



THE WORLD BANK



# **Evaluating Impact: Turning Promises into Evidence**

## **Rural Electrification Project**

IE – WS, Group 14

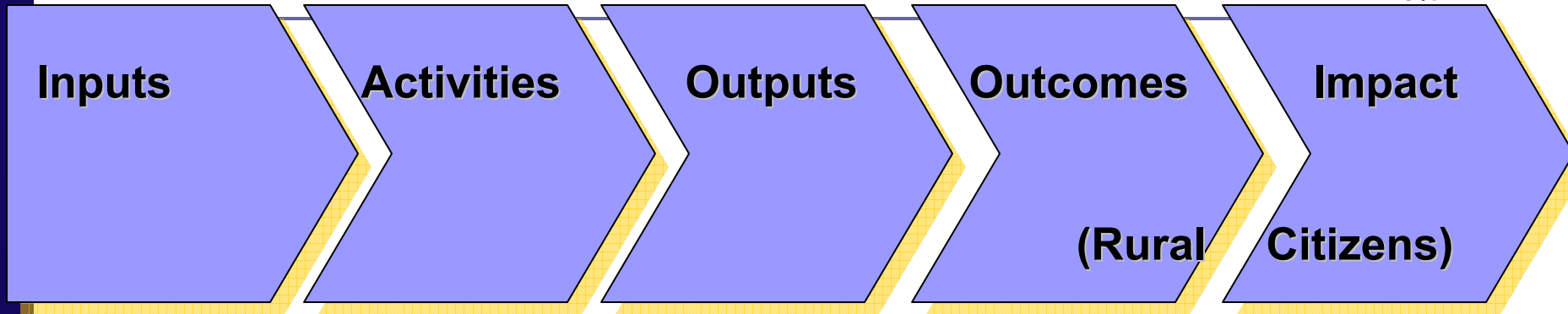
January 2008

# 1. Background

- ❑ 70% of the total population in Yemen (20 Mio – census data 2004) live in rural areas
- ❑ Only app. 30% of rural population have access to electricity services
- ❑ GoY elaborated a National Rural electrification strategy (phased approach)
- ❑ 2 components (grid expansion AC + individual decentralized systems including REN applications, DC)
- ❑ 2 dimensions (institutional Rural Electrification reform – technical implementation)

Following perspective impact evaluation (IE) focuses on the socio-economic impact of the planned project on the rural population (target group).

# 2. Results Chain



- budget
- qualified managem. + technical staff
- material
- data base
- media
- consultancy

- implement inst. + legal commitment of the GoY
- implement substations + extension lines in Service Territories

- Rural Electrification Agency established
- Service territories and service providers established
- Unelectrified Rural households (HH) electrified

- degree of self organization improved
- Decrease in respiratory/ eye deseases among females/kids
- Improvement of educational indicators
- Decreased migration
- Increase in economic acitvities
- Increase of HH income

- living conditions improved

- 
- Poverty reduction

# 3. Primary Research Questions

---

- ❑ Does the rural electrification program (REP) contribute to an increase in household (HH) income/expenditure?
- ❑ Does the REP lead to an increase in the number of small businesses?
- ❑ Does the REP improve the health condition of women and kids?
- ❑ Does the REP reduce the drop out rate of schools
- ❑ Does the REP reduces the migration from rural to urban areas

## 4. Outcome Indicators

---

- ❑ percentage of HH electrified (Output Ind. accord. to national strategy)
- ❑ increase in HH expenditure (%)
- ❑ number (%) of additional small businesses and cottage industries in the villages
- ❑ decrease in drop out rate (%) from school
- ❑ occurrence (Number) of respiratory and eye diseases
- ❑ number of members of HH migrated to urban areas

# 5. Identification Strategy/Method

- REP is targeted – unelectrified rural HH
- Phased program (REP – 5 years)
- With geographical cut-off
- Rule of operation:
  - Promote the program among villages (level of operation)
  - Oversubscription expected
- Selected method:
  - **Randomization** (flip the coin)
  - Compare indicators in electrified villages with those in unelectrified villages

## 6. Sample and data

---

### □ Sample size

- Number of beneficiaries of REP app. 20.000 HH (equals app. 400 villages)
- Proposed size of treated and control group: 100 villages each (total sample size 1000 HH)

### □ Data to be collected

- Indicators from the HH and village level

# 7. Time Frame/Work Plan

---

1. Exact Definition of the project (role of operation)
1. Selection of IE Method
2. Define treatment + control group
3. Design Baseline survey
4. Carry out baseline survey
5. Project implementation with randomized recipients
6. Ex-post survey
7. Conduct impact evaluation

# 8. Sources of Financing

---

As we are still in the design phase of the project

- ▣ Impact evaluation should be foreseen as one component of the budget of REP

