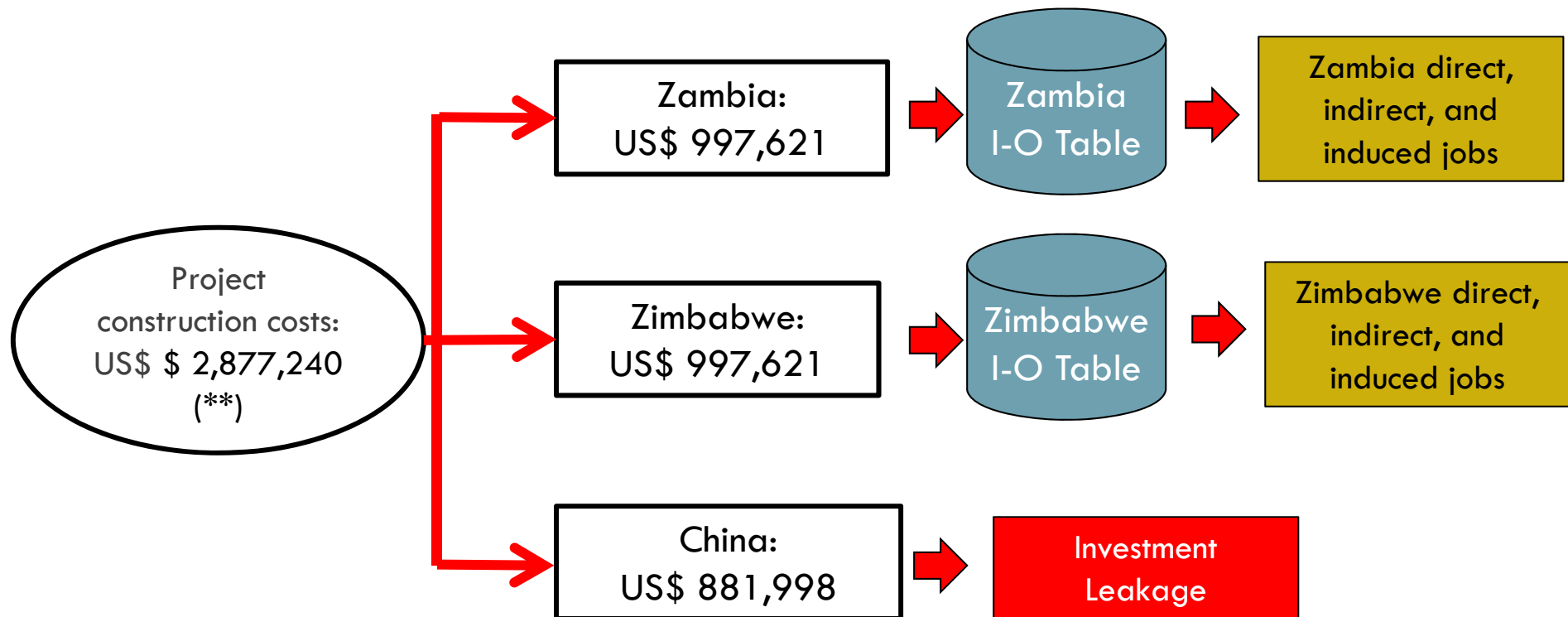
THE ESTIMATION OF JOBS WAS PERFORMED BY COUNTRY BASED ON THE ALLOCATION OF PROJECT COSTS: PROJECT PREPARATION...

BGHES: PROJECT PREPARATION JOB ESTIMATION METHODOLOGY



(*) See page 11

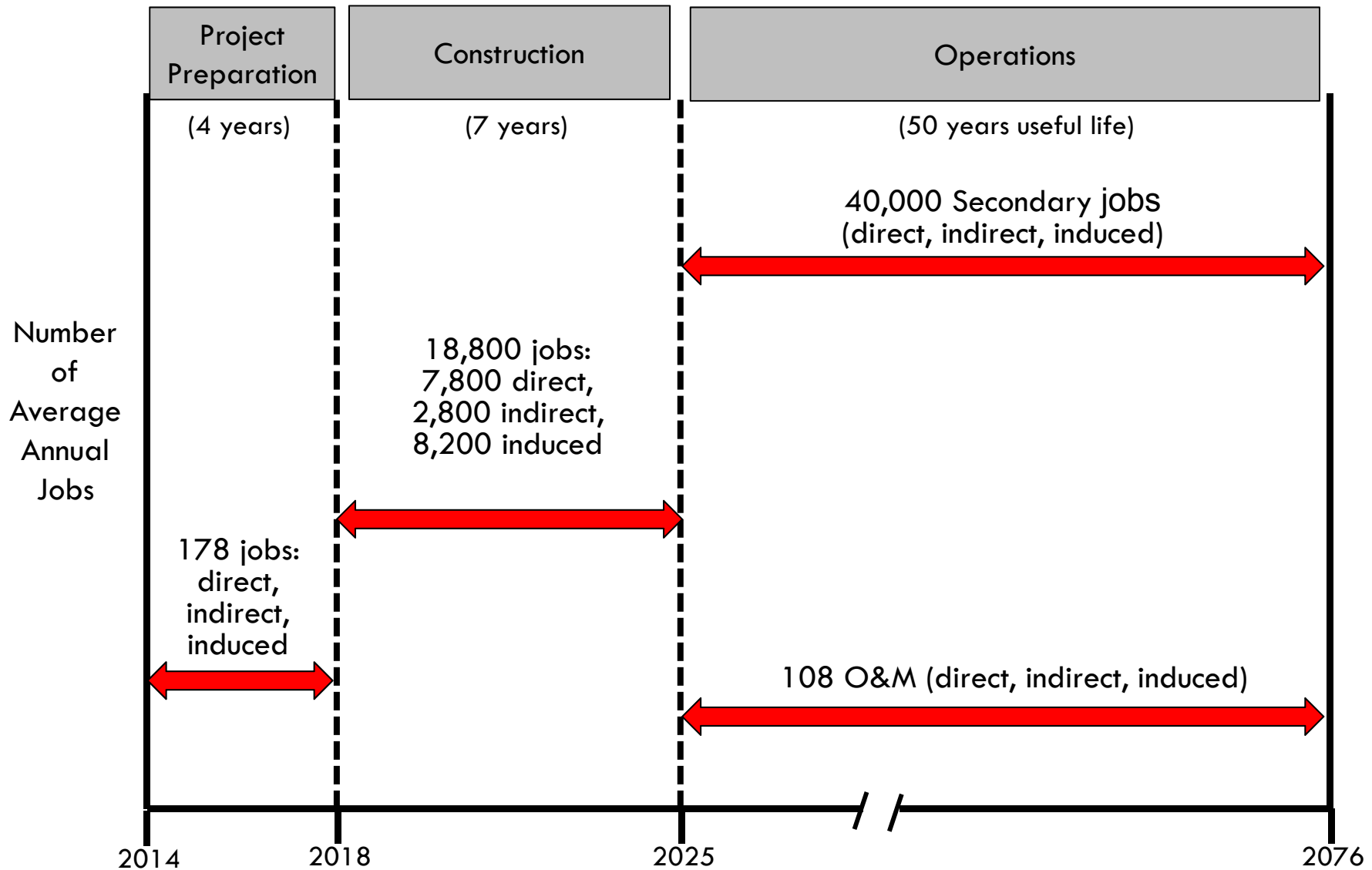
THE ESTIMATION OF JOBS WAS PERFORMED BY COUNTRY BASED ON THE ALLOCATION OF PROJECT COSTS (US\$ thousands) CONSTRUCTION...



(*) See page 19

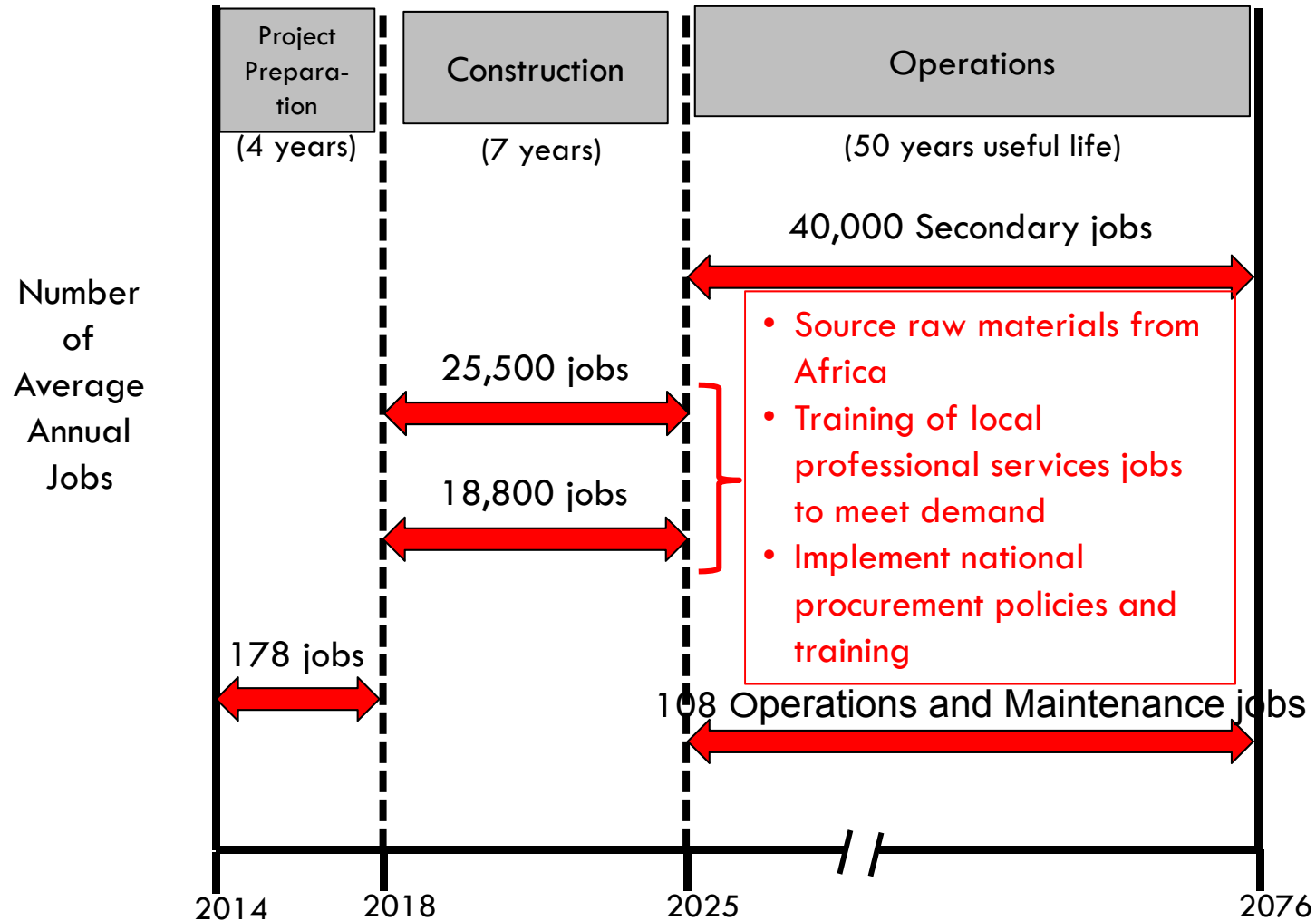
(**) Excludes financing costs

BGHES GENERATES AN ESTIMATED 59,000 AVERAGE ANNUAL JOBS (BASED ON PRELIMINARY ASSUMPTIONS)






POSSIBLE BGHES JOB MAXIMIZATION STRATEGY

ESTIMATED 6,700 ADDITIONAL ANNUAL JOBS CREATED



Note: Illustrative construction phase; all estimates include direct, indirect and induced jobs

EXAMPLES OF DIRECT JOBS & POTENTIAL INTERVENTIONS

PROJECT PHASE	EXAMPLES OF OCCUPATIONS	EXAMPLES OF POTENTIAL INTERVENTIONS
<p>Project Preparation</p> 	<ul style="list-style-type: none"> • Project developers • Financial advisors • Engineers • Procurement experts 	<ul style="list-style-type: none"> • Require contractors to employ and train local engineers • Provide supplementary training programs with local business associations & schools
<p>Construction</p> 	<ul style="list-style-type: none"> • Construction supervisors • Engineers (design) • Procurement experts • Site safety directors 	<ul style="list-style-type: none"> • Require contractors to use local materials, labour, and partners and conduct training • Provide support to local contractors (bidding, finance)
<p>Operations and Maintenance</p> 	<ul style="list-style-type: none"> • Unskilled labor • Mechanical operators • Maintenance engineers • Safety specialists 	<ul style="list-style-type: none"> • Provide peer-peer training • Provide support to local contractors (bidding, finance) • Track training and employment performance by key targets (youth, gender, etc)

BRAINSTORMING ON JOB CREATION TODAY IN AFRICA: WHAT IS YOUR EXPERIENCE & IDEAS FOR JOB MAXIMIZATION?

- Your experience & current situation in Africa?
 - Issues?
 - Opportunities?
 - Tradeoffs?
- Possible job maximization strategies?
- Roles of all stakeholders, vested interests, and ways to partner?
 - Project Owners, governments (national, subnational, regional), development partners, private sector experts and professional organizations (engineering, legal, accounting, etc), unions, community leaders; educational institutes (vocational, university), etc.

DISCUSSION AGENDA

- The Opportunity

- **What is optimal Functionality and Content of Toolkit?**

- Initial Design: Welcome Page, Access Job Estimates page; overall functions
- Discussion on optimal design and functionality?

- What are the requirements of the Toolkit regarding PIDA Projects so it can be used to increase the number and quality of African Jobs?

- Next Steps

EXAMPLE OF WELCOME PAGE

PIDA INTERCONNECTING
INTEGRATING & TRANSFORMING

NEPAD TRANSFORMING AFRICA

HOME ABOUT US APPROACH USER GUIDE GLOSSARY CONTACT US LOGIN

THE PIDA JOB CREATION TOOLKIT

PROGRAM FOR INFRASTRUCTURE DEVELOPMENT IN AFRICA (PIDA)

Welcome to the Job Creation Toolkit aimed at maximizing the African jobs resulting from the preparation, construction, and operation of Africa infrastructure projects. Project Owners, technical partners, and government policy makers can estimate the total job impact from their projects (including indirect, induced, and economic spill-over jobs) and also think through possible ways to increase the number and quality of African jobs. Click one of the four buttons below to estimate jobs, access the job database, review options to maximize jobs, and telescope into case studies.

[ESTIMATE JOBS HERE](#) [ACCESS JOB PROJECTIONS](#) [MAXIMIZE JOBS](#) [TELESCOPE INTO CASE STUDIES](#)

SEARCH/FILTER ▾

Ruzizi III
This hydro power project creates an estimated total of 135,000 job years over the life of the project

Batoka Gorge
This hydro power project creates an estimated total of 2.1 million job years over the life of the project

Brazzaville – Kinshasa Toll Bridge
This rail bridge project creates an estimated total of 420,000 job years over the life of the project

Implemented by **giz** German Zentrale für Internationale Zusammenarbeit

2012 - 2017 © PROGRAMME FOR INFRASTRUCTURE DEVELOPMENT IN AFRICA TERMS & CONDITIONS

EXAMPLE OF ACCESS JOB PROJECTIONS PAGE



THE PIDA JOB CREATION TOOLKIT: ACCESS JOB PROJECTIONS

See the estimated jobs created by PIDA and other infrastructure projects in Africa. You can click on a country and see the projects generating African jobs, and then access the estimates for specific projects. You can also filter using controls for the map, selecting specific projects. Another option is to use the SEARCH function to find specific projects, sectors, countries, and regions.

FILTER MAP BY PROJECT PHASE & ECONOMIC IMPACT

Project Preparation Phase

Construction Phase

Operations Phase

Economic Impact (secondary effects)

SEARCH/FILTER

SEE TOTAL RESULTS

TOTAL JOB YEARS BY PIDA PROJECT (TOTAL JOB YEARS OVER LIFE OF PROJECTS)



ESTIMATE JOBS HERE

SCOPE: FUNCTIONALITY OF TOOLKIT

- **SURVEY: Information needed to estimates jobs; two options?**
 - QUICK ROUGH ESTIMATE OPTION: Mandatory questions (basic questions using benchmarks to calculate jobs)
 - Select PIDA Project
 - Amount of investment by phase (US\$)
 - Time period of each phase
 - If added to database, need to provide name of Project Owner
 - NEPAD reviews before putting on open site
 - MORE PRECISE ESTIMATE OPTION (requires breakouts by input and country source)
 - Information by input and country source
 - Option to provide up to three scenarios
- **Output Page**
 - Job Estimates
 - Default tables and charts
 - Default scenarios
- **Two Case Studies**
 - Energy (Batoka Gorge)
 - Transport (Abijan-Lagos Corridor to be confirmed)
- **Job Maximization Options**
- **Job Tracking Survey**
- **POSSIBLE SECOND PHASE: African Supplier Platform**

BRAINSTORMING OPTIMAL FUNCTIONALITY & CONTENT?

- Best ways to provide information on project?
- Default information on resulting job estimates?
- What kinds of information on job maximization interventions?
- Information and interventions to showcase in PIDA Project Case Studies?
- Key Job Maximization Interventions to include?

BASED ON THE ASSESSMENT OF JOB ESTIMATION BEST PRACTICES ^[1], THE DATA INPUTS REQUIRED FOR ESTIMATING THE FULL SPECTRUM OF JOB CREATION EFFECTS ARE AS FOLLOWS

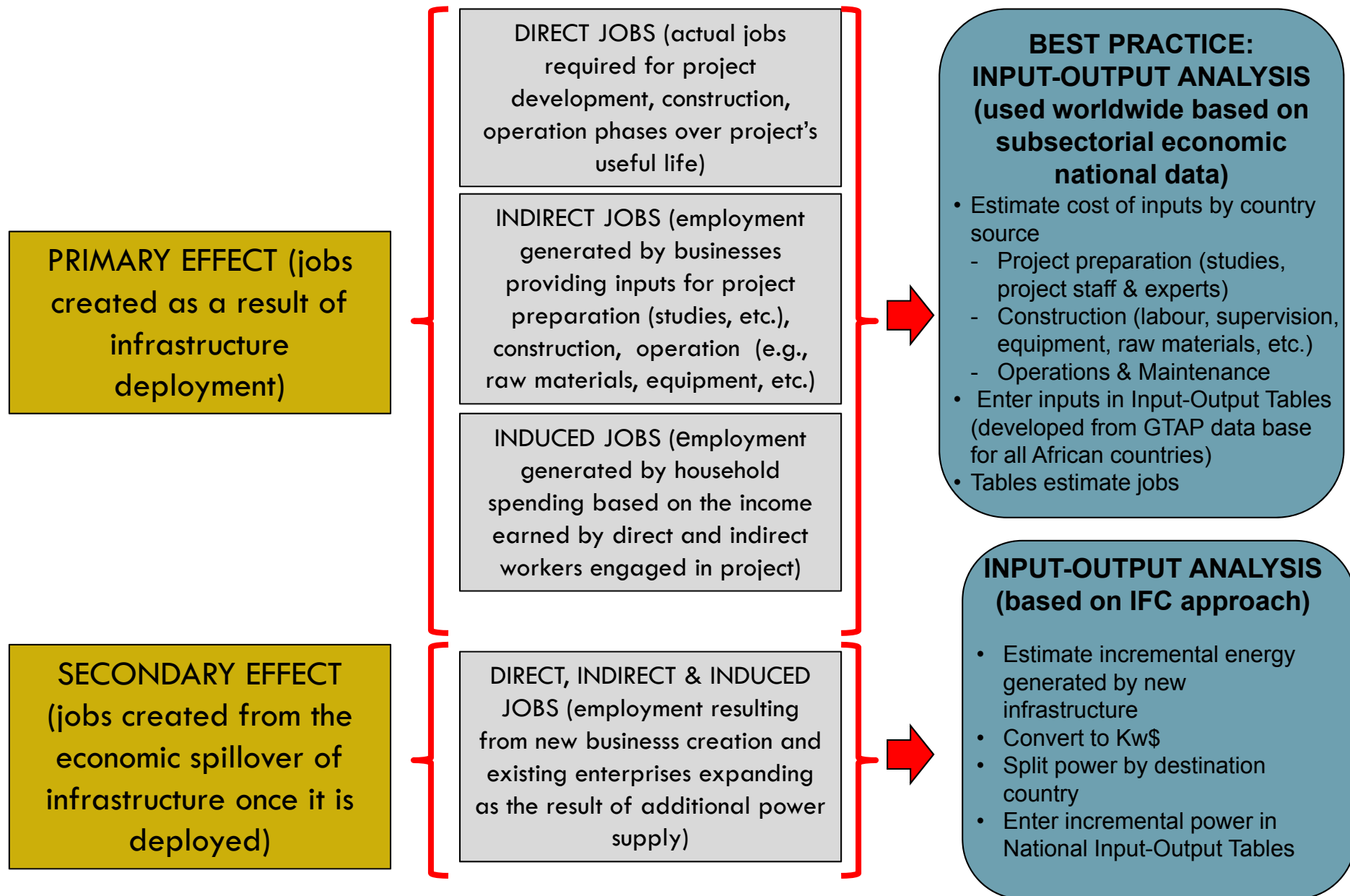
- For estimating direct, indirect, and induced jobs by project ^[2]
 - Total investment
 - Split of total investment for each project phase between:
 - Inputs (*how is investment spent by component, such as construction, metal, equipment, etc.?*)
 - Host countries and import portion (*in which countries are project costs being spent?*)
 - Year beginning and ending of project preparation, construction, and operation
- For estimating secondary effects in electricity generation ^[3]
 - Power supply to be generated by the new energy infrastructure project
 - Transmission and distribution losses in the country where the new project will be deployed
 - Dollar value of kWh (kilowatt-hour) in the country where the new project will be deployed

[1] See full methodology documentation (Best Practice Paper and Methodology Paper).

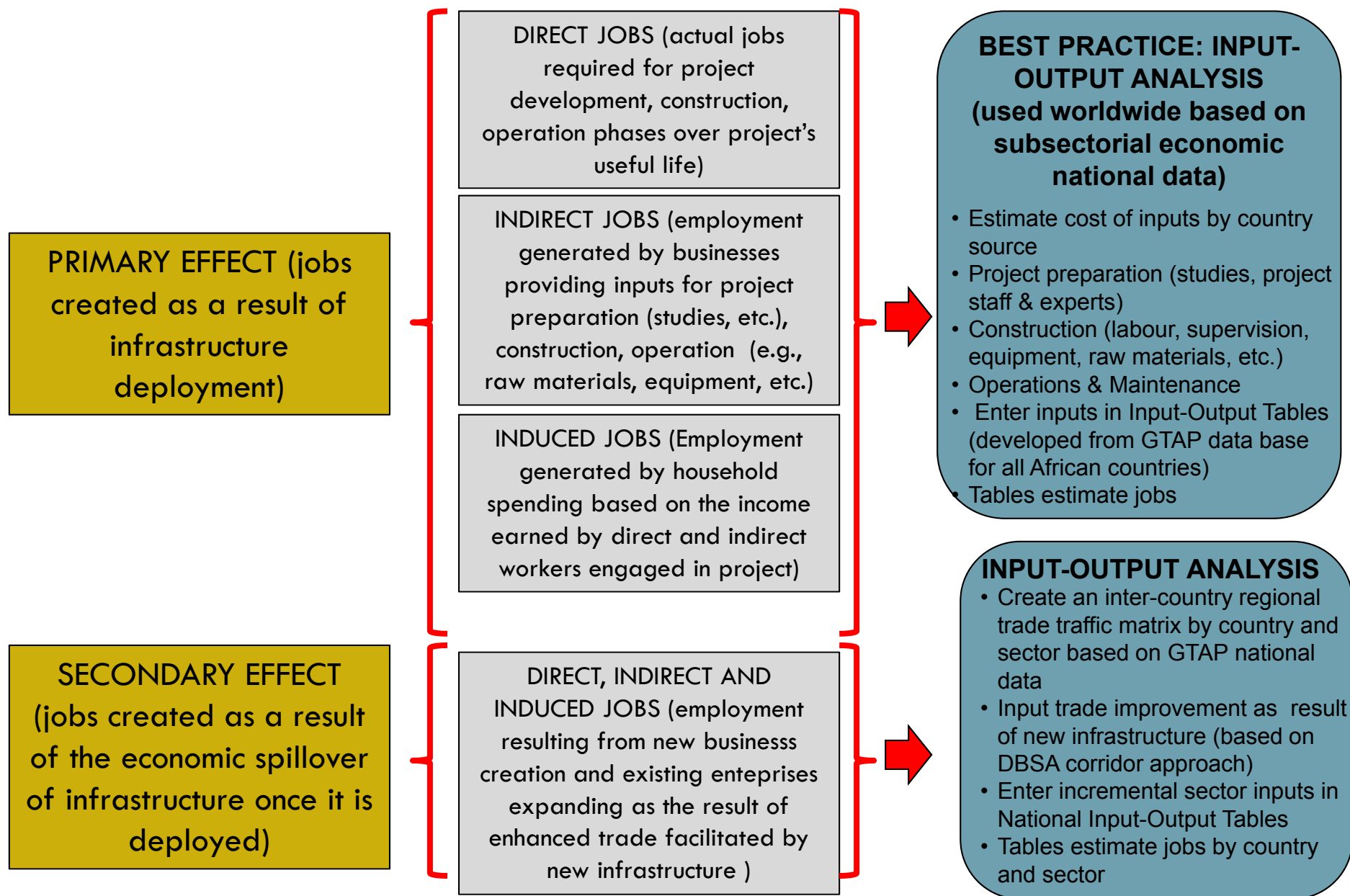
[2] These are the standard project cost inputs requirements for Input-Output Tables (“I-O Tables”) that serve as the basis for national statistical frameworks and job creation methodologies worldwide.

[3] Adapted approach used by IFC (2015): “*Power sector economic multiplier tool: Estimating the broad impacts of power sector projects*”

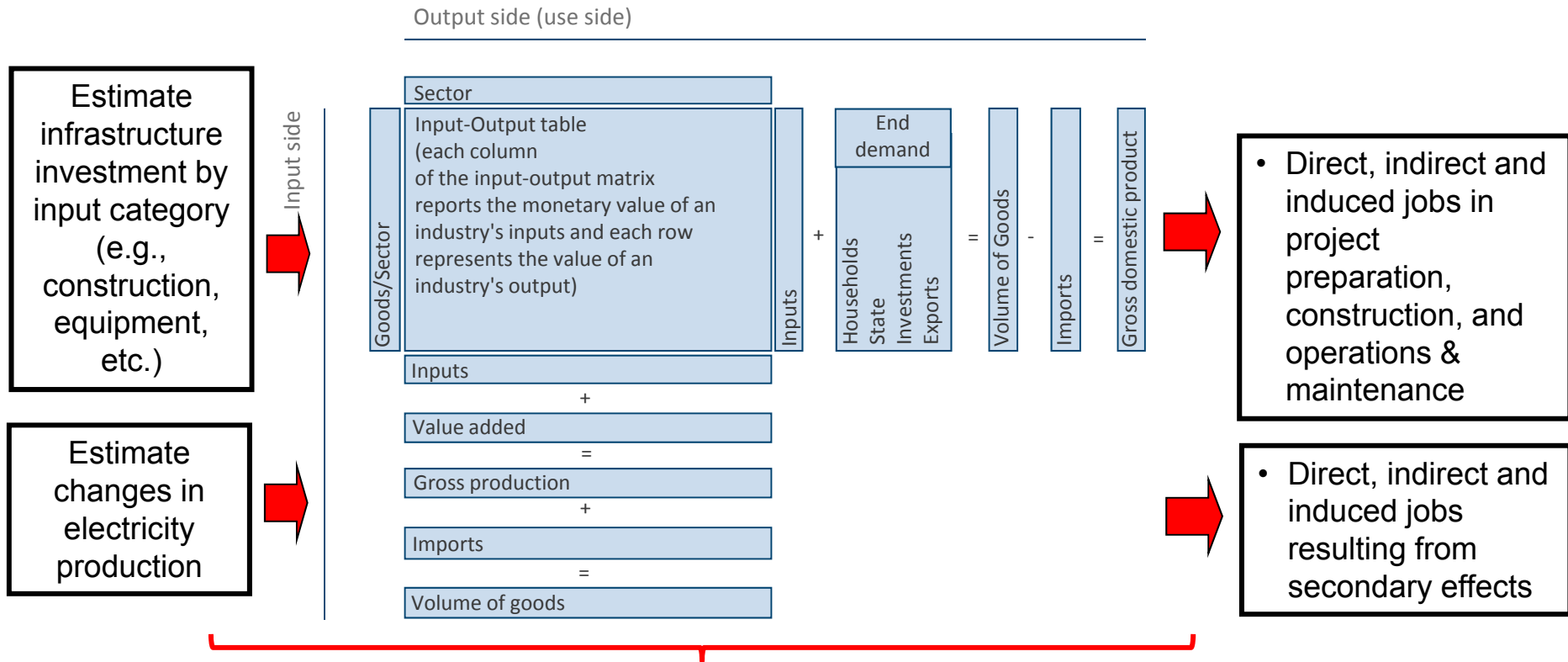
METHODOLOGY FOR ESTIMATING JOB CREATION IN ELECTRICITY GENERATION AND TRANSMISSION INFRASTRUCTURE



METHODOLOGY FOR ESTIMATING JOB CREATION IN TRANSPORT INFRASTRUCTURE (TOLL ROADS, BRIDGES, ETC)



THE CORE METHODOLOGY USED FOR ESTIMATING JOB CREATION IS BASED ON INPUT-OUTPUT TABLES (I-O Tables) – **NOW CREATED 34 AFRICA I-O TABLES**



- I-O Tables depict the interdependencies between economic sectors, and are used to estimate the impact of positive or negative economic shocks through an economy (investment in infrastructure is a positive shock)
- I-O Tables assumes that some inputs (investment in infrastructure) are used by sectors that produce output (intermediate output), which in turn is sold to another sector for consumption (final output); total output adds intermediate and final outputs
- By using labor productivities, one can calculate job creation from output

ZAMBIA PROJECT CONSTRUCTION ESTIMATES TOTAL OF 122,000 JOB YEARS (30% ARE DIRECT CONSTRUCTION JOBS)

BGHES: CONSTRUCTION EMPLOYMENT ESTIMATION

- ZAMBIA -

INPUTS

Type	Input (*)	Sector
Construction	\$ 805,624	Construction
Engineering, administration & supervision	\$ 131,497	Professional Services
Raw Materials		Sourced from China
Electro-mechanical equipment		
Transmission lines	\$ 60,500	Metal products
Time of stage	7 years	

TOTAL JOBS (rounded) (job years over the seven years)

Sector	Total	Direct	Indirect	Induced
Primary products	60,653	0	0	60,653
Textiles, apparel leather	32	0	0	32
Wood, paper products and publishing	675	0	675	0
Petroleum, oil products, chemicals, plastics	311	0	311	0
Metal products	170	152	18	0
Motor vehicles, parts, electronic equipment	16	0	16	0
Electricity, water and gas distribution	146	0	146	0
Construction	35,830	35,830	0	0
Trade	4,893	0	2,446	2,446
Transportation	788	0	127	662
Communication	304	0	304	0
Financial services	643	0	643	0
Business Services	9,473	9,179	294	0
Other services	6,886	0	3	6,883
Public administration	358	0	358	0
Total	121,176	45,160	5,340	70,676

(*) Note concentrated inputs due to lack of detailed project cost information

Source: GlobalDF analysis

Issues to date in obtaining inputs and country sources – what are solutions?

- **Project documents often lack information required to estimate jobs**
 - Cost by input
 - Country sources
- **What are the problems?**
 - Project owner access to information?
 - Technical partner access to information?
 - Current terms of reference specifying information in project documents?
- **What are solutions?**
 - Technical partners are asked to provide information?
 - Project Owners sign a disclosure agreement enabling NEPAD to work with Technical Partners?
 - TORs for studies are changed:
 - Integrate information requirements into standardized ToRs, breaking out inputs and possible country sources?
 - New sections assessing tradeoffs in global versus local sourcing, and required support to maximize use of local inputs?
 - NEPAD Sector Experts provide support to Project Owners?
 - Generate two default scenario: Local sourcing versus Out-of-Africa sourcing?
 - Other?

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NEXT STEPS

- Determine who best to be contact person for each project and other key users (Beta clients to help ensure Toolkit is useful for all PIDA Projects)

- Arrange for follow-up discussions
 - Refine assumptions used for job estimates
 - Provide more suggestions on platform
 - Test platform (first version February 23, then reiterations)
 - Finalization 10 July 2018

- Use to showcase the benefits of your project for political support & funding, and inform alternative project designs & sourcing

Please provide contact info (on sheet) - including SKYPE if possible
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